DEVELOPING PRONUNCIATION SKILLS AT THE INTRODUCTORY LEVEL: MOTIVATING STUDENTS THROUGH INTERPERSONAL AUDIO DISCUSSIONS

by

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ABSTRACT

This study investigated students’ motivation to develop pronunciation skills while participating in shared conversations called interpersonal audio discussions because research has suggested that learners desire pronunciation instruction in hopes of achieving native-like pronunciation (Gilakjani & Ahmadi, 2011; Harlow & Muyskens, 1994; Drewelow & Theobald, 2007) and that social environments are useful in developing proficiency in a second language (Atkinson, 2002; Aubry, 2009; Ducate & Lomicka, 2009; Firth & Wagner, 1997; Kramsch & Whiteside, 2007; Lee, 2014; Lord, 2008; Pica, 1994b; Smith, Alvarez-Torres & Zhao, 2003; Warschauer, 1996). Due to the plethora of online learning communities, there is also a need for research-based findings that evaluate emerging pedagogical tools for pronunciation development. Participants in the present study were enrolled in a second-semester French course where they focused on pronunciation skills in a web-based software called VoiceThread. Through two questionnaires, journal entries, and assessment activities, students continuously self-reported about the effects of participation on perceptions of pronunciation and its development. Data was analyzed through a mixed methods approach. Results indicated that students had more positive opinions of performance on pronunciation-related tasks as well as higher L2 self-confidence associated with pronunciation after participation. Furthermore, findings detailed how increased interactivity in VoiceThread influenced students’ motivation in pronunciation. The study’s conclusions maintain that participation in VoiceThread raises students’ awareness of their performance in pronunciation thereby creating a feedback-supported environment conducive not only to pronunciation development but also to self-motivation regarding the skill.
DEDICATION

This dissertation project and preceding years of study are dedicated to my daughters, Vi Elizabeth and Lily Evangeline, in memory of my maternal grandmother, Mary Elizabeth Chadwell-Johnson. She began the tradition of higher education in my family, and I pass it onto you.
**LIST OF ABBREVIATIONS AND SYMBOLS**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Definition</th>
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<tbody>
<tr>
<td>α</td>
<td>Chronbach’s index of internal consistency</td>
</tr>
<tr>
<td>ACTFL</td>
<td>American Council on the Teaching of Foreign Languages</td>
</tr>
<tr>
<td>ASR</td>
<td>Automated Speech Recognition</td>
</tr>
<tr>
<td>CALL</td>
<td>Computer Assisted Language Learning</td>
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<tr>
<td>CAPT</td>
<td>Computer Assisted Pronunciation Training</td>
</tr>
<tr>
<td>CLT</td>
<td>Communicative Language Teaching</td>
</tr>
<tr>
<td>CMC</td>
<td>Computer Mediated Communication</td>
</tr>
<tr>
<td>ESL</td>
<td>English as a Second Language</td>
</tr>
<tr>
<td>L2</td>
<td>Second or foreign language</td>
</tr>
<tr>
<td>MALL</td>
<td>Mobile Assisted Language Learning</td>
</tr>
<tr>
<td>MIP</td>
<td>Motivation-in-Pronunciation</td>
</tr>
<tr>
<td>n</td>
<td>Sample size not equal to N</td>
</tr>
<tr>
<td>N</td>
<td>Number of students in complete participant sample (population size)</td>
</tr>
<tr>
<td>NS</td>
<td>Native speaker</td>
</tr>
<tr>
<td>NNS</td>
<td>Non-native speaker</td>
</tr>
<tr>
<td>p</td>
<td>P value, or level of statistical significance</td>
</tr>
<tr>
<td>r</td>
<td>Pearson product-moment correlation coefficient</td>
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<tr>
<td>r_s</td>
<td>Spearman rank-order correlation coefficient</td>
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<tr>
<td>RQ</td>
<td>Research Question</td>
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<td>SA</td>
<td>Self-Assessment</td>
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<tr>
<td>Abbreviation</td>
<td>Description</td>
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<td>--------------</td>
<td>--------------------------------------------------</td>
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<tr>
<td>SLA</td>
<td>Second Language Acquisition</td>
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<tr>
<td>VT</td>
<td>VoiceThread</td>
</tr>
<tr>
<td>WTC</td>
<td>Willingness-to-Communicate</td>
</tr>
<tr>
<td>Z</td>
<td>Output from a Wilcoxon signed-rank test</td>
</tr>
<tr>
<td>ZPD</td>
<td>Zone of Proximal Development</td>
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ACKNOWLEDGEMENTS

First and foremost, I thank my committee chair, Dr. Isabelle Drewelow. Her expert guidance and continued assistance were key factors during the execution and completion of this project. I would also like to thank my committee members for their willingness to serve and support me over the years: Dr. Mary Sue Barry, Dr. Michael Picone, Dr. Robert Summers, and Dr. Metka Zupancic. Additionally, I would like to thank the fellow graduate students who participated in the pilot and final research studies: Sandrine Hope, Kari DeBois, Dani Peterson, Ann Marie Steenstra-Moore, and Thomas Carlton, as well as the following graduate students in statistics: Heather Moore, Michael Walker, and Austin Pickup. I especially express my gratitude to the students who consented to participate in order to make this investigation possible. Finally, I would like to extend my deepest appreciation to my family members who have always encouraged and supported me unconditionally. I thank my husband, Anthony, who has been working hard to support our family while I realized my dreams, and my two little princesses who keep me grounded and remind me of what is most important in life. I am thankful to have been surrounded in love by my amazing parents, David and Nancy Rutherford and Louis and Leonora Lepore. They have provided countless hours of childcare and entertainment during times when I needed to devote my attention to the dissertation project. I must also recognize my two feline friends who have been by my side keeping me company during innumerable hours of studying and writing. Above all, I thank God the Father whose many blessings have made me who I am. To all whom I have mentioned, this project is a representation of our collective efforts and would not have been possible without you. Thank you from the bottom of my heart.
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CHAPTER 1
INTRODUCTION

Communication is commonly described as the act of exchanging information between people. One of the best ways foreign language (L2) learners can explore the language they are studying is through communication. Within this context, there are many factors that can affect how other listeners or native speakers interpret non-native speakers’ speech. Among students at the introductory level of language learning, errors that may cause issues in comprehensibility commonly stem from pronunciation (Agostinelli, 2011). Communication difficulties can even occur between native speakers due to variations in speech that occur in different regions. As a lifelong resident of the southeastern United States, the presence of diphthongs in speech is what distinguishes the southern “drawl” I hear on a daily basis. Technically, diphthongs are described as glides that start with one vowel and then change into another vowel, often within the same syllable. More loosely stated, diphthongs are the aspects of speech that cause numerous laughs and misunderstandings between families, like my own, who have members living in both southern and northern states.

As a teacher who has always worked with students who are just beginning to learn French and who reside in the south, the transfer of their southern accent to L2 learning has remained a concern because it can be constantly heard in examples of students’ speech – and even my own speech – when using the target language. Despite having recognized that pronunciation is an undeniable aspect of French where my students have needed help, it was not emphasized – rarely mentioned in textbooks or explicitly taught – during my own teacher
training or coursework. In this chapter, I will elaborate on this experience and how it led me to contemplate the questions of (a) why pronunciation seems to be neglected in language learning and (b) how pronunciation can be represented equally during students’ encounters with the target language and during communicative exchanges. Furthermore, I will discuss different positions on teaching and learning pronunciation, including recent information regarding how pronunciation is being addressed through emerging technologies. Finally, I present the research questions and objectives of the study which support my goal to understand more about students’ attitudes and motivations concerning pronunciation and if they believe that pronunciation is a valuable skill to learn. Additionally, I present the setting in which I carried out the study. To conclude the introduction, I briefly explain the methodology used to conduct the investigation and succinctly detail the contents of subsequent chapters.

**Why Study Pronunciation?**

Pronunciation is an area of language instruction that affects all levels of proficiency across the discipline of language teaching and learning. Gilakjani, Ismail, and Ahmadi (2011) remarked that “pronunciation can be one of the most difficult parts for a language learner to master and one of the least favorite topics for teachers to address in the classroom” (p. 81). Startlingly, only 8 of 100 (8%) of adult intermediate English as a Second Language (ESL) learners surveyed had received some pronunciation instruction (Derwing & Rossiter, 2002, cited in Derwing & Munro, 2005). Why are the teaching and learning of pronunciation skills such scarce and challenging tasks? I contemplated Gilakjani et al.’s comments and Derwing and Rossiter’s findings. My reflections resulted in the examination of my own experiences as both a language learner and instructor, and then drew attention to my personal beliefs about pronunciation.
As a non-native speaker (NNS) of French, I always felt that developing “good” pronunciation was a personal undertaking that would eventually improve through the ongoing process of learning the language. Pronunciation accuracy was never explicitly taught as part of my coursework, but similar to many language students, I wanted to sound acceptable and native-like (Drewelow & Theobald, 2007; Harlow & Muyskens, 1994). During a semester-long study abroad in France, I came face-to-face with the intricacies of pronunciation development in the language lab. Here, NNS students were expected to distinguish between their own pronunciation and the “correct” native-speaker (NS) pronunciation. Having no previous experience in this area, I felt very frustrated and confused. Therefore, when thinking about my research topic, I also asked myself how anxiety associated with learning pronunciation may be alleviated.

Later on as a high-school French teacher, I acknowledged that every classroom is filled with a diverse population, each person bringing a different set of previous experiences, personality traits, and learning preferences to the learning environment. I realized that my students also had unique characteristics that affected their interpretations of information they received in L2 classrooms (Lee & VanPatten, 2003). Omaggio Hadley (2001) emphasized the importance of various types of background knowledge present in each individual and the critical role that this knowledge plays during language learning and comprehension. Students and teachers alike thus apply personal attributes and preferences along with previous experiences to L2 experiences, including pronunciation learning (Busch, 2010). In addition to background knowledge and prior experience, Oxford and Shearin (1994) noted that “motivation is considered by many to be one of the main determining factors in success” (p. 12) with regard to developing L2 proficiency. In my case, I had a “positive disposition toward the L2 group” and “a desire to interact with” (Dörnyei, 1994, p. 274) members of the French-speaking community, resulting in
a high level of motivation to improve pronunciation proficiency (Smit, 2002). Unfortunately, similar to the language instructors surveyed in Hismanoglu and Hismanoglu’s (2011) study on Internet-based pronunciation instruction, my motivation address pronunciation suffered because I did not have a high level of confidence when explaining how to make certain sounds during my first years of teaching French. My low self-confidence in pronunciation was due to not having had an adequate foundation in the target-language’s pronunciation during my former years as a student. I recognized that my feelings about pronunciation were a result of my prior experiences and emotions – factors contributing to motivation in regard to developing pronunciation (Smit, 2002) – and asked how I could help my own students to avoid feeling this way as they progressed in French. The issue of motivation to develop pronunciation skills is one that the present study intends to expand upon by addressing pronunciation and factors affecting it early on in the language-learning experience with students enrolled in introductory-level courses. Addressing motivation in novice learners is important because prior studies in pronunciation have alternatively targeted more advanced learners or those taking courses with an emphasis on pronunciation (Ducate & Lomicka, 2009; Lord, 2008; Smit, 2002).

As a result of inexperience and low self-confidence, I often relied on outside resources when my students had questions, or – like the teachers in Hismanoglu and Hismanoglu’s (2011) study – I had a tendency to avoid recognizing pronunciation mistakes altogether in order to prevent interrupting the current lesson to switch topics. These practices reflected a conflict between low confidence and the desire to attain and also teach “good enough” pronunciation (Shizuka, 2008, p. 67), an essential skill in developing an overall proficient level of communicative competence. Brandl (2008) defined communicative competence as a skill set that goes beyond grammar and vocabulary knowledge, allowing learners to participate actively and
effectively in the production of the target language. Although Brandl pointed out that “the notion of communicative competence directs teachers in what skills to teach” (p. 279), Derwing and Munro (2005) cited Breitkreutz, Derwing, and Rossiter (2002) to report findings that affirmed an overwhelming majority (67%) of ESL teachers they surveyed had no formal training in instructing students on pronunciation. This figure resonates with my own lack of experience in this area of language teaching, a factor that affected my motivation to teach pronunciation. Consequently, the present study aims to narrow the research-practice gap in pronunciation by offering realistic solutions to pronunciation teaching and learning for others who are motivated yet feel that pronunciation is an underdeveloped or intimidating aspect of communicative competence (Wahid & Sulong, 2013). Therefore, after identifying the apparent discrepancy between the desire for acceptable pronunciation and the actual frequency with which training and instruction occurs, I considered how to actually apply research that pertains to the development of pronunciation skills and associated motivational factors. Such an investigation is synonymous with educating instructors about online tools that have the potential to facilitate pronunciation teaching and learning because emerging technologies are not only the most logical resource for working with audio files and L2 oral output, but because they are also easily accessible and cost-effective.

**The Definition of Pronunciation in Communicative Language Teaching**

In order to understand the place of pronunciation within students’ language proficiency and the communicative language teaching (CLT) pedagogical approach, it is necessary to review how this approach has traditionally addressed the topic in addition to exploring how it is currently dealt with in L2 classrooms functioning under this approach to teaching. Lee and VanPatten (2003) described CLT as an approach that focuses on communicative (social) and
linguistic (cognitive) objectives by participating interactively in “information-exchange” or “information-based tasks” (p. 2). Accordingly, it is a reflection of Atkinson’s (2002) sociocognitive theory that blends both the social and cognitive aspects of language learning. The CLT approach is one that avoids mechanistic approaches by emphasizing a communicative classroom environment while also supporting the cognitive processes of language acquisition.

One of the first signs that the definition of pronunciation is quite vague is apparent through suggestions regarding how the skill should be assessed. Within the context of CLT, Lee and VanPatten (2003) suggested two formats for evaluating spoken language: the American Council on the Teaching of Foreign Languages (ACTFL) Oral Proficiency Interview and the Israeli National Oral Proficiency Test. Both of the tests focus on grammatical, pragmatic, and sociolinguistic competencies and have no associated scale for the evaluation of student pronunciation, as pronunciation skills are not a major learning objective of CLT (Hincks, 2003; Levis, 2005; Morley, 1996; Pennington & Richards, 1986; Shizuka, 2008). Because pronunciation is not addressed on these assessments, it is unclear how this skill is operationalized and measured according to CLT standards. An indication of pronunciation’s less significant status was further evidenced in Derwing and Munro (2005) who cited Doughty and Long’s (2003) publication of The Handbook of Second Language Acquisition; they pointed out that there is not a single mention of pronunciation-based research within this text. The end result of the lack of attention given to pronunciation in descriptions of assessments and in pedagogical literature is that it is a skill within L2 learning that is underrepresented, which means it is often untaught. Therefore, the conclusion is that CLT does not outline pronunciation’s place nor does it define the term pronunciation.
How Pronunciation is Addressed Within CLT

The fact that pronunciation is not well-defined is both a cause and effect of the topic’s unequal representation within the CLT approach. As a result, it is unclear what is meant by pronunciation and how to address it when teaching. Researchers (Hincks, 2003; Levis, 2005; Morley, 1996; Shizuka, 2008) have commented that pronunciation is often overlooked and sometimes even ignored, suggesting that the prevalence of CLT leaves the area of pronunciation training somewhat untouched despite claims that it accounts for linguistic accuracy – for example, accurate pronunciation (Omaggio Hadley, 2001). Morley (1996) noted that attention to speech and pronunciation in CLT was, at the time the article was published, “out of sight and out of mind” (p. 140), and that the profession did not seem to have any interest in this component of language learning and teaching. On the contrary, more recently published articles have indicated that explicit pronunciation instruction is being studied and is an emerging topic of interest in current research (Kennedy & Trofimovich, 2010; Saito, 2011). The dichotomy adds to the absence of a defined method for addressing pronunciation development when promoting communicative competence through CLT and when training teachers (Arteaga, 2000; Foote, Holtby & Derwing, 2011; Pennington & Richards, 1986).

One way to determine if and when pronunciation is being addressed is to examine what is actually happening in L2 classrooms. By reviewing textbooks, methodologies, and the teaching of English phonological features through pronunciation practice in ESL settings, Hismanoglu and Hismanoglu (2011) found that previous studies regarding the teaching of pronunciation revealed a deficiency in regard to a clear methodology and appropriate materials. Likewise, Derwing and Munro (2005) noted that pronunciation “instructional materials and practices are still heavily influenced by commonsense intuitive notions” (p. 380), noting that intuition alone is
not enough to resolve the numerous and complicated questions that both students and instructors have about pronunciation teaching and learning. They also acknowledged that most materials deemed appropriate for pronunciation teaching and learning are based simply on perceptions of successful practice and provide insufficient references to empirical evidence available through current research findings. The results of Hismanoglu and Hismanoglu’s study indicated that instructors were reluctant to use modern techniques involving computers and the Internet to teach pronunciation. They preferred more traditional methods such as dictation and reading aloud, reinforcing the idea presented by Derwing and Munro that teachers are relying on what is perceived to be effective in classrooms versus what practices actually accomplish the learning objectives. Confusion surrounding pronunciation can result in diminished confidence associated with pronunciation teaching and learning (Hismanoglu & Hismanoglu, 2011). To combat this negative effect, Burgess and Spencer (2000) recommended that a higher priority be given to the relationship between the fields of pronunciation teaching and L2 education and training, a notion that appears to be gaining strength based on recent studies (Gilakjani et al., 2011; Gilbert, 2010; Kennedy & Trofimovich, 2010; Saito, 2011; Sikorski, 2005).

It is apparent from prior research focusing on modern technology and pronunciation development that teachers should feel more confident and motivated to use computer- and Internet-based pronunciation teaching methods in order to improve teaching abilities due to learners’ positive reactions to this learning context (Ducate & Lomicka, 2009; Lord, 2008). Additionally, they should feel comfortable using technology to present a larger language variety to students and to employ up-to-date multi-modal pronunciation-focused activities. Despite an increased interest in pronunciation in recent years, promoting pronunciation teaching and learning through technology in CLT classrooms that are driven by national and state Standards
(ACTFL, 2012, 2014; Magnan, 2008) remains an untouched topic. Because pronunciation continues to be marginalized and misunderstood – in addition to the fact that it is a topic open to interpretation (due to the lack of a definition) – the relationship between CLT, technology, and pronunciation is a current and timely topic to address through continued research such as the investigation detailed in the present study.

**Using Technology to Teach Pronunciation**

It is clear upon entering most classrooms, in all levels of education and across subject areas, that technology has infiltrated learning. Students in today’s educational system are referred to as *digital natives* because they have been interacting with digital devices since birth. As a result of this exposure, they inherently understand how digital technologies operate and seek out opportunities to use them in everyday situations. Based on the commonplace practice of using technology to enhance all aspects of daily life and the educational community’s need to find solutions for teaching pronunciation, it is not surprising that researchers have pointed out that multimedia technologies are useful for developing language proficiency (Aubry, 2009; Ducate & Lomicka, 2009; Firth & Wagner, 1997; Kramsch & Whiteside, 2007; Lord, 2008; Pica, 1994b; Smith, Alvarez-Torres & Zhao, 2003; Warschauer, 1996). However, there is evidence that additional research is needed in this field of inquiry. Lord (2008), for example, noted that “there is little information in the literature about how technological tools can be used to teach pronunciation” (p. 376). Furthermore, recent studies on the teaching of pronunciation through podcasting and the use of online audio files revealed some conflicting outcomes as to whether or not the implementation of these techniques resulted in any significant improvement in pronunciation skills (Ducate & Lomicka, 2009; Lord, 2008; McCrocklin, 2011). However, the studies found that learners had enjoyable experiences and reported positive perceptions of online
projects to sharpen pronunciation skills. In the age of technology, pronunciation can be addressed in the classroom through a variety of Internet resources comparable to podcasting. For example, pronunciation development exercises can be found in online workbooks that supplement classroom texts, such as those found on the so-called Supersite of *Espaces*, an introductory French textbook (Mitchske & Tano, 2011). One exercise often found in the supplemental materials of textbooks such as *Espaces* has learners provide NS approximations in combination with some type of asynchronous communication task. Effectively, one of the most current and practical ways of managing audio is to access the Internet where audio (or video) files called MP3s and MP4s can be recorded, downloaded, submitted, tweeted, liked (on Facebook), or shared. Widespread Internet access has inspired a vast assortment of media for manipulating digital audio for L2 pronunciation practice available to today’s students.

One offshoot of the relative ease with which one can create and access audio files in the 21st century is a technology called VoiceThread (VT), which was implemented in the present study. VT (2013) is a socially oriented technology similar to Facebook, Twitter, or Instagram because of features that allow users to communicate with one another, create group conversations, and then share them. VT is well suited to exploring a new context for L2 teaching and learning because the sociocognitive framework (Atkinson, 2002) – one major perspective underpinning the present study – supports observing behavior in natural environments where students are both using language and interacting with one another. In the present study, VT is the product being used to facilitate an environment where students are developing pronunciation rather than doing so in traditional in-class, face-to-face language exchanges. An additional benefit of using VT outside of instructional time is the fact that more frequent L2 use can positively affect pronunciation and accentedness (Piske, MacKay & Flege, 2001). Prior research
(Lord, 2008; Rovai & Wighting, 2002) has suggested that interactive digital audio projects and assignments that promote collaboration achieve improved pronunciation because they allow users to comment on their peers’ contributions and create a sense of community, thereby linking VT to the development of pronunciation skills because increased interactivity in VT offers to students examples of attainable goals in pronunciation made achievable through teacher guidance and practice with peers (Vygotsky, 1978).

VT is a group conversation that is collected and shared in one place with no software to install. It is described as a multimedia slide show that holds images, documents, and videos and allows users to navigate slides and leave comments in four ways: using voice (with a microphone or telephone), text, audio, or video (through a webcam device). The ability of users to have control and access various types of content corresponded with many recommendations regarding the use of multimedia technologies as learning tools that I considered during the study’s design (Mayer, 2005). Furthermore, in keeping with the social-cognitive principles influencing the investigation (Atkinson, 2002), it was important to select a technology that allowed students to participate in an online community that complemented their classroom environment. Mobile technologies such as VT achieve this goal by extending interpersonal communication outside the four walls of a classroom because it enables learners to participate anywhere. VT currently offers a mobile version of the product through the App Store for iPhone and iPad but has not yet released a product for Android operating systems. To summarize, choosing VT for the study upholds the ideas presented in Atkinson’s (2002) sociocognitive theory of language and demonstrates the interactive possibilities of developing linguistic pronunciation skills. VT also allows students to participate in activities at their leisure and to create a sense of community in an environment other than their classroom.
Finally, I wanted to choose a product that appeared to be a good match for the complexities of developing pronunciation specifically; I consulted prior research before making this decision. In the end, this knowledge led me to choose VT because it provides a dynamic environment, allowing for individualized feedback as well as exposure to a “wide range of voices and contexts through extended listening practice” (p. 391), features deemed important to L2 speech instruction (Derwing & Munro, 2005). Practicing teachers without foundations in either linguistics or pronunciation research may not be capable of making decisions about how to use computers and the Internet in the classroom to present pronunciation-based activities or instruction (Derwing & Munro, 2005) – thus the need to further explore a technology such as VT and endeavor to share those findings. Additionally, despite the publication of recent studies addressing Internet-based pronunciation practice (Ducate & Lomicka, 2009; Hismanoglu & Hismanoglu, 2011; Lord, 2008), there remains little research on how affective variables (for example, intrinsic and extrinsic motivation, self-confidence, and anxiety) affect students’ motivation to develop pronunciation skills during these technology-enhanced pronunciation-based exercises. Through continued investigation as new technologies are presented, researchers can gain insight into how instructors and learners are motivated during pronunciation development, thereby improving attitudes toward pronunciation teaching and learning in future generations of language learners (Gilakjani et al., 2011). There has been a recent influx of Internet-based technologies that take advantage of social, online communities. Therefore, the present study seeks to fill gaps in research by exploring how delivering pronunciation-focused activities through interactive technologies affects students’ emotions and perceptions of pronunciation skills during the process of pronunciation development in the L2.
Developing Pronunciation Skills and Students’ Motivation

Before answering the call to raise awareness of available products for the teaching of pronunciation among practicing instructors and students in teacher-training programs (Hismanoglu & Hismanoglu, 2011), it is necessary to delineate which technologies are acceptable for use and also to better understand the effects of their implementation on students, such as their influence on anxiety and motivation to develop pronunciation skills. Defining and explaining how emerging technologies affect students and their pronunciation assists in generating research-based findings that answer teachers’ questions surrounding the topic, a first step in creating publishable and accessible resources for teacher training and professional development (Derwing and Munro, 2005; Gilbert, 2010; Silveira, 2002). Previously cited pronunciation-specific studies (Ducate & Lomicka, 2009; Lord, 2008; McCrocklin, 2011) demonstrated an interesting link between the teaching and learning of pronunciation when coupled with what today’s technologies afford. But these studies did not explore the specific variables – such as self-confidence and anxiety levels – that influenced motivation associated with the positive attitudes and variances in pronunciation that were achieved through the technological means they reported. It is important to take a deeper look into these factors because they are known to interact with one another during the oral use of the L2 which, in turn, affects motivation (Dörnyei, 1994; MacIntyre, Clément, Dörnyei & Noels, 1998; Smit, 2002). Dörnyei (2003) also pointed out the importance of these variables because having the appropriate knowledge for communication, such as L2 competence, may simply not be enough; learners must also feel motivated.

My personal narrative described earlier in this chapter is a good example of conflicting emotional reactions to using pronunciation skills. Previous research has also highlighted both the
highs and lows surrounding pronunciation development – for example, low self-confidence’s link to deficient knowledge of pronunciation rules (Hismanoglu & Hismanoglu, 2011) in contrast to students’ desire for success in pronunciation (Drewelow & Theobald, 2007). Dörnyei (1994) and Smit (2002) classified variables influencing pronunciation into subject-, learner-, and classroom-based factors. Consequently, it is clear that motivation related to L2 pronunciation is part of a complex set of factors that potentially affect not only how students view pronunciation development but their overall experiences in L2 classrooms as well (Burgess & Spencer, 2000; Drewelow & Theobald, 2007; Gilakjani et al., 2011; Harlow & Muyskens, 1994; Hismanoglu & Hismanoglu, 2011; MacIntyre et al., 1998; Omaggio Hadley, 2001; Smit, 2002).

Although researchers (D’Amico, 2012; Saint Léger, 2009; Saint Léger & Storch, 2009) have explored how motivational factors function in L2 contexts in general, the investigation of pronunciation development in isolation from other linguistic elements is ripe for further examination. Furthermore, recent research (Freiermuth & Jarrell, 2006) noted that electronic communication has become a widely accepted method for encouraging interaction in L2 classrooms and that students’ motivations, emotions, and perceptions while participating in these virtual environments certainly merits further investigation. To date, the variables affecting students’ motivation concerning the development of pronunciation skills have not been extensively researched within the context of interpersonal audio discussions.

**Objectives of the Study**

It has been established, thus far, that there is a lack of research discussing how pronunciation skills are affected by motivational factors when using technology (Ducate & Lomicka, 2009; Lord, 2008; McCrocklin, 2011; Saint Léger & Storch, 2009; Smit, 2002). In order to add to existing studies, the present study’s objective is to assist L2 instructors during the
challenging task of addressing pronunciation in CLT classrooms where (a) students express a
desire to sharpen their pronunciation skills (b) the curriculum and national Proficiency
Guidelines target intelligibility without explicitly addressing pronunciation (ACTFL, 2012;
Drewelow & Theobald, 2007; Harlow & Muyskens, 1994; Pennington & Richards, 1986), and
(c) multimedia technologies are easily accessible for pronunciation teaching and learning. In
order to add to current knowledge and to make use of new educational tools, pronunciation needs
to be addressed within the context of social technologies available via Internet for speaking and
listening practice. In this sense, it is crucial to survey and investigate socially oriented online
tools, identify which ones are effective in developing pronunciation skills and positively
influencing learners’ motivation, and then discuss their place in L2 classrooms.

The main goal of the present study is to gain a better understanding of the internal
processes and emotions that have the potential to affect students’ attitudes with respect to
pronunciation development, thus corroborating links between affective factors and potential
motivators afforded by the use of the previously unexplored VT technology. To link certain
variables to students’ motivation, the study investigates if and how interpersonal audio
discussions play any role in shaping students’ motivation to develop pronunciation through the
analysis of both quantitative and qualitative data sets. I use the term pronunciation development
because this study does not focus merely on pronunciation proficiency, but also on the process
and progress of developing pronunciation monitored by students’ feelings and other affective
factors (e.g. emotional reactions such as anxiety and self-confidence). Pronunciation proficiency
is operationalized in the present study through observation of the categories of fluency, accuracy,
and comprehensibility as adapted from the grading rubric in Ducate and Lomicka’s (2009) study
that measured students’ oral performance in podcast recordings as well as through
recommendations set forth in current national Proficiency Guidelines (ACTFL, 2012). Because of teachers’ increased interest in pronunciation in recent years and the need to interpret technical research into terms that can be translated into language pedagogy (Derwing & Munro, 2005), a secondary goal of the study is to serve as a resource in a field where pronunciation has not formerly been a prevalent topic. Therefore, the study is meant to inform language instructors and learners alike in their search to identify viable options for acceptable and appropriate Internet-based tools for developing pronunciation skills in the L2. The following research questions (RQs) guide the study:

RQ1: What are the effects of participation in interpersonal audio discussions on students’ perceptions of pronunciation skills in introductory French courses?
RQ2: How does participation in interpersonal audio discussions affect students’ anxiety and self-confidence about developing pronunciation in introductory French courses?
RQ3: How are students influenced by participation in interpersonal audio discussions to develop pronunciation skills in introductory classrooms?

Overview of the Study

This introduction chapter has sought to explain that the present study focuses on introductory-level students’ experiences while accessing a technology called VT over the course of one semester to monitor the effects of participation on existing pronunciation skills and motivations to improve upon these skills. In Chapter 2, the review of the literature lays the groundwork regarding the theoretical stances driving the study by presenting two constructs, willingness-to-communicate and motivation-in-pronunciation (MacIntyre et al., 1998; Smit, 2002), that address both the psychological and linguistic elements known to influence students’ oral use of the L2 and pronunciation achievement. Previous studies on the topics of motivation
and pronunciation are surveyed in order to place further emphasis on the need for additional research isolating motivational factors as they relate to pronunciation specifically. The literature review then expounds on the basic information presented in this introduction regarding the importance of motivation in L2 acquisition and how it functions in pronunciation learning by detailing specific variables such as anxiety and self-confidence. Next, in order to better understand pronunciation’s place in L2 classrooms, I present various arguments explaining why the skill of pronunciation is often overlooked in CLT. Additionally, I consider the notion of self-assessment because it thought to be vital to student self-confidence; it allows for participation to be better monitored thereby resulting in decreased anxiety (Saint Léger & Storch, 2009). Finally, I present a rationale for the selection of the VT technology and its pedagogical affordances through the consultation of Atkinson and Burden’s (2008) assessment of the technology’s multimedia features in relation to educational benefits (Mayer, 2005).

Next, in Chapter 3, I explain the methodology used in the present study along with the choices made during the development of the instruments and general approach to the investigation of pronunciation development within the context of interpersonal audio discussions. To summarize, I selected an emergent mixed-methods research design because of the flexibility to apply both quantitative and qualitative methods during the investigation; this dual portrait is representative of the dynamic nature of the VT experience and sociocognitive framework underpinning the study. Open-ended questionnaires and journals provide a deeper insight into the results of the quantitatively oriented self-assessment and rating forms, thus opening up the possibility of tracking students’ feelings of self-confidence, motivation, and anxiety regarding their pronunciation performance and motivation-in-pronunciation throughout
their participation in the VT activities. I also give a detailed account of the participants, procedures, and the data analysis process.

Chapters 4 and 5 expound on the findings of the study. In Chapter 4, I address RQ1 by presenting results regarding how students’ perceptions surrounding pronunciation were reflected in their motivation to improve pronunciation skills. Additionally, I share findings that explain how their participation in the audio discussion activities shaped these perceptions and their opinions about the VT technology used in the study for the purpose of developing pronunciation skills. In Chapter 5, I move onto answer RQ2 by reporting on statistical results regarding two variables that affect motivation to develop pronunciation skills: self-confidence and anxiety. I chose to present findings regarding the two variables concurrently due to the strong relationship between them (Csizer & Dörnyei, 2005; MacIntyre et al., 1998; Smit, 2002). Consequently, I present students’ reports of changes in these variables and examine the role that students’ self-assessments played in monitoring them. I further use the qualitative analysis to indicate how audio discussions played a role in shaping students’ self-confidence and anxiety and motivation regarding pronunciation development. Finally in Chapter 5, I respond to RQ3 by expanding on the specific aspects of the interpersonal audio discussion activities that influenced students to work on improving pronunciation thereby emphasizing the importance of interactivity during the development of pronunciation skills. To wrap up the report of my investigations, I speak to the topics of how interpersonal audio discussions influence motivation and how information gleaned from the present study relates to pronunciation teaching and learning. Chapter 6 summarizes the results, identifies the study’s limitations, and examines theoretical and pedagogical implications informed by the study. Suggestions for future research investigating pronunciation and motivation are also presented in the final conclusions.
CHAPTER 2
LITERATURE REVIEW

MacIntyre et al. (1998) established willingness-to-communicate (WTC) as an “interface” (p. 545) between linguistic, communicative, and social psychological variables affecting learners’ desire to communicate in the L2. Later, Smit’s (2002) work in motivation-in-pronunciation (MIP) linked those variables to pronunciation achievement. In the present study, the development of pronunciation skills and associated motivations are examined through the principles set forth by the interactive cognitive and social processes described in sociocognitive theory and the WTC and MIP constructs. The study focuses on interactivity between learners while using an online social tool, two conditions that serve as departure points for sociocognitively oriented SLA research (Atkinson, 2012), in addition to exploring how participation in the online environment affects the development of L2 pronunciation. Atkinson (2002) argued that language acquisition is an interactive process, influenced by both cognitively and socially derived aspects of language use. He developed an alternative theory to cognitivism in SLA – the sociocognitive model selected for this study – that strives to provide socially derived explanations for psychological and linguistic phenomena (Ortega, 2012). In the present study, L2 pronunciation development and changes to students’ affective variables are the aspects of language learning under examination. This literature review begins by discussing the sociocognitive theory of SLA (Atkinson, 2002) that was chosen to examine L2 pronunciation development and motivation to refine pronunciation skills because of the study’s view of
language as “a social practice, a social accomplishment, [and] a social tool” (p. 526), represented by participation in an online, socially mediated environment.

As stated in Chapter 1, this study does not focus on pronunciation accuracy, but rather highlights the processes and motivations behind the development of pronunciation skills. In order to elucidate this point, the literature review continues with a discussion of the WTC construct, one that is especially relevant to the examination of pronunciation development because it accounts for the components that influence students’ motivation to speak in the L2, a task requiring students to access pronunciation skills (MacIntyre et al., 1998; Saint Léger & Storch, 2009; Smit, 2000; Yashima, 2002). MacIntyre et al. (1998) explored the variables affecting WTC, for example language anxiety, self-confidence, social context, and motivation. Those factors are further investigated as mediums through which pronunciation development is observed in subsequent sections of the literature review addressing Smit’s (2002) MIP construct that recycles several WTC variables and applies them directly to pronunciation achievement. MIP is dynamic, fluctuates, and is made up of interconnected variables (MacIntyre et al., 1998; Smit, 2002). The act of developing pronunciation skills is also reflected in this description, one that Ortega (2012) categorized with alternate theories to cognitivist approaches because there is a focus on processes and relationships, thereby linking MIP, WTC, and sociocognitive theory in SLA.

Next, the literature review explores the many opinions surrounding pronunciation’s place in L2 learning by touching on the role of the NS in L2 pronunciation development and comparing and contrasting it with that of the intelligibility principle (Levis, 2005). According to Levis, the former emphasizes the achievement of native-like pronunciation proficiency, and the latter promotes the idea that interlocutors can communicate successfully despite the presence of
accentedness. In order to clarify the stance taken in the present study, the literature review operationalizes the term *pronunciation* and demonstrates how it was applied to the evaluation and observation of students’ pronunciation development. Because the teaching and presentation of pronunciation in L2 classrooms may differ depending on instructional goals, methodologies, and beliefs about pronunciation learning, the literature review then addresses how pronunciation is incorporated into L2 classrooms in addition to exploring teacher training in pronunciation and priorities regarding pronunciation learning. These topics are important to explore in the present study because research findings show that students desire pronunciation instruction (Drewelow & Theobald, 2007; Gilakjani et al., 2011; Gynan, 1989; Harlow & Muyskens, 1994) yet the majority of L2 classrooms do not explicitly address pronunciation learning (Arteaga, 2000; Harlow & Muyskens, 1994; Morin, 2007; Munro & Derwing, 2011; Spada, 2007). Furthermore, because research has shown that the presence of feedback and self-assessment are beneficial to language learners and positively influence variables in both WTC and MIP (Saint Léger & Storch, 2009), the review of the literature review also explores feedback-supported environments as they relate to pronunciation development.

Chapter 2 then moves on to discuss technology and how it has previously been used to investigate pronunciation in language courses. Dalgarno’s (2001) article on Computer Assisted Language Learning (CALL) remarked on the importance of social interaction in online settings and called for instructors to educate themselves on cooperative and collaborative learning environments, thereby emphasizing interactivity between learners, teachers, and peers. Dalgarno also noted that technologies such as podcasting and online workbooks lack interactive features available through Computer Mediated Communication (CMC), for example one to one or group communication, resulting in opportunities to further investigate socially oriented technologies.
Salmon and Edirisingha (2008) pointed out that many of these online environments fit into the category of mobile learning. Because of timely issue of notable increases in mobile broadband subscriptions (International Telecommunication Union, 2013), interpersonal audio discussions were chosen to explore motivators for pronunciation achievement within online learning environments. Finally, the literature review concludes with a discussion of the many research-based educational benefits of implementing interpersonal audio discussions as multimedia learning tools in L2 classrooms. The exploration of various topics and issues in this chapter surrounding the place of pronunciation within L2 teaching and learning characterizes the present study as one that focuses on a blend of educational technology and strategies within the field of applied linguistics to complement and supplement existing research concerning routes for addressing pronunciation development in today’s L2 classrooms.

**Theoretical Background: Sociocognitive Theory**

Atkinson (2002) defined the sociocognitive approach as having a view of language and language acquisition that is an interactive and simultaneous process constructed from both the cognitively driven aspects of language as well as from social interactions with the world around us. Earlier, Bandura (2001) developed a theory of human behavior that described the relationship between personal, behavioral, and environmental influences. His social-cognitive theory explained how the consequences of a particular behavior are then used to establish expectations for future behaviors through a process of self-reflection. This social-cognitive theory outlined how humans possess a system of self-beliefs (a cognitively derived system) that assists them in pursuing a course of action based on past experiences and other socially oriented factors. Following Bandura’s lead, Atkinson argued that the separation of socially and cognitively oriented language research is neither useful nor practical, resulting in the sociocognitive
perspective. Previous researchers (Dörnyei, 1994; Omaggio Hadley, 2001) have pointed out that perceived abilities in the L2 along with self-reflection on past performances are critical to understanding students’ motivations, a primary goal of the present study which validates the appropriateness of referencing sociocognitive theory as a theoretical foundation.

**Sociocognitive Theory and CLT**

Just as social and environmental influences have been identified as crucial to understanding students’ L2 motivation, it is important to highlight the fact that certain teaching methodologies embrace this position on L2 learning more than others. Atkinson (2012) claimed that language, from the sociocognitive point of view, is a “tool for social action” (p. 146). Curricula that place a high value on the social function of language are often designed from the CLT approach. Savignon (1991) described it as an approach that encourages learners to “ask for information, to seek clarification, to use circumlocution and whatever other linguistic and nonlinguistic resources they could muster to negotiate meaning” (p. 263). In a study on how the goals of language teaching have evolved due to the impact of communicative and interactive theories, Pennington and Richards (1986) stated that there is a divide between linguistic competence and communicative competence. Communicative competence is the collaboration of interpretation, expression, and negotiation of meaning during language use, taking into account the social context surrounding communication (Savignon, 1991). Therefore, communicative competence encompasses more than just the knowledge of grammar and discrete linguistic features of a language, reflective of sociocognitive theory.

In addition to their emphasis on communication and interaction in CLT, Lee and VanPatten (2003) expressed their opinions on SLA and how to carry out CLT in L2 classrooms by primarily referencing cognitively oriented theories. Doughty (2003), cited by Atkinson
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(2012), also maintained that SLA is influenced by the social context in which it takes place (but
that language learning itself is ultimately an internal, cognitive change), thereby justifying how
the CLT-motivated classroom selected for the present study is an appropriate setting to observe
sociocognitive theory at work. Lee and VanPatten stated that L2 learners have an unconscious
linguistic system that helps them understand the rules of language without any instruction. This
belief was heavily influenced by Krashen’s (1985) input hypothesis, a model that Atkinson
(2012) described as cognitivist. Atkinson explained the hypothesis in this way because the main
tenets state that input must be comprehensible and must meet the affective needs of learners
before it is accessible for cognitive processing in language acquisition. Lee and VanPatten
maintained that input is not explicit, such as corrective feedback or a lecture about correct
language use. They explained how input is present in all communicative exchanges. As long as
learners are attempting to understand meaning, they are exposed to examples of how language
functions, thus building the cognitive linguistic system. Previously, Schmidt (1990) discussed the
noticing hypothesis in which he stated that unconscious L2 acquisition is impossible and that
paying attention to form facilitates language learning. Lee and VanPatten believed that learners
thrive in environments where they are constantly exposed to comprehensible input and
communicative opportunities. Their definition of input was influenced by Schmidt’s focus-on-
form framework and his work in defining the relationship between what learners pay attention to,
otice, and then ultimately understand from input during the SLA process (Schmidt & Watanabe,
2001). Therefore, based on the relationship between exposure to input and opportunities to
communicate, Lee and VanPatten’s recommendations for CLT were founded on beliefs that SLA
is a dynamic process where a cognitive system is molded by input consciously derived from
interaction with others in various contexts. This conclusion supports Atkinson’s (2002)
sociocognitive description of SLA in addition to the selection of sociocognitive theory as fundamental to do the design of the present study.

**Sociocognitive Theory and Emerging Technologies**

Today’s vast offering of multimedia outlets provide authentic exposure to the L2 and opportunities to communicate with target-language speakers, key characteristics of the CLT and sociocognitive approaches. Therefore, it is logical that online environments are suitable contexts for observing social-cognitive learning. Atkinson (2012) further stated that “the best way to promote SLA is to place learners in situations where the L2 is necessary for social action” (p. 144). In order to support an environment that not only required L2 usage but also uncovered the experience of using the L2, the web-based, interpersonal audio discussions were chosen as the most appropriate tool for this study grounded in sociocognitive theory. Studying interactions among students in commonplace classroom settings allows researchers to operate in the sociocognitive framework because subjects can be observed in their natural environment, representative of the relationship between the social and cognitive aspects of L2 acquisition (Atkinson, 2002). Atkinson also described formal language instruction (or classrooms) as “complex sociocognitive activity systems” (p. 539). Later, Atkinson (2012) explained “activity systems” (p. 151) as phases of learning that require one to actually participate in the activity being learned in an organized, scaffolded fashion. In SLA, activity systems supporting L2 acquisition can be accomplished through various means such as living with a host family, joining a foreign language club, or attending social functions in the L2 context, resulting in real-world learning. Atkinson relayed the idea that “we learn as we live” (p. 149), as well as the notion that learning, teaching, and understanding take place in public domains within the world. In order to maintain the sociocognitive viewpoint of the present study, pronunciation practice was presented
through collaborative activities and membership to interpersonal audio discussions that did not alienate social or contextual dimensions of language from cognitive processes. The social nature of learning associated with sociocognitive theory correlates to the investigation of interactive, social technologies such as VT, Facebook, Twitter, etc. and their effects on SLA. These technologies afford members a multimodal environment in which they can see, act, speak, and understand without restriction during the learning process, which is why VT fulfills the requirements of focusing on pronunciation through technology in the present study.

The WTC Model

The sociocognitive perspective of SLA is appropriate to study MIP because it takes into account the interdependence of social and cognitive factors that influence motivation, self-confidence, and anxiety (MacIntyre et al., 1998; Smit, 2002). Similar to Bandura (2001) and Atkinson’s (2002) social-cognitive theories, the WTC construct links the psychological, linguistic, and social factors that lead to student output and utterances and is characteristic of the multi-faceted sociocognitive theory underpinning the study. Alternative theories to cognitivism have been described as “metaphors of constant flux, relations and practices, and dynamism” (Ortega, 2012, p. 168). According to MacIntyre et al. (1998), a learner’s WTC can fluctuate over time and is a dynamic process shaped by interconnected variables such as the social situation at hand, anxiety, motivation, and self-confidence. Therefore, based on their many similarities and theoretical foundations, the WTC construct and the sociocognitive theory of SLA were identified as compatible tools for the exploration of pronunciation development in a social context.

Understanding WTC

In order to understand how MIP, WTC, and sociocognitive theory are linked, it is imperative to understand their common features and themes. McCroskey and Baer (1985) sought
to answer the questions of why some people seem excited and eager to communicate and why others are clearly apprehensive and avoid communication in certain contexts or with certain people. Almost 30 years ago, their research revealed that there was no valid instrument for measuring a person's WTC. The exploration of this phenomenon resulted in the creation of the WTC construct, defining WTC as a personality-based, trait-like predisposition towards communication. The scale developed to measure WTC at the time was linked to four communicative contexts: public speaking, talking in meetings, talking in small groups, and talking in dyads. It also reflected three types of receivers: strangers, acquaintances, and friends. The findings associated with the development of the WTC personality construct were initially shared in journals connected to psychology and speech communications, not among the L2 community. It was not until the late 1990s that researchers in foreign languages applied this construct to new research topics. MacIntyre et al. (1998) wanted answers to the same questions as McCroskey and Baer, but sought to apply those questions to the L2 context. They developed a new application of the WTC construct into a visual, triangular model, representing a layered breakdown of the various influences that affect a person’s decision to communicate in the L2 or to abstain (see Figure 2.1). Since the establishment of this model, there have been numerous studies that have used the WTC construct within the context of L2 teaching and learning (Baker & MacIntyre, 2003; D’Amico, 2012; Freiermuth & Jarrell, 2006; Kissau, McCullough, & Pyke, 2010; Kormos & Dörnyei, 2004; MacIntyre, 2007; MacIntyre, Baker, Clément, & Donovan, 2002; MacIntyre, Burns, & Jessome, 2011; Saint Léger & Storch, 2009; Yashima, 2002; Wen & Clément, 2003).
Studying the L2 with WTC

After the initial publication by MacIntyre et al. (1998) attaching WTC to foreign languages, Yashima (2002) observed that WTC was emerging as a concept being applied to differences in native language and L2 communication. Additional studies were conducted applying WTC to various other aspects of language learning – for example, considering the effects of gender on WTC, observing WTC in immersion K-12 classrooms (Baker & MacIntyre, 2003), and weighing the effects of gender and age on WTC (MacIntyre et al., 2002). In addition, some studies chose to examine alternative milieus and cultures, such as the perspectives of Asian students learning English (Yashima, 2002; Wen & Clément, 2003). Following on the heels of this research trend instigated by MacIntyre et al. (2002), Saint Léger and Storch (2009) began studying the cognitively oriented facets of WTC, such as students’ attitudes and perceptions, rather than situational factors such as location, gender, or age. Similarly, MacIntyre and Doucette (2010) examined links between the action control variables of hesitation, preoccupation, and volatility with perceived competence, language anxiety, and WTC both inside and outside the classroom. Kissau et al. (2010) investigated the effects of online L2 instruction on students’ WTC because in the most recent era of language learning and instruction, the Internet and CMC have become standard supplements to language classrooms. In some cases, Internet-based learning has actually replaced the classroom, resulting in many options for online learning. The researchers monitored participants during opportunities for communicative exchange online over the course of a semester; participants also completed two questionnaires and participated in an interview. Kissau et al. found that not only did the online environment reduce L2 anxiety, it also increased perceived competence in the L2 and met the varying needs of the diverse student population in the online course, resulting in a greater WTC to communicate with other L2
students. Most recently, D’Amico (2012) examined WTC in students who were undergoing study-abroad experiences, another example of how students’ WTC is influenced by different social contexts.

Despite all of the studies that further our understanding of the varying attitudes and levels of WTC that teachers see among their students in the L2 classroom, there have been few published studies discussing how the components of WTC potentially affect students’ pronunciation development. Saint Léger and Storch’s (2009) study concerning WTC and perceived oral abilities in the L2 found that students reporting a positive self-confidence and high level of perceived oral proficiency did not feel anxious during oral activities. Then, MacIntyre and Doucette (2010) pointed out that modern pedagogical methods stress practice in speaking in order to learn the L2, thus students who take advantage of opportunities to communicate and have a higher WTC increase their chances for speaking, learning, and an improved proficiency. Investigating these variables within the context of pronunciation, Smit’s (2002) study of students’ motivation to develop pronunciation skills identified several key factors that intersect WTC variables mentioned in the previously cited research studies. Notable factors he was able to identify as statistically significant to learners’ MIP were how students rated their chance of success (self-efficacy) and how comfortable students felt in their pronunciation (anxiety and self-confidence). As a result, Smit’s MIP construct pinpointed two variables that overlap with the WTC construct – anxiety and self-confidence – and elaborated on how they affect students who are actively trying to refine their pronunciation skills. The most significant difference between the two constructs – WTC and MIP – is that Smit operationalized MIP from a population of advanced L2 learners in a pronunciation module whereas MacIntyre et al. (1998) applied WTC to all proficiency levels of L2 learners. Thus, the WTC construct is appropriate for motivational
research in the present study due to its ability to be generalized to a variety of learner populations thereby highlighting the need to refine MIP for students who are not similar to Smit’s participant sample. Motivational variables are connected through the implementation of the recognized and operationalized construct of WTC, a tool that can be used to support and expound upon the results of many studies on pronunciation as well as the MIP construct. Therefore, borrowing ideas from Smit’s (2002) motivation study and features representing oral abilities as established by Saint Léger and Storch (2009), the present study seeks to address pronunciation specifically and to continue Kissau et al.’s (2010) examination of WTC variables in a virtual environment as it relates to the L2 context. Based on review of the literature up to this point, there is no such study – a fact that justifies the application of WTC as an operationalized construct because it correlates to MIP and the sociocognitive environments present in online contexts that are prevalent in today’s L2 classrooms.

**Variables Influencing Pronunciation**

The present study was designed based on the belief that L2 learning is influenced by a variety of factors: the environment, social interactions, perceptions of linguistic abilities, and emotions. Therefore, in order to address MIP, it is clear that many internal and external variables may be present at one time. Dörnyei (2003) stated that at the intersection of motivation in L2 learning and communicative competence, one finds WTC construct and its variables. MacIntyre et al. (1998) expressed their beliefs that WTC is made up of layers, both psychological and linguistic. In order to represent their notion of WTC and the inter-related variables affecting WTC, they established a visual model shown in Figure 2.1.
As seen in Figure 2.1, the WTC construct does not overtly address how pronunciation is affected by the contributing factors; however, high levels of WTC result in the learner’s readiness to enter into discourse with others using the L2 (MacIntyre et al., 1998), an act that involves some effort in producing accurate sounds and comprehensible utterances for interlocutors. Because MacIntyre et al. related the WTC construct to all L2 learners rather than excluding it to a specific proficiency level (e.g. intermediate learners), WTC was identified as an existing, operationalized construct for studying students’ motivation connected to L2 output in introductory-level students. Furthermore, pronunciation is a byproduct of L2 output. Consequently, pronunciation is a resulting behavior of taking advantage of opportunities to communicate thereby rendering WTC an appropriate construct for investigating variables that may influence students’ motivation to develop pronunciation skills.
Smit (2002) noted two key facts: pronunciation is undeniably an integral part of language learning and motivation plays a role in language learning. However, the combination of the two aspects (pronunciation and motivation) has been difficult to investigate. In a previous study, Dörnyei and Kormos (2000) used WTC as a successful predictor variable to address L2 learners’ communicative performance. They identified high correlations between WTC, motivational variables, and the number of words and turns in speaking samples. These findings suggest that the more students communicate, the more they are likely to experience high motivation resulting in increased opportunities to improve pronunciation skills. Therefore, although there are few studies that have investigated MIP, it appears that the following dynamics of L2 learning are linked and serve in the present study as the departure point for investigating interpersonal audio discussions’ effects on pronunciation development: opportunities and frequency of L2 communication, WTC and MIP variables, and the development of pronunciation skills.

**Self-Beliefs**

Initially, McCroskey and Baer (1985) defined WTC as a personality trait by labeling people who were introverted, had low self-esteem, or had a general apprehension toward communicating with others. MacIntyre et al. (1998) expanded upon this original definition of WTC by applying it to the L2 setting, and found that the language of communication can dramatically affect a person’s WTC. Simply changing the language of communication from the native language to the L2, according to MacIntyre et al., introduces a level of uncertainty that contains more complex variables than those that influence WTC in the native language. Among those variables, as indicated by the model, are two main factor types: situational and enduring. In their model, MacIntyre et al. (1998) placed personality at the bottom of the pyramid because this variable cannot likely be altered and can serve as the source from which the remaining variables
function. Included in top layer of enduring influences (because it can be affected by other factors) is the variable of L2 self-confidence, located in box seven. MacIntyre et al. contended that there are two components to the self-confidence variable – a) the level of anxiety that the learner experiences when he or she uses the L2 and b) the learner’s cognitive evaluation of his or her L2 abilities known as self-efficacy.

Accordingly, self-efficacy is closely related to self-confidence. Self-efficacy is a cognitively derived construct which defines a person’s capacity to organize, execute, and finally, master academic tasks. Both anxiety and self-efficacy contribute to students’ overall self-confidence according to Smit’s (2002) work in MIP as well as the WTC construct (MacIntyre et al., 1998). Self-efficacy is represented in the WTC pyramid by the students’ self-evaluation of L2-related skills, located in box 10 of Figure 2.1. Smit also found that feelings of anxiety and self-efficacy can be experienced simultaneously. For example, a student may feel proficient yet nervous due to an upcoming exam. Self-beliefs – self-confidence and self-efficacy – are found in the middle of the WTC pyramid, meaning they can function as both enduring and situational factors that influence communication and overall motivation. Mercer’s (2011) longitudinal, qualitative study concerning the development of L2 learners’ self-beliefs illustrated how they are a “complex, multilayered, multidimensional network of interrelated self-beliefs” (p. 335). Findings indicated that some self-beliefs are ambiguous and not related to any specific situation, whereas others reflect certain contextual parameters and experiences. Mercer’s research recognized the multifaceted nature of variables impacting self-confidence by following the journal entries of a single student over a period of three years and suggested that boundaries between self-beliefs can, at times, become blurred. The WTC pyramid provides a visual
representation of these inter-related boundaries and social situations, thus rendering the WTC model useful in organizing variables affecting oral output – in the present study, pronunciation.

Self-efficacy has also been identified as a predictor of academic success (Mills, Pajares, & Herron, 2007). For example, students with low self-efficacy prefer uncomplicated academic tasks and apply minimal effort, or possibly even choose to avoid the completion of an assignment. On the other hand, learners who are willing to accept challenges and work hard to progress towards meeting goals are viewed as having a higher self-efficacy. Concerning foreign-language learning, Mills et al. (2007) conducted a study on the relationships between self-efficacy, achievement, and motivation in intermediate French students and found that confident students used more appropriate strategies to plan, monitor, and complete their academic tasks, thus exhibiting a focus on self-efficacy for self-regulation practices. Similarly, Smit’s (2002) findings about MIP identified the students’ personal readiness to actively work at pronunciation development and in order to meet goals was a vital factor in improving self-confidence. Increased self-confidence, thus, reflects reduced anxiety and sufficient feelings of self-efficacy.

Anxiety

MacIntyre et al. (1998) acknowledged that in order to achieve WTC and then actually use the L2 for communication, learners must have a sufficient self-confidence. Although MacIntyre et al. did not assign a separate box in the pyramid to feelings of anxiety, they quoted Spielberger (1983) and stated that “anything that increases state of anxiety will reduce one’s self-confidence and, therefore, one’s WTC” (p. 549). Smit and Dalton’s (2000) findings supported this notion and revealed that anxiety was the most relevant learner-related factor regarding MIP. Later, Smit (2002) again noted anxiety as a significant contributor to MIP because he found that students’
chances of success in pronunciation achievement correlated with their feelings of self-confidence, which is influenced by anxiety.

Young (1991) addressed anxiety and oral production in the L2 classroom and pointed out that although most beginner language students will not sound like an NS, they may suffer from stress and anxiety if pronunciation is a highly valued aspect of language learning, for example, exemplified by a focus on pronunciation skills in the present study. Young also maintained that motivation and anxiety manifest themselves differently in each learner depending on ethnicity, previous language experience, personality, and classroom procedures. Young went on to discuss how to alleviate anxiety and maintain a low-anxiety classroom by arranging activities where students work in small groups, do pair work, and experience personalized language instruction. Prior research (Phillips, 1992; Young, 1991) has stressed the importance of creating a low affective filter in the language classroom because students’ emotional reactions associated with language learning and instructional choices can greatly impact their performance (Gardner, 1985).

Additionally, there is more than one type of L2-related anxiety – trait anxiety, state anxiety, achievement anxiety, and facilitative-debilitative anxiety – circumstances that Horwitz (2010) stated can make the relationship between anxiety and SLA unclear and difficult to understand. Smit (2002) interestingly found that anxiety played a dual role in MIP. At different points during the study, anxiety levels appeared to be the cause of self-confidence, and at other times seemed to be an effect of self-confidence. For example, anxiety reduced self-confidence in new students at the beginning of the study, implying a debilitative form of anxiety that resulted in decreased learning or performance. To continue, Smit also explained that increased anxiety was an effect of feeling incompetent and vice-versa near the end of the study when students
participated in assessments. It is also plausible that students can experience facilitative anxiety – the opposite of debilitating anxiety – which increases motivation and results in improved performance (Horikawa, 2013; Marcos-Llinás & Garau, 2009), such as when anxiety about an upcoming test influences students to study harder with the goal of succeeding. Anxiety appears to be commonly linked with the oral use of the L2 translating to the notion that pronunciation development also provokes anxiety (Young, 1991). Phillips (1992) addressed anxiety in relation to oral tasks and found that despite only moderate levels anxiety reported during oral exams, learners felt that that oral exams were unpleasant and stressful, highlighting how speaking in the L2 is often an anxiety-causing task. Concerning pronunciation specifically, anxiety related to language use does not function alone (Yan & Horwitz, 2008), and prior research has suggested that it holds more weight in affecting MIP when compared with the learner-related factor of self-efficacy (Smit & Dalton, 2000).

Motivation

Self-confidence is found in the motivational propensities layer of the WTC pyramid (Figure 2.1), which represents the motivations behind the actions leading to communication, thus linking several affective variables. Smit (2002) also felt that anxiety, self-confidence, and motivation were connected and used the terms subject- and learner-related factors to identify these variables that he felt affected MIP. Because emotions like anxiety and self-confidence are felt within the learner, these variables are considered learner-related factors. Students’ attitudes toward the subject – reflected by various types of motivation discussed in this section – are associated with subject-related factors. According to Gardner (1985), motivation in SLA corresponds to the amount of effort expended by a learner and willingness to improve upon what is already known about the language in order to have a successful learning experience. He
explained how motivation involves four aspects: “a goal, effortful behavior, a desire to attain the goal, and favorable attitudes toward the activity in question” (p. 50). By exploring and identifying students’ reasons for learning a language, one can not only determine the intensity of the learners’ motivations, but also the motivations themselves. MacIntyre et al. (2002) also stated that motivation is a significant contributor in establishing the conditions in which L2 communication is possible. Masgoret and Gardner (2003) later purported that they believed motivation was the single most correlated variable when it comes to L2 achievement. Based on the large amount of cited research connecting L2 success to students’ motivation, the review of the literature briefly addresses various motivational theories, as L2 motivation is complex and may differ from learner to learner and across contexts.

**Integrativeness.** Masgoret and Gardner (2003) claimed that the relationship between motivation and L2 achievement was stronger than other variables found in Gardner’s (2000) socioeducational model such as attitudes toward the course and the teacher, integrative orientation, and instrumental orientation. Smit (2002) expanded on the notion of *integrativeness* and categorized this positive view of the L2 as a subject-related motivational factor that was purely internal and not in any way connected to the classroom experience of learning pronunciation. Gardner and Lambert (1972) defined the term *integrativeness* – or having an integrative orientation toward the target language and culture – as “reflecting a sincere and personal interest in the people and culture represented by the other group” (p. 132). It is important to note that an integrative orientation may or may not necessarily have a strong influence on students’ motivation. For instance, Gardner (1985) explained how learners reporting an increased desire to actually become a participant in a target language community tend to be more highly motivated than learners who simply enjoy the target culture’s cuisine and history.
Another term, *instrumental orientation*, is concerned with motives related to the aspirations and achievements of the learner. Examples of instrumental motivators are receiving good grades or using the language to advance one’s career path or participate in a study-abroad experience (Dörnyei, 1994). This type of motivation corresponds to Smit’s definition of an external motivation and subject-related factor in the MIP construct. Therefore, the identification of integrative and instrumental orientations demonstrate the presence of a psychological and emotional identification between the learner, the L2, and his or her motivation to integrate with the L2 community, thus creating a conceptual link between cognition and motivation (Dörnyei, 2003; Gardner, 1985).

**Intergroup and interpersonal motivation.** Similar to the notions of both integrative and instrumental orientations, the term *intergroup motivation*, defines how the learners’ desire to be a participant in an L2 community coupled with perceptions of the L2 affects motivation to actively learn the L2. Intergroup motivation has the potential to evolve over the course of learning because the learner’s attitudes and reasons – both integrative and instrumental – for language study do not necessarily remain constant. However, intergroup motivation is also a category within enduring factors of the WTC construct if, for example, the learner is introverted and prefers solitude, or is simply enrolled in the course for the purpose of fulfilling credit hour requirements. Regarding the many influences to intergroup motivation, Moyer’s (2007) study concerning the degree of foreign accent among immigrant English learners in the United States found that 24% of the participants reported strictly professional, or career-oriented, motivations. Seventy-one percent of respondents identified both personal and professional reasons for learning a new language. Therefore, intergroup motivation is a multifaceted type of motivation to
learn the L2; it correlated significantly with native-like accent ratings in Moyer’s study, and was deemed to be more significant than is any single type of motivation alone.

The factor termed *interpersonal motivation* functions alongside intergroup motivation and is linked to the personal aspects of the speakers, for example their social role within the exchange such as a teacher and a student. Additionally, interpersonal motivation stems from the desire to establish a relationship with an interlocutor and is stimulated by factors such as the similarity between the two interlocutors and how often they have the opportunity to communicate (MacIntyre et al., 1998). These various facets of motivation demonstrate why Gardner insisted in his conclusions that “motivation involves an attitudinal component” (p. 60) because the relationship between students and their attitudes toward a certain goal, in this case learning the language, cannot be severed. Gardner also suggested that observable behaviors linked to intergroup and interpersonal motivation, such as class participation and continued language study, support the notion that attitudes and motivations are an influential part of the L2 learning process because they represent the students’ personal decisions and active involvement in learning the L2.

**Extrinsic and intrinsic motivation.** Dörnyei (1994) expanded on the construct of motivation by discussing the added components of *extrinsic* and *intrinsic motivation*. Smit (2002) also recycled these terms in the MIP construct, stating that intrinsically motivated students see improving pronunciation skills as a task that is fun and challenging, but extrinsically motivated students place importance on curricular demands and performing at an acceptable level when compared with peers. With intrinsically motivated behaviors, there is evidence of the students’ “natural curiosity and interest” which fuels the learning process (Deci & Ryan, 1985, p. 245). On the other hand, extrinsically motivated behaviors are those that lead to an extrinsic
reward such as receiving instructor feedback or earning good marks. Extrinsic motivators can also assist in avoiding negative consequences; for example, prevent students from failing a test (Dörnyei, 1994). Deci and Ryan (1985) went on to explain their theory of self-determination that demonstrated how extrinsic rewards can lead to intrinsic motivation rather than undermine it as previously thought (Brown, 1990). Dörnyei referenced Bandura and Schunk (1981) in order to explain how a type of extrinsic motivation called proximal goal-setting can boost its intrinsic motivation counterpart by providing learners with feedback concerning their progress and setting attainable benchmarks during the long and continual process of language learning. Dörnyei argued that learners who are presented with achievable goals for their language learning can achieve results. The outcome of goal-setting is learners who possesses a positive self-confidence and self-efficacy, which is shown to be a “major motivational subsystem in foreign language learning situations” (p. 277). Learners feel less anxious during the learning process and are less likely to abandon L2 learning when a feedback-supported environment is present, which enhances a sense of competence, creates autonomous learners who learn for pleasure, and appeals to the learners’ self-concept (Noels, Pelletier, Clément, & Vallerand, 2003). The impact of motivation and its driving forces such as anxiety and self-confidence are included in the WTC and MIP constructs and are applied in this study as a means to operationalize the notion of introductory-level students’ motivation to develop pronunciation skills.

The L2 motivational self-system. Noels et al. (2003) spoke of the relationship between L2 motivation and the students’ concept of self. Later, Mercer’s (2011) investigations of the development of L2 learners’ self-beliefs highlighted that students’ self-beliefs can be related to a very specific context or outcome. Dörnyei and Ushioda (2009) also described how students’ self-beliefs and self-regulatory behaviors correlated specifically with L2 learning in his L2
motivational self-system theory, an approach to L2 motivation situated within a self-oriented framework. Dörnyei and Ushioda’s theory of L2 self-motivation relies on prior research in L2 motivation (mentioned in the previous subsections) in addition to research in psychology thereby uniting self theory, motivational psychology, and research in L2 motivation. The researchers operationalized the theory by citing Markus and Nurius’s (1986) theory of possible selves, or how people imagine their unrealized, future potential. They also maintained that if students visualize their future self as someone who communicates with other L2 speakers by focusing on L2 proficiency, students can be described as having an integrative outlook toward the L2. In short, Dörnyei and Ushioda identified three components to the L2 motivational self-system: (a) the ideal L2 self, a characteristic of our future self that speaks the L2 thereby motivating students to learn the L2, (b) the ought-to L2 self, a dimension that regulates what students should do to meet expectations and avoid the “feared” L2 self (a negative result), and finally (c) the L2 learning experience, a factor that contextualizes learning and includes the curriculum, environment, teacher, etc. In the present study, the L2 learning experience component concentrates on the impacts of the interpersonal audio discussion activities and peer-to-peer interactions on students’ motivation to develop pronunciation skills. Because the L2 motivational self-system points to a psychological and emotional relationship between the learner and the L2 language and culture, it is not only consistent with Atkinson’s (2002) sociocognitive theory supporting the present study but also emphasizes self-oriented, affective variables already discussed in both the WTC (MacIntyre et al., 1998) and MIP (Smit, 2002) constructs.

**Relationship Between Variables Influencing WTC and MIP**

Dörnyei (2003) reminded those in the field that although some L2 learners demonstrate a high level of L2 competence, they may avoid communicative situations. On the contrary, some
less proficient learners may actively seek to practice by participating in any and all communicative opportunities. For example, D’Amico (2012) found that one particular learner in her study with the lowest fluency scores both before and after participating in a study abroad program had one of the highest WTC scores, demonstrating that although L2 production was difficult, the student was very willing to use the L2. The aforementioned student profiles described by Dörnyei and D’Amico lead one to ponder how variables interact in order to shape learners’ WTC and eventually result in L2 output and communicative competence, outcomes that involve the development of pronunciation skills.

Both the WTC (MacIntyre et al., 1998) and MIP constructs (Smit, 2002) take into account linguistic, communicative, social, and psychological influences. Because there is no existing, operationalized construct to study MIP at the introductory-level, the parallels between existing constructs thought to systematically measure variables impacting introductory-level students’ pronunciation development, L2 output, and motivation have been consulted in the present study. In order to use variables known to influence WTC to explore motivation to develop pronunciation skills, the present study is informed by Smit’s (2002) MIP construct and research. Smit felt that achievement in pronunciation required “a different kind of motivation” (p. 90). In the study, Smit organized variables into categories inspired by Dörnyei’s (1994) work in L2 motivation: subject-, learner-, and classroom-related factors as well as influences from each student’s personal background. Within these categories, one finds the L2 motivational variables already presented in this section: anxiety, self-confidence, integrativeness, etc. Because these motivational variables reoccur, intersect, and center on the notion of L2 motivation, the present study blends Smit’s pronunciation-specific construct (applied to advanced learners) and
the more general WTC construct to address the study’s population of introductory-level learners and their motivation to develop pronunciation skills in the L2.

**Schools of Thought Affecting Topics in Pronunciation**

Understanding what is meant by the term pronunciation and how it is presented in L2 teaching and learning has been a somewhat prevalent topic among researchers over the past two decades. Pronunciation continues to be studied due to the rise in audio and voice-recording technologies that are readily available through the Internet. Despite the continued investigation on methods to improve L2 pronunciation, there are still unanswered questions concerning how pronunciation should be taught and assessed in the L2 context. This uncertainty is a result of the lack of a clear definition of pronunciation and its role in L2 classrooms. The following sections explore the ongoing debate regarding the goal of pronunciation learning for L2 students and report on teacher and student priorities in pronunciation instruction. Conclusions are then made regarding current tendencies in pronunciation teaching and learning, and the term *pronunciation* as used in the present study is defined. The establishment of pronunciation’s place within the field of SLA and how that has been interpreted in the present study clarifies the lens through which the research project examines pronunciation and corresponds to the overall goal of addressing pronunciation development as opposed to a focus on phonetics or phonology.

**The NS Model and Accentedness**

In her survey of L2 research on what actually takes place in classrooms, Pica (1994a) stated that accurate, native-like pronunciation is used to measure and assess learners’ progress and proficiency in the L2. Her findings, however, contrasted the idea of using an NS model for assessment and purported that there was little research supporting the notion that native-like pronunciation was a realistic goal for teachers and students. In 2001, when Piske et al. (2001)
conducted a review of previous research concerning L2 foreign accent, they found no evidence supporting the claim that instruction can eliminate foreign accent in L2 speech. Kramsch (1997) believed that language itself is not norm-referenced. She went on to say that considering language a practice rather than a standardized system has the potential to transform L2 learners into students who construct their own identities, both linguistic and social, thus offering NNSs the opportunity and “privilege” (p. 368) to access multiple possibilities for self-expression. Cook (1999) further explained how errors made by L2 learners are often viewed as failure to attain NS competence. Cook’s attempts to develop a positive image of the L2 speaker endeavored to send the message that L2 learners are “multi-competent language users” (p. 185) instead of “failed NSs” (p. 195).

When it comes to pronunciation, current thinking seems to agree with the aforementioned researchers thoughts on comparing students with NS models. Saito (2011) reaffirmed this notion by reiterating that pronunciation research has consistently found that evidence of a foreign accent is normal. Goodwin (2013) pointed out that pronunciation instruction is often synonymous with the notion of accent reduction and the need to repair errors in pronunciation rather than focusing on successful communication and a respect for “accent diversity” (p. 5). Regardless of a higher tolerance of accentedness, Cook’s (1999) words “despite some recognition that the L2 user should be treated as independent in SLA research, the native speaker often maintains a ghostlike presence” (p. 190) remain a part of what is believed to be effective instruction. Derwing and Munro (2005) stated that quality of L2 speech should take into account two different skills, both accentedness and comprehensibility. This method of evaluating pronunciation, thus, does not ignore target language rules and NS approximations, but places value on successful communication evidenced by mutual understanding during speaking tasks as well. In fact,
Derwing and Munro claimed that just as students benefit from learning grammatical rules through explicit instruction, students who have some phonological awareness (achieved through the explicit teaching of rules) are able to distinguish between their own oral abilities and those of "proficient speakers in the L2 community" (p. 388). Derwing and Munro’s choice of words referenced in the previous phrase further suggest that although comparisons to NSs will never completely disappear from pronunciation instruction, this practice is becoming less of a focal point in favor of the notion of intelligibility and an open-mindedness regarding foreign accent in L2 pronunciation.

**Nativityness and Intelligibility**

Continuing the discussion on NNSs’ ability to achieve NS competence, Levis (2005) explored opposing principles in pronunciation research: the nativeness principle and the intelligibility principle. Levis’s definition of the nativeness principle stated that it is “both possible and desirable to achieve native-like pronunciation in a foreign language” (p. 370), and he claimed that that this principle drives techniques that focus on accent reduction that references the use of NSs as models for pronunciation. Gatbonton, Trofimovich, and Magid (2005) collectively endorsed the notion that pronunciation accuracy is defined as the degree to which learners’ speech is free of segmental and suprasegmental features characteristic of their native language, thus resulting in little or no accent and linking the notion of accuracy to the nativeness principle. Levis (2005) went on to point out that the teaching of pronunciation has been primarily accuracy-oriented: a method where all vowel and consonant sounds in the target language are taught and supportive of developing a native-like pronunciation. As evidenced in the previous section, accentedness is very common in L2 speech, thus rendering nativeness an unrealistic goal for teachers and students (Cook, 1999; Derwing & Munro, 1997, 2005; Piske et al., 2001; Saito,
2011). Although reducing accentedness is one step closer to achieving more accurate, native-like pronunciation, pronunciation instruction does not necessarily have to be synonymous with the notion of nativeness and the development of completely accurate, error-free speech.

An alternative is the intelligibility principle, one that recognizes that successful communication can take place even when foreign accent is present; interlocutors need only be understandable, echoing the national Proficiency Guidelines set forth by ACTFL (2012).

Furthermore, Kramsch (1986) noted that if classroom discourse is norm-referenced and oriented toward native-like accents, then the environment is not favorable for the development of interpersonal social skills such as the ability to make interpretations and to negotiate intended meanings, qualities of communication favored by the aforementioned ACTFL Guidelines driving classroom practices today. Levis (2005) also felt that intelligibility was a better fit for classroom settings and stated that instruction geared towards achieving native-like pronunciation is a great burden to not only students but instructors as well. He pointed out the lack of research supporting the claim that native-like accuracy is either possible or a legitimate desire for adult learners. It also appears that teachers favor intelligibility because Foote et al. ’s (2010) evaluation of ESL teachers in Canada found that the majority of instructors did not believe that eliminating a foreign accent should be the goal of pronunciation instruction. Derwing and Munro’s (2005) article concerning research-based approaches to pronunciation teaching noted that improved intelligibility is the most desirable outcome of pronunciation instruction because setting the goal of achieving native-like pronunciation may dishearten learners in the end. Drewelow and Theobald (2007) similarly concluded that learners with a strong desire to attain native-like accents could be setting themselves up for disappointment.
In the description of a distinguished speaker – the highest ranking – ACTFL (2012) references a “non-native accent,” indicating that some accentedness may still be present at this level. Despite this one mention of a foreign accent, ACTFL categorizes proficiency levels based on how well students can be understood by NSs who are accustomed to interacting with NNSs and those who are not. In some of the advanced and superior categories of speaking proficiency, terms like accuracy, intonation, linguistic ease, and fluency are employed, but there is no direct reference to the accentedness of the learners’ pronunciation. Therefore, based on the content and choice of words used in the speaking Proficiency Guidelines, it is clear that ACTFL places a greater emphasis on communicative competence and intelligibility, avoiding the comparison of learners to a native accent during assessment (Cook, 1999; Pica, 1994a; Piske et al., 2001).

Similarly, in a study concerning attitudes about pronunciation, Drewelow and Theobald (2007) expressed that comprehensibility is a more realistic and important goal for interlocutors because they found that 83% of native French-speaking respondents did not feel it important for Americans to have a native French accent during communicative exchanges. In fact, 100% of the native French speaker respondents “did not mind an American accent as long as they could understand the person speaking” (p. 499). This result did not suggest that teachers should abandon pronunciation practice altogether – accurate pronunciation did play a role in the intelligibility of students’ speech – but as Drewelow and Theobald suggested, instructors should have a higher tolerance for accentedness in pronunciation, as well as a larger focus on communication strategies like gesturing and circumlocution.

Although nativeness appears to have taken a back seat to the notion of intelligibility, phonological instruction associated with methods supporting native-like pronunciation are not completely impractical. Saito (2011) quoted Venkatagiri and Levis (2007) who claimed that
explicit instruction helps students to develop phonological awareness, a skill they hypothesized as being an important influence on L2 speech intelligibility. Saito later investigated explicit phonetic instruction and outcome measurements in intermediate Japanese learners of English. Explicit instruction was said to be in effect where segmental and suprasegmental elements of the target language are explained through rules that govern pronunciation, and then students are asked to apply and adhere to those rules. Results demonstrated that explicit pronunciation instruction did have a positive effect on comprehensibility and ascertained that evaluation methods should reflect the achievement of intelligibility rather than native-like oral production. Lord’s (2010) study investigated two types of input and how students best learned L2 sound systems – through explicit instruction or implicitly through study abroad experiences. She found that both were beneficial, suggesting that university-level departments consider phonetics and phonology courses as a requirements for undergraduate students and prerequisites for students planning to study abroad. She offered this recommendation because explicit instruction assures that students have opportunities to notice pronunciation-specific input (Schmidt, 1990). Furthermore, in Kennedy and Trofimovich’s (2010) examination of university students in a pronunciation course, higher ratings in accentedness, comprehensibility, and fluency correlated positively with the learners’ awareness of their own L2 speech patterns. In conclusion, explicit phonological instruction presents NS examples and encourages learners to achieve accuracy regarding rules that regulate pronunciation of the target language, tasks that also appear to be essential elements of intelligibility. As a result, although the nativeness and intelligibility principles appear at first glance to represent extreme viewpoints, they are both significant principles when addressing L2 pronunciation and the outcomes that both instructors and students desire. Therefore, in the present study, the stance on pronunciation combines elements from both
principles, thus supporting research-informed notions that a focus on accurate pronunciation can also improve intelligibility.

**Prior Research in L2 Pronunciation Instruction**

**The Research-Practice Gap**

Morley (1991), cited by Neri, Cucchiarini, Strik and Boves (2002), argued that exposure to the L2 alone does not seem to be adequate for pronunciation improvement because there are many examples of long-term foreign residents who retain strong accents and remain unintelligible in their L2. Similarly, Piske et al. (2001) discovered in their review of over 50 years of L2 accentedness studies that the influence of formal instruction on L2 foreign accent may be found to have a stronger impact if classroom teaching involved specialized training in L2 pronunciation. Conversely, Jones (1997) presented what were described as unfounded arguments for the exclusion of pronunciation in L2 learning: for example, the idea that adults cannot achieve native-like L2 pronunciation after a critical period and the belief that pronunciation is a skill unaffected by practice or classroom instruction. More recently, researchers (Derwing & Munro, 2005; Kennedy & Trofimovich, 2010; Saito, 2011; Venkatagiri and Levis, 2007) have found that explicit phonological instruction leads to gains in comprehensibility. Research has questioned and evaluated different approaches used to address pronunciation and those techniques’ evolution over time through various contexts and L2 teaching methodologies, yet there is still no clear agenda for outlining how to address pronunciation with students. Despite the aforementioned research findings that demonstrate the benefits of phonological instruction, Derwing and Rossiter (2002), cited in Derwing and Munro (2005), provided the startling statistic that only 8 of the 100 adult intermediate ESL learners they surveyed had received pronunciation instruction in class. In order to remedy this discrepancy, Derwing and Munro encouraged
collaboration between practicing teachers and researchers. They noted that accepting pronunciation instruction as a proven research-based method is the first step for those who wish to extend pronunciation learning to students, a decision that should be followed by the exploration of instructional avenues that best meet students’ needs. Classroom-based research regarding the teaching and learning of pronunciation, such as that conducted in the present study, is underrepresented (Derwing and Munro, 2005). Additionally, Wahid and Sulong (2013) claimed that there is a lack of research-based information regarding pronunciation teaching and learning and that a discrepancy exists between teachers’ practices and researchers’ recommendations.

The aforementioned findings highlight the dilemma of introducing L2 pronunciation in many types of classrooms, from introductory-level to those comprised of advanced learners (Arteaga, 2000; Morin, 2007; Morley, 1996; Munro & Derwing, 2011). The problem of how to better incorporate pronunciation into the L2 classroom emphasizes the need to continue to explore pronunciation teaching and learning in a way that correlates with National Standards (ACTFL, 2014) and embraces previous researchers’ recommendations to focus on intelligibility (Derwing & Munro, 2005; Drewelow & Theobald, 2007; Gilakjani et al., 2011; Saito, 2011) while also addressing priorities of L2 learners who desire to achieve more native-like pronunciation (Drewelow & Theobald, 2007, Gilakjani et al., 2011; Gynan, 1989; Harlow & Muyskens, 1994).

**Beliefs About L2 Pronunciation Teaching and Learning**

Researchers (Cook, 1999; Drewelow & Theobald, 2007; Levis, 2005; Munro & Derwing, 2011; Pica, 1994a) have encouraged the de-emphasis of native-like pronunciation as a goal in L2 classrooms and have given some suggestions for alternative approaches, such as using gestures
(Drewelow & Theobald, 2007) or even the L1 (Cook, 1999) to reverse the negative image of accented speech. Despite what those researchers say, Wahid and Sulong (2013) cited McIntyre (2005) to explain how knowledge generated from research studies differs from the type of knowledge that classroom teachers can actually apply, thus creating a gap in technical and practical knowledge between the two professions. As a result, teachers often rely on their own experiences to teach pronunciation, which is significantly varied. Moreover, students also have opinions concerning what they desire from pronunciation instruction; however, this information is limited because Derwing and Rossiter (2002) pointed out that previous research has offered few answers regarding students’ perceptions of their needs and what they believe to be effective steps when overcoming difficulties in communication and L2 oral production.

So what is known about how students view pronunciation learning in their classrooms? Cited by Young (1991), Gynan’s (1989) findings stated that learners believed that pronunciation was the most important element of practice in language learning. Concerning the priorities in an intermediate-level L2 classroom, Harlow and Muyskens (1994) found that students ranked the skill of pronunciation fifth in overall importance. Furthermore, the majority of second- and third-semester students (92%) and teaching assistants (100%) in Drewelow and Theobald’s (2007) study reported wanting to pronounce words and sounds like native French speakers. The investigations additionally found that teaching assistants and other language instructors associated a native-like pronunciation with academic achievement, and, therefore, were more severe when judging students’ pronunciation than the native French speakers surveyed. However, the study revealed a disconnect between classroom practice and these beliefs because pronunciation learning and practice were not emphasized during class.
From the teachers’ perspective, there are conflicting reports concerning their opinions on pronunciation. Harlow and Muysken’s (1994) study found that teachers ranked pronunciation skills lower (10th out of 14 categories) than did their students. More recently, during interviews with teachers of intermediate students learning English in Malaysia, Wahid and Sulong (2013) similarly discovered that teachers perceived the skill of pronunciation as important, but chose not to give it high priority in the classroom due to constraints imposed by the syllabus and instructional time. On the contrary, Foote et al. (2010) reported instructors’ opinions concerning pronunciation instruction, maintaining that most believed pronunciation was as important as other aspects of language learning. Their findings also suggested that instructors felt that assistance in pronunciation specifically was lacking for students. Despite instructors’ differing beliefs regarding which topics are most important to cover in the classroom, the reported research studies confirm that students have demonstrated a consistent desire to receive more instruction, guidance, practice, and feedback in pronunciation. Furthermore, the findings echo the notion presented earlier by Wahid and Sulong that teachers’ classrooms practices in pronunciation teaching vary widely depending on which teaching methodologies they use, their own beliefs about pronunciation, and their technical and practice knowledge on the topic. Consequently, continued research, such as the present study, can assist in identifying practices that reflect both students’ and teachers’ priorities when it comes to the learning and teaching of pronunciation while also meeting curricular needs.

**Teachers’ Beliefs and Teacher Training**

Researchers have reported that teachers viewed pronunciation as unimportant to teach or felt uneasy about incorporating it into their curriculum (Elliott, 1995; Harlow & Muyskens, 1994; Morley, 1996; Terrell, 1989; Wahid & Sulong, 2013). In the past, Terrell (1989) noted that
the learning and teaching of pronunciation skills suffered in the communicative classroom because instructors simply “have not known what to do with pronunciation” (p. 197). Later, Elliott (1995) concurred that teachers viewed pronunciation as one of the least important basic language skills, and consequently it did not receive equal instruction time. More recently, Morin (2007) quoted Morley (1996) in her article about teacher preparation in the domain of pronunciation to express the conventional belief among L2 and ESL teachers that “pronunciation is not important, students will pick it up on their own, you can’t teach it anyway, and teachers don’t have the training to teach it, even if they wanted to” (p. 343). Breitkreutz et al. (2002), cited in Derwing and Munro (2005), found that the majority (67%) of ESL teachers they surveyed had no formal training in how to teach pronunciation to their students. Although their observations of ESL programs took place in Canada, their findings suggested that teachers may not be receiving appropriate training and are often left to consult their own experiences or intuitions rather than research-based methods (Derwing & Munro, 2005). Morin explained that the establishment of L2 teacher preparation standards in the United States – outlined in ACTFL’s (2002) publication *Program Standards for the Preparation of Foreign Language Teachers* – steer policies and dictate that L2 teacher candidates are capable of the following tasks: raising awareness among students regarding the differences and similarities between the phonological systems of their native languages and the L2s, describing phonological features of the languages they teach, diagnosing pronunciation difficulties, and discussing variations and patterns of intonation.

Although the majority of research regarding teacher training in the skill of pronunciation has been conducted in Canada (Breitkreutz et al., 2002; Derwing & Munro, 2005; Foote et al., 2010), there is evidence that the figures reported, which demonstrate a low frequency of
pronunciation-specific training for teachers, are representative of teachers’ experiences in the United States as well. Glisan, Swender, and Surface (2013) recently surveyed L2-teacher programs in the United States and found that only around half of candidates (54.8%) between 2006 and 2012 met the proficiency thresholds of Intermediate High or Advanced Low (ACTFL, 2012), citing variances with regard to language, year tested, and university program.

According to a website called Campus Explorer (2013), which compiles information from thousands of schools in the United States in a directory, students interested in entering foreign-language-education programs can choose from a variety of degree programs including a certificate only, a bachelor’s degree, or a master’s degree in education. The numerous options available for obtaining a teaching license through higher education appear to vary widely, and all states do not have the same standards when granting licenses to potential teachers. Glisan et al. (2013) noted that some programs in L2-teacher education graduated 88–100% of candidates who attained oral proficiency standards, whereas others reported as few as 13% of candidates achieving the standards, findings that further indicate the large differences among both programs and the teacher candidates they produce. Such variance has the potential to generate future L2 teachers who may or may not receive instruction in phonology or pronunciation and who may or may not continue their studies in graduate school where courses tend to be focused on specific aspects of teaching such as assessment, teaching reading skills, or introducing pronunciation. Foote et al.’s (2010) findings from Canada reported that merely 20% of ESL teachers – a subfield of SLA – surveyed had enrolled in a course specifically on the teaching of pronunciation during their training whereas higher percentages of teachers had taken general linguistics courses (52%) or participated in some type of professional development such as a conference workshop (66%). When further probed, respondents revealed that they had viable options for accessing
training materials. For example, 81% of teachers could access conference presentations, 38% had the opportunity to attend workshops, 18% were able to take private courses in pronunciation, and 51% said that they could access university courses that focused on pronunciation teaching.

Should L2 teachers feel lacking in these areas, Morin (2007) suggested that graduate courses in applied phonetics could equip teachers with the skills needed to incorporate pronunciation into the curriculum. Working from the assumption that teachers in the United States also have access various resources as mentioned above, it is plausible that teachers can increase their knowledge on the topic although opportunities for professional development and funding associated with training are not consistent from state to state. As a result, it seems that not only do degree-granting colleges’ and universities’ requirements differ but that opportunities for training after receiving a teaching license also significantly fluctuate. Consequently, Morin’s suggestion of current teachers returning to university settings for training may be somewhat unrealistic. Therefore, combining research with teaching practices, as suggested by Derwing and Munro (2005) and Wahid and Sulong (2013), may be the best option for increasing teachers’ knowledge in pronunciation and how to teach it. Although Foote et al. agreed with Morin that teachers should have access to more than just conference presentations and workshops, their findings revealed that these types of training are the most commonly available resources to teachers. Accordingly, continuing research such as the present study may be the most realistic way to reach practicing teachers.

**Implications for the Present Study**

Overall, the lack of a clear goal defining what should be expected of L2 learners and how teachers should address pronunciation allows current researchers the freedom of investigating the topic from multiple points of view. In the present study, pronunciation is evaluated by instructors
through measurements of accuracy, fluency, and comprehensibility as a means to provide feedback to students during the process of pronunciation development. *Accuracy* refers to the accurate production of French vowel and consonant sounds, whereas *fluency* represents the rate and naturalness of speech. Finally, the oral samples are measured in terms of *comprehensibility*, or how much the listener understood or had to interpret. These categories represent notions from both the intelligibility and nativeness principles described earlier in this chapter in order to emphasize that pronunciation is not one-dimensional. Although the aforementioned categories are used in ACTFL’s (2012) Guidelines for speaking proficiency at the advanced level, they are being applied in the present study at the introductory level. The idea behind this implementation supports notions that intelligibility is the main goal for introductory-level students (ACTFL, 2012; Derwing & Munro, 2005), but the reality is that students should be informed and understand the terms representing the often higher standard of native-like pronunciation to which they are held (Cook, 1999; Gatbonton et al., 2005; Levis, 2005; Pica, 1994a). The decision to insert a focus on pronunciation in an introductory-level classroom in the present study was made based on a variety of findings presented in this chapter that favor intelligibility, a principle that continues to be influenced by comparisons to accurate, native-like speech. Therefore, in order for the present study to be applicable to challenges facing L2 pronunciation today, the operationalization of pronunciation strives to reflect a combination of the two viewpoints surrounding L2 pronunciation.

**Pronunciation in the L2 Communicative Classroom**

In order to identify the state of these two major orientations to pronunciation teaching and learning (natives and intelligibility) in L2 classroom’s today, it is logical to examine frequently employed teaching approaches and review surveys from learners to find out how pronunciation
is actually being addressed. According to Liao and Zhao’s (2012) recent article, CLT is the most commonly implemented L2 teaching approach worldwide. In 2001, Omaggio Hadley explained that CLT is not bound to any particular teaching methodology and may be represented by a repertoire of curricular design, a claim supported later by Liao and Zhao who observed that there have been numerous interpretations of CLT since its introduction. This observation leads to the question of how researchers and teachers alike view the place of pronunciation in CLT classrooms, an issue that is further discussed in this section.

The De-emphasis of Pronunciation Instruction

Traditionally, researchers demonstrate the belief that pronunciation does not belong in the CLT approach. For example, Pennington and Richards (1986) and Savignon (1991) pointed out that building self-confidence, basic communication, grammar skills, and writing are highest on the priority list in the CLT classroom, a notion that reflects current guidelines favoring intelligibility (ACTFL, 2012). Pennington and Richards stated that comprehension-based approaches to learning a language most commonly found in CLT de-emphasize the need for accurate production, which has produced pedagogical approaches with no need for the teaching of pronunciation. Likewise, Terrell (1989) believed that learners “acquire a sound system better with meaningful input” (p. 208) rather than when they focused their attention on the target language sound system and patterns. Harlow and Muyskens (1994) later observed that pronunciation is not emphasized until possibly a third-year phonetics course, which they believed resulted in the instructor’s lower ranking of this skill as a priority in the classroom curriculum for beginner and intermediate learners. Tschirner (1996) claimed that the aim of the communicative approach is to shift the emphasis in language instruction “from language knowledge to language use” (p. 1), agreeing with Pennington and Richards, who earlier stated
that communication-based approaches set a goal of mutual understanding rather than native-like speech for oral communicative exchanges in the classroom. This view has remained quite consistent over the years, and 25 years later, Munro and Derwing (2011) continued to argue that because pronunciation is easier to relate to accuracy rather than fluency, “it has come to be regarded as of limited importance in a communicatively oriented curriculum” (p. 207).

A substantial reason that pronunciation continues to be deemphasized when compared to other language skills is due to its underrepresentation in classroom textbooks. Arteaga’s (2000) review of phonetics in introductory Spanish textbooks revealed incomplete coverage of phonetics, locating phonetic material in merely 4 out of 10 textbooks she reviewed. Unfortunately, those sections ended in the first few chapters most likely covered in a first-semester course, thus limiting the opportunity to recycle phonetic rules or extend the topic. Arteaga’s concerns were expressed earlier by Jones (1997), who reviewed research focusing on L2 phonology acquisition. The review found that materials offering pronunciation-based practice appeared to be communicative at first glance but were in essence “elaborate forms of drilling” (p. 109) that learners could complete without attending to meaning or communication. Similarly, Silveira (2002) noted that research-based methods for pronunciation instruction are not always incorporated into classroom materials. Like Jones, Silveira’s analysis found that many texts maintained that they are communicative in nature, yet often ignore activity designs consistent with the CLT methodology. Pronunciation activities of this nature do not represent the sociocognitive theory (Atkinson, 2002) associated with using the cognitive processes of language in social contexts, nor do they relate back to the CLT approach that also focuses on presenting learners with communicative opportunities. It appears that access to materials addressing phonological awareness continues to be limited. For example, Gilbert (2010) noted that
pronunciation is commonly dispersed throughout textbooks and may be presented as an insert or an addition to an existing topic. Gilbert claimed that this lack of integration results in pronunciation being overlooked by teachers who place priority on other areas of language learning. In Foote et al.’s (2010) survey of ESL instructors teaching a variety of course levels in Canada, 52% of teachers used pronunciation activities from classrooms texts and 59% reported using supplements to the textbook in class. Furthermore, 46% of respondents thought that their colleagues presented pronunciation regularly to their students. The fact that only about half of teachers surveyed in Foote et al.’s study addressed pronunciation through either their primary text or additional materials demonstrates that teachers sought resources for pronunciation instruction beyond the basal text. Therefore, empirical research suggests that when it comes to CLT, pronunciation learning (including related knowledge such as phonological awareness) is either by and large superficially addressed or remotely mentioned.

The Return of Pronunciation Instruction

Notions found in more recently published research point out that CLT classrooms alone do not prepare teachers or students to address pronunciation as outlined in national recommendations for teacher preparation and Proficiency Guidelines (ACTFL, 2002, 2012), an issue that is also experienced globally. Foote et al.’s (2010) survey in Canada revealed that only 20% of instructors had taken courses during their training that focused solely on teaching pronunciation. Sikorski (2005) pointed out that although there are many positives in CLT, such as a strong focus on language use, there are also disadvantages. For example, Sikorski explained that the advantages of CLT are downplayed if interlocutors must interpret heavily accented speech, and she described the experience as looking through “darkly tinted glass” (p. 127) where pieces of the target language are recognizable but cannot definitively be used to understand the
message due to inaccurate production of target-language sounds. Further considering how pronunciation affects learners’ overall communicative competence, Celce-Murcia (2007) noted that despite students’ mastery of high frequency “chunks” of language (e.g. greetings or idiomatic expressions), if there is no focus on pronunciation, the result is fluent but inaccurate oral output. Similarly, an emphasis on linguistic competence such as L2 phonology may result in accuracy but lack sociocultural competence, resulting in pragmatically flawed oral communication. Brandl (2008) also praised the benefits of learner-centered instruction found in CLT. According to Brandl, CLT gives learners the opportunity to control topics, use a broader range of language functions, ask for confirmation checks, collaborate with peers, and self-correct. However, he gave no explicit guidance on how teachers or students should handle pronunciation instruction. As a result, practitioners are left with no examples of how to apply beneficial aspects of CLT to the development of pronunciation skills.

Magnan (2007) had a similar reaction to the state of CLT in the United States and acknowledged that it provides students with many linguistic tools but was concerned by the lack of interaction between learning environments and communities where the target language is commonplace. She recognized that “if practice is limited to instructional tasks done in U.S. classrooms, then what our students learn is mediated by the peers with whom they interact” (p. 250), representing the reality that students in U.S. classrooms are using the target languages, but only among each other. Magnan acknowledged that this instructional setting typical of CLT is an obstacle to teachers and learners because their sense of a learning community is restricted to that of an L2 classroom. Lee and VanPatten (2003) also pointed out differences between foreign- and second-language contexts, stating that “the foreign language classroom is a particular context…and not the context of those cultures” (p. 5). Likewise, Magnan referenced Wenger
(1998) and questioned, “Can we truly offer them [learners] entrance into foreign communities of practice?” (p. 250). In conclusion, Magnan recommended a shift toward authentic communities where learners can explore identities, develop language abilities, and possibly integrate with target cultures.

For many students, the idea of immersing oneself in the target culture is associated with a study-abroad experience. Davidson (2007) pointed out that the development of speaking proficiency, the area of proficiency that addresses pronunciation according to ACTFL (2012), is most frequently noted by students as their primary motivation for traveling overseas for language study. He found that 85% of students in an academic year-long study-abroad program entered with a proficiency of intermediate or lower as defined by ACTFL’s Proficiency Guidelines. More than half of those same students completed the program with rankings in the advanced category or higher. Despite these reports of excellent progress, Davidson also mentioned that less than 3% of college students actually realize this experience. This figure confirms the notion that most students receive exposure to the L2 in the classroom and on their home campus. As a result, it is necessary to reconsider how Magnan’s (2007) suggestions can be fulfilled. There are several ways to be a part of authentic language experiences for the large percentage of students that never truly experience the language where it is spoken natively (Davidson, 2007) – technological advances, social media, and easily available mobile devices are making it possible for anyone to enter target language communities whenever and wherever they please, a practice advised by Magnan.

Sikorski (2005), Davidson (2007), and Magnan’s (2007) observations indicate that CLT classrooms are able to address basics in pronunciation training and other linguistic skills, but they lack the elements necessary for students to adequately develop knowledge of pronunciation
and phonetics, thus impeding speaking proficiency. Therefore, researchers continue to address how CLT can evolve to amply address all language skills, such as accurate pronunciation. Ahmad and Roe’s (2012) review article noted that more recent researchers, such as Spada (2007), favored form-focused L2 teaching models as opposed to the meaning-oriented communication that CLT most commonly emphasizes. Liao and Zhao (2012) also cited Spada (2007) who said that “the main difference is whether one’s conceptualization of CLT includes attention to language form” (p. 273). In relation to pronunciation, attention to form translates to the accurate production of target-language sounds and knowledge of phonetic rules. Ahmad and Roe also maintained that current CLT trends advocated for more learner involvement, such as the self-evaluation of progress, and a balanced importance placed on all language skills to improve communicative competence. In conclusion, despite lingering uncertainty regarding the place of pronunciation in the CLT approach, Ahmad and Roe pointed out that research (Larsen-Freeman 2000; Savignon, 2007; Spada 2007) has signaled to a combination of form-focused and meaning-based instruction in order to better meet students’ dynamic needs instead of choosing between meaning or form when it comes to language instruction. Consequently, it seems that attention to accuracy and form, in addition to models of current, real-life examples of pronunciation, do have a place in CLT today.

**Pronunciation’s Representation in the National Standards**

In a review article that examined standards in L2 education, Magnan (2008) observed that the National Standards (ACTFL, 2014) strongly influence language programs at the state and curricular levels. She elaborated on how the Standards affected the everyday classroom by stating that “…the National Standards are perceived as influencing how language instruction is framed” (p. 352) due to recommendations that guide educators’ notions of what should be
prioritized in L2 learning and teaching. The Standards place the goal of communication first, and describe it as “the heart of second language study” as well as the “organizing principal for foreign language study.” ACTFL (2012) also publishes Proficiency Guidelines in L2 education. Students in a second-semester French course are most likely to be categorized between a mid-novice to low-intermediate proficiency in speaking (Dugan, 1988; Freed, 1987; Kaplan, 1984; Magnan, 1986). To describe speakers in the middle of this range at the novice-high level, the Guidelines state that speakers at this level can “generally be understood by sympathetic interlocutors used to non-natives” in addition to the capacity to “sometimes respond in intelligible sentences.” Accordingly, both communication and intelligibility – an aspect of L2 output that is thought to be improved by pronunciation development (Derwing & Munro, 2005; Kennedy & Trofimovich, 2010; Saito, 2011; Venkatagiri & Levis, 2007) – are stressed in the early stages of L2 education by our National Standards. Even though researchers have identified a direct relationship between pronunciation-based instruction and improved intelligibility and our Standards appear to address pronunciation, (Derwing & Munro, 2005; Kennedy & Trofimovich, 2010; Saito, 2011; Venkatagiri & Levis, 2007), CLT teaching has yet to stress pronunciation in textbooks and in classroom practices (Arteaga, 2000; Gilbert, 2010; Silveira, 2002). Students’ perspectives on L2 learning and pronunciation are shaped by their experiences in classrooms. If state standards and approaches to L2 education are as affected by National Standards (ACTFL, 2014) as researchers (Magnan, 2008; Magnan, Murphy, & Sahakyan, 2014) have suggested, then pronunciation’s unequal representation and uncertain status in the L2 curriculum result in negative effects that trickle down to students.
Providing Feedback in L2 Learning and Pronunciation

Language learning has the potential to decrease the self-esteem of people who are accustomed to success in other aspects of life or other academic subjects requiring different skill sets (Ehrman, 1996). Learner self-efficacy and motivation are relatively sensitive to success and failure, two factors that can affect WTC (MacIntyre et al., 1998). Therefore, one of instructors’ goals in the L2 classroom should be to provide feedback to learners and reveal the ways in which learners are effective in the L2, thereby providing appropriate support (Ehrman, 1996). Within the context of an L2 classroom, researchers (Brandl, 2002; Oxford and Shearin, 1994) have argued that particular attention should be paid to instructional design. Oxford and Shearin (1994) expanded on the idea of goal-setting as an intrinsic motivator by stating that “goals should be specific, hard but achievable, accepted by the students, and accompanied by feedback about progress” (p. 19), echoing Dörnyei’s (1994) thoughts on how the extrinsic rewards of feed-back supported environments can boost intrinsic motivation. Schmidt’s (1990) work in developing the noticing hypothesis concluded that unconscious language learning is impossible, and that intake is what learners consciously notice. Therefore, it is only by awareness, many times in the form of corrective feedback, that learners can make note of inconsistencies between their output and the L2. For goals to be effective, feedback relating to those goals must be present according to Locke & Latham (2002). They echoed Schmidt’s earlier findings and stated that if learners do not know how they are doing, it is “difficult or impossible for them to adjust the level or direction of their effort or to adjust their performance strategies to match what the goal requires” (p. 708). Kissling (2013) more recently claimed that any type of feedback or instruction that helped to continually focus learners’ attention on the target language’s phonetic system was useful, a practice that directs students’ attention to specific characteristics of L2 speech thus improving pronunciation.
MacIntyre et al. (1998) quoted MacIntyre’s (1994) prior research that found that WTC was most directly influenced by perceived communicative competence and communication apprehension. Because of the strength of these findings, it is essential to discover how students perceive their own competence by allowing them to compare and contrast their own proficiency to that of their peers. Saint Léger and Storch (2009) used self-assessment as a form of feedback in their study that addressed WTC and learners’ perceptions during oral speaking tasks with the goal of urging learners to become more reflective and independent. They reported that self-assessment enabled the learners in their study to monitor their participation more closely. As learners’ anxiety decreased, the ability to self-evaluate more accurately increased, creating another form of feedback in the L2 context. Additionally, results from a study conducted by Murakami, Valvona, and Broudy (2012) on English language majors in Asia revealed that regular assessments conducted by both students and peers, as well as instructor-provided evaluations, brought about significant increases in frequency of spoken English in the class and increased engagement with language learning beyond the classroom. Just as Saint Léger and Storch believed that self-assessment had an overall positive impact on students, Murkami et al. found that the least effective approach when addressing oral communication with students occurred in scenarios that relied solely on assessment from the instructor and where students did not participate in self-assessment. Furthermore, additional results from the same study suggested that regular self-reflection and self-assessment improved students’ linguistic self-confidence. Overall, Murakami et al.’s study highlighted the importance of learner-centered environments and the associated gains in motivation that can be achieved through this teaching style in the L2 classroom, particularly in situations related to oral communication in the L2.
There is also some evidence that incorporating collaborative mobile technologies that learners can access outside of the classroom allows the teacher to observe, without interruption, learners’ utterances, as well as have an easily accessible copy of learners’ recordings. Acton’s (1984) research on making changes in learners’ pronunciation suggested a method made up of four specific factors, one of them being that learning takes place outside of the classroom such as through a mobile technology. McCandless and Winitz (1986) established that extensive auditory input in the beginning states of second language learning” can result in improved pronunciation” (p. 361). By accessing activities provided outside of regular class hours, learners are further exposed to the language, and the teacher is free to attend to both form and content of students’ utterances, a task that is quite difficult for teachers in face-to-face classroom interactions (Hunter, 2012). During opportunities for output such as those afforded by interpersonal audio discussions online, immediate teacher intervention is avoided because participation is asynchronous. Learners can receive feedback concerning areas of improvement and receive coaching from the instructor, a method explained by Hunter’s article about developing accuracy, complexity, and fluency in learners’ oral output. Oral practice in a low-stress, feedback-supported environment is conducive to building self-esteem and promoting WTC. Hincks (2003) pointed out that CALL and Mobile Assisted Language Learning (MALL) are good fits for needs in pronunciation training for several reasons. For example, when there is no penalty for inaccurate pronunciation in the classroom, there is a risk of fossilization. Additionally, learners may not necessarily share the same learning styles or specific training needs. Arnold (2007) conducted a study about L2 communication apprehension and CMC where three groups participated in communicative activities face-to-face, in synchronous CMC, and in asynchronous CMC. The results showed no significant reduction in communication apprehension among the
three groups. Therefore, Arnold’s study exemplified how some learners suffer from anxiety when a focus is placed on their own oral production, and, Hincks’ work also demonstrated that some teachers are not trained or confident in how to give the corrective feedback on the spot. Between students’ anxiety and the inconvenience of on-the-spot feedback, difficult for an instructor to create in-class exercises that are effective for a majority of the students. Consequently, it is important to note the practicality of using CALL and MALL technologies outside of the classroom to supplement any existing evaluation concerning learners’ oral production, as well as potentially provide more personalized and individual feedback to the learners regarding pronunciation development.

In conclusion, Saint Léger and Storch (2009) found that WTC was positively influenced by a feedback-supported environment. Saint Léger (2009) independently purposed that the majority of students surveyed in her study on learners’ perceptions of L2 speaking skills viewed self-assessment and goal-setting as useful, encouraging them to be more active in their own learning. Likewise, Murakami et al. (2012) saw improvements in learners’ fluency when self-assessment approaches were utilized as part of the feedback process. Despite the numerous reported benefits of providing feedback concerning L2 oral production, many teachers may be unable to sustain a feedback-supported environment due to lack of training in pronunciation instruction (Breitkreutz et al., 2002; Derwing & Munro, 2005). Derwing and Munro (2011) commented that until very recently, few resources existed in order to train teachers and to identify effective practices. Although ACTFL’s Standards (2013) and guidelines for the preparation of L2 teachers (2002) state that L2 instructors should be adept in the L2 phonological system and provide support in identifying areas of improvement regarding L2 pronunciation, most teachers are not adequately trained and require additional graduate-level courses in
phonetics to provide ample feedback concerning oral output and pronunciation development (Morin, 2007; Morley, 1996). Improper training results in uneasiness concerning how to appropriately integrate pronunciation curriculum into an L2 classroom where face-to-face contact time with the students is limited (Hismanoglu & Hismanoglu, 2010). Furthermore, untrained teachers may rely too heavily on textbooks or pronunciation software, both of which are frequently designed without first consulting pronunciation-based research findings (Derwing & Munro, 2005). The issue of teachers’ possible inability to maintain an appropriate feedback-supported environment reflects concerns mentioned in the previous discussion on issues in teacher training. However, the abundant amount of research presented suggests that providing feedback to students through peers, instructors, or self-evaluation is an important factor in positively influencing the variables in the WTC construct. It appears that student-directed activities such as journaling and using self-assessment assist in goal-setting and are just as important as feedback gleaned from teachers, thus providing another means of creating a feedback-supported environment should the instructor feel inadequate to address pronunciation due to lack of training. Because the WTC variables correspond to Smit’s (2002) MIP construct referenced in the present study, exploring options for self-assessment along with instructor-provided feedback were critical in considering how interpersonal audio discussions and their corresponding activities should be presented to students based on prior research-based findings.

**Pronunciation in the Digital Era**

A press release from the International Telecommunication Union (2010) estimated that “web access by people on the move via laptops and smart mobile devices is likely to exceed web access from desktop computers within the next five years.” Furthermore, recent technological innovations have created a new era of mobile devices, further expanding the definition of what it
means to be “mobile,” through the introduction of smart phones, tablets, e-readers and other connected devices. According to comScore (2011), a global leader in measuring the digital world, “36 percent of mobile Americans and 29 percent of Europeans browsed the mobile web in December 2010.” Also known as a “digital native,” today’s average language learner has grown up in an environment surrounded by technology, mobile technology to be specific. These statistics represent the demand to provide computerized and mobile learning tools for learners in today’s educational settings.

As technology has become more readily available to the general public, teachers have attempted to use it in many ways to improve students’ pronunciation of second and foreign languages (Aguilar, 2007; Ducate & Lomicka, 2009; Hismanoglu & Hismanoglu, 2011; Hsu, Wang, & Comac, 2008; Lord, 2005; Lord, 2008; Martin, 2004; Pearson, 2006; Thorne & Payne, 2005). Previously, McLaughling (1992) suggested that with more advanced (e.g., computer-assisted) methods of instruction, older learners might do better at acquiring a more intelligible accent in the second language, which supports the presence of technology for pronunciation training introductory French classroom comprised of adult learners. Pearson (2006) found in his study about teaching Spanish dialectology through digital tools that the addition of digital audio technology as a supplement to an existing curriculum allows learning to be more experiential, first-hand, and learner-centered. Hismanoglu and Hismanoglu (2011) reported that internet-based pronunciation lessons contributed to improvements in students’ articulation problems regarding difficult English vowels and improved their pronunciation skills in the L2. Automated speech recognition (ASR) tools are examples of how learners can hear their own pronunciation mistakes, and then receive instant feedback on how they sound when compared to a native-speaker, for example. One such tool, WinPitch, is described by Martin (2004) as being
multimodal, where any multimedia format can be used as the model for learners, thus increasing its value as a tool for improving pronunciation skills. One major downfall of Computer Assisted Pronunciation Training (CAPT), as described by Neri et al. (2002), is the inability of these programs to provide easy-to-understand feedback because current error diagnosis performance is unreliable. Van Doremalen, Cucchiarini, and Strik’s (2010) continued work in CAPT system development echoes Neri et al.’s initial concerns regarding the relevance of phoneme errors detected by these systems due to variance in error patterns linked to read or spontaneous speech.

In the new millennia, Dalgarno (2001) noted an absence of social context and interactivity in some online audio and communication tools needed for group learning to occur. This observation is relevant to learning pronunciation because developments in socially based L2 education research indicate an increased focus on the social dimension of CLT classrooms that emphasize (a) language in context and (b) language use for a specific purpose through authentic communicative exchanges (Magnan, 2007; Liao & Zhao, 2012). Interactive learning has made great strides over the years through several multimedia outlets (e.g. 3-D games, simulations, and virtual worlds) that allow for improved contextualization and personalization in group learning (Dalgarno & Lee, 2010). Regarding pronunciation development, social media and interactive learning have the potential to increase opportunities for students to communicate with others outside of the context of their L2 classroom, such as speakers living in L2 communities. These technologies offer authentic contexts for language that can supplement classrooms and provide opportunities for pronunciation and phonology training that may not otherwise be presented (Magnan, 2007). Gilakjani et al. (2011) noticed these developments in social context and interactivity and pointed out that offering verbal and visual contextual representations lead to more interaction among learners. Increased interaction often leads to more practice, a notion that
MacIntyre and Doucette (2010) claimed increased chances for speaking, learning, and an improved proficiency for L2 learners, thus presenting opportunities to practice pronunciation skills as well. In order to better integrate the social aspect of L2 learning facilitated by online technologies, a more contextualized approach has been taken to develop pronunciation tasks in recent years. This approach has consisted of the introduction of podcasts, audio files that can be created and shared by anyone who has a computer, microphone, and internet connection.

Podcasts are particularly popular because they are accessed via the Internet, and they can be stored on a multitude of mobile devices such as MP3 players, cell phones, tablet computers, and laptops. They are generally free to create, distribute, and edit, which also increases their prevalence in learning communities where the cost of materials and publishing rights can often be quite costly. Podcasting creates a unique environment because students can join podcasting communities, subscribe to other users’ podcasts, as well as maintain podcast channels collectively, a task suggested by Lord’s (2008) podcasting study. Aguilar (2007) made an important observation concerning audio technologies similar to podcasts. He explained how they are teaching materials that have been custom-made by the instructors for the needs of their own students and provide additional material to their learners. The ability to personalize course materials is useful in pronunciation training for several reasons. Personalization addresses different topics based on the students’ learning level along with difficulties in pronunciation influenced by regional accents in the native language. In addition, instructors can customize pronunciation-based tasks to match course content and introduce cultural artifacts to students such as poetry or songs. Lomicka and Lord (2011) suggested that podcasts centered on course content can be best integrated by making them available to students for listening before they attend the corresponding lecture. This practice allows students to receive and review content on
their own time, and then apply the concepts in class where instructors can focus on providing assistance to students practicing the lesson rather than simply lecturing, a practice defined by Bergmann and Sams (2012) as the “flipped” classroom. This flipped model is gaining momentum in the educational community and is facilitated in many subject areas by a plethora of technologies. Podcasting appears to be one technology that suits this model; however, students cannot actually respond to one another by creating new dialogues or asking questions, resulting in the need to explore additional audio-based technologies for pronunciation learning that underscore social context and interactivity as originally expressed by Dalgarno (2001).

Abdous, Camarena, and Facer (2009) reported on the up-and-coming term MALL and the pedagogically sound applications and important benefits of using podcasting in academic settings. Their study found that for students in courses where podcasting was integrated into the course curriculum rather than simply being used as a study tool, the academic value of podcasts as a useful learning tool received high ratings, both for improving their oral and aural skills and for building their vocabulary and knowledge of grammatical rules. Aguilar (2007) noted the authentic nature of the material found within podcasts and other instructor-created audio files, a feature that facilitates the cohesion of language and culture learning while also developing confidence in the learners and meeting ACTFL’s (2013) National Standards. For example, lessons in pronunciation could be presented through cultural artifacts such as music videos or newscasts providing examples of NS speech; therefore, multimedia resources have the capacity to blend focused practice in pronunciation with culture as recommended by ACTFL. Thorne and Payne (2005) described the iPod first-year experience at Duke University where elementary Spanish students used the university’s iTunes site to download listening materials such as audio flashcards, dramatic readings from instructors, and songs for improving pronunciation. Duke
University’s (2005) iPod report stated that “students in courses with listening comprehension requirements [foreign language and music] reported that access to portable digital audio course content was particularly valuable” (p. 6), but did not describe any changes in students’ pronunciation related to the use of the iPods. According to ACTFL’s (2012) Proficiency Guidelines for speaking, podcasting activities such as those found at Duke can assist novice speakers in communicating on predictable topics using words and phrases that have been recalled or memorized.

Since Duke University’s (2005) introduction of iPods in language courses, researchers have sought to discover more about digital audio tools and pronunciation. Sze (2006) argued through her examination of podcasts for English language training that students who participate in podcasting typically practice and rehearse before submitting a final recording; through this repetition and practice, students improve pronunciation. Phonetics students in Lord’s (2008) collaborative podcast project participated in six oral tasks that focused on a specific area of pronunciation as dictated by the course material. Once students made their recordings, they were shared through a podcasting service with their assigned group who then left written comments regarding pronunciation for each group member. Judges also rated the recordings based on overall pronunciation ability using a 5-point scale (native-like versus non-native like). The podcasting project resulted in an increase in positive attitudes among students regarding the use of podcasting, and students reported being able to transfer the practice gained through podcasting to their daily use of the L2. Lord also reported a statistically significant improvement in the mean class rating assigned by judges regarding the students’ pronunciation ratings upon the project’s conclusion. Similarly, Ducate and Lomicka (2009) implemented a podcasting project to refine pronunciation skills at the intermediate level. They found that students positively perceived this
activity because they received feedback that was provided by NS and NNS judges using a 5-point comprehensibility and accentedness scale and through a rubric used by their instructor. Students also appreciated the additional opportunity for creativity; however, there were no consistent significant reports of improvements in accentedness or comprehensibility regarding the students’ pronunciation over the course of the study. The study did reveal some progress in both accentedness and comprehensibility between the first and second set of podcast recordings, but those results did not carry through to the end of the study (third set of recordings). Their findings indicated that podcasting alone, without any focused practice, was not sufficient for significant gains in pronunciation at this level. In their review of applications of academic podcasting in L2 settings, Lomicka and Lord (2010) found that pronunciation practice is one of the top three reasons why L2 educators use podcasting and predicted that pronunciation podcasting will be introduced as enhancements to language learning modules. Contrary to Lord and Ducate and Lomicka’s comparison of students to native-like accents, Neri et al. (2002) concluded that even in the context of CALL, “pronunciation training should aim at attainment of speech intelligibility, rather than ‘nativeness’ or accent-free pronunciation” (p. 460) in their article concerning CAPT.

Although most podcasts are accessible through a blog which does afford a social environment and interaction, it is also accessed by RSS, or Really Simple Syndication, meaning that the user can subscribe directly to the podcast and that it will be downloaded automatically each time there is an update or new content is uploaded. This process often results in a bypass of the blog site and the benefits of the community where the podcast is housed. Aguilar (2007) pointed out that one pitfall of podcasting for learning purposes is that content has, for the most part, only been delivered in an audio format. He noted the implications for learner types due to
the exclusive audio format of podcasts. For example, visual (as opposed to aural) learners may not respond to course materials, feeling that they are uninteresting and dull. Although there are many positive benefits of podcasting concerning pronunciation development, a continued dialogue in how to address technology and pronunciation in the CLT classroom is needed because Zhao (2003) pointed out that there are “very few comprehensive technology-based curricula that fully take advantage of the power of available technologies” (p. 22). For example, Dalgarno and Lee (2010) pointed out that information surrounding the use of the learning tools they were studying (3D technologies) presented “only anecdotal evidence or personal impressions that cannot be usefully generalised beyond the local context” (p. 23), a commonplace issue surrounding the effective use of emerging technologies. On a positive note, video podcasts are becoming more popular, and Abdous et al. (2009) found that academic podcasting can “effectively promote the acquisition of a number of different language skills if instructors adapt and use the technology for a variety of instructional purposes” (p. 89). Abdous et al.’s and Dalgarno and Lee’s statements reflect the need for available and trusted research-based resources for practitioners as suggested by Derwing and Munro (2005) when it comes to teaching pronunciation through technology. Otherwise, teachers may experiment with technologies without using them to their full potential, thereby leading to ineffective uses of the technology altogether or the tendency to implement technology for technology’s sake.

Jones (1997) recommended that opportunities to participate in discourse situations and open conversations rather than drills were a step toward more contextualized pronunciation practice in communicative classrooms. Because CLT is adaptable to program and instructor needs (Omaggio Hadley, 2001), technologies with the potential to facilitate pronunciation development, teaching, and feedback merit further evaluation through research studies. Ducate
and Lomicka’s (2009) podcasting study did not produce any significant changes in pronunciation; changes reported in Lord’s (2008) study were minimal. These results demonstrate the need to investigate the question of how similar but more interactive and multimodal technologies affect the development of pronunciation skills.

Emerging, Interactive Technologies for Pronunciation Development

Advantages of Interactive Pedagogical Tools

Podcasts first made it possible to easily record and share one’s own voice. However, they lack interactive possibilities and an easily navigable interface. More recent tools such as interpersonal audio discussions – also known as discourse facilitation systems – allow a combination of audio, video, images, and text. Ferriter (2011) noted that interpersonal audio discussions are useful in increasing input by extending discussions originally launched in the classroom setting. Gilakjani et al. (2011) highlighted the benefits of multi-modal learning and how they are incorporated into CALL. For example, Mayer and Moreno (2003) found through their research on reducing cognitive demands in multimedia learning that the combination of narration and video is more effective in student learning than narration alone. Similarly, words and images presented simultaneously are more effective than words and pictures that appear sequentially. In other words, multimedia tools are most beneficial to learners when content is not visually far apart, or split, on the screen. Mayer (2005) later described in his handbook on multimedia learning that multimedia presentations are more effective because learners have the ability to interact with the presentation by controlling the pace and content, affordances available uniquely through emerging technologies that speak to how these social contexts influence students’ L2 learning, reminiscent of sociocognitive theory (Atkinson, 2002).
Thorne and Payne (2005) stressed the ability of interlocutors to be able to select their preferred modality of communication in L2 learning, and stated that communication technologies should echo “the set of principles underlying Universal Design for Learning, a framework developed by the teachers and researchers at the Center for Applied Special Technology that leverages technology to support multiple means of representation, expression, and engagement” (p. 387). According to Ferriter (2011), creators of interpersonal audio discussion conversations upload content in the form of images, text, or video; this content then operates as a point of departure for asynchronous discussions where users can then add their own content or comment on the existing conversation. The interpersonal audio discussion design allows a full discussion to be captured not only on one page, but within one diagram as well. Because many discourse facilitation products are multimodal, differing learning styles can be accommodated, allowing users to choose their preferred method of expression.

Concerning L2 output specifically, interactive technologies are thought to enhance students’ development of oral communication skills (Moeller & Theiler, 2014). In fact, Lee (2014) recently used interpersonal audio discussions in an advanced Spanish class and found that the digital news story activities in which students participated via the audio discussions improved speaking fluency and encouraged a feedback-supported environment; more than 70% of students in the study felt that the collaborative conversations about news stories had helped them improve their oral skills. Consequently, recent research-based techniques have focused on the role of social, interactive, and multimodal technologies that have resulted in students’ success in L2 expression, thereby contributing to sociocognitive theory as it relates to CALL approaches.
Interpersonal Audio Discussions and Motivation to Develop Pronunciation Skills

Implementing an emerging technology, as done in the present study, may have the potential to “increase the attractiveness of the course content, arouse and sustain curiosity and attention, and increase students’ interest and involvement in the tasks” (Dörnyei, 1994, p. 281). Therefore, interpersonal audio discussions were selected to deliver collaborative activities, to observe students’ pronunciation development, and to track underlying motivations during the process. The features of interpersonal audio discussions appear to meet several criterion listed by Dörnyei (1994) as strategies used to motivate language learners. At the language level, the community-oriented nature of interpersonal audio discussions is conducive to promoting student contact with other L2 speakers. Another feature of interpersonal audio discussions is requiring learners to contribute personal and novel ideas to the discussions, a feature promoting group cohesion and “intermember relations” (p. 282) because it allows students to “get to know each another and share genuine personal information” (p. 282). MacIntyre et al. (1998) maintained that for L2 speakers, decreasing social distance promotes positive feelings regarding group cohesion which can increase WTC by fostering interpersonal and intergroup motivation, two variables that function alongside self-confidence in the WTC pyramid. Lack of anxiety and increased self-confidence are important factors in regard to MIP as well. The sense of community offered by interpersonal audio discussions also promotes interaction, speaking to Dalgarno’s (2001) call for more interactive group learning in CALL. Furthermore, interpersonal audio discussions are cooperative learning activities, thus adding at the learner-level a new motivational stimulator to the L2 classroom by contributing to motivators such as group cohesion and group success (Dörnyei, 1994).
Rodesiler (2010) reviewed the fundamental benefits of using interpersonal audio discussions (VT specifically) to effectively meet learning outcomes. He stated that interpersonal audio discussions’ “potential for enhancing student to-student interaction and collaborative meaning-making goes well beyond the use of technology for technology's sake - it is about effectively teaching and supporting student learning” (p. 73). Interpersonal audio discussions promote learners’ autonomy because they share with their classmates the responsibility of organizing the material found in the discussion. Participation encourages them to create their own, original activities, allowing for additional support in the CLT learner-centered classroom. Pearson (2006) shared an example of an appropriate activity where learners make “digital recordings of various oral tasks and compile a portfolio of recordings for analysis and charting progress in their speaking competence” (p. 327). This type of activity complements findings from Saint Léger and Storch’s (2009) study that highlighted the pedagogical and affective benefits of self-assessment in relation to learners’ increased confidence regarding speaking skills. Creating an environment that fosters the development of L2 competence and encourages learner participation through the use of interpersonal audio discussions may afford improvements in pronunciation while also promoting WTC and increasing MIP.

Finally, interpersonal audio discussions are useful in pronunciation training because of the ability to access the software from any web browser and some mobile devices. Mobile learning technologies are defined as “familiar, personal, universal, non-intrusive, lightweight, and cheap” (Salmon & Edirisingha, p. 18), thus allowing mobile technologies to thrive in a range of social settings. In Kessler’s (2010) study concerning fluency, anxiety, and the use of mobile devices for audio recording, results showed that students who recorded using mobile MP3 players performed slightly better in fluency. Furthermore, Kessler noted that “the environment of
the audio laboratory influences some students to speak in a low volume that compromised the perceived quality of their speech” (p. 370). One student in the study commented, “With the iPod I could record myself wherever I wanted,” (p. 307), and other students reported feeling a heightened level of anxiety when recording in the laboratory because other individuals were normally present. In support of Kessler’s findings, Ferriter (2011) added in his article that interpersonal audio discussions not only permit students to work collaboratively at their convenience and from any Internet-connected device, but they also enable students to refine their thought process and potential contributions to the discussion before sharing ideas publicly. For beginner or intermediate language learners, the ability to complete an oral exchange at one’s leisure induces active listening, equal participation among learner types, and a low-stress environment (Hunter, 2012).

Choosing a Discourse Facilitation System

Researchers (Hincks, 2003; Jamieson & Chappelle, 2010) have often discussed how to evaluate potential CALL materials and have identified six main criteria: language learning potential, meaning focus, learner fit, authenticity, positive impact, and practicality. In an attempt to calculate the many pedagogical benefits of interpersonal audio discussions and VT as a valuable Web 2.0 tool, the influential factors pointed out by Atkinson and Burden (2008) are presented in Table 2.1 and demonstrate how the qualities of VT can be adapted to McLoughlin and Lee’s (2007) notion of educational affordances.
Table 2.1

Atkinson and Burden’s (2008) List of Technical Features of VoiceThread and their Affordances,

*after* McLoughlin & Lee (2007)

<table>
<thead>
<tr>
<th>Features of the Technology</th>
<th>Affordances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to zoom in and out of the specific artifact itself (e.g. an image)</td>
<td>Concentrate or focus learner attention on specific aspects of the artifact</td>
</tr>
<tr>
<td>Ability to post asynchronous comments related to the artifact in the form of written responses, audio comments, and video comments</td>
<td>Learners and tutors can provide feedback about a media object (e.g. a video) at a granular level, attached to specific aspects or points of the object itself. There exists the opportunity for formative feedback on media related work prior to formal assessment</td>
</tr>
<tr>
<td>Ability to post handwritten annotation on the artifact (e.g. a video or image)</td>
<td>Learners and tutors can identify specific temporal or spatial aspects of the artifacts and isolate these features for increased attention or concentration</td>
</tr>
<tr>
<td>Ability to post asynchronous comments related to other comments</td>
<td>Communities of learners can see and respond to the cumulative postings and “collective wisdom”</td>
</tr>
<tr>
<td>Artifact (i.e. the subject of the discussion) can be made accessible online</td>
<td>Learners are able to receive feedback and comments from a global audience, easily and quickly, therefore instant feedback is possible</td>
</tr>
<tr>
<td>Ability to invite groups and keep the thread private, public or a mixture</td>
<td>The ‘learning conversation’ can be managed by the teacher or learner to ensure it is open to the appropriate audience</td>
</tr>
<tr>
<td>Comment moderation (i.e. the tutor can decide if other comments are seen by those posting their own notes)</td>
<td>This feature enables the tutor to decide whether to let learners see (and possibly be influenced by) other comments or whether to keep them all private until everybody has posted returns. This might be desirable in certain circumstances (e.g. tests)</td>
</tr>
<tr>
<td>Full discussion captured on one single page</td>
<td>Visually the entire learning conversation can be conceptualized in one diagram rather than stretching though a long text thread</td>
</tr>
</tbody>
</table>

Table 2.1 illustrates how VT is compatible with Mayer’s (2005) claims that providing learners with flexible control that allows them to regulate the learning situation is one of the greatest benefits of multimedia. Yeh and Lehman (2001), cited by Mayer, argued that students can interact more with course materials to construct meaning when learner control is present, a
practice that can afford a variety of learning strategies. VT is user-centered, thereby offering members the choice to view the entire discussion on one page or converge on a specific aspect of the complementing artifact (an image, video, or text document) by using the zoom in or zoom out tool. Yeh and Lehman’s study found that when students were able to control both the pace and sequence of a multimedia presentation, higher recall scores were reported. VT allows the user the start and stop the presentation at any time using a pause button, and the VT creator can edit the speed at which the slides move. Mayer and Moreno (2003) also observed an increase in knowledge transfer when lessons were presented in learner-controlled segments rather than as a continuous unit. Additionally, VT allows for further adaption of instructional material found within the presentation by providing the option to doodle – or post handwritten annotations – in order draw attention to important features of an artifact. Mayer and Moreno noted that placing words near corresponding parts of images reduces the need for visual scanning, thus decreasing cognitive load.

Mayer (2005) also addressed the problem of split-attention in multimedia learning. Split-attention occurs when there are two or more sources (e.g. text, sound, and images) of information that are physically separated and require the user to search for desired information, an act that causes additional cognitive constraints. In addition, information sources can be temporally separated which requires users to mentally coordinate information and then integrate it before use. Mayer and Moreno’s (2003) research spanning over a decade gave several recommendations for reducing cognitive load. For example, if visual processing demands are too high, they suggested moving some essential information to an auditory mode in order to reassign visual processing demands to verbal demands. Or, as noted in the previous paragraph, placing text near corresponding images reduces split-attention because the visual demands are lessened. However,
Mayer and Moreno cautioned against presenting printed and spoken words together in order to avoid a redundancy effect. VT meets conditions for reducing cognitive load because in a VT, a full conversation is visually available on one page. Furthermore, the conversation can be facilitated through a variety of modalities since users can upload images and videos as well as comment orally or through text. These options provide many opportunities to offload cognitive demands as suggested by Mayer and Moreno in addition to providing a more multimodal and interactive alternative to podcasting (Aguilar, 2007; Thorne & Payne, 2005). Finally, because the goal of the study is to observe effects on pronunciation development which requires oral samples, the simple recording features of VT that are web-based and available without downloading software made it an attractive choice. Although there is a variety of products that facilitate audio discussions, VT was chosen for this study because of its many features and affordances that are appropriate for multimedia and L2 learning as well as its theoretical suitability.

**Conclusions**

The interpersonal audio discussion technology used in the present study to observe pronunciation development truly reflects Atkinson’s (2002) sociocognitive theory supporting the study because it combines the use of an online community (membership to a VT) with the cognitive demands of language learning, evidenced by the adherence to standards in multimedia learning as explained by Mayer (2005) and discussed more specifically by Atkinson and Burden (2008). The ability to form groups within the audio discussions where students can collaborate and share their work also made it possible to investigate WTC variables also present in the MIP construct (Smit, 2002). Furthermore, interpersonal audio discussions are part of the MALL trend
allowing students to continue their L2 learning outside of the classroom, a desirable practice by today’s standards (ACTFL, 2006; Magnan, 2007).

As a whole, it appears that perceived competence and L2-related anxiety are two important factors that influence learners’ desire to communicate in the L2. Additionally, feedback-supported environments and self-assessment have been shown as essential to students’ success in pronunciation achievement. The literature review also suggests that an environment such as the online audio discussions where students can review their oral work may be a situational context that positively influences affective variables in pronunciation development, yet this topic has remained somewhat untouched. In regard to how pronunciation and its corresponding feedback should be addressed, it appears that there is a need for environments that not only foster intelligibility and comprehensibility (ACTFL, 2006; Derwing & Munro, 2005) but also allow for the discrimination of individual aspects of pronunciation such as accuracy and fluency (Cook, 1999; Gatbonton et al., 2005; Levis, 2005; Pica, 1994a). Interpersonal audio discussions seem to be favorable environments for accommodating various aspects of pronunciation because they are capable of offering opportunities for conversational L2 while also permitting students and teachers to revisit the activities to focus on more discrete details of pronunciation development (Atkinson & Burden, 2008).

Fluctuations in affective variables over time and the effects of those changes on pronunciation and perceived abilities in online environments have not been explored in research studies, thus limiting previous findings on the topics of WTC and motivation as they relate to pronunciation. There are a few studies that observe pronunciation achievement through emerging technologies in addition to studying the effects of self-regulatory behaviors on WTC variables; however, these elements have not yet been combined. Earlier in this literature review, the
importance of providing feedback in L2 learning was discussed. Concerning pronunciation specifically, both Saint Léger and Storch (2009) and Murakami et al. (2012) saw increased self-confidence in learners through self-evaluation and a feedback-supported environment facilitated by the instructor. Lord (2008) and Ducate and Lomicka (2009) both conducted podcasting studies where students were positively influenced by receiving feedback from instructors, trained judges, and classmates. MacIntyre (1994), cited in MacIntyre et al., 1998) stated that perceived communicative competence and anxiety were the two main contributors to WTC. Later, MacIntyre et al. (2003) cited MacIntyre and Charos (1996) who “found that perceived competence was more strongly related to L2 WTC than was language anxiety” among novice adult learners (p. 141). It appears that feedback-supported environments can positively influence WTC and variables also influencing MIP (Smit, 2002), thus warranting the use of a technology that provides many avenues for providing and receiving feedback. With VT, users are able to provide feedback asynchronously about an artifact or comment and in various forms: written responses, audio comments, and video comments. Furthermore, the fact that interpersonal audio discussions can be made accessible online allows both instructors and students to comment easily from any internet-connected device.

Therefore, there is a need for additional evidence to explain how audio technologies can be used as pedagogical tools and to observe their effects on students’ pronunciation development. The present study intends to close this gap in order to identify possible connections between participation in online audio discussions, motivational variables as found in the MIP and WTC constructs, and aspects of pronunciation development such as fluency, accuracy, and comprehensibility.
CHAPTER 3
METHODOLOGY

In this chapter, I first introduce the RQs guiding the study and explain how I concluded that they represented the study’s goals. I then describe the research project by providing an overview of the mixed-methods research design that explains the characteristics of this type of investigation and why it was chosen. Next, I present information about the participants and the research context. For example, during participation in the online audio discussions, instructors evaluated students, and students in turn performed self-evaluations of their own experiences. These assessments addressed psychological and linguistic aspects of the development of pronunciation skills in the L2, thus expanding on previous research to include variables from the WTC (MacIntyre et al., 1998) and MIP (Smit, 2002) constructs. Additionally, I describe the techniques and instruments that were implemented to collect the data. Finally, I detail how I analyzed the data using both qualitative and statistical procedures.

Research Questions

In pondering exactly how I would formulate the RQs, I knew that I did not want to explore the products or outcomes of pronunciation learning, but rather the process of improving pronunciation and the factors affecting that progression gleaned from an “insider perspective” (Ellis & Barkhuizen, 2005, p. 255). According to Ellis and Barkhuizen (2005), understanding this perspective requires researchers to investigate “the feelings, emotions, thoughts, and experiences of language learners” (p. 255). Therefore, I wanted to create questions and corresponding instruments that would elicit data capable of providing me with insights into the
students’ experiences during participation in interpersonal audio discussions. I also sought to establish relationships between the variables present in the aforementioned motivational constructs and the activity context. In order to achieve these goals, I created the following research questions to guide the development of the instruments, data collection, and the data analysis:

RQ1: What are the effects of participation in interpersonal audio discussions on students’ perceptions of pronunciation skills in introductory French courses?

RQ2: How does participation in interpersonal audio discussions affect students’ anxiety and self-confidence about developing pronunciation in introductory French courses?

RQ3: How is students’ overall motivation to develop pronunciation skills influenced by participation in interpersonal audio discussions in introductory classrooms?

Because an in-depth understanding of my topic was a primary goal of the research, I selected an inductive approach. According to Ellis and Barkhuizen (2005), this extensive understanding is generated by the data collected during the investigations as opposed to being driven by a set of pre-determined hypotheses typical of a deductive approach. Ellis and Barkhuizen pointed out that deductive methods do play a role in the inductive approach because researchers require some explicit guidance during the development of the study’s design. Therefore, I present the prior research studies and ideas that inspired each of the RQs in the following paragraphs.

Lord’s (2008) podcasting study produced some measurable outcomes concerning students’ performance in pronunciation based on judges’ evaluations and the comparison of mean class rankings; results indicated that students’ pronunciation improved. However, Lord implemented Elliott’s (1995) pronunciation attitude questionnaire and did not find any significant changes regarding the students’ perceptions of their abilities in pronunciation despite
a report of positive reactions to the podcasting project. Ducate and Lomicka’s (2009) podcasting study also found that students positively perceived the use of an emerging technology in the classroom for pronunciation achievement, but did not report any significant changes in pronunciation scores from judged samples. Based on MacIntyre et al.’s (1998) explanation of the relationship between variables in WTC, positivity afforded by the social context of podcasting may affect other variables such as feelings of self-efficacy, anxiety, and self-confidence. Smit (2002) identified these same variables as key factors that influenced MIP, the most notable being self-efficacy, an aspect of self-confidence linked to the students’ perceived level of L2 proficiency. Because the reported research studies did not thoroughly explore students’ perceptions of their pronunciation, I developed RQ1 as a means to study affective variables as they relate to the skills surrounding pronunciation specifically – accuracy, fluency, and comprehensibility. Furthermore, in RQ1 and the study in general, I concentrate on a specific population of L2 learners – students in introductory-level French courses – because participants in the previously reported studies ranged from intermediate to advanced learners. Introductory-level learners’ experiences in pronunciation development and learning have not been widely reported yet they make up a significant portion of the population of L2 learners due to graduation requirements necessitating the study of foreign languages at secondary levels of education such as high school and college.

Additionally, I wanted to better understand why podcasting was so optimistically received by students in both Lord (2008) and Ducate and Lomicka’s (2009) studies, and then explore if these sentiments might also be experienced when implementing and participating in interpersonal audio discussions or when presented to a less-experienced group of learners. This focus on investigating affective variables within the specific learning context of interpersonal
audio discussions led me to again consult Smit’s (2002) MIP study. Smit referenced Dörnyei’s (1994) work in L2 motivation to establish three categories of variables that were used to explain factors shaping MIP – subject-, learner-, and classroom-related influences. I focused on prominent motivational factors as identified by results of Smit’s study and implemented these categories in RQ2 as a means to investigate how participation in interpersonal audio discussions is connected to pronunciation development at the motivational level. Finally, keeping in mind that the WTC construct’s (MacIntyre et al., 1998) variables and motivational factors in pronunciation function collectively and can influence one another, I created RQ3 which addresses how individual influences – such as learner anxiety or the learning context (Dörnyei, 1994) – affect overall motivation to improve pronunciation skills.

**Research Design**

In order to explain the complexity of pronunciation development and to answer the RQs, I felt that it was most logical to study it from both a qualitative and quantitative – or mixed methods – standpoint. Therefore, I applied Albert Einstein’s notion of “Everything that can be counted does not necessarily count; everything that counts cannot necessarily be counted” to the study in order to arrive at the decision of using a mixed methods approach. There is a need for more detailed descriptions of pronunciation development beyond oral proficiency scores, thus a mixed methods approach provides an advantageous, comprehensive look at pronunciation development (Moeller & Theiler, 2014). Although I felt that a mixed methods design was appropriate for the present study, I discovered that there was not a fixed design that suited the present study’s needs. Consequently, the mixed methods design I chose is described as *emergent*, which is a type of design developed during process of conducting the research (Creswell & Clark, 2007). Initially, the research design was meant to follow the *convergent parallel* design
where quantitative and qualitative strands are implemented concurrently and are prioritized equally. They function independently during analysis, and are later mixed during the overall interpretation, according to Creswell and Clark’s (2007) description. During the actual data analysis, I found this fixed design to be inadequate and subsequently used more interactive approaches to complete the analysis, resulting in a non-fixed, emergent method.

As a result, the emergent research design in the present study demonstrates characteristics of both the *explanatory sequential* design and the *exploratory sequential* design. Creswell and Clark (2007) explained that both designs use sequential timing, yet they prioritize different data sets. For example, the explanatory design begins with the collection and analysis of quantitative data, and then uses qualitative findings to help elaborate upon the initial, quantitative results. Conversely, the exploratory design begins with the collection and analysis of qualitative data to produce exploratory findings, and then uses quantitative tests to further examine initial findings. Figure 3.1 below visually demonstrates how the qualitative and quantitative data were collected simultaneously, and then interacted at the levels of design, analysis, and interpretation. The figure also represents the emergent mixed methods approach used in the present study that endeavored to touch upon “multiple viewpoints, perspectives, positions, and standpoints” (Johnson, Onwuegbuzie, & Turner, 2007, p. 113).
Figure 3. Model of emergent research design that visually demonstrates how explanatory and exploratory designs were mixed at various levels of design, collection, and analysis.

Figure 3.1 demonstrates Creswell and Clark’s (2007) notion that interaction between research approaches can occur in a variety of ways and at different stages of the research process. Consequently, the handling of one strand can depend on the results from the other, which is what occurred in the present study. For example, at times during the analysis it was necessary to code and quantify qualitative data to continue the analysis. This practice adheres to the exploratory design which generates qualitative themes in order to build a quantitative analysis out of those themes. In this specific example, there is mention of the quantitative analysis of qualitative data, thus methods have been merged at the analysis phase represented by the double-ended arrows in Figure 3.1 pointing to a relationship between the two data strands and their analysis. To provide another example, qualitative analyses were conducted as needed to

<table>
<thead>
<tr>
<th>Quantitative Strand</th>
<th>Qualitative Strand</th>
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<tbody>
<tr>
<td>Collects quantitative data (pre-questionnaire, self-assessment forms, instructor feedback)</td>
<td>Collects qualitative data (pre- and exit-questionnaires, journals)</td>
</tr>
<tr>
<td>Quantifies qualitative data (pre- and exit-questionnaires, journals)</td>
<td>Analyzes qualitatively oriented data strands and elaborates on quantitative results (exploratory)</td>
</tr>
<tr>
<td>Analyzes quantitatively oriented data strands and tests qualitative findings (exploratory)</td>
<td></td>
</tr>
</tbody>
</table>

Overall Interpretation
understand quantitative results, a feature of the explanatory design. Also indicated in Figure 3.1 is the fact that the two data sets – quantitative and qualitative – received equal priority. They interacted with one another not only in the research design, but also during collection and analysis because using a variety of data collection methods simultaneously provides multiple data sets about the same topic from different perspectives. Such practices strengthen results, thus providing a richer and fuller data interpretation (Heigham & Croker, 2009). Figure 3.1 also demonstrates the different elements of the design that influenced the decision-making process that took place during the research itself – and not beforehand – based on my interpretations of how to best continue to collect and analyze data, another characteristic of an emergent framework.

In order to reflect the emergent mixed methods design as well as to lessen the effects of measurement bias gleaned from the self-reported, open-ended response items, I integrated closed-item, quantitative instruments during data collection. I also tried to prevent measurement bias by using several sources of information to validate one another, a feature of the mixed methods design I implemented. Furthermore, I engaged the participants multiple times throughout the study to see how their goals and motivational variables changed over time. I also conducted a pilot study to test the instruments not only to warrant their use to obtain data that would answer the RQs but to also provide instruments that offered clear instructions and examples for participants. During the pilot study, I implemented interpersonal audio discussion activities, questionnaires, self-assessment (SA) forms, and instructor rating forms. Consequently, I made some changes as part of the process of refining the instruments for use in the present study. After reviewing findings from the pilot study, I added more open-ended questionnaire-items and the journal entries as a means to not only better answer the RQs but also to utilize the
broad capabilities of the mixed methods approach showing relationships between the qualitative and quantitative data sets during multiple phases of the research process.

Participants

In reviewing previous research surrounding my topic of interest (D’Amico, 2012; Ducate & Lomicka, 2009; Lord, 2008; Saint Léger & Storch, 2009; Smit, 2002), I was able to identify that the population most often selected for research in pronunciation and associated motivational variables consisted of learners with significant prior experience in the L2, for example: students in phonetics courses, students who had studied abroad, or students that were enrolled in upper-level language courses. I did not wish to consider more advanced learners because results from Ducate and Lomicka’s (2009) podcasting pronunciation study found that the majority of participants at the intermediate level were already completely or mostly comprehensible at the beginning of the semester which led to little improvement in pronunciation. Although I recognized learners in introductory-level courses as an underrepresented group, I still had some concerns about the classroom level that would be optimal for the present study knowing that there is often a wide range of abilities in these courses due to the true-beginner versus false-beginner phenomenon (Frantzen & Magnan, 2005). In order to explore this further, I conducted a pilot study in an intensive, introductory-level accelerated course that combined the first and second semesters of language study into one semester. Out of all consenting participants in the pilot study, 12 out of the 13 had studied French in high school, one student having studied Spanish. Data analysis revealed that the participants in the pilot study entered the course with a high level of confidence regarding current pronunciation abilities, combined with high motivation to improve pronunciation skills due to plans to major or minor in French or use French in a future career. Overall, the group was homogeneous in regards to their past and future
L2 experiences. Because my own findings were consistent with those reported by Ducate and Lomicka, I selected a second-semester French course for the present study. I hypothesized that the typical, second-semester student would have some preliminary exposure to pronunciation rules and examples during a previous semester of introductory-level French or in high school as opposed to several semesters, or even years, of exposure as compared with the participant sample in the pilot study. I also made this decision in hopes of arriving at a participant sample that better represented the diversity of student interests common in introductory-level L2 classrooms. The decision to use a second-semester course was also based on Acton’s (1994) beliefs that making improvements in pronunciation skills is often more challenging with advanced learners due to habits resulting from language fossilization.

The participants in the present study were enrolled in three sections of second-semester French which met five times a week over one semester (around 15 weeks) at the University of Alabama, a large, public university in the southeastern United States. Two graduate teaching-assistant instructors taught the participating classes. Both instructors were native speakers of English and followed the syllabus established by the Language Program Director. Participants were not compensated monetarily, but rather earned credit toward the homework grade in their course as a result of their completion of the interpersonal audio discussion and SA activities developed specifically for the purpose of this study in these three sections of French. Figures 3.2 and 3.3 below provide visual explanations of how students’ homework grade and overall course grade were affected by their participation in the pronunciation-focused interpersonal audio discussion activities and complementing reflective assignments.
The interpersonal audio discussion assignments were integrated into the homework assignments that totaled 15% of the final grade, reflected in Figure 3.2. Despite the availability of free VT accounts during the period in which the study was conducted, I purchased an account for each student in order to have access to administrator rights. Therefore, students completed these VT homework assignments at no extra cost to themselves. The interpersonal audio discussion component accounted for 20% of the homework grade. Therefore, each VT activity,
represented in Figure 3.3, which included participation in the activity and the completion of the SA form and journal represented about 1.4% of the entire grading scheme. Written tests comprised 30% of the final grade in the course, and two oral assessments made up 25% of the final grade. Although two major assessments were oral tasks, they were unrelated to the interpersonal audio discussion assignments and held less value in determining the students’ final grades when compared with written assessments.

The participant sample was comprised of 17 male students and 22 female (for a total of 39 participants), ranging in age from 19 to 25 years old. All participants were native speakers of English and reported using it as the primary language of communication at home with their families and close friends. Three students reported that some family members spoke French; the immediate family did not use the language at home regularly but rather on occasions when they met with other French-speaking family members. One student in this group had spent a number of years living in francophone Africa, and the other visited family members in France on a yearly basis. The third student in the group, although associated familiarly with French-speakakers, had never vacationed or studied abroad in addition to considering English the primary language of communication. None of the students considered themselves NSs of French or proficient speakers. However, the two students who had significant contact with the L2 language and culture were eliminated from the group. Because these two students had been exposed to the L2 through opportunities and experiences that were exceptional when compared to the majority of participants, they were identified as outliers due to the probable influences of these experiences on their pronunciation development, thus producing atypical results. Consequently, data pertaining to these two students was not considered in analyses, and this brought the final count of participants to 37 total.
Table 3.1

*Participant Sample Profile (N = 37)*

<table>
<thead>
<tr>
<th>Category</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>15</td>
<td>41%</td>
</tr>
<tr>
<td>Female</td>
<td>22</td>
<td>59%</td>
</tr>
<tr>
<td>Studied French in high school</td>
<td>26</td>
<td>70%</td>
</tr>
<tr>
<td>Have exclusively studied French</td>
<td>23</td>
<td>62%</td>
</tr>
<tr>
<td>Have vacationed in a Francophone country</td>
<td>12</td>
<td>32%</td>
</tr>
<tr>
<td>Have studied abroad</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Want to major or minor in French</td>
<td>13</td>
<td>35%</td>
</tr>
<tr>
<td>Want to use French or another language in</td>
<td>15</td>
<td>41%</td>
</tr>
<tr>
<td>future career</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As detailed above in Table 3.1, 11 (30%) participants were relative beginners who began studying French at the university level, and the remaining 26 participants (70%) were false beginners who reported studying French in high school. On average, students recounted having studied French for 2.8 years, some having studied French in primary grades as well. The majority of students (62%) had not studied any foreign languages other than French before entering the course. Of the 12 students who had vacationed in a French-speaking country, the majority experienced a length of stay of about seven days; two students spent approximately 30 days in French-speaking countries. Approximately one-third of the participants (35% or 13 out of 37) planned to major or minor in French, and 15 participants (41%) hoped to use French in their future careers. The remaining quarter of students (24% or 9 out of 37) did not report that they planned to use French in similar capacities regarding their future academic or professional
experiences. The next participant portrait in Table 3.2 reveals a diverse representation of interests and was more representative of student demographics reported by the University of Alabama (2013) when compared against the participant sample in the pilot study.

Table 3.2

*Participant Demographics of Majors by College, N = 37*

<table>
<thead>
<tr>
<th>Major</th>
<th>Participant Sample %</th>
<th>University of AL %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Sciences</td>
<td>51%</td>
<td>28%</td>
</tr>
<tr>
<td>Business</td>
<td>16%</td>
<td>21%</td>
</tr>
<tr>
<td>Communications</td>
<td>14%</td>
<td>9%</td>
</tr>
<tr>
<td>Education</td>
<td>5%</td>
<td>9%</td>
</tr>
<tr>
<td>Engineering</td>
<td>8%</td>
<td>12%</td>
</tr>
<tr>
<td>Undecided</td>
<td>5%</td>
<td>N/A</td>
</tr>
</tbody>
</table>

As shown in Table 3.2, many of the participants were majoring in subjects outside of liberal arts or humanities and included specializations such as: biology, engineering, pre-med, finance, psychology, international business, and criminal justice.

**Instruments**

I collected data for the present study through two questionnaires, three interpersonal audio discussion activities followed by instructor evaluation, three student SA forms completed after each activity, three online journal submissions, and a final interview with the instructors. I designed these instruments with Smit’s (2002) MIP construct in mind and addressed factors that corresponded with WTC and other L2 motivational research as well (Dörnyei, 1994; MacIntyre et al., 1998). Following Smit’s lead, I developed multiple instruments that explored subject-, learner-, and classroom-related variables (learner-, teacher-, and course-related factors according
to Dörnyei, 1994) affecting psychological and linguistic processes involved in pronunciation
development along with students’ motivation to address pronunciation skills through practice in
interpersonal audio discussion activities.

**Pre- and Exit-Questionnaires**

In order to identify motivational factors as well as personal background details that
affected MIP, I created a survey instrument in the form of a pre-questionnaire (Appendix A) that
students completed prior to the onset of participation in the interpersonal audio discussions at the
end of the first week of classes. Because introductory language courses contain students less than
the age of majority in the state of Alabama, the completion of the pre-questionnaire represented
the students’ consent to allow their data to be used in the study. All students in the selected
sections of second-semester French participated in the interpersonal audio discussions and
related activities; however, I collected data from only those students who consented. The
instructor administered the pre-questionnaire to potential participants in class after they watched
a YouTube video (Appendix B) inviting them to join the study. Students had also been made
aware of the implementation of audio discussions into their course prior to the pre-questionnaire
through an informational handout (Appendix C) explaining what they would do during
participation. I used the pre-questionnaire to obtain an initial snapshot of the students’ self-
confidence, anxiety, beliefs, and motivation regarding pronunciation at the beginning of the
semester. Students answered a series of four open-ended questions using a few sentences in Part
1 of the pre-questionnaire. I adapted the items in this section from Smit’s (2002) study by
converting questions that were central to my study from line items on a quantitative
questionnaire to an open-ended, short answer format.
Part 2 of the pre-questionnaire sought to understand students’ pre-conceived notions and motivators concerning how one goes about improving pronunciation skills. I recycled items from Part B (see Items B31-39) of Smit’s (2002) questionnaire regarding classroom-related motivators in pronunciation achievement to elicit students’ opinions. The pre-questionnaire implemented a rating system that was composed of three symbols: the minus sign representing “strongly disagree,” the equal sign representing “mixed feelings or do not agree or disagree,” and the plus sign that represents “strongly agree.” This particular rating system proved easy and efficient for students and the researcher during the pilot study and was repeated in several instruments – the pre-questionnaire, instructor feedback form, and SA forms – in the present study to maintain consistency. Finally, in Part 3 of the pre-questionnaire students completed a biographical data section that revealed more about their previous experiences with French and other languages, as well as the subjects in which they were majoring and how they intended to use L2 knowledge in the future.

In addition to the pre-questionnaire completed at the beginning of the semester, students completed an exit-questionnaire (Appendix K) at the end of the semester during week 16 (out of a 16-week semester, including scheduled breaks) once they had participated in all interpersonal audio discussions and completed all evaluations and journal entries. Instructors administered the exit-questionnaires during class time near the end of the semester in lieu of submitting the questionnaires online in order to avoid gaps in the data should the student forget or decide not to submit this instrument. The four open-ended questions from Part 1 of the pre-questionnaire were repeated on the exit-questionnaire. Students responded to two additional questions as well – Item 1 asked students to report any changes in regards to their initial response in Journal 1 (described later) whereas Item 6 provided an opportunity to share information about any positive or
negative experiences they had while using the interpersonal audio discussion technology. Finally, a multiple choice style question (Item 7) served the purpose of discovering how students primarily accessed the technology, for example: on a personal laptop, in the computer lab, or on a mobile device.

**Interpersonal Audio Discussion Activities**

Interpersonal audio discussions allow for a variety of media to be inserted as material, thereby enabling me to create activities (Appendices H, I, & J) that centered on topics and structures presented in the textbook *Mais Oui!* (Thompson & Phillips, 2013) as used in the introductory-level French courses participating in the study. Therefore, using VT allowed personalization of the material and exploration of how the instructional design of the activity motivated participants (Schmidt, Boraie, & Kassagby, 1996). Because the study investigated affective, motivational variables associated with MIP, I chose early on to design textbook-compatible activities in order to meet the affective needs of the learner. Taking these steps during activity design can assist students in dealing with anxieties related to classroom procedures (Young, 1991), thus revealing both learner- and classroom-related factors influencing motivation. Furthermore, I also wanted the activities to be pleasurable for the students. Previous research (Mayer, 2005) maintained that multimedia tools allowing for a more personalized experience, such as those offered by VT, are found to be more engaging to learners than multimedia that is less personalized, for example repeating pre-loaded phrases or words from software or a website. I also consulted Brandl’s (2002) article concerning how to integrate Internet-based materials into student activities while creating the VT activities in the study. He suggested that the organization and presentation of the materials are two key factors in creating a successful activity. Stokes (2004) shared ideas for creating activities in his article by providing
examples of how to design activities that are personalized and that enhance communication, all while meeting one or more of ACTFL’s (2013) standards. Some examples that he suggested are compatible with activities created for the present study, for example: using a target language map or instructions and participating in role plays with a focus on good pronunciation. At any rate, I designed the activities to be interactive and to have a conversational tone, an attribute that tends to be more engaging than activities eliciting a more formal tone (Mayer, 2005). As an additional resource, the textbook offered focused pronunciation exercises embedded in the text and online resources, allowing students to participate in some assignments dedicated solely to practicing the target language sound system. The results of Elliott’s (1997) study on pronunciation in a CLT classroom found a slight improvement in pronunciation after some formal instruction when testing the effectiveness of free elicitation exercises, which are represented in the present study by the participants’ contributions to the audio discussions. Referencing the basal text during the activity design phase allowed me incorporate relevant grammatical structures and vocabulary in addition to maintaining a focus on “the immediate phonological needs of the course” (Chela-Flores, 2001, p. 94).

The overall data analysis from the pilot study indicated that there were some obstacles in the design of the activities which resulted in confusion and a negative perception of the activities and website (VT) used to present them at times. I discovered through analysis of the pilot study data that it was somewhat aggravating to students that they would have to “check-in” to the audio discussion activity after they had participated to scout out new comments directed to them because responding to other users was part of the activity requirements. In order to better aid students in organizing their time devoted to participating in the activities, I updated the instructions to include two separate deadlines for each activity. Using Brandl’s (2002)
suggestions as a model, each activity was also broken down into three main steps (brainstorming, initial participation, and interaction with classmates) and facilitated by two clear deadlines. The first deadline typically required some initial brainstorming (step 1) and then some participation in the activity by leaving recorded comments (step 2). The second deadline allowed time for the students to react to those initial comments by continuing to comment and interact with other VT users by asking and responding to questions during step 3. As part of the VT2 and VT3 activities, students were asked during step 3 to visit other users’ VTs within their class and ask questions or comment in order to initiate conversation and interact rather than just work within their own group, thus promoting interactive group learning (Dalgarno, 2001). It was important to establish a second deadline representing this phase of the activity so that students would know when it was appropriate to start commenting in shared VTs within their online classroom environment. In addition to providing two separate deadlines, students were presented with a checklist feature on the activity page in their native language that listed the tasks required to successfully complete the activity before the deadline. I added this feature to the activities because some students in the pilot study commented that they found the activity instructions to be unclear and confusing.

I wanted to optimize the learning environment for students by consulting research-based approaches regarding the presentation of pronunciation in L2 classrooms. Furthermore, Smit (2002) noted that pronunciation is often viewed as a skill that is independent of traditional textbook and classroom learning, thus possibly requiring a different type of motivation for the development of pronunciation skills. This characteristic of pronunciation development heightened my attentiveness to the activity design as I desired to present students with
appropriate materials and activities by using an outside resource (the audio discussions) to enhance the textbook’s offerings in pronunciation.

**Feedback From the Instructor**

After each of the three activities, the instructor used a rating form (Appendix F) as an initial means of providing feedback to the students. Involving the instructor permitted students access to another opinion regarding their contributions in the audio discussions, and students could then use this information to better inform themselves on setting realistic goals or identifying problem areas of their pronunciation (Saint Léger & Storch, 2009). Furthermore, although the focus of the study did not intend to measure outcomes of pronunciation skills by assigning grades, students are often motivated by these extrinsic rewards (Dörnyei, 1994). Consequently, the development of this instrument served the purpose of not only informing students for self-evaluation purposes (a learner-related factor in motivation), but it also acted as a factor in determining subject-related motivators regarding pronunciation.

The instructor did not intervene on any occasion other than to remind students of upcoming activities and to distribute activity information to them during the pilot study. One important finding gleaned from the pilot study showed that students overwhelmingly expressed their desire to receive prompt feedback from their instructor, rather than from an unknown judge who listened to their recordings. Because the pilot study relied on external raters to provide feedback to the students, there was a significant time lapse between when the student participated in the audio discussion and when they later received a rater form with comments regarding their participation and performance. Ultimately, the fact that the students mentioned instructor participation specifically in the pilot study exit-questionnaire indicated that they wanted the instructor to be more involved in the feedback process, thus I made alternations to the
Instructors’ involvement for the present study and eliminated the external judges during this procedure. Involving the instructor in the present study reduced the amount of time students waited to access to feedback. Instructors made every effort to report their comments and scores promptly while accurately completing the rater form due to the necessity to provide corrective feedback that was accessible before the next discussion activity (Schmidt et al., 1996).

Because there is no standard scale for measuring accentedness in L2 pronunciation or pronunciation in general (Piske et al., 2001), I included elements from several sources to create the instructor rater form for the purposes of the present study, for example: Munro & Derwing’s (1999) study on accentedness in the L2, Saint Léger and Storch’s (2009) study on WTC and oral tasks, Ducate and Lomicka’s (2009) podcasting study, and the ACTFL Standards (2013). The objective of the instructor rater form was to create a standardized method of feedback that was informal and uncomplicated to complete, as well as to better inform students of their performance. I explained in the Chapter 2 literature review that pronunciation instruction in today’s classrooms favor intelligibility but increasingly note attention to form and accurate production. Therefore, based on my interpretation of the reported research and what appeared to be realistic goals for both learners in introductory-level classrooms and instructors focusing on pronunciation skills, I decided to operationalize pronunciation in this study by requiring instructors to assess students based on the following categories: pronunciation accuracy, pronunciation fluency, and overall comprehensibility. Each of these overarching categories was represented by more specific subcategories, explained more thoroughly in the following paragraphs. I presented raters in the pilot study with three assessment categories as well, but without the complementing subcategories found in the present study. During the pilot study, I spoke candidly with the French-speaking judges regarding the format of the rater form and
listened to their suggestions. Both judges agreed that they preferred a more streamlined form with more specific categories. Based on their suggestions, I added sub-categories to the three overarching categories. For example, instead of one large category exclusively for pronunciation accuracy, a list below that heading allows the instructor to rate specific elements, for example the French liaison, that correspond to the category heading. The instrument recycled the symbols system as a performance indicator in each subcategory: the minus sign representing “below average,” the equal sign representing “average,” and the plus sign that corresponds to “above average.” The final task on each section of the form completed by the instructor was to assign an overall score for the overarching category using a 10-point Likert scale – 10 representing near perfect performance – indicating the degree of performance between two extremes (Piske et al., 2001).

In Part 1, pronunciation accuracy was defined as the “production of French vowel and consonant sounds” and is measured by the student’s performance in the following subcategories: silent letters and consonants, enchaînement (when the consonant sound at the end of a word is transferred to the beginning of the word that follows it), liaison (when a normally silent consonant at the end of a word is pronounced at the beginning of the word that follows it), and the pronunciation of nasal vowels. Part 2 was represented by the category of fluency described as the “rate and naturalness of speech.” The fluency score was measured by the following subcategories: rate of speech, normal pausing, intonation, articulation, and stress or rhythm. A Likert scale also followed this section in order for the instructor to indicate his or her grade assignment for that category. The category of comprehensibility represented Part 3 of the instructor’s feedback and was defined for students as “how much was understood” by the instructor. This section was not measured by the establishment of subcategories, but simply the
10-point Likert scale, 1 meaning that the recording was impossible to understand and 10 meaning that the recording was readily comprehensible and required no interpretation. Part 4 of the form included a section available for the teacher to comment or make notes and represented the overall assessment of the student on the activity. Instructors added the points earned from the Likert scale ratings on each overarching category of the form to represent the final score, a total of 30 points being the maximum score a student could earn. Instructors later used this score to assign a grade to the student for their work in the corresponding audio discussion activity.

Student Self-Assessment

Both the pre- and exit- questionnaires were completed independently of the interpersonal audio discussion activities. However, I developed two instruments for students to self-evaluate and reflect while participating in the activities – SA forms (Appendix E) and reflective journal prompts (Appendix G). Saint Léger and Storch (2009) explained their reason for using SA, one which echoes my own: it encourages learners to reflect on their own contributions and to identify their strengths and weaknesses in relation to their pronunciation, as well as creates an opportunity to set realistic goals for the semester. And, as previously mentioned, the act of self-evaluating progress regarding oral production contributes to affective variables present in motivational constructs as well (MacIntyre et al., 1998; Saint Léger & Storch, 2009; Smit, 2002). Through this instrument, I wanted to track the evolution of the students’ perceptions and feelings regarding pronunciation development as the activities progressed and used the SA forms to observe and investigate fluctuations in affective variables. I created the SA activity in the form of a questionnaire. Saint Léger and Storch (2009) implemented three different SA questionnaires during their study. However, I decided to repeat the same questionnaire in order to be able to make comparisons between the same items at different points during the semester. The
questionnaire identified the students’ level of confidence as well as feelings of anxiety, motivation, and perceived oral competence, and was divided into multiple sections.

I created the first and second parts of the SA form specifically for the present study. During Part 1, students used the same items – accuracy fluency, comprehensibility, and overall performance – as represented on the feedback form they received from the instructor. I adapted those categories from the grading rubric used in Ducate and Lomicka’s (2009) podcasting study. Students used these categories to compare their own abilities with how they viewed their classmates’ abilities. As previously mentioned, students indicated their perceptions by the use of a symbols rating system: the minus sign representing “less competent than my peers,” the equal sign representing “equal or about the same as my peers,” and the plus sign that represents “more competent than my peers.” During the pilot study, students were asked to identify a specific peer for the comparison task by indicating that person’s username on the form. The qualitative analysis of the data revealed that students experienced a heightened anxiety in knowing that they could potentially be singled-out and listened to by a peer for this comparison task. One student said, “I didn’t like how it was made to be a competition between whose accent sounds better.” As a result, I made alterations, and students compared themselves in general with the other members of the audio discussions, rather than naming a specific identity of another student.

Part 2 of the SA form sought to uncover underlying information about the students’ overall motivation to develop pronunciation skills represented by different motivational factors. Here, students reported changes in pronunciation-specific variables derived from the MIP and WTC constructs (MacIntyre et al., 1998; Smit, 2002) in connection with their own pronunciation. In this case, the minus sign represented the verb “decreased,” the equal sign meant “remained the same / no change,” and the plus sign represented the verb “increased.” By
using these verbs, the student indicated on Items 1-5 his or her feelings and perceptions regarding the VT activity and reported any changes in the following categories: perceived performance, confidence, anxiety, desire to improve, and assessment of overall pronunciation skills.

Part 3 of the SA form also sought to elaborate on the student’s self-evaluation as indicated in Part 1. I adapted Part 3 of the SA form from Saint Léger and Storch’s (2009) SA questionnaire items that tapped into students’ perceived strengths and weaknesses of oral skills while also allowing students to reflect upon their experience and identify areas of improvement. Through completion of this section, students gauged how difficult or how easy they perceived pronunciation demands by responding to items like, “It is _______ for me to express myself fluently with little hesitation and pausing.” Students again responded to this section with symbols, the minus sign representing “difficult or very difficult,” and equal sign representing “OK or somewhat challenging,” or a plus sign representing “easy or very easy.” By identifying areas of difficulty or average performance, the student could complete the SA process and begin to set goals in relation to his or her performance in a future activity or classroom speaking task. I also added two questions (Items 4 and 5) that related to their motivation and ability to enjoy participating in each activity in order to adapt Saint Léger and Storch’s items to fit the study’s needs to explore a variety of affective influences to pronunciation development. Finally, in Part 4 of the SA form, students determined the strongest and weakest points of their VT contributions. They chose from pronunciation accuracy, comprehensibility, or fluency, the same categories used in instructor feedback form and in the comparison task with their classmates on Part 1. Saint Léger and Storch also queried students about their strengths and weaknesses of oral proficiency, but used those as open-ended response items. I chose to use familiar vocabulary
relating to oral proficiency and gave the participants one of three specific options in order to eliminate any misuse of terms and measurement bias. In addition to identifying one area of confidence and one area of improvement, students assigned a grade to their work that indicated perceived performance as well as discussed specific steps they would take in the future to improve on weaknesses in their pronunciation, items that were also adapted from Saint-Léger and Storch’s study.

Students completed the SA form after participating in each activity and after having read the instructor’s feedback for each activity. Students finished VT 1 at the end of week 6, VT2 at the end of 10, and VT 3 at the end of week 14. During the pilot study, students completed this form outside of class during the pilot study and often skipped this step, resulting in gaps in the data collection. In the present study, students completed SA in class a couple of days after the instructor presented them with the instructor feedback, allowing time for the student to read, digest, and ask any questions about the ratings assigned by the instructor. The instructors and I both agreed that SA would be best implemented after the student had some time to reflect upon their experience and consider the instructor’s feedback before setting new goals regarding their participation in future activities. The short form was easily completed during the last five minutes of class.

**Student Journals**

In addition to the SA questionnaire, students accessed a journaling tool available online through the course management system as a means of self-reflection. Open-ended journals provided another way to understand the students’ perceptions of their experience that could be described in their own words. This qualitative instrument allowed for an exploration of topics that may not have been possible through the exclusive use of the quantitative ranking system
present in the SA forms. The journaling task was conducted electronically; therefore, the chance of low participation was possible based on what was observed in the pilot study when the students completed the SA outside of class, leading to gaps in the data collection. However, because instructors administered the SA during class time, it seemed more practical to conduct this short assignment through another means. Students were sent reminders via email to participate in the online journals before they expired. The instructions asked students respond in paragraph form with a minimum of 50 words in English to the three prompts (Appendix G), clearly explaining their point of view or opinion. They were encouraged to wait until after they had thoroughly read the feedback from their instructor on the corresponding activity before submitting. The journaling tool of the course management system presented students with a new journal prompt shortly after the corresponding interpersonal audio discussion activities expired. The journal entries were not publicly accessible to other members of the class.

In Journal 1, I wanted to get students thinking about what benchmarks they were actually trying to meet when working on pronunciation skills by identifying a specific person (e.g. a classmate or someone notable) that they tried to imitate when using the L2. In addition to pointing out a specific example, I asked them to elaborate on why they chose that specific person in order to get an idea of what goals they might have based on their description of a model pronunciation. By asking students to respond in their own words, it was my intention to discover which features of oral proficiency (accuracy, fluency, or comprehensibility) were most important to introductory students in regards to their pronunciation development. Furthermore, I wanted to use the journal prompt to illuminate potential sources of motivation for pronunciation achievement at the introductory level.
After completing the second audio discussion activity, students continued this exercise in Journal 2 by reporting any progress that they had made towards achieving the ideal pronunciation that they previously identified in Journal 1. I also asked them in this journal to point out specific steps they were taking to meet their goal. I continued to query students about the attainment of their ideal pronunciation as identified in Journal 1 by including a short-answer item on the exit-questionnaire because the exit-questionnaire was the last instrument administered and provided a post-experience response regarding students’ opinions of their progress. In this question, I ask the student if the example they originally pointed out in Journal 1 had changed at all, explaining their reasoning. I chose to continue this topic as part of the students’ reflective process in order to (a) track changes in their perceptions of their own progress as expressed by their own words and (b) to explore how participation in the audio discussions might have affected students’ goals and motivation to develop pronunciation skills.

Finally, in Journal 3, I presented students with a table of 10 key features representing the activity design and VT technology that they used to participate in each activity. Features ranged from “using images to help get my point across” to “engaging in oral speaking practice with peers outside the classroom.” The instructions asked students to review the table in its entirety, and then respond by excluding and explaining one feature that motivated them to improve their pronunciation skills as well as one feature that may have had a negative impact on their desire to improve pronunciation. The technology used in the present study has not yet been investigated in the context of pronunciation development, so I wanted students to have the opportunity to articulate how using it affected their motivation as well as report on any positive or negative encounters they experienced with this specific product.
Instructor Interviews

Although not stated in the RQs, it was important to me in the study to gather some data regarding the parallel experience between the student and the instructor concerning their perceptions and experiences during participation in interpersonal audio discussion activities. I wanted to know how student and instructor insights differed in regards to pronunciation and the use of an emerging audio discussion technology to address pronunciation in the classroom. Additionally, I felt that the instructors’ opinions and report of their experiences would be useful to determine any pedagogical implications of the technology. During the pilot study, I had an informal conversation with the instructors, and the information I gained from speaking with them helped me in continuing to develop the research study and associated instruments. For the present study, I wanted to be able to more accurately compare and contrast each instructor’s experience, so I designed an interview protocol (Appendix L) with specific questions that were asked to each instructor. Instructors had the opportunity to speak freely and add any other information once I had completed all questions on the protocol. Therefore, in order to expound upon the instructor’s angle, I held an interview with both instructors. Before starting the interview, I read an introduction statement letting them know what we were going to discuss and addressed their option to decline to comment at any time. I also assured them that their responses would only be accessible by me and their identities kept confidential in research reports. Finally, before starting the interview, I asked them if they had any questions and requested their consent to start the interview. This interview took place at the end of the semester once the participants had terminated all other activities in the study and the graduate-student instructors had finished their final exams.
I designed the interview protocol to first get the instructors to speak generally by asking them to simply describe how they viewed their role in the process of implementing the activities, instruments, and technology in the first and second questions. After these description-oriented questions (Items 1 & 2), I sought to gain some factual information about their experiences with the students (Items 3, 6, & 7). Finally, three questions (Items 4, 5, & 8) elicited the instructors’ opinions about the students, activities, instruments, and technology. I wanted to not only compare and contrast each instructor’s experience, but I also wanted to see how the instructors’ experience measured up to that of the participants in the study. In order to replicate questionnaire items provided to students, I recycled the journal prompts by rewording them, converting them in a way that explained more about the instructors’ experience in the similar situation of focusing on pronunciation and using audio discussions in an L2 setting. For example, students were asked in Journal 1 to identify a person that they tried to imitate when speaking French. Conversely, I asked instructors in the interview to express who they believed students tried to imitate when speaking the L2. Additionally, students indicated on the SA form the areas of pronunciation that they found challenging, and instructors also reflected on observations they made during speaking tasks that revealed areas of pronunciation difficulty for their students. Because VT is a relatively new tool, it was important to me to not only explore how it motivates students, but how instructors perceive its effects in their classrooms as well.

**Summary of Instruments**

In summary, I used the student SAs to elicit the majority of the quantitative data that monitored fluctuations in perceived pronunciation abilities and the affective variables over the course of the semester. The rating forms completed by the instructors were not used during the analysis but served as a method of providing feedback to the students as they progressed through
the activities. The two questionnaires and journal entries allowed participants to respond freely in a qualitative format concerning their personal experiences and emotions associated with the L2 (both past and present) and with their participation in the interpersonal audio discussions that focused on the development of their pronunciation skills. Finally, interviews conducted with both instructors captured an alternative perspective of some of the same issues addressed in several of the instruments completed by the participants, for example the pre- and exit-questionnaires and journal entries.

**Procedures**

In order to carry out the introduction of the instruments and activities efficiently, I created a seven-step timeline spanning over the course of one semester (Appendix M). The proposed schedule detailed the amount of time needed to provide training to instructors and participants regarding how to properly use the VT website during the semester, in addition to describing the implementation of each instrument. During the pilot study, participation in the VT activities was weak before and after scheduled breaks from classes, and some deadlines had to be extended to allow for ample participation in the activities. The timeline used in the present study was, therefore, more sensitive to holidays and breaks during the semester. Before the semester began, the instructors received a written debriefing (Appendix N). In addition, I conducted an informational meeting on campus with the instructors where we went over the items on the debriefing and they had the opportunity to ask questions. One of the responsibilities of the instructor was to provide training to students regarding the use and navigation of the VT website, an alteration from the pilot study. After the initial meeting, explanation of the study, and description of the instructors’ responsibilities, a weekly email message (Appendix O) was sent to instructors in order to provide an update on the progress and the specific tasks that would be
completed each week. At the end of the first week of classes, the students received an information sheet (Appendix C) as a supplement to their course syllabus detailing the use of VT in classroom activities that would be calculated in the homework grade for the course. I virtually presented myself (Appendix B) to the students at this time to let them know more about me, why I was conducting the study, and invited them to participate in the study. After students viewed the video, the instructor presented them with the pre-questionnaire (Appendix A).

Participants then took part in a short training session in class with their instructor concerning how to login and use the website associated with interpersonal audio discussion activities. A how-to video is readily available on the VT website and was used during the training. Before the training, participants received via email their login information for the website which consisted of usernames (e.g. John Doe became John D.) and passwords generated randomly by the instructor; these passwords could be changed by the student if so desired. I distributed this information through the student’s university-affiliated email account. During the training, students practiced logging into the website where instructors directed them to the first activity that was also used as a practice activity for the training (Appendix H). Instructors answered students’ questions about the activity instructions, students made a practice posting in the audio discussion, and then any issues experienced with the microphone or sound devices were addressed at this time. Similarly, I encouraged the instructors to present the technology and provide a hands-on environment where students could go over the basics of using the site. This training was essential to the study because many participants in the pilot study reported difficulty in using the VT website, although only two students contacted the researcher to report problems when recording or participating. Approximately half of the participants in the pilot study reported discomfort in using the VT website on the exit-questionnaire; however, no serious
technical issues persisted, such as chronic issues in recording comments. One student reported that figuring out how to use the many VT features was the aspect that was least enjoyable. Another student felt that “figuring out the system was distracting from the actual language.” Although technical help is available through the website, a document addressing the most prominent technical issues, for example, changing the microphone settings, was available to students via their course management page for easy reference (Appendix D). During the present study, I received several emails from students with technical problems. None of the issues were serious and were able to be resolved via email or through instructor intervention.

After completing the training, students accessed two pre-loaded VT activity templates created by the researcher (VT1 and VT2) (Appendices H & I). Additionally, students created their own VT for the third and final activity (VT3) (Appendix J). Due to concerns voiced by the participants regarding instructor and technical support in the pilot study, I made some changes to the procedure. For example, students had more than one week to complete assignments, allowing for ample time to address troubleshooting or questions about the assignment. Also, students participated in three activities rather than four over the course of the semester, thus allowing more time for each activity.

Once students completed each activity over a period of approximately two weeks, their work in the audio discussion was assessed by their instructor. This feedback was then provided to the students in class. A few days after receiving instructor feedback, students completed two self-evaluative activities by filling out a form in class (Appendix E) and responding to an electronic journal prompt (Appendix G) in the online course management system. In addition to these activities that took place during the semester, consenting participants submitted a pre- and exit-questionnaires (Appendices A & K) before (during week 3) and after the completion of the
activities (during week 16). After the end of the semester but before the winter holiday break, the instructors of the participating sections of French participated in an interview with the researcher.

Data Analysis

In this section, I explain in detail how the data were analyzed to answer each RQ. All statistical tests were performed using IBM’s SPSS Versions 20 and 22 or functions available through Microsoft Excel’s descriptive statistics capabilities. I chose to set statistical significance at a p-value (p) 0.05 or less, a figure indicating that the observed result rejects the test’s null hypothesis that there was no relationship between the measured variables (Laerd, 2014d). I also computed Cronbach’s Alpha (α) measurements of reliability for all quantitative data sets gathered from Likert-scale items on the SA forms. Those tests revealed that items surpassed the coefficient of reliability threshold of .70, thus suggesting acceptable levels of internal consistency and the items’ ability to measure the understood constructs (Laerd, 2014a). The study implemented the previously mentioned quantitatively oriented rating system in several instruments (the pre-questionnaire, instructor feedback form, and SA forms) using the following symbols: + (plus sign), = (equal sign), - (minus sign). I assigned the following numerical values to each symbol when entering data: the plus sign corresponded to the number 2, the equal sign corresponded to the number 1, and the minus sign corresponded to zero. Additionally, I used an interpretive analysis to address qualitative findings because I relied primarily on students’ self-reported feelings, emotions, and opinions in order to better understand the “real” experience of developing pronunciation skills through interpersonal audio discussions.

Furthermore, due to the mixed methods design of the study, I also quantified some qualitative data using numerical values based on the estimated strength or weakness of the students’ comments derived from key words and the establishment of categories. This practice is
consistent with Mercer’s (2010) description of sociolinguistic discourse analysis. He stated that sociolinguistic research is habitually qualitative, but that it can also incorporate quantitative methods, for example identification of patterns or frequency of certain behaviors. Mercer also pointed out that reports combining the use of both quantitative and qualitative methods are often illustrated by selecting extracts from transcriptions or textual data, a technique that I chose to implement in the data analysis process of the present study.

**Understanding the Participant Sample**

In Part 2 of the pre-questionnaire, I implemented the symbols rating system of the plus sign, equal sign, and minus sign. In this section, use of the symbols indicated which classroom-related factors are perceived as useful in improving pronunciation by agreeing or disagreeing with a statement about a specific action one might take to work on these skills. Some of these items corresponded to activities and features that students encountered during the use of interpersonal audio discussions and the evaluation process. I designed this section to reveal student beliefs about improving pronunciation, and if those beliefs correspond to the use of emerging technologies such as VT.

Other quantitative data included using numbers to reflect participant responses on the biographical data section (Part 3) of the pre-questionnaire. For example, when identifying gender, I coded “male” as 1 and “female” as 2. I followed this same procedure for other closed-response items such as yes or no questions. Additional items on Part 3 collected information about participants’ planned future uses for the L2 and if they had ever been to a French-speaking country, factors affecting students’ perceptions of the target language and their motivation regarding the L2 and used to answer RQ1. Coding this data allowed me to use Microsoft Excel
functions such as “COUNTIF” to easily manipulate reports on the participant sample, for example, to identify the number of students who studied French in high school.

**Effects of Participation on Students’ Perceptions of Pronunciation Skills (RQ1)**

**Analysis of pre- and post-experience opinions about pronunciation.** I first began to investigate students’ perceptions of pronunciation skills by following the research design implemented by Elliott (1997) and Lord (2008) in their pronunciation studies. For example, the four open-ended items from Part 1 of the pre-questionnaire (Appendix A) were repeated in the exit-questionnaire in Items 2-5 (Appendix L) to assess any changes in students’ pronunciation-related motivation over the duration of the semester. I then quantified each of these qualitative items. For the question, “what concepts are most important for you to learn this semester?” on the pre-questionnaire, and the question of “what concepts do you feel are most important for those learning French?” asked on the exit-questionnaire, I made a list of each area of language learning mentioned by the participants. Participants were able to note more than one aspect of language learning as well as leave comments, thus there are more answers than the total number of participants in some cases. The categories that emerged were: fluency, conversation, pronunciation, vocabulary, grammar, listening comprehension, reading comprehension and writing skills. I examined the patterns of occurrence for each category which led me to come up with percentages based on the number of times a participant mentioned one of the categories on this open-ended question. I used these percentages to compare and contrast the topics that students identified as most important to learn at the beginning and end of the semester and to consider the effects of external motivators on students’ perceptions of pronunciation such as current and future language course demands (Dörnyei, 1994), using this information to address RQ1.
Analysis of students’ self-assessment of performance in pronunciation. Part 3 of the SA form (Appendix E) was modeled after Saint Léger’s (2009) Saint Léger and Storch’s (2009) studies concerning students’ perceptions of speaking abilities. To capture students’ opinions of their own performance, I asked them to rate how easy or difficult a certain pronunciation-related skill seemed, a method similar to the aforementioned studies. Saint Léger and Storch calculated frequencies and percentages, and then used Wilcoxon signed-rank tests (Z) to observe differences. For my purposes and to answer RQ1 concerning students’ reactions to pronunciation-related tasks, I used Wilcoxon signed-rank tests to compare scores on individual items that addressed pronunciation-related tasks such as accuracy or fluency (Items 1-3) between two points in time, after VT1 and again after participation in VT3. This allowed me to determine if students significantly varied the scores assigned to how they believed they were performing in pronunciation over the duration of the semester. I further replicated Saint Léger and Storch’s methods in Part 4 of the SA where students indicated one strength and one weakness for each audio discussion activity. I observed the frequency of each category – fluency, accuracy, or comprehensibility – and used those calculations to examine changes in perceived strengths and weaknesses over the course of the semester as reported by students. Connecting the SA form with the audio discussion activity allowed me to explore more about how participation in these types of activities affected perceived strengths and weaknesses in pronunciation, thus responding to RQ1.

Analysis of journal entries for emic perspectives on pronunciation tasks. The reflective student journals (Appendices H, I, & J) provided additional data such as thoughts and emotions from the students regarding how they viewed pronunciation development and provided insight into their beliefs, a design adapted from prior research studies. For example, Ducate and
Lomicka (2009) achieved an emic perspective through the use of short-answer questions attached to a quantitative questionnaire (the pronunciation attitude inventory from Elliott, 1995) to explore students’ opinions of the podcasting project. Saint Léger (2009) elicited students’ thoughts on their progress in an end-of-semester course evaluation questionnaire, but participants were not required to respond in a detailed manner; for example, one line was provided for students’ responses. One negative aspect of the journals was that the response rate was not 100% due to the fact that students completed this instrument outside of class. In the present study, all journal entries were analyzed qualitatively and then students’ responses were quantified.

The first prompt sought to understand personal goals that students set for themselves in pronunciation achievement by asking who the student prefers to model and why. It also revealed the qualities of pronunciation that students admired and strived to achieve (e.g. accuracy, fluency, or comprehensibility). First, I completed a textual analysis by reading journals closely, and then categorized each student’s response based on the person (or persons) the student chose to mimic. Participants were free to choose more than one model, thus the number of responses could exceed the number of journal entries. I then organized patterns that emerged, and subsequent themes were primarily based on the reasons cited by students as to why they chose to model a certain speaker. I also calculated percentages on the quantified data gleaned from the journals in order to expand on the qualitatively oriented comments elicited from students’ responses.

The journaling task prompted students with a follow up question in the second journal prompt mid-way through the semester. Journal 2 served as means to gage students’ perceptions of their progress and motivation during the semester. Through close readings of Journal 2 entries, I identified patterns based on the most commonly mentioned goals, and was able to interpret how
students felt about their progress in reaching the goal that they initially set after completion of the first journal. By asking students to describe their progress and goals in their own words, the intent was to (a) understand more about the students’ perceptions of their experience in a setting where pronunciation was not explicitly taught or presented and to (b) investigate their opinions of their own performance regarding skills related to pronunciation development such as accuracy or fluency.

**Effects to Students’ Anxiety and Self-Confidence About Developing Pronunciation (RQ2)**

*Analysis of pre- and post-experience L2 speaking anxiety.* To address students anxiety levels when using the L2 orally, I consulted the fourth question on Part 1 of the pre-questionnaire (Appendix A) and Item 5 of the exit-questionnaire (Appendix K) that addressed general L2 speaking anxiety. These items asked students to make comparisons between their initial anxiety level when speaking in the L2 and any changes that had occurred by the end of the semester. I quantified the qualitative data by assigning a number that reflected my estimation of the students’ reported anxiety. For example, reports of no anxiety received a score of 0, moderate anxiety a score of 1, and heightened anxiety a score of 2. If the student expressed that their anxiety had lessened on the exit-questionnaire, I assigned the item a score of 0. I assigned unchanged reports of anxiety with a value of 1, and increased anxiety received a score of 2. Quantifying this data allowed me to run statistical tests to determine relationships between initial L2-related anxiety reported on the pre-questionnaire, anxiety throughout the semester as reported on the SA forms, as well as anxiety levels at the end of the semester by using the Pearson’s R (r) and Spearman’s (rs) correlation coefficients. I was also able to explore relationships between anxiety as reported pre- and post-participation and self-confidence during participation using these correlational tests. Quantification also allowed me to compute Wilcoxon signed-rank tests.
that compared differences in scores assigned to anxiety at different points in time during the semester, thus revealing significant increases or decreases in anxiety levels in the participant sample over the course of participation in the activities.

Additionally, I calculated percentages to determine how many students fell into differing ranges of anxiety levels on the pre- and exit-questionnaire, techniques that Saint Léger and Storch (2009) also employed. The present study repeated the same SA questionnaire after each activity, thus the appropriate choice of the Wilcoxon signed-rank test for analyzing the repeated measurements. Furthermore, using an open-response format to address anxiety on the pre-and exit-questionnaires also offered the potential to explore specific issues, situations, or examples relating to L2 anxiety. Qualitative analysis and the designation of themes provided illustrative quotes that could be used to elaborate on the statistical tests and understand anxiety from the students’ emic perspectives (Heigham & Croker, 2009), thus revealing learner-, teacher-, and classroom-related factors (Dörnyei, 1994) that triggered apprehensions.

**Analysis of students’ pronunciation-related anxiety and self-confidence.** Because students reported on their emic perspectives and personal experience after participating in an audio discussion activity in the SA form (Appendix E), analysis of this instrument proved crucial in answering RQ2 by determining how participation in these activities affected variables such as anxiety and self-confidence associated with motivation to develop pronunciation skills. Parts 1 and 2 of this instrument are unique to the present study in a couple of ways: they ask students to compare their own pronunciation with classmates as well as evaluate motivational factors by addressing them in relation to pronunciation specifically. Therefore, I was unable to follow any previously established procedures for analyzing the data other than calculating percentages and conducting repeated measures tests such as the ones used by Saint Léger (2009) in her semester-
long study of self-evaluation of speaking skills. Both sections used the symbols rating system. After quantifying each symbol into a number, I totaled the score for each section using a method similar to that of Elliott (1995) in the analyzing the pronunciation attitude inventory. In Elliott’s study, he calculated the pronunciation attitude inventory scores for each participant by reversing the values for the three negatively worded items to represent the highest score possible, and then assigned the lowest score to represent the most negative attitudes. In the present study, a higher overall score on Part 1 represented students that felt they demonstrated a superior performance of pronunciation skills in comparison with classmates. A lower score on Part 2 represented increases in anxiety, low confidence, and a negative perception of performance, indicating a lower overall motivation. There was one instance where I deviated from the previously mentioned symbols system and deferred to Elliot’s method stated above. Question 5 states “feelings of anxiety regarding my pronunciation have __________ after participating in this week’s VoiceThread.” Here, the use of a plus sign indicating the verb “increased” corresponded to zero in order to reflect heightened anxiety and negative effects on the overall score. I used the scores that students assigned to Parts 1 and 2 as a means to investigate fluctuations in independent motivational factors such as anxiety and self-confidence, attained through comparative Wilcoxon signed-rank tests.

**Influences on Students’ Overall MIP (RQ3)**

**Analysis of students’ self-reported MIP.** To address one of the main goals of the study and investigate whether or not participation in interpersonal audio discussions is an effective way to influence students’ motivation with regard to the development of pronunciation skills specifically, I analyzed students’ self-reported levels of motivation as found in the SA forms. The SA forms provided snapshots of their motivation while participating in the three VT
activities because students assigned a score to pronunciation-related motivation in Item 2 of the SA form. Additionally, Part 2 of the SA form provided an additive measure of motivational variables that contributed to an overall MIP score. Again, through the use of Wilcoxon signed-rank comparative tests, I was able to use the self-reported scores to determine if there were any significant changes to motivation while participating in pronunciation-focused activities in VT. Additionally, the pre- and exit-questionnaires (Appendices A & K) specifically addressed students’ motivation to develop pronunciation skills in open-ended response items (Items 2 and 3 in Part 1 of the pre-questionnaire and Items 3 and 4 in the exit-questionnaire). By performing close readings of their responses, I was able to gauge how motivated they were feeling before and after participation in the interpersonal audio discussion activities. For example, I used a holistic approach and my own expertise on the present study’s topic to execute the close readings where I extrapolated students’ motivations to develop pronunciation skills as responses were not necessarily explicit. Quantifying my estimations of their motivation by assigning scores, although subjective, allowed me to summarize the qualitative responses and understand more about the proportions of students that were feeling highly motivated, moderately motivated, or not motivated at all to develop pronunciation skills at two different points during the semester.

**Understanding interpersonal audio discussions as motivators in pronunciation development.** Finally, the study used Journal 3 (Appendix G) to elicit students’ opinions concerning the use of interpersonal audio discussions for pronunciation learning – VT technology specifically – and also assisted in answering RQ3 that addressed how participation in VTs affected overall MIP. Because audio discussions are a non-standard, emerging technology, it was essential to explore how students responded to using this tool for pronunciation development. By responding freely concerning motivational or non-motivational aspects of VT,
students’ responses allowed me to understand which specific features of the activities and technology were motivating or demotivating by analyzing specific comments and examples. I first categorized students’ responses based on which items they chose to discuss from the journal prompt. Quantifying these themes helped to determine which aspects had the most impact on student learning by counting the number of times certain features were mentioned by each student. Then, through a close reading technique described above, common patterns within the motivational features were established. The mixed-methods analysis of Journal 3 provided an insight into which features of the multimedia technology as identified by Mayer (2005) and Atkinson and Burden (2008) coincided with the students’ experiences of the technology as a tool for pronunciation development.

**Instructors’ Contributions**

I conducted an interview with each instructor who participated in the study once classes had ended for the semester. The interviews were similar in that they followed the established interview protocol (Appendix L); however, they differed in that the instructors were able to respond freely to each question and continue the discussion further once the protocol was completed. During the interview, I made detailed notes regarding the instructors’ responses, and then typed them immediately following our conversation. Although the focus of the study is centered on the students’ experience with the interpersonal audio discussions, the instructor interviews added information regarding how this technology fits within the instructional design of introductory-level L2 classrooms. Reflecting on instructors’ own words from the interviews added to the discussion on instructors’ opinions of interpersonal audio discussions in L2 classrooms as well as offered outlooks on pedagogical implications for the VT technology in this context.
CHAPTER 4
STUDENTS’ PERCEPTIONS OF PRONUNCIATION

This chapter addresses RQ1 by examining how participation in pronunciation-focused activities facilitated through interpersonal audio discussions influenced students’ perceptions of pronunciation skills in introductory French courses. Using the emergent mixed methods research design, which borrows elements from explanatory and exploratory research designs (Creswell & Clark, 2007), I analyzed quantitative and qualitative data with equal priority to investigate (a) how participation affected students’ opinions of developing the skill of pronunciation and (b) how perceptions of their own performance in pronunciation-related tasks changed. In order to adequately explore students’ experiences in pronunciation development over the duration of the study from more than one viewpoint, steps taken to analyze data interacted not only in the research design but also in the analysis. Therefore, judgments concerning which data and analyses would best answer RQ1 continuously evolved and were not pre-determined, a characteristic of flexible, emergent research designs.

Through the mixed-methods design and analysis of both data sets, three overarching themes were established with regard to students’ perceptions of pronunciation skills: (a) introductory-level students’ opinions about learning pronunciation, (b) the sociocognitive effects of participation on pronunciation, and lastly, (c) the efficacy of interpersonal audio discussions in relation to students’ goal-setting behaviors in pronunciation development. Themes A and C were derived from the qualitative assessment of open-ended response items from questionnaires.
(Appendices A & K) and journals (Appendix G). By performing close, interpretive readings of students’ open-ended responses, main ideas and key words from students’ comments with regard to the skill of pronunciation specifically were combined and categorized. Then, recurring ideas were grouped to distinguish patterns. When necessary, patterns that emerged were coded and subsequently quantified in order to sum up the qualitative analysis or perform statistical tests. These textual analyses represented the exploratory phase of the analysis and revealed information concerning the participants’ opinions about pronunciation’s place in their L2 learning experience (Theme A). Investigating the students’ opinions assisted in understanding factors that influenced the level of importance they placed on the development of pronunciation skills before, during, and after their participation in the interpersonal audio discussions. To continue with the exploration of the qualitatively oriented questionnaires, I also share results in this chapter that elaborated on how interpersonal audio discussions were successful in helping students to reach their desired outcomes for the introductory course. Finally, I present how students’ goals correlated with pronunciation development (Theme C).

In addition to qualitatively investigating students’ opinions regarding the importance of developing pronunciation skills as part of their L2 experience and their ability to reach goals they had set for the semester, the present study used self-evaluation techniques to monitor any quantitatively oriented changes. Students reviewed their own recorded contributions in the collaborative VT conversations which assisted in investigating the sociocognitive effects of participation in interpersonal audio discussions and determining how they perceived their pronunciation abilities at different points in time (Theme B). Changes to students’ scores were assessed quantitatively by Wilcoxon signed-rank tests. Theme B presents self-reported data representative of the students’ own reflections on their pronunciation skills, a method also used
in prior research to track estimated levels of WTC over a period of time (Saint Léger and Storch, 2009). This statistical test was selected because it is commonly used for non-parametric tests of repeated measures at two points in time. Also, the test assumes that the participant population is the same in both circumstances in order to determine any significant changes between the two (Laerd, 2014e). Therefore, Theme B represents shifts in students’ opinions of their own pronunciation skills that occurred over the duration of their participation in the interpersonal audio discussions as they self-evaluated their performance after each VT activity.

By using the SA forms (Appendix E) to ask students about pronunciation-related tasks specifically – accuracy, fluency, and comprehensibility – I was able to gauge how they viewed their progress toward goals in pronunciation achievement and the factors that were revealed as influential to reaching pronunciation-related objectives. Part 3 of the SA form that addressed performance of pronunciation-related tasks (Items 1 through 3) pinpointed aspects of pronunciation that students felt were easy or difficult when participating in the interpersonal audio discussions. These tasks were categorized by the terms accuracy (ability to produce French sounds), fluency (naturalness and rate of speech), and comprehensibility (how much was understood). The aspects of pronunciation discussed here are representative of pronunciation development by addressing the same categories that were used in the rater form provided by the instructor (Appendix F). Furthermore, the nine items included in the Wilcoxon signed-rank tests addressing these aspects of pronunciation were found through a reliability analysis to be acceptable measurements and demonstrated internal consistency ($\alpha = .776$). All quantitative data sets from the student SA forms are made up of a sample size ($n$) of 36 participants as one student did not complete all of the SA forms and was excluded from the analyses. In order to elaborate on some of the quantitative results gleaned from the SA forms, a qualitative analysis of the
students’ responses to open-ended journal entries illustrated the dynamic nature of pronunciation development. Excerpts from qualitative data collection instruments further explicated why participation in interpersonal audio discussions resulted in changes to students’ perceptions of pronunciation skills.

In conclusion, the quantitatively oriented approaches primarily relied on Wilcoxon signed-rank tests because these tests, according to Boduszek’s (2014) explanation, can be used to determine if there were any significant changes in self-reported scores students used (or quantified scores derived from qualitative data) between the beginning and end of the study. Also, when addressing all themes, close readings were performed on textual responses associated with a particular theme, and useful segments were extracted to further illustrate and verify initial findings. Whether following exploratory or explanatory research methods during the emergent research process, the analysis focused on establishing common, recurrent patterns that were given precedence in order to establish salient factors that contributed to students’ perceptions surrounding pronunciation skills.

**Students’ Opinions of Developing Pronunciation Skills Through Interpersonal Audio Discussions**

Because the present study was conducted in an introductory-level course where the development of a variety of L2-related skills was encouraged, it was important to understand students’ opinions about pronunciation learning in relation to these other skills. Moreover, establishing their opinions toward pronunciation helped to discover if their experiences over the course of the semester with the interpersonal audio discussions influenced their existing opinions. Using an explanatory research technique, the pre- and exit-questionnaires (Appendices A & K) were analyzed qualitatively to reveal common patterns in students’ opinions about which skills were the most important to develop during the semester. These patterns were then
categorized and quantified. After the quantification, themes were revealed in the analysis that assisted in understanding students’ opinions concerning pronunciation development. First, among the present study’s sample of introductory learners, pronunciation was not perceived as valuable or useful when compared against other L2-related skills. Additionally, pronunciation was not viewed as a distinct proficiency learned independently from other skill sets. Despite pronunciation’s presence through a focus on the skill in interpersonal audio discussion activities, students expressed uncertainty concerning pronunciation’s place in their L2 learning experience.

**Pronunciation a Low-Priority Skill**

Questionnaire items (Item 1 from Part 2 on the pre-questionnaire and Item 1 on the exit-questionnaire) asked students to identify which skills were most important during an introductory course, for example: vocabulary, grammar, reading or listening comprehension, writing, etc. These items on the questionnaires were open-ended responses, and there were no restrictions given regarding how many skills could be listed. Therefore, the number of skills mentioned surpassed the number of participants in the study. Category suggestions were offered to students on this item; some students chose to reference them whereas others gave more illustrative examples of topics they felt were important or listed skills that were not provided on the questionnaire item. As explained in the methodology chapter, a textual analysis was performed on all participants’ responses which were grouped into categories, and then quantified as shown in Figure 4.1. There were a total of 97 skills mentioned on the pre-questionnaire item. Likewise, on the exit-questionnaire, students were asked to identify which skills they felt were most important for others learning French after reflecting on their experiences during the semester. There were 73 mentions of important skills on the exit-questionnaire item. Figure 4.1 illustrates
changes in the perceived importance of various language-related skills between the beginning and end of the semester.

![Figure 4.1. Changes in students’ learning priorities from the pre- to exit-questionnaire demonstrating the perceived importance of various language-related skills from the beginning (dark grey bar) to end (light grey bar) of the semester.](image)

The categories presented in Figure 4.1 gauge students’ opinions of each skill mentioned and its relevance to their learning experience. The results in Figure 4.1 suggested that both at the beginning and end of the semester, students’ priorities in pronunciation learning did not fluctuate greatly despite more emphasis being placed on pronunciation through the introduction of interpersonal audio discussion activities. For example, listening comprehension (30%), grammar (23%), and vocabulary (22%) made up three-quarters of all important skills mentioned at the end of the semester whereas pronunciation represented only 14% of skills mentioned by students.

Concerning other skills associated with L2 oral output, the most significant decrease of 9% (from 12% to 3%) occurred among students who felt that conversational skills were an important
aspect of learning French. Furthermore, no students reported that they would advise future learners to focus on fluency on the exit-questionnaire. These percentages indicated that students were generally not focused on pronunciation development. Consequently, findings suggested that the interpersonal audio discussion experience did not elicit any notable changes in students’ opinions about pronunciation as a valued skill in their second-semester French course. Building upon this result, the study’s objective was to discover more about MIP and variables that affect it. Therefore, further analysis of the questionnaires was aimed at determining the underlying issues that shaped students’ perceptions of pronunciation in L2 learning and discovering why pronunciation was not prioritized when considering important skills to learn during their L2 experience.

**Students’ Opinions of Pronunciation**

Despite the finding that pronunciation received little priority in the second-semester French course, nearly all participants (95% or 35 out of 37) stated on the pre-questionnaire that they felt it was important to develop an accurate French pronunciation (Item 2), and every participant (100%) thought that they needed to make improvements in their existing set of pronunciation skills (Item 3). Such results prompted me to continue to question pronunciation’s potentially ambiguous status in the present study’s participant sample and investigate how they appropriated pronunciation development within their L2 experience. The qualitative analysis of pre- and exit-questionnaire items that collected data on pronunciation from the students’ perspective suggested that uncertainty regarding pronunciation lingered for two reasons: (a) pronunciation was viewed as a way to enhance other skills and (b) there was a lack of distinction between pronunciation and other skills among introductory-level learners. The consequences of these perceptions, particularly the latter, were that pronunciation was associated with a skill set
that learners presumed they would acquire without being taught explicitly. Thus, the
development of pronunciation stemmed from the acquisition of other skills and unplanned
experiences that afforded opportunities to hone pronunciation.

**Pronunciation is a secondary skill.** Students’ comments from the exit-questionnaire
items regarding important skills to learn in second-semester French (Item 2) and the importance
of pronunciation specifically (Item 3) demonstrated that over half of the participants (24 out of
37 or 65%) viewed their oral, communicative abilities and pronunciation development as a
secondary product of continually expanding on existing L2 knowledge they gained from topics
covered in classroom instruction. To exemplify this finding, students often identified different
skill sets from which abilities related to speaking, such as pronunciation, emanated. Remarks
from students showed a tendency to focus efforts outside of pronunciation, such as “you really
can’t build to really prosper in the language” if there is not first a strong “foundation of the
grammar and vocabulary.” This comment implied that characteristics the student believed would
enhance oral communication – for example, accurate pronunciation or improvements in
accentedness or comprehensibility – did not precede basic building blocks, referring to the
structure and lexicon. In a similar comment, one student noted that “learning the vocabulary and
writing skills will help you form a basis to build on,” also citing that listening comprehension
and pronunciation were “the hardest part” and suggesting that they developed after other skills
had first been acquired. Another student commented: “I think it is key to work to broaden your
vocabulary first so that you can hear it when spoken. If one can master this, all of the others
[skills] will naturally follow.” Through their emphasis on the importance building a foundational
skill set, students’ thoughts provided examples of how introductory-level students situated what
they perceived to be basic skills first as a prerequisite to pronunciation development, for example
conjugating verbs and retaining vocabulary before mastering the sounds of the French alphabet. As one student implied, pronunciation development was an upshot of progress in other areas because she stated that “vocabulary and grammar are what help you form a sentence, and the pronunciation allows you to speak it properly.” Her opinion suggested that learners must “be able to make sentences…to know what to say” before addressing other skills such as pronunciation. As a result, pronunciation development was revealed through analysis as a future-oriented, more advanced skill in the second-semester French course, rendering it of secondary importance to students.

**Pronunciation is a multi-skill.** Around half (51% or 19 out of 37) of students mentioned pronunciation specifically on Item 1 of the pre-questionnaire that asked them to list skills they felt were important for them to learn during the semester. Forty-two percent of this particular group (8 out of 19) reported that they included pronunciation in the list because they wanted to improve conversational or speaking skills in French, giving a variety of examples to describe how an emphasis on pronunciation achieved this goal. Although over half (58% or 11 out of 19) did not cite specific reasons why they listed pronunciation on the pre-questionnaire, qualitative analysis of the more detailed responses given by 22% of all participants (or 8 out of 37) helped to explicate the perceived value of the skill during the L2 learning experience. The notion that communicative skills could be improved through gains in pronunciation was expressed through opinions that learning pronunciation would help students “speak the language better than [they] currently can” or “improve conversational French.” At the end of the study and after having participated in all interpersonal audio discussions, approximately half of this same group of students (48% or 9 out of 19) mentioned pronunciation again on the exit-questionnaire when asked which skills were important to succeed in a second-semester French course; this
represented about one quarter of all participants (24% or 9 out of 37), down half from the amount of students who felt it was important on the pre-questionnaire. An additional 22% of students (8 out of 37) mentioned speaking or conversational skills on either the pre- or exit-questionnaire (or both) but did not cite pronunciation specifically on either instrument. Neither of those options—speaking nor conversation—was provided as suggested answers on the questionnaires. I connected the fact that so many students had initially indicated that they felt pronunciation was very important yet failed to connect it to valuable skills to learn in the second-semester French courses with the possibility that perhaps pronunciation had been absorbed into another skill set, such as developing speaking or conversational skills.

To further explore my intuitions, I focused on the trend of referring to conversing orally, one that was exemplified by the students’ own reflections about using the L2 in this way. For instance, a student commented on the exit-questionnaire that the most challenging task in French was to be engaged in conversation because it was difficult to “understand someone who is speaking quickly” and to “quickly formulate responses in conversation.” He had previously pointed out speaking skills as a weakness on the pre-questionnaire and said that “pronunciation was the most important part of speaking” when asked if he needed to improve pronunciation skills, thus linking pronunciation to speaking. His remarks implied that pronunciation was a contributing factor to both the input and output of the L2 during communicative exchanges, but he never excluded it as a separate skill to develop. Similarly, another student made reference to the development of speaking skills without noting pronunciation as a separate skill set. She pointed out on the exit-questionnaire that “good pronunciation” led to “comprehension of oral exercises.” Likewise, she noted that pronunciation improved “how she came across to others” when speaking and that it would help with listening comprehension to better know “how to
decipher what others say.” In relation, a student listed vocabulary as an important skill and associated it with speaking, implying that this skill was critical so that “…you can hear it [vocabulary] when spoken.” The student later commented in another questionnaire item that pronunciation “…is very important” because “one syllable can change the whole meaning of the word making it difficult for someone to comprehend what you are trying to tell them.” Although the student never referred to learning accurate pronunciation along with the acquisition of vocabulary words in the same questionnaire item, pronunciation was encompassed in a skill that the student felt was necessary for success in the course.

The aforementioned qualitative extracts are representative of the observed trend that although students believed pronunciation was important, they did not cite the development of this separate skill as crucial to their success in the second-semester course. Furthermore, they bundled the skill of pronunciation with other, more essential skills in such a way that it was presumed they would need to hone pronunciation as part of their efforts to improve in areas they identified as most important to their success. To elucidate, a multi-skilled person is defined as someone who has a number of different skills thereby enabling them to do more than one kind of work. I interpreted students’ perceptions of pronunciation in such a way that their remarks indicated that they viewed pronunciation as a multi-skill – a skill that permitted them to improve in multiple L2-related skill sets. The finding that pronunciation was viewed as a multi-skill corroborated my initial inclinations that pronunciation was embedded within students’ opinions of important skills to learn. Indeed, the introductory-level students recognized that they were deficient in making their speech understood despite large vocabularies or sufficient listening comprehension skills, common characteristics of students in communicative classrooms (Breitkreutz et al., 2009). In conclusion, students in the present study demonstrated signs that
although they were focusing on other skill sets, pronunciation was not something they could ignore as it would ultimately affect their self-defined bottom line.

**Summary of Students’ Opinions**

Through analysis of both questionnaires, findings indicated that although the development of pronunciation skills was not viewed as critical to the course, students were concerned with using the language orally to communicate. Thus, when taking into account the comments mentioning speaking, conversation, or pronunciation, results showed that about half (46% or 17 out of 37) of the participants were focused on skills surrounding the ability to use French orally with other L2 speakers or NSs. Despite the significant number of students who wanted to improve speaking or conversational skills, they did not overwhelmingly demonstrate clear links between improved communicative abilities in the L2 and the development of pronunciation skills (Kennedy & Trofimovich, 2010). Rather, they indirectly made references to how pronunciation helped them further the skills that they felt were most important and did not distinguish pronunciation as a separate skill. To exemplify the finding that pronunciation was disguised as an important skill contributing to students’ desired outcomes for the course, I share some remarks from a student about pronunciation: “…it’s [pronunciation] precisely how you communicate with someone. If they can’t understand what you’re [sic] saying, then y’all [sic] can’t hold a conversation.” Therefore, in the present study, analysis indicated that when it comes to students’ perceptions of pronunciation, the skill continued to be frequently misunderstood and unrecognized (Cecle-Murcia, Brinton & Goodwin, 1996). The finding that pronunciation’s status was important yet uncertain was demonstrated by students’ frequent mention of how pronunciation affected reaching goals, and then the juxtaposition of such mentions with the observed inability to directly link the development of pronunciation skills to a specific outcome.
Sociocognitive Responses When Participating in Interpersonal Audio Discussions

Because pronunciation development was situated within the social interactions of the interpersonal audio discussions, the analysis sought to discover how this environment affected opportunities for pronunciation learning and student cognition (Atkinson, 2002). Students shared their personal experiences in developing pronunciation skills by responding freely to journal prompts (Appendix G). Eighty-nine percent of students (or 33 out of 37) gave an insider perspective on how they believed they were progressing in the development of pronunciation skills in Journal 2. Each student’s journal entry was read closely, and words relating to pronunciation categories – accuracy, comprehensibility, or fluency – were highlighted. In Journal 2, students overwhelmingly focused on accuracy and fluency with no specific mentions or inferences to comprehensibility. For example, if a student referred to the fluidity of their speech, this comment was assigned to the corresponding category of fluency. Some students mentioned more than one aspect of pronunciation whereas others may have mentioned only one category. Others did not point out anything particular to pronunciation at all but rather focused on the idea of “just keep practicing” with the hopes of making overall improvement. Table 4.1 shows how often students reported having reflected on a particular aspect of pronunciation in Journal 2.

Table 4.1
Students’ Reflections on Progress in Pronunciation Skills, n = 34

<table>
<thead>
<tr>
<th>Pronunciation category</th>
<th>Number of mentions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>18 (53%)</td>
</tr>
<tr>
<td>Fluency</td>
<td>16 (47%)</td>
</tr>
</tbody>
</table>
Table 4.1 demonstrates that students showed instances of emergent pronunciation development generated by their participation in the interpersonal audio discussions. According to the table, students reacted most frequently to pronunciation accuracy (mentioned 18 times), followed by fluency (mentioned 16 times). Furthermore, mentions of specific aspects of pronunciation as reported in Table 4.1 suggested that they recognized and manipulated knowledge about pronunciation as a result of their increased pronunciation awareness and development afforded by the pronunciation-focused interpersonal audio discussion activities. To determine how students’ interactions in the VT environment affected cognition over the course of the semester, I looked again at the journal entries for instances of when students pointed out either (a) a difficulty that they were experiencing or (b) an instance where they felt that had learned something new about pronunciation. The mixed methods approach used during the analysis suggested that there were sociocognitive changes within students regarding all three aspects of pronunciation: accuracy, fluency, and comprehensibility. The following subsections provide illustrative comments taken from the journal entries and statistical results gleaned from self-reported scores representing their perceived performance in pronunciation as a means to describe the unobservable cognitive processes related to pronunciation development within the specific interactive context of the interpersonal audio discussion activities.

Changes to Perceptions of Accuracy

**Qualitative findings.** Students made references to their perceptions of progress in pronunciation accuracy 18 times in Journal 2. As one student pointed out with regard to pronunciation accuracy, “the physical parts [of the language] such as using your tongue or shaping your mouth . . . provide a challenge.” Citing some difficulty in accurate production of the L2 is consistent with prior research maintaining that individuals who begin learning an L2
near the end of the supposed *critical period* may struggle in tasks related to human speech (Piske et al., 1991). The critical period hypothesis in second language acquisition maintains that changes to brain structures occurring with age adversely affect learners’ abilities to learn and process language (Flege, Yeni-Komshian, & Liu, 1999). A positive outcome of this difficulty, as indicated in the analysis, was that students saw opportunities to increase their knowledge about pronunciation accuracy because they felt deficient in this area and had limited experience in studying and learning the phonological system. For example, another student remarked, “I also need to improve on some of the French phonetics; I find those particularly difficult.” This same student continued with the statement that “by doing VoiceThread, I have improved [in accuracy].” Here, the student has not only identified accurate pronunciation as a difficult task but also connected improved performance in accuracy to participation in VT activities. Similarly, a student in Journal 2 commented that she had been successful in making “r's come across less harsh and, for lack of a better term, like I'm hocking up something.” In her remarks, there is a latent observation that she engaged in continued practice of a difficult pronunciation and continuously evaluated progress in VT. Although her ability to more accurately produce the French “r” was a result of learning and cognitively oriented, she developed this skill through collaborations with classmates in interpersonal audio discussions, thus integrating learning and environment (Atkinson, 2012).

Sociocognitive responses in students further suggested that everything – mind, body, and environment – were connected (Atkinson, 2012). A student commented, “I thought that it was almost impossible to replicate certain sounds that are not native in the English language, but through practice [in VT] I believe that I will be able to get better. . .” Furthermore, a student who had chosen to imitate her instructor as her ideal speaker in Journal 1 (Appendix E) commented
that emulating this person during speaking activities had “improved my pronunciation of vowels...” The students’ comments exemplified that through the experience of using interpersonal audio discussions to focus on pronunciation skills, perceptions about the difficulty of producing accurate French sounds had changed for the better. The students indicated that the social context interacted at the cognitive level, not only affecting learning but also perceptions of difficulty and self-confidence. Purposefully trying to “copy the French speakers” produced this reflection by yet another student who gave details about efforts to develop pronunciation accuracy:

... It is a difficult process to learn a new language and to try to implement the same sounds that are being used when they are so different from our natural language. I have had to go back and practice multiple times to get the pronunciation close to being correct. Now that I am getting better on my pronunciation my next step is to understand the different sounds and what they look like when written down so it is easier to decipher them when seeing a new word.

This comment describes steps that the student was taking to focus exclusively on accuracy, for example, through repeated practice and phonemic and phonological recognition activities. Consequently, textual analysis suggested that developing pronunciation through focused practice resulted in positive changes with regard to students’ cognition and perceived ability to accurately produce French sounds, exemplified by the aforementioned students’ isolation of the development of L2 pronunciation. To further provide evidence of the cognitively oriented changes that were influenced by “human and nonhuman…interactants” (Atkinson, 2012, p. 162), I present results from the quantitative analysis of students’ perceptions of their performance in pronunciation accuracy.

**Quantitative results.** Concerning how students’ perceived their ability to accurately produce French sounds, the quantitative analysis of Part 3 of the SA form (Appendix E), which
asked students to score their perceived level of difficulty of pronunciation-related tasks at three points in time during the semester, revealed a notable difference in scores. One-third of students (33% or 12 out of 36) noted that “imitating and producing a French pronunciation when speaking” seemed less difficult between VT1 and VT3, producing a statistically significant result ($Z = -2.134, p < .05$). Regarding the category of accuracy, there was mean score of .86 on VT1 versus a mean score of 1.11 on VT3, denoting that students gave higher scores to pronunciation-related tasks on VT3. Higher scores were representative of the student indicating that tasks related to accuracy were “easy or very easy” more often. Consequently, statistical results from the students’ SA forms suggested that participation in the interpersonal audio discussions influenced perceived performance regarding pronunciation accuracy because students reported changes between the first and last time they participated in the audio discussion activities.

Additionally, on Part 4 of each student SA, participants indicated what they believed to be their strength and their weakness concerning participation on the corresponding VT activity from the same categories: accuracy, fluency, and comprehensibility. Figure 4.2 shows how the category of accuracy fluctuated in terms of whether or not students perceived it as a strength or weakness over the course of the semester.
Figure 4.2. Students’ rankings for accuracy demonstrating their perceived strengths and weaknesses of the skill throughout the study.

Figure 4.2 demonstrates that weakness rankings remained unchanged for the category of accuracy between VT1 and VT3 (31%) on Part 4. It also points to a spike in the perceived level of difficulty after VT2, suggesting that perceptions about accuracy fluctuated during the semester. The increased instances of accuracy being reported as a weakness after VT2 was consistent with students’ reports detailed earlier in Journal 2 (completed just after participation in VT2) where they spoke about the challenges they experienced while developing the skill of accurately producing sounds in the target language.

Changes to Perceptions of Fluency

Qualitative findings. Out of the 16 students who mentioned fluency in Journal 2, about half (44% or 7 out of 16) acknowledged that they had used the interpersonal audio discussions and complementing feedback activities to monitor their fluency which left them feeling “more confident” during participation regarding the naturalness and the rate of their speech. L2 segmental accuracy – also termed suprasegmentals or aspects of speech such as stress and...
rhythm that affect fluency – tends to be associated with L2 experience, but is a process that occurs soon after initial L2 learning (Trofimovich, 2006). Thus, the sentiment of a student that stated “... the more I speak French, the more I learn to ... develop a smoother style” was reflective of the participant sample. This general opinion could not necessarily be linked to participation in interpersonal audio discussions. However, in other cases, students’ emic perspectives from the journals revealed associations between the pronunciation-focused activities and fluency. An increase in students’ comfort level concerning fluency was observed, as illustrated in this comment from one student: “In this past activity, I feel that I did achieve more fluency and accuracy. I felt that my sentences flowed better.” Referring to “the activity” in the prior comment connected the students’ improved perceptions with the interpersonal audio discussions specifically. Another student reflected on feedback from the instructor after participating in VT as well as her own self-evaluation and commented, “I believe that with more practice and learning how to pronounce the words faster will help me improve my fluency.” Additionally, a student remarked that emulating her instructor’s pronunciation during speaking activities had “… improved…the way I connect my words,” referring to using the liaison and enchâinement in French which are aspects of pronunciation that mark phonetic cohesion between words by linking the sounds. L2 linking is associated with fluent speech and can affect listening comprehension (de Moras, 2014; Hieke, 1984); thus, sensing improvement in this aspect of pronunciation suggested that she perceived her speech to sound more fluent. These comments demonstrated a sociocognitive interaction between the activity context and students’ perceptions: for example, changes to perceived L2 competence and L2 self-confidence because the students either reported more positive perceptions of their performance in fluency or displayed the belief that they had the potential to continue improving.
On the note of sociocognitive responses in students regarding fluency, interpersonal audio discussions were useful in helping students further evaluate this aspect of pronunciation. Students took advantage of opportunities to receive feedback and later applied it to their learning experience in hopes of improving fluency. One student made note of progress in fluency by stating that “according to my professor's feedback, my speed has increased throughout each activity.” Another student remarked, “On the rubric, I was counted off mostly on my rate of speech, but I do not know if I should slow down or speed up.” Pausing and rhythm are two features of suprasegmentals that influence perceived fluency, thus the students’ words implied that there was a need for more specific feedback in order to appropriately address fluency in future activities. In addition to feedback from the instructor, VT’s format allowing users to go back and listen to their contributions was another resource that students used. Developing an awareness of changes in fluency was apparent in students’ comments. For example, one student felt that “the activities are helping me improve [fluency] by being able to continually hear myself speak.” The student’s comment exemplified that the increased exposure to his specific recordings – another form of input – resulted in learning and developing of the particular skill of fluency.

Although many students mentioned fluency specifically in the journal (48% or 16 out of 34 mentions), not all students reported improvements. For example, one student wrote, “I feel like with certain pronunciation types, I have improved. However, overall, my pronunciation skills still need a lot of work. I am trying to work more on making my speech less stilted and more natural.” The word *stilted* is defined as an unnatural or awkward manner of speaking, according to Merriam-Webster’s dictionary. Thus, the student referred to fluency by noting that she wanted to continue to hone her ability to use prosodic forms that were characteristic of the
target language – for example, improvements to L2 stress and intonation. Her comment also reflected the finding that near the end of the semester, students reported that fluency continued to be a difficult skill and felt that their performance remained weak, a quantitative result presented in the next section. Whether or not the students reported improvements, their insider perspectives into pronunciation development attained through the journal responses indicated that they used interactions available through the technology to monitor and focus on fluency, thus changing perceptions concerning the development of this skill and exhibiting sociocognitive responses as a result of participation.

**Quantitative results.** Similar to the aforementioned category of accuracy, the analysis demonstrated that fewer students (16 in VT3 versus 22 in VT1) reported difficulty in perceived ability to speak fluently in Part 4 of the SA form (Appendix E), down 17% in VT3 from VT1. Figure 4.3 shows the decline in students who felt that fluency was their biggest weakness over the course of the semester.

![Figure 4.3](image)

*Figure 4.3. Students’ rankings for fluency demonstrating their perceived strengths and weaknesses of the skill throughout the study.*
Although fluency was perceived as a less difficult task after VT3, as shown in Figure 4.3, around half (44%) of students still felt that improving fluency was their biggest challenge at the end of the semester. Fluency received higher weakness rankings at the end of the semester when compared with accuracy and comprehensibility. Furthermore, the results of a Wilcoxon signed-rank test revealed that not many students changed the scores that they assigned to their self-evaluation of fluency between the first and last activity, a result reflective of the aforementioned qualitative findings.

**Perceptions of Comprehensibility**

A Wilcoxon signed-rank test pointed to a noteworthy difference \( Z = -2.12, p < .05 \) in self-reported scores concerning performance in comprehensibility between VT1 and VT3. The test showed that 42% (15 of the 36 students who completed all SA forms) reported less difficulty regarding the ability “to speak in a clear and understandable manner that requires little or no interpretation on the part of the listener” with an increase in a mean score of .92 on VT1 compared to a mean score of 1.22 on VT3. These test results implied that participation in interpersonal audio discussions influenced students’ opinions of their performance in the category of comprehensibility as well. Figure 4.4 demonstrates how comprehensibility was consistently ranked by students (20 students in VT1, 15 students in VT2, and 19 students in VT3) as a strength on Part 4 of the SA form rather than a weakness over the duration of the semester.
Figure 4.4. Students’ rankings for comprehensibility demonstrating their perceived strengths and weaknesses of the skill throughout the semester.

Although there was a peak in students identifying comprehensibility as a weakness at the end of the semester as seen in Figure 4.4 (25% in VT3 compared to 8% in VT1), it was consistently perceived by students as their strongest area of performance regarding pronunciation-related tasks throughout the study. The Wilcoxon signed-rank test demonstrated a significant, positive change in students’ perceptions of their comprehensibility. Therefore, Figure 4.4 suggests that although students noted improvements in this aspect of their speech, their opinions of which skills were their strongest and weakest points fluctuated independently of the self-reported scores that they designated to a particular skill throughout their ongoing participation in the interpersonal audio discussions. In conclusion, the lack of students having mentioned comprehensibility qualitatively in Journal 2 (hence, the absence of a qualitative subsection regarding comprehensibility) to some extent verifies the quantitative outcome that students were not as concerned with this aspect of pronunciation and generally perceived their performance as strong in this category. Consequently, because quantitative results suggested that
students positively reacted to interactivity in VT when honing the pronunciation-related skills of accuracy and comprehensibility – based on the statistically significant changes associated with their perceptions of perceived performance – results implied that VT is a promising tool for introductory-level students when developing these areas of pronunciation skills.

The Effectiveness of Interpersonal Audio Discussions on Reaching Goals in Pronunciation Development

The analysis, thus far, resulted in findings indicating that students in the participant sample experienced cognitive changes in pronunciation development that were associated with social context – in the present study, an interactive, collaborative environment called VT. Furthermore, findings implied that despite their reported desires and high level of motivation to improve pronunciation skills at the beginning of the semester, other areas of L2 proficiency were more heavily weighted with regard to success in the course. Therefore, results suggested that participation in the pronunciation-focused interpersonal audio discussion activities throughout the semester did little to influence students’ estimations of the skill as an important one to develop. Predictably, students did not explicitly connect their overall goals for the course to the development of this skill. As a result, when analyzing the data to determine students’ desired outcomes and notions of success regarding the second-semester French course, I kept in mind how the skill of pronunciation may have played a role in reaching goals because the qualitative analysis suggested that students were unable to identify pronunciation as a separate skill. The inability to isolate pronunciation suggested that students may have also been unable to connect desired outcomes to the skill or recognize effects of the development of this skill. Therefore, the next step in the analysis sought to discern if and how students’ positive reactions could shed any light on effectiveness of using interpersonal audio discussions to develop pronunciation skills. This part of the analysis was purely exploratory and sought to highlight potential domains of
pronunciation teaching and learning that could be influenced by the implementation of interpersonal audio discussions. Therefore, in this section, I focus on students’ experiences while developing pronunciation skills in VT during the semester to (a) discern students’ goals and to (b) discuss how students used the pronunciation-focused tasks to help them achieve L2-related goals.

**What Were Students’ Goals?**

A textual analysis was performed on pre-and exit-questionnaire items (Appendices A & K) asking students to list important skills. This close reading revealed a commonality in all responses: students associated skills that they had listed with each skill’s potential to help meet certain expectations or goals. Students explained their selections by offering reasons as to why those particular skills were the most important. The analysis indicated that at the end of the semester, the categories of listening comprehension (30%) along with skills related to grammar (23%) and vocabulary knowledge (22%) were the top three areas of language learning that students felt were most valuable in reaching their goals. These categories also represented the skills that increased the most (in how many times they were mentioned) between the pre- and exit-questionnaires. Despite the fact that each and every student had a different opinion of the skill set that was most valuable, coding the reasons they had given revealed the overarching theme that students’ estimations of skills were connected to their personal beliefs about how one reaches the ideal state of successful communication in the L2. The majority of students (73% or 27 out of 37) made reference to the desired outcome of being able to successfully communicate in the target language on Item 2 of the exit-questionnaire (Appendix K), often expressing the necessity of having a good understanding of the information being exchanged during a conversation. Consequently, when listing the skills that were important to succeed in the course
at the end of the semester on the exit-questionnaire, students justified their choices by expressing that a focus on the skill (or skills) they chose would lead to understanding enough French to be an effective communicator, in their opinions. To demonstrate the focus on effective communication, students remarked that “…if you can’t communicate in French, there is really no point in trying to learn it” and “the whole point of taking a language class is to learn how to speak and understand that language.” Students also reported that they aligned their overall course goals with being “able to communicate with native French speakers” or knowing “what things are in French and understand when being spoken to.”

In upcoming sections, I use the terms effective communicator, effective communication, and even successful communication to paraphrase the many descriptions of outcomes that students desired when explaining (a) why certain skills were more important than others and (b) the qualities associated with their ideal state of L2 communication. Their self-reported definitions of these terms corresponded most to intelligibility or comprehensibility, terms used within the field that generally describe the degree to which speech can be understood. Another reference to effective communication can be found in Pawlack’s (2011) chapter on L2 phonology where he cites Morley’s (1996) use of the term functional communicability. Functional communicability is also reflective of the type of communicative exchanges described by students and is defined as “the ability to function successfully in communicative situations encountered” (p. 167).

**Students’ Goals and the Ideal L2 Self**

The desire to have successful communicative exchanges in the L2 indicated students’ goals were integratively oriented – meaning they desired to learn the L2 in order to communicate and become closer with members of the L2 community (Dörnyei & Ushioda, 2009). Because
students were focusing on what they might someday be able to do with the language (communicate with NSs or other L2 speakers), or equally tasks that they would like to be able to perform in the L2 (speak and understand the language), their goals characterized the concept of possible selves. Of particular interest is the ideal self that represents the qualities someone would ideally like to possess (Markus & Nurius, 1986). Dörnyei (2010) argued that when there is a correlation between learners’ motivation to learn the L2 and the learners’ ideal self, the result is the existence of an ideal L2 self. Because students emphasized the desire to be effective communicators in French, they exemplified cognitive representations of “…incentives associated with L2 mastery” (Dörnyei, 2010, p. 79) and the L2-specific side of their ideal self.

**Developing the ideal L2 self through increased listening comprehension.** Because students pointed to intelligibility – or effective communication – as a desired result and an attribute of their ideal L2 self, listening comprehension played a large role in achieving that goal because intelligibility involves both speaking and listening comprehension (Gilbert, 2012). About one-third of students (30% or 22 out 73) mentioned skills associated good listening skills with effective communication, using the term listening comprehension with words such as conversation, respond, or communicate. The following quotes linked listening comprehension with the main goal of successfully communicating with other L2 speakers. One student commented, “Listening comprehension [is]…also key because it is much harder to go to France and have conversations with people than to write it down on paper.” The student implied that without listening comprehension skills, he felt that he might not understand or be understood, resulting in being cut off from the language except through its written form. Another student echoed this opinion and said that “It doesn’t matter how much you know, if you don’t know what the person you’re conversing with is saying, you won’t be able to respond.” The idea of being
unable to maintain conversation was described by another student who focused on listening comprehension through the reflection that, “In the real world if you can’t understand someone speaking to you, then you are pretty much stuck.” Here, the student expressed that despite good pronunciation or a large vocabulary, speakers cannot use those skills in conversation without first understanding their interlocutors. Other students conveyed the importance of listening comprehension by commenting that it is necessary to be understood “when being spoken to,” adding “…if you can’t understand others, you’re practically useless…” Consequently, a focus on listening comprehension was one characteristic of the ideal L2 self because it represented linguistic advancement – or a promotion focus of the ideal self-guide (Dörnyei, 2010) – as well as being able to effectively communicate. In other words, listening comprehension was singled out as the most important skill by about one-third of students because they felt that proficient listening skills would prevent linguistic breakdowns, consistent with the prevention focus of an ought-to self-guide – part of the L2 motivational self-system – that helps students avoid negative outcomes (Dörnyei, 2010).

Additionally, listening comprehension was associated with pronunciation development, illustrated by the comment that “Listening comprehension is very important to focus on because even if you know all the words, the accents you sometimes must listen to make it hard to understand.” The student referred to the accentedness of speech and how the production of French sounds affect communication. Whether this student was alluding to a need for accent reduction or accent addition – or increasing the clarity of accented speech (Gilbert, 2012) – she acknowledged that pronunciation influenced listening comprehension, thus affecting the desired outcome of effective communication. Students who cited listening comprehension as an important skill to learn also associated pronunciation with speech intelligibility, meaning that
they recognized that trouble during communication could be the result of pronunciation difficulties. Another student wrote, “…if your listening skills do not balance out with your reading skills, you will never be able to have a full conversation with someone because it [the L2] sounds different than it looks.” Here, the student made reference to the fact that pronunciation rules govern how spoken language is produced orally, and then interpreted by interlocutors. Furthermore, the student expressed underlying knowledge that certain sounds in French are not pronounced as they appear in the written form, for example, silent consonants in French. Therefore, students highlighted listening comprehension because it “…helps a person to comprehend and know how to respond.” Although they did not always explicitly link pronunciation to listening comprehension, they implied that pronunciation was a factor that influenced speech intelligibility, listening comprehension, and their ability meet the expectation of successfully communicating in the L2 (Kennedy & Trofimovich, 2010). The result of getting closer to attaining goals represents a desired future end-state (Dörnyei & Ushioda, 2009), a term that is synonymous future-oriented self-guides and the ideal L2 self. Thus, a focus on listening comprehension was emphasized as a means to cultivate students’ ideal L2 self.

**Developing the ideal L2 self through a focus on grammar.** Approximately one quarter of students (23% or 17 out 73 mentioned skills) felt that increasing knowledge of grammatical structures was the most important skill to develop in order to reach the goal of successful communication because “grammar is necessary to logically form sentences and convey information to others.” A student who had also stressed listening comprehension felt that grammar was equally important because it is “…most crucial for speaking with someone and having them understand, as well as being able to understand others in order to respond.” Students emphasized grammar because “without [grammar], things will come out all jumbled” and “… it
is what will allow you to come up with cohesive sentences on the fly.” Exemplified by students who focused on grammar, speech intelligibility and successful communication were defined by the ability of a speaker to use “proper mechanics” and put ideas together quickly and easily – an idea that corresponds to fluency – as noted by the student who used the expression “on the fly.” Grammar was not only associated with L2 proficiency and ease of expression, but also with intelligible speech. For example, one student said, “If you don’t know how to utilize proper grammar and pronunciation no one will be able to understand you.” Overall, those students who focused on grammar were represented by one student who wrote that “a solid understanding of grammar will lead to better discussions and more comprehension.” The student noted a future-oriented outcome through the use of simple future tense in the previous comment thereby referencing motivation representative of a future self-guide. To relate to the ideal L2 self, future self-guides are capable of providing “incentive, direction and impetus for action” (Dörnyei & Ushioda, 2009, p. 18) and assist in attaining the ideal L2 self. As a result, correct, logical, accurate, and the comprehensible production of French were elements that students connected to successful communication and the ideal L2 self.

Developing the ideal L2 self through expanding vocabulary. In congruence with listening comprehension and grammar knowledge, developing vocabulary knowledge was also associated with being able to effectively communicate in the L2 among 22% of all mentioned skills (or 16 out of 73 mentioned skills). As one student put it, “I think that vocabulary is most important. What good is grammar without words? They are the foundation to a language and are necessary in order to be able to get your point across.” The student associated vocabulary with information exchange, evidenced by the idea that she was trying to convey a point or piece of information to another speaker. Another student articulated that a lack of vocabulary would
hinder her ability to communicate information to others as well as negatively influence listening comprehension. She wrote, “I feel that without knowledge of an actual French vocabulary it would be difficult to both speak and understand French at all.” Similarly, a student linked vocabulary knowledge to conversational skills by saying, “Vocabulary is very important because that is where most problems and pauses occur when people are talking, when they can’t remember a word and the conversational [is] stalled.” Describing a gap in conversation expressed the idea that a lack of vocabulary may result in a linguistic breakdown or a lack of fluency, and that the speakers may be unable to successfully communicate. In short, students associated vocabulary with idea building and orally sharing knowledge because a student noted, “To be able to make sentences, you need to know what vocab [sic] to say” whereas another pointed out that “… if you are unclear of the vocabulary then you are going to be confused the entire time…” Comments that recalled a focus on vocabulary as the most important skill to develop demonstrated the opinion that preserving and growing vocabulary knowledge prevented complications during conversations thereby improving fluency. As a result, students felt confident that if they had the words required to express their thoughts fluidly – channeling the ideal L2 version of themselves that communicates successfully and avoids difficulties through lack of vocabulary knowledge – that they could potentially avoid failed communicative exchanges.

**Connecting the Ideal L2 Self to Pronunciation Development**

No matter the skill students focused on as part of their ideal L2 self – listening comprehension, grammar, or vocabulary – students’ imagined success in the course was defined as being able to have conversations that were effortless (or void of linguistic difficulties that might hamper the conversation) and intelligible. As a result, achieving fluency – an aspect of
pronunciation – emerged as a factor that greatly influenced how students defined goals in the second-semester course. An example from one student who responded to Journal 3 summarized why fluency was viewed as key to effective communication: he reported that using VT motivated “…me to attempt fluency more because I wanted to sound well-learned and capable with the language.” The student situated fluency with sounding knowledgeable and competent in the L2, factors that would increase the native-like qualities of his speech and allow him to become more like his ideal L2 self. Consequently, students equated fluency with native-like qualities of spoken language, an association that affected students’ perceptions of the ideal L2 self as well as their goal of effective communication. Labeling fluency as a marker of native-like speech was consistent with prior research maintaining that suprasegmental characteristics of fluency – stress, rhythm, and intonation – influenced listeners’ perceptions of comprehensibility and accentedness (Munro & Derwing, 1995; Trofimovich & Baker, 2006). Because of this relationship, native-like use of suprasegmentals is positively correlated with fluent L2 speech (Dechert & Raupach, 1987; Trofimovich & Baker, 2006; Wennerstrom, 2000) and was a contributor to students’ pronunciation models that they identified in Journal 1 (Appendix G), an analysis later in this section.

To summarize what the present study has already revealed about fluency, a review of students’ perceptions of their performance on pronunciation-related tasks (reported in the previous section) noted that there were no significant differences in scores that students assigned to their perceived level of difficulty of pronunciation fluency. Furthermore, the qualitative findings implied that although students demonstrated that they were frequently conscious of fluency, they did not necessarily feel that they had made improvements in this aspect of pronunciation. Consequently, fluency emerged as the pronunciation-related skill that students
perceived as the most difficult. Based on this finding, I hypothesized that fluency was related to a more advanced skill set that students aspired to achieve as they progressed in their future L2 experiences. Therefore, to investigate why students did not tend to vary the difficulty scores they assigned to this aspect of pronunciation and to learn more about how fluency fit into students’ L2-related goals, I looked to qualitative data sets for emic perspectives specific to pronunciation fluency.

To further explore how students envisioned fluency and confirm that it was an influential factor in goal-setting behaviors, I consulted students’ comments in Journal 1 (Appendix G) where students responded freely. Students were asked to think of someone that they tried to imitate when speaking French. Some students mentioned one model, and others noted several people they tried to mimic. I performed a textual analysis of students’ responses by tagging instances of when students stated who they modeled. As a result of this analysis, there were 39 different examples mentioned by students. I then reviewed the tags and assigned the following codes based on the type of person or resource that the students had indicated: an instructor, a peer, a close friend or family member, or examples from the textbook and other professionally published resources. After identifying these categories, I then reviewed how students’ described their pronunciation model’s speech in both Journals 1 and 2 in order to better understand which aspects of spoken language and pronunciation were associated with their ideal L2 speakers, thus shedding light on their personal goals and definitions of the ideal L2 self.

**Pronunciation model: instructors.** Looking back to the pre-questionnaire (Appendix A), one student specifically said, “The most important aspect to improve on is my ability to speak everyday French better and to be able to have a legitimate conversation in French.” The word *legitimate* is synonymous with the idea of authenticity and nativeness. Juxtaposing this
term with the act of participating in ordinary, spontaneous, and natural communicative
exchanges implied that the student was striving for more native-like abilities during
communication. Another student described his desire to hone pronunciation skills because he
also wanted to “sound good to native speakers of French.” Again, speaking “correctly…with no
hesitation,” as described by another student, was foremost in the interpretation of students’ pre-
questionnaire list of important concepts to learn because students desired “…to learn enough to
communicate and comprehend the language so [they] can go to France.” Traveling to
francophone countries, sounding acceptable to NSs, and participating actively in L2
conversations correlated to students’ goals as well as their pronunciation models and ideal L2
selves, even at the beginning of the semester.

Due to the focus on the nativeness of speech, a little less than half of pronunciation
models in Journal 1 (44% or 17 out of 39 mentions) corresponded to students’ desires to imitate
their instructor because they admired the native-like qualities of the instructor’s speech. Students
frequently described the instructor’s speech as “smooth,” “natural,” and “flowing,” terms that
referred to fluency. Consequently, quantification of students’ comments from Journal 1
highlighted that fluency appeared to be a skill associated with native-like pronunciation and
closely associated with students’ pronunciation models. For example, a student said that the way
the instructor spoke “sounded authentic” despite that fact that the instructor was not an NS. By
using the adjective *authentic*, the student suggested that the instructor, although not a native
French speaker, could pass as a genuine, NS of the language due to the naturalness and
credibility of the instructor’s speech. The student also pointed out in the response that the
instructor had achieved authenticity as an NNS, implying that NNS instructors can be real-life
examples of success in attaining native-like pronunciation, a facet of the ideal L2 self.
Thus, it emerged that students not only desired to effectively communicate, but also communicate in a way that they envisioned to be consistent with their NS or near-NS pronunciation models, focusing on the nativeness and fluency of their model’s speech. Nine out of the 17 students who choose to model an instructor (53% or about one quarter of all models mentioned in Journal 1) continued to focus on mimicking their model’s fluency in the interpersonal audio discussions as reported in Journal 2. One student described his instructor as “precise” and said that he had “tried to emulate that.” He had previously depicted the instructor’s speech in Journal 1 by noting that she was very “fluent,” and wrote that he “wanted [his] French to sound as fluent and flowing as hers [the instructor’s]” because they were both Americans. Pointing out the nationality of the teacher suggested that the student recognized that his ideal L2 self who sounded native-like (with regard to fluency) was a realistic goal. Later, the student reflected in Journal 2: “My speed and fluidity has [sic] increased as a result of VoiceThread, I find.” The student clearly pointed out that participating in interpersonal audio discussions had helped him to become more like his pronunciation model. Another student reported modeling an instructor in Journal 1 and was “impressed” by the instructor’s ability to “…replicate the thickness of the French language” because he felt that it was “hard to produce sounds” that were not part of his native language’s phonological system. I interpreted this student’s use of the word thickness to mean that he admired the instructor’s diverse capabilities in producing speech that he believed was consistent with that of an NS. The student also wrote: “After using VoiceThread, I believe that it has helped me to better pronounce the words and the language of French.” This student also connected the task of focusing on pronunciation fluency when imitating the model and completing VT activities as a means to meet his goal of “one day [being] able to fluently speak French.” Exemplified through their own words, the students linked future
self-guides (indicated by the words such as “future” and “one day”) with action (e.g. speaking French). As a result, the students’ ideal L2 self emerged, demonstrated by self-regulatory strategies and goal-setting behaviors (Dörnyei & Ushioda, 2009).

**Pronunciation model: peers.** Additionally, about one quarter of responses in Journal 1 (26% or 10 out of 39 examples) noted the desire to imitate a peer and pointed out specific qualities of the peers’ speech they would like to replicate in the future. Similar to the comments given about why students imitated their instructors, the peers’ speech was described as “smooth,” “crisp,” “articulate,” and “fluent.” One peer was selected as a model in Journal 1 because her speech “sounds like a native speaker in my [the student’s] opinion” whereas another was selected because “on VT, his [the peer’s] pronunciation in his responses sounded very similar to a native French person’s pronunciation.” The student continued describing his peer by writing “His voice sounds to me like it is about as close to native French speaking as possible for an American,” a description that exemplified how the student himself may visualize the ideal L2 self – a NNS who is perceived as having native-like qualities. The student reflected on his own pronunciation in Journal 2 by commenting that through participation in VT activities, he was “…slightly better with his pronunciation.” He also noted that he had “…tried to sound more native with [his] speaking,” thus demonstrating that pronunciation fluency was not only associated with his pronunciation model but also with his self-evaluation of progress and goal-setting behaviors supported by VT activities.

All students who chose to model a peer in Journal (100% or about one quarter of respondents to Journal 1) used terms in Journal 2 that indicated they were continuing to focus on pronunciation fluency. For example, one student commented that “…following his [the peer’s] smooth example of speech made [him] a better speaker.” Smooth speech, as noted by this
student, was a frequently used description that corresponded not only to fluency but also to confidence when speaking. Chambers (1997) also noted that estimated confidence, or effortlessness, when speaking was associated with fluency, and that the concept of fluency was often judged both globally and qualitatively through variables such as speed and smoothness as well as ease and naturalness of speech. In Journal 1, a student described her classmate as “extremely fluent” and “confident when communicating.” Later in Journal 2, the student continued to describe her peer by commenting that “she is so confident and poised when she speaks, and her pronunciation is clear so that everyone knows what she is saying.” Consequently, the student reflected, “In order to try and be as fluent as she is, I will keep practicing and try to get my confidence up.” In both Journals 1 and 2, the student used adjacent descriptions of her peer as both fluent and confident. Thus, peers who were perceived as confident were also perceived as fluent and often selected as pronunciation models.

**Discussion of Chapter 4 Results**

This chapter corresponds to the first RQ, which investigates how participation in interpersonal audio discussions for pronunciation development affected students’ perceptions of pronunciation skills. Results presented in this chapter suggest that developing pronunciation collaboratively in interpersonal audio discussions positively influence students’ perceptions of performance in pronunciation. Qualitative analysis of data about students’ perceptions revealed that they focused on making improvements in L2 oral production associated with communication and increased fluency as primary goals for the course, but did not envision meeting goals by honing aspects of L2 output associated with pronunciation. Despite the perceived improvements they experienced, the study indicated that students made limited connections between the
positive results they experienced, increased intelligibility, and more effective communicative skills.

**Interpersonal Audio Discussions and Students’ Opinions of Pronunciation**

The review of the literature on pronunciation indicated that the skill is not typically considered a priority in most CLT classrooms (ACTFL, 2006; Munro & Derwing, 2011; Pennington & Richards, 1986; Savignon, 1991; Tschirner, 1996). Because of the uncertain relationship between students’ perceptions, pronunciation, and CLT practices, one goal of the present study was to explore the effects of participation on not only students’ perceptions of performance but also with regard to how they viewed the development of this skill as part of their L2 learning experience (RQ1). The following subsections discuss what the study revealed about the effectiveness of interpersonal audio discussions on influencing students’ opinions about pronunciation as a valued skill in L2 learning.

**Conventional attitudes about pronunciation.** Students’ perceptions of pronunciation reflected those of some professionals on the matter. Statistical results demonstrated that students generally did not feel that the explicit development of their pronunciation skills as facilitated through the interpersonal audio discussions was paramount to attaining success in the L2 (Harlow & Muyskens, 1994; Isaacs, 2009; Munro & Derwing, 2011; Pennington & Richards, 1986; Savignon, 1991; Wahid & Sulong, 2013). This conclusion was demonstrated by the fact that students’ opinions of pronunciation as an important skill to learn dropped by approximately one quarter (down 24%) between the pre- and exit-questionnaires administered at the beginning and end of the study. Additionally, it fell behind other skills considered to be more important to acquire – listening comprehension, grammar, and vocabulary – distinctive of communicative approaches to SLA that disproportionately emphasize certain linguistic skills (such as the ones
previously mentioned) over pronunciation training (Davidson, 2007; Magnan, 2007; Sikorski, 2005). Consequently, results from the present study suggested that interpersonal audio discussions alone had no significant effects on students’ goal-setting behaviors in pronunciation or the development of their future self-guides – the ideal L2 self.

Concerning self-guides that acted as motivators in pronunciation in the present study, students’ immediate goal was to use French for communicative purposes in addition to increasing aspects of speech such as speed and naturalness, qualities related to pronunciation fluency. Thus, fluency was the common denominator between students’ goals, pronunciation models, and self-guides. Furthermore, fluency was characteristic of pronunciation that students affiliated with native-like speech, students’ ultimate desired outcome once they accomplished present goals such as communicating more effectively. In conclusion, although never explicitly stated, pronunciation development – particularly the aspect of fluency – was an underlying influence to students’ goals. Although pronunciation development emerged during the qualitative analysis as (a) an important skill to learn and (b) an essential element needed to form the students’ self-defined notions of the ideal L2 self, it was buried beneath students’ explanations of why certain skills were important and their descriptions of pronunciation models. Students alternatively focused on the development of other skills as a means (a) to avoid linguistic breakdowns that impede fluency and (b) to increase the naturalness of their speech and overall communicative competence, thereby overlooking pronunciation development as a factor in improving fluency and intelligibility.

The finding that pronunciation fluency’s importance was concealed in the present study revealed that pronunciation was perceived as a secondary, bundled, and uncertain skill among the participant sample that was in the beginning stages of L2 learning. The present study offered
an explanation of why the implementation of pronunciation-focused VT activities did not impact students’ ability to connect pronunciation development to reaching desired L2 outcomes through development of the ideal L2 self. Results revealed that students were unable to detach pronunciation learning as a separate skill from those traditionally addressed in first and second-semester L2 classrooms (e.g. grammar or vocabulary knowledge). Although qualitative findings revealed an underlying significance that students attached to pronunciation-related skills – for example, their focus on fluency – students’ responses on the pre- and exit-questionnaire items about important skills correlated to those that received the most attention in the L2 environment and learning experience – for example, classroom and homework activities. Consequently, students’ opinions of the development of pronunciation skills appear to be a reflection of National Standards and Guidelines that influence state standards, textbook choices, pedagogical methodologies, teacher training, and ultimately the curricula that learners encounter (Magnan, 2008; Magnan et al., 2014). Thus, the study posits that highlighting pronunciation on a broader scale – such as increasing instructional time and equally evaluating the skill in course syllabi – is a likely component to pronunciation-focused activities that impacts students’ conventional attitudes about the skill.

To expand on additional factors that perpetuate students’ opinions of pronunciation as a lesser skill, Derwing and Munro (2005) claimed that students’ opinions and practices regarding the skill of pronunciation are “influenced by commonsense intuitive notions” and their own “practical experiences” (p. 380). Participants’ unchanged and sometimes fading opinions concerning pronunciation exemplified that students were doing just as Derwing and Munro proposed – relying on their prior knowledge about pronunciation as a skill and their understanding of pronunciation’s role in L2 learning. Students’ responses in the present study
indicated that they had a tendency to incorporate pronunciation development into the acquisition of other L2-related skills, demonstrating the opinion that pronunciation was not independently acquired or explicitly taught. As a result, their existing perceptions about pronunciation before participating in the study affected their opinions of the usefulness of developing this skill.

To clarify why students’ did not prioritize pronunciation and considered it a lesser skill, I reference Isaacs’ (2009) claims that pronunciation is the Cinderella of L2-related skills – the outcast of L2 learning. Students’ reactions to pronunciation in the present study implied that it was a Cinderella skill not only in their classroom but also over the duration of their L2 learning experiences. Because students did not detach pronunciation development from the development other linguistic skills, students’ inserted pronunciation learning into other categories they connected to speaking rather than isolating it. In addition to bundling pronunciation development with other skills, students’ revealed that they believed pronunciation was learned indirectly through other opportunities – for example, honing pronunciation skills while participating in a group speaking activity for practice of a grammatical item or when asking the teacher a question. The interpretation of students’ self-reported behaviors in pronunciation development implied that there was often confusion about the role of pronunciation in L2 proficiency in the present study, a finding that reinforced Kennedy, Blanchett and Trofimovich’s (2014) notion that learners often depend on prior experience, course materials, and their own instincts when developing pronunciation skills. Because pronunciation was not explicitly taught or addressed in the participating classrooms, students’ tended to impose their own opinions and methods on the process of developing pronunciation. In the present study, it was the student alone who made decisions about pronunciation development and learning. As a result and despite a focus on pronunciation through VT, pronunciation skills (and the further development of those skills)
were not perceived as important to develop when compared with what students recognized to be principal aspects of language learning – grammar, vocabulary, listening comprehension, etc.

Isaacs (2009) called for an end to pronunciation being described in such a way that suggests it is permissible to casually disregard or purposefully exclude the skill from classroom instruction. In the present study, although students indicated that they were highly motivated to develop pronunciation skills, their goal-setting behaviors were driven by what they already knew about language learning and classroom practices. Consequently, students’ confusion about pronunciation paralleled the Cinderella syndrome affecting pronunciation as well as the uncertainty within the field about how to address pronunciation in CLT classrooms (ACTFL, 2006; Brandl, 2009; Omaggio Hadley, 2001).

**Progressive views on pronunciation.** In her article about pronunciation’s Cinderella status, Isaacs (2009) offered some anecdotal suggestions for integrating form-focused, explicit pronunciation instruction in CLT classrooms alongside other meaning-based components such as information exchange. She noted that there is the “challenge of striking the right form-meaning balance in L2 pronunciation instruction…” (Isaacs, 2009, p. 6). To add empirical results to her ideas, the present study’s findings indicated that students viewed the development of pronunciation as a process that occurred implicitly during any and all opportunities for practice, no matter the focus of the activity. As a reminder, the majority of students (65%) indicated that pronunciation development was important because the accurate production of French affected what they deemed as important aspects of the language (Items 2 & 3 of the exit-questionnaire). Consequently, students recognized pronunciation development as an enhancement to what they considered to be the most important, basic skills and to achieve personal goals rather than to focus on pronunciation for pronunciation’s sake. On the other hand, the attitude students’ took
with this skill demonstrated that they were consciously thinking about and noticing their pronunciation development when honing skills most important to them. Kennedy et al. (2014) described this orientation to pronunciation as one where learners use classroom-related speaking opportunities as an environment for pronunciation practice. Earlier, Kennedy and Trofimovich (2010) also pointed out that evidence of this type of pronunciation awareness – termed *qualitative awareness* – surpasses technical knowledge of pronunciation by extending linguistic rules to efforts in communicating successfully, a description that correlates to students’ goals and ideal L2 selves in the present study. Qualitative awareness differs from *quantitative awareness* in that pronunciation learning does not center on memorizing and internalizing rules through practice.

In the present study, students indicated that they were accustomed to developing pronunciation without explicit opportunities for learning such as participation in pronunciation-oriented activities or receiving instruction in pronunciation. In concordance with Isaac’s (2009) claims that pronunciation does not have to be taught solely through rules and repetition, students demonstrated qualitative perceptions of pronunciation in that they believed it could be learned in conjunction with other L2 skills in a variety of settings (Kennedy & Trofimovich, 2010; Kennedy et al., 2014). For example, during a classroom activity focused on reading comprehension, students could (if they desired) use the environment to intentionally practice pronunciation on their own. Researchers (Isaacs, 2009; Kennedy & Trofimovich, 2010; Kennedy et al., 2014; Saito, 2011) promote explicit instruction as a means to improve pronunciation development and intelligibility. To connect prior research to the present study specifically, students’ focused on pronunciation development in the interpersonal audio discussion activities while also revealing that it occurred in the background of the everyday classroom activities that
centered on other L2 skills. Thus, the majority of pronunciation development opportunities were contingent upon the student’s personal choice to address it or not.

Because students generally exemplified a qualitative awareness with regard to pronunciation, the study concludes that they saw language use as an environment for pronunciation learning (e.g., using French to complete classroom-related tasks as well as to practice pronunciation). Thus, pronunciation learning was exemplified through the students’ ability to extract meaning from contextual situations (e.g. applying phonetic knowledge of the L2 to understand instructions or enhance listening comprehension in a conversation). The present study demonstrates that emerging technologies, such as interpersonal audio discussions, may not be effective in changing students’ existing and overwhelmingly traditional opinions about pronunciation. However, students’ qualitative orientation to pronunciation learning supports the stance that a meaning-form balance can be achieved, successfully implemented, and potentially produce positive results in pronunciation development in introductory-level classrooms (Isaacs, 2009). Consequently, to elaborate on Isaac’s (2009) recommendations on teaching pronunciation, students in the present study demonstrated increased self-confidence and better opinions of their performance in pronunciation after participation in the interpersonal audio discussions at the end of the semester thereby suggesting that peer-to-peer interactions and collaborations in VT lend themselves to a qualitative attitude about pronunciation development. Due to their qualitative approach to pronunciation learning, students achieved progress in pronunciation through the audio discussions and exemplified some up-and-coming views on pronunciation’s emerging role in communicatively oriented classrooms and interactive contexts such as VT conversations (Ahmad & Roe, 2012; Isaacs, 2009; Kennedy & Trofimovich, 2010; Saito, 2011; Spada, 2007; Venkatagiri & Lewis, 2007). Finally, because Derwing and Rossiter
(2002) claimed that few research studies have investigated students’ perceptions of their needs with regard to communication and L2 output, the present study’s findings implying that (a) there is continued uncertainty about the skill of pronunciation and (b) students have more positive perceptions of performance and increased confidence about pronunciation after participating in VT conversations are useful in continuing to examine the pedagogical uses of VT and other interactive environments for pronunciation development.

**Intervening Variable: The L2 Motivational Self-System**

Taking aspects of WTC, MIP, and the ideal L2 self into consideration, findings point to a relationship between the L2 motivational self-system and pronunciation development due to students’ self-regulatory strategies when developing pronunciation skills in interpersonal audio discussions in the current study. Furthermore, in an exploration concerning which settings were most and least amenable to students’ WTC, MacIntyre et al. (2011) noted the interrelations between linguistic development, nonlinguistic factors, and the L2 motivational self-system (Dörnyei & Ushioda, 2009). Therefore, the specific affordances of VT – access to feedback and proximal guides gained through increased interactivity, which improve students’ self-confidence (Dörnyei, 1994) – appealed to learners’ self-concept and the L2 motivational self-system when developing pronunciation skills in this context (Dörnyei & Ushioda, 2009; Noels et al., 2003).

Students’ goals and motivation in L2 pronunciation were influenced by what they believed they would or ought to become (Dörnyei & Ushioda, 2009). Essentially, MIP was determined by students’ perceptions of their skills and how these perceptions compared with the qualities of the ideal L2 self, thereby addressing the role of students’ perceptions while developing pronunciation skills in the VT context (RQ1). Therefore, although not originally included when considering motivational constructs relevant to the development of pronunciation...
skills at the introductory level, the concurrent development of the ideal L2 self alongside the process of developing pronunciation skills materialized as a notable mediating variable – and to a point, a predictive variable – that assisted in further understanding the link between students’ perceptions and pronunciation development. Furthermore, the study suggests that the particular learning context in the present study also promoted the development of the ideal L2 self.

**Encouraging Self-Awareness in Pronunciation Through Development of the Ideal L2 Self**

In the current study, the combination of identifying an ideal pronunciation type to achieve along with stating a clear description of desired outcomes for the course prompted goal-setting behaviors in students and the development of the students’ ideal L2 self, a future-oriented persona that the students believed they could become as they continued to meet and set new benchmarks in pronunciation. As students participated in the interpersonal audio discussion activities, completed self-evaluations, received instructor feedback, and responded to journal entries focused on the development of their pronunciation skills, their progress toward developing the ideal pronunciation-specific L2 self was constantly under examination. Thus, students used tasks associated with their participation in interpersonal audio discussions as a means to monitor changes as well as define a certain facet of their ideal L2 self that was attached to performance in pronunciation. The current study implied that students’ perceptions of their performance in pronunciation – observed through self-evaluation – were a mediating variable that influenced motivation to develop pronunciation skills. The L2 motivational self-system pushed students to grow into an L2 speaker that closely resembled the ideal L2 self, a result similar to Lappin-Fortin and Rye’s (2014) reflections that for students developing pronunciation skills, an awareness of language production through self-evaluation potentially leads to progress in achieving more native-like pronunciation.
Consequently, after participating in three interpersonal audio discussions that provided pronunciation-focused activities and evaluations, students began to (a) demonstrate that they could define aspects of pronunciation and (b) make limited connections between pronunciation and their goal of effective communication. Students never explicitly stated that accurate pronunciation affected listening comprehension or that improved pronunciation made them sound more like NSs. However, they did acknowledge that pronunciation affected the quality of their contributions in the interpersonal audio discussions, thus affecting how they sounded to others and the ease of communication between members of VT conversations. Moreover, in the instructor interviews at the end of the semester, the two instructors agreed that continuous teacher and student assessment of the interpersonal audio discussion recordings were effective in getting students to think about pronunciation in ways they had not done so before in addition to promoting awareness about students’ own pronunciation proficiency. Thus, understanding students’ perceptions as carried out in the present study – as well as students being made aware of their own perceptions – holds value in pronunciation learning and student motivation.

**Developing the Ideal L2 Self Through Improved Fluency**

Students envisioned certain pronunciation models in the present study because the models represented an ideal pronunciation-type that students used as examples and guides during the semester while they developed pronunciation skills. Extracting a quote from Olympic athlete Marilyn King, Dörnyei (2014) noted that “…it’s the vision…the power of an image that inspires great passion and excitement…” (p. 99) to describe the motivational effects of possible selves, and in the present study’s context, the ideal L2 self. Because students’ pronunciation models represented ideal L2 personas that students admired, the models also epitomized characteristics of students’ ideal L2 self. Therefore, the L2 motivational self-system encouraged students to
develop a pronunciation that mirrored that of their chosen pronunciation models and their ideal L2 self. Furthermore, students’ goals focused on successful communication, thereby implying that fluency – often linked to intelligibility (Kennedy & Trofimovich; 2010; Préfontaine, 2013) – was an ongoing objective for students. A focus on fluency and L2 communication confirmed prior research (Magnan, Murphy, Sahakyan, & Kim, 2012) maintaining that college-level L2 learners emphasize interpersonal communication, one of National Standards in L2 education (ACTFL, 2014) that focuses on L2 production through communicative tasks. Accordingly, the following subsections focus on pronunciation fluency, the primary criterion that students used to select models. Additionally, the subsections discuss self-regulatory behaviors that exemplified students’ strategies for developing the ideal L2 self during the semester and in future L2 experiences.

**How did students view fluency?** Students’ remarks in the present study revealed that they had selected their model based on the following criteria: speech that sounded native-like, naturalness of speech, and confidence when speaking. With regard to pronunciation development, these traits were associated with the aspect of pronunciation fluency as explained to the students on their teacher and self-evaluation forms: the naturalness and rate of speech, including but not limited to criteria such as pausing, intonation, and stress. The study’s results suggested that students connected fluency to variables in native-like speech and communicative behaviors as opposed to the more pedagogical interpretations of fluency that relate to overall proficiency in speech and successful communication (Kennedy & Trofimovich, 2010; Préfontaine, 2013). Préfontaine (2013) also noticed the association between fluency and native-like speech when she described it as “the ability to speak smoothly, accurately, confidently, and at a rate consistent with native-speaker norms” (p. 325). Consequently, the study demonstrated
that students linked improvements in pronunciation fluency with the native or native-like models they tried to imitate (and the characteristics of the ideal L2 self) rather than connecting it to the more immediate goal of increased intelligibility and effective communication. When it came to fluency, students’ perceptions in the present study were non-technical and broad thereby associating the term with global L2 performance. Based on how students viewed achieving fluency – through an emphasis on grammar, for example – the present study suggested that additional development of pronunciation skills is necessary for introductory-level learners due to a lack of distinction between accuracy and fluency. In other words, linguistic accuracy (e.g. correct grammatical usage) is not always synonymous with fluent speech and vice-versa.

**How did students plan to achieve improved fluency?** The L2 motivational self-system controls self-regulatory strategies that help to reduce the distance between a students’ actual self and the ideal self (Dörnyei & Ushioda, 2009). Therefore, students in the study remarked on their goal-setting behaviors that would lead to a desired level of fluency. To start, students’ remarks on the pre- and exit-questionnaires indicated that their goal for the second-semester course was aligned with attaining comprehensible and intelligible speech so that they could have successful, natural conversations in the L2 – a precursor to improved fluency. Because participants exhibited little practical knowledge about pronunciation and held traditional views of the skill as one that was less important when compared with other skills such as grammar or vocabulary, they generally did not connect improvements in pronunciation (accuracy, fluency, and comprehensibility) to reaching their current goal of successful communication and increased intelligibility. Instead, the ought-to self – a facet of students’ L2 motivational self-system (Dörnyei & Ushioda, 2009) – sought to increase proficiency in listening comprehension, for example, as a means to avoid obstacles to fluency. As a result, their goals for the second-
semester course (and eventually for the development of a fluent, ideal L2 self) were not compatible with prior research linking pronunciation development to improved intelligibility and more successful communicative exchanges (Derwing & Munro, 2005; Kennedy & Trofimovich, 2010; Saito, 2011; Venkatagiri & Levis, 2007).

Fluency was perceived as the most difficult skill when compared with accuracy and comprehensibility in Part 4 of the SA form, and the quantitative results from a Wilcoxon signed-rank test did not suggest any changes in students’ self-evaluation of performance in this category after participating in the interpersonal audio discussions (when compared with significant increases in perceived performance concerning pronunciation accuracy and comprehensibility). Students’ perceptions of fluency in the study confirmed prior research in L2 speaking abilities and WTC maintaining that students feel it is more difficult than other tasks such as pronunciation accuracy (Saint Léger & Storch, 2009). Participants were novice learners and still feeling some anxiety about developing pronunciation skills (addressed in Chapter 5) in addition to the fact that they associated fluency with confident, native-like speech. Consequently, they perceived the pronunciation-related tasks of accuracy and comprehensibility as easier, more realistic goals when compared to what they perceived to be a more advanced aspect of pronunciation. It should be noted that VT did not produce significant changes in students’ self-reported fluency scores. Therefore, results suggested that VT is more appropriate for developing less difficult tasks – as perceived by students, accuracy and comprehensibility – in introductory-level learners.

**Who represented students’ ideal L2 self?** In addition to the development of an ideal L2-self, Dörnyei and Ushioda (2009) felt that successful L2 learners’ “secret” was that they made use of a “…vision that kept them on track” (p. 25), referencing the importance of imagery and future self-guides as factors in developing a possible L2-self. The researchers also pointed
out that in accessing these guides, students often identify proximal guides – such as a role model or knowledgeable peer – that focus their efforts on establishing a purposeful and meaningful path to reach the ideal L2 self. Additionally, the researchers’ concept of proximal guides drew a parallel with Vygotsky’s (1978) notion of the *zone of proximal development* (ZPD), which assists in further explaining why and who students identified as proximal guides. Vygotsky explained ZPD as students’ actual proficiency and their developmental potential when collaborating with “more capable peers” (p. 86) or another form of guidance. In other words, Vygotsky maintained that collaborative learning with more advanced peers most likely results in learners performing tasks independently in the future. Therefore, to elaborate on the role of proximal guides during development of the ideal L2 self and pronunciation skills in the interactive VT conversations, this section discusses how the types of guides students chose not only represented but also influenced efforts to develop the future-oriented ideal L2 self.

In the present study, over 90% of students (35 out of 37) mentioned a native or near-native pronunciation model as proximal guides thereby raising the concern that the ideal L2 self could be an impractical goal in pronunciation development – for example, learning a language with the aim of sounding like an NS (Cook, 1999; Derwing & Munro, 2005; Drewelow & Theobald, 2007). Although fluency correlated with students’ perception of nativeness in the present study and also in prior research (Kennedy & Trofimovich, 2010; Préfontaine, 2013), the study exemplified that students did not focus their efforts purely on NS aspirations because they chose pronunciation models that were peers and NNSs as well. Although previous research (Hertel & Sunderman, 2009) has suggested that for pronunciation instruction specifically, students preferred NS instructors, the largest proportion of pronunciation models in the present study (44% or 17 out of 39 models mentioned) were students’ prior or current instructors.
Exemplified through students’ descriptions of their instructor models, 10 students specifically indicated that their instructor was an NNS, whereas the remaining seven did not clarify. Additionally, a significant proportion of students (26% or 10 out of 39 models mentioned) chose to model who they perceived to be more advanced peers, also NNSs, a finding that confirmed the notion of “near peer role modeling” (Yashima, 2009, p. 153), a type of proximal guide that appears accessible to students and with which students can identify such as an NNS instructor or peer. Access to appropriate proximal guides (e.g. peers) was promoted by the interpersonal audio discussions and VT technology in the present study. Furthermore, students’ use of proximal guides promotes a feedback-supported environment and positively influences affective variables known to affect MIP such as self-confidence, self-efficacy, and anxiety (Dörnyei, 1994).

Accordingly, results suggested that students wanted to sound native-like and fluent but did not necessarily choose to phonologically imitate NS examples, a profile that exemplified how students perceived an ideal L2 self at this level of language learning. Additionally, students positively viewed their NNS pronunciation models rather than describing them as “failed native speakers” (Cook, 1999, p. 185). These selections indicated that students understood that although their pronunciation models never transformed into an NS, they eventually became L2 users that were successful and multicompetent (Cook, 1999; Kennedy & Trofimovich, 2010). Students in the present study were motivated during participation in interpersonal audio discussions to avoid experiencing a feared possible self, thus they worked toward achieving an attainable version of their desired L2-self. As a result, students utilized NNSs – peers and instructors alike – to develop imagined, possible selves through access to collaborations within VT and proximal guides (Dörnyei & Ushioda, 2009; Miller & Brickman, 2004; Vygotsky, 1978).
CHAPTER 5
THE EFFECTS OF PARTICIPATION IN INTERPERSONAL AUDIO DISCUSSIONS ON STUDENTS’ L2 ANXIETY, SELF-CONFIDENCE, AND SELF-MOTIVATION

This chapter focuses on the two remaining RQs that explored motivational dimensions influencing students’ pronunciation development and how it was affected by participation in interpersonal audio discussions. RQ2 concentrates on changes in students’ anxiety and self-confidence levels because these two variables are highly correlated. Additionally, RQ3 holistically considers how participation in interpersonal audio discussions impacted students’ interest to develop pronunciation skills.

In this chapter, I consider what I have termed overall motivation to explore how individual variables identified in the WTC (MacIntyre et al., 1998) and the MIP (Smit, 2002) constructs functioned jointly to contribute to the all-encompassing notion of motivation. Likewise, the purpose of the study is not to detach variables associated with L2 motivation, but rather investigate motivation as a whole within the context of pronunciation development. As I considered the interactions between motivational variables during the analysis, I discovered that overall motivation associated with pronunciation development emerged as the variables that belong to the learners’ self-system where motivation to develop pronunciation skills in the L2 correlates with the learner’s ideal L2 self (Dörnyei, 2010). Referencing students’ MIP within the context of the learners’ self-system also reflects findings from Chapter 4 maintaining that students’ goals in the second-semester course correlated with pronunciation development because fluency was a main contributor to students’ perceptions of an ideal L2 self persona. Consequently, when I touch on motivation in this chapter, I am referring to Dörnyei and
Ushioda’s (2009) motivational construct of the *L2 motivational self-system* – particularly the ideal L2 self – that emerged as mediating variable and how it intersected the WTC (MacIntyre et al., 1998) and MIP (Smit, 2002) constructs.

In this chapter, I first present quantitative results that demonstrated changes within the two affective variables of anxiety and self-confidence, fluctuations that ultimately affected students’ self-motivation to develop pronunciation skills. Explanatory features of the emergent, mixed methods research design surfaced as I often relied on quantitatively oriented instruments as a starting point to reveal notable correlations and answer the RQs. For example, I primarily consulted the students’ self-evaluation of motivational variables as found in the SA forms during the quantitative analysis because numeric scores represented the intensity of affective variables at different points in time. Scores from the SA forms (Appendix E) were derived from the symbols system students used to express if they felt that variables such as anxiety and self-confidence increased, decreased, or remained unchanged. Students reported on affective variables at three different occasions during the semester as part of an assessment of their motivation to develop pronunciation skills in Part 2 of the SA form. Part 2 consisted of five items that were rated on three separate occasions, totaling 15 items. A reliability analysis indicated that these items demonstrated internal consistency and the ability to effectively measure variables associated with WTC and MIP (*α* = .826). These scores were used to run Wilcoxon signed-rank tests that explored if there were any statistically significant changes in the scores students reported between two time periods – after participation in VT1 and again after completing VT3 (Boduszek, 2014).

Regarding the pre- and exit-questionnaires (Appendices A & K) that were completed before and after students completed all three interpersonal audio discussions, the aforementioned
Wilcoxon signed-rank tests were used to investigate changes to scores corresponding to the variable of anxiety. In the questionnaires, students were asked about their anxiety levels pre- and post-participation in the VT activities (Item 4 on the pre-questionnaire and Item 5 on the exit-questionnaire). These items situated anxiety in a more general setting and did not mention VT, interpersonal audio discussions, or pronunciation; students were asked to simply describe their anxiety levels when speaking in the L2. Data were self-reported (as were the scores obtained from the SA forms), and the pre- and exit-questionnaire items were qualitative and open-ended. I performed a close reading of students’ comments and assigned numerical scores to each response, for example: zero corresponded to no indication of anxiety, a score of 1 was assigned to students reporting moderate anxiety, and a score of 2 was given to those who described high anxiety levels. Thus, scores were assigned based on my interpretation of their comments and how I believed they would have ranked their anxiety at that moment in time, an exploratory feature of the research design.

In addition to investigating changes in reported levels of anxiety, self-confidence, and self-motivation, the study also sought to examine how the variables interacted over the course of the semester. Because variables were investigated from both quantitatively and qualitatively oriented instruments, the analysis continued to follow characteristics of both an explanatory and exploratory design where the two data sets were treated equally and were used according to the demands of the analysis. To consider relationships between the motivational variables, two types of correlational analyses were used. When investigating associations between variables reported on two different instruments – for example, the pre-questionnaire and the SA forms – Spearman’s rank-order correlation tests were most appropriate because the variables’ scores had been assigned using different methods (Laerd, 2014c). Comparably, Pearson’s correlation tests
were used when examining relationships between scores assigned to variables within the same instrument that used the same scoring method (e.g. the symbols system) (Laerd, 2014b).

Finally, a mixed methods analysis of students’ journal excerpts (Appendix J) focused on identifying patterns in students’ motivational thinking. The term *motivational thinking*, according to Ushioda (2001), represents quantitatively measured, affective variables that are connected to L2 achievement: for example, the two variables I present in this chapter on anxiety and self-confidence. The quantitative approach to studying changes in motivational thinking focused on changes to motivational variables as a result of a particular learning experience, in this case, participation in interpersonal audio discussions. To address motivation to develop pronunciation skills from a quantitative perspective, comparative analyses – Wilcoxon signed-rank tests – were conducted on items from the SA forms that represented an additive measure of MIP. These tests determined if there were any changes in students’ motivation to develop pronunciation skills over the course of the semester. Ushioda further explained that researchers can reflect upon motivational thinking qualitatively by investigating students’ own perceptions and underlying beliefs about how variables influence their motivational experiences. Ushioda also noted that quantitative and qualitative approaches to studying motivational thinking among L2 learners are not mutually exclusive, and that the two analyses should be considered complementary. Consequently, variables affecting students’ motivational thinking were explored from the two perspectives and received equal consideration during the interpretation of the results. To explore the students’ insider perspectives, the qualitative data set built upon quantitative results and was analyzed in order to further explore the effects of participation in VT on students’ self-motivation to develop pronunciation skills. Through close readings and coding of common ideas, patterns were identified and pointed to two themes regarding the different avenues in
motivational thinking that were present when participating in VT: developing pronunciation skills through a student-centered and interactive approach to pronunciation teaching and learning.

**Interpersonal Audio Discussions’ Effects on Anxiety**

In the present study, anxiety was examined from two different perspectives: anxiety specific to the development of pronunciation skills in VT (addressed on the SA forms through scoring) and anxiety linked to communicating orally in the L2 (addressed on the pre- and exit-questionnaires through open-ended response items). In order to demonstrate how the unique context of participation in interpersonal audio discussions affected anxiety, I present quantitative results that demonstrated changes in students’ anxiety levels about speaking and developing pronunciation skills when using the L2 as well as correlations between anxiety levels that students reported continuously through the semester. The following subsections detail these quantitative results regarding students’ anxiety levels: pre- and post-participation anxiety, anxiety during participation in VT activities, and the relationship between L2 speaking anxiety and pronunciation-related anxiety.

**Pre- and Post-Participation Anxiety**

According to the quantification of students’ responses on Item 4 of the qualitatively oriented pre-questionnaire (Appendix A), 81% of participants (30 out of 37) reported either moderate or high levels of anxiety on the pre-questionnaire when asked if they ever felt nervous or hesitant when speaking French. Results from a Wilcoxon signed-rank test that investigated changes in scores that I assigned to students’ anxiety both pre- and post-participation in VT suggested that L2 speaking anxiety had improved since the beginning of the semester ($Z = -2.858, p < .005$). A little less than half of students (46% or 17 out of 37) noted that they
experienced decreased anxiety, and 41% (15 out of 37) said that their anxiety remained unchanged at the end of the semester on Item 5 of the exit-questionnaire (Appendix K). Therefore, with regard to general speaking anxiety as measured on the questionnaires, statistical results from the Wilcoxon signed-rank test implied that students were feeling less anxious when using the L2 orally at the end of the semester. Despite this statistically significant finding, the percentages showed that more than one-third of students reported no changes at all in L2 anxiety between the beginning and end of the semester, which was a considerable proportion of the participants. Consequently, results indicated that there were minimal, positive changes in students’ self-reported L2 anxiety. However, this conclusion could not be connected to the use of VT exclusively as there were many other factors that may have influenced anxiety outside of the students’ participation in interpersonal audio discussions throughout the semester.

**Anxiety during Participation in VT Activities**

To investigate anxiety within the specific interpersonal audio discussion environment where students were focusing on pronunciation skills, I used the students’ SA forms (Appendix E). The wording in Item 5 of Part 2 on the SA form intentionally linked anxiety to pronunciation development and participation in VT by asking students to report how their participation may or may not have affected their feelings of anxiety (Item 5 - Feelings of anxiety regarding my pronunciation have __________ after participating in this week’s VoiceThread). Results from Wilcoxon signed-rank tests comparing students’ anxiety levels after participation in VT1 and again after VT3 through the SA forms did not show any significant differences in the scores that students assigned to this item representing whether or not students’ anxiety had increased, remained the same, or decreased when developing pronunciation skills. In fact, 64% of students (23 out of 36) noted that anxiety relating to their pronunciation skills had not changed at all after
participating in the interpersonal audio discussion activities. Because the test results were not statistically significant and students did not vary the scores they gave to anxiety when developing pronunciation skills in VT, the test revealed that participation in interpersonal audio discussions had no significant influence on anxiety levels tied to pronunciation development.

**Relationship Between L2 Speaking Anxiety and Pronunciation-Related Anxiety**

In order to explore any associations between pre-questionnaire anxiety prior to experience with VT and pronunciation-related anxiety during participation in VT throughout semester, I used correlational tests. To do this, I chose Spearman’s rank-order correlations because I assessed data from two different instruments with scores that had been assigned using different methods (Laerd, 2014c) – the questionnaires and the SA forms. The results indicated that initial anxiety as reported on the pre-questionnaire correlated positively with pronunciation-related anxiety recorded on the SA forms completed after participating in VT1 ($r_s = .329, p < .05$). This result suggested that students who reported high anxiety levels with regard to using the L2 orally before participating in interpersonal audio discussions felt that their pronunciation-related anxiety had not decreased, thereby assigning similar scores to anxiety after using the technology to focus on pronunciation skills.

A second set of results from correlational analyses indicated that continued participation in the activities did not reduce pronunciation-related anxiety because anxiety reported after VT1 was positively associated with the same item after participation in VT2 ($r_s = .389, p < .05$). Furthermore, a similar relationship between pronunciation-related anxiety levels was found between participation in VT2 and VT3 ($r_s = .337, p < .05$). Between mid-semester and students’ final report of anxiety on the exit questionnaire, the test results revealed another positive correlation and indicated that high anxiety levels reported after VT2 were linked to reports of
sustained anxiety on the exit-questionnaire \( (r_s = .377, p < .05) \). Finally, when exploring the relationship between anxiety both pre- and post-participation in the questionnaires, tests revealed a strong, positive association \( (r_s = .518, p < .005) \). Therefore, results demonstrated that students who reported high levels of general speaking anxiety were continuing to report feeling anxious about not only using their oral abilities to address pronunciation development but also speaking in the L2 at the end of the semester.

The Spearman correlation tests reached significance and implied that the relationships between the variables tested were of moderate strength. Trends revealed by the tests indicated that there was a relationship between general speaking anxiety and pronunciation-related anxiety as the tests produced positive correlations between anxiety levels reported at the beginning, middle, and end of the study. Because the values of positively correlated variables – in this case, general speaking anxiety and pronunciation-related anxiety – increased or decreased concurrently, the quantitative analysis of the variable of anxiety concluded that students’ anxiety about developing pronunciation skills in VT was dependent upon their level of L2 speaking anxiety at a particular moment. Scores assigned to anxiety when participating in the VTs appeared to emanate from L2 speaking anxiety, such that if students were already anxious about using the L2 orally, they were also anxious about developing pronunciation skills and vice-versa. Although students’ L2 speaking anxiety was shown to generally decrease throughout the study, this change in their anxiety levels could not be attributed solely to the use of VT. Consequently, participation in the interpersonal audio discussions had no significant effects on students’ anxiety scores regardless of the source – anxieties that stemmed from simply speaking in the L2 or feelings of apprehension concerning the development of pronunciation skills.
Interpersonal Audio Discussions’ Effects on Self-Confidence

The WTC (MacIntyre et al., 1998) and the MIP (Smit, 2002) constructs situated anxiety and feelings linked to self-confidence (e.g. perceptions about L2 competence) adjacent to one another and purported that they are positively associated, thus fluctuations to one variable would likely lead to similar changes in the other. In fact, MacIntyre et al. (1998) maintained that self-confidence was a result of interactions between L2 anxiety and the self-evaluation of skills. I reference these researchers because, thus far in the analysis, results pointed to no direct relationship between students’ anxiety levels with regard to the development of pronunciation skills and interpersonal audio discussions. Based on this finding, I first postulated that a similar disconnect between pronunciation-related self-confidence and the use of VT was possible depending on how anxiety interacted with students’ self-evaluation of skills as suggested by MacIntyre et al. (1998). Upon further contemplation and based on results presented in Chapter 4, I hypothesized that because students reported more positive perceptions of their abilities in pronunciation as identified through self-assessment tasks, self-confidence was likely to increase after participation in the audio discussions.

Self-Confidence During Participation in VT Activities

Results from a Wilcoxon signed-rank test that compared students’ responses after VT1 and VT3 on Item 4 of Part 2 in the SA forms (Appendix E, My participation in this week’s VoiceThread resulted in __________ confidence regarding my pronunciation skills) implied that students were experiencing more confidence in their pronunciation abilities after VT3. They demonstrated increased self-confidence by assigning higher scores to it near the end of the semester when compared to their scoring of the same items after participating in the first activity. The test produced a significant result ($Z = -2.183, p < .05$). Further addressing students’
confidence associated with pronunciation skills is Part 1 of the SA form that asked students to compare their overall performance on pronunciation-related tasks – accuracy, fluency, and comprehensibility – with their classmates. A reliability analysis of this section showed that the 12 items scored over the course of the study were an acceptable measure of students’ self-confidence levels after self-evaluating their skills ($\alpha = .876$). Students’ scores from each item were totaled, providing an additive measure of self-confidence about pronunciation skills when comparing themselves to peers. I ran another Wilcoxon signed-rank test to compare any changes in confidence levels between participation in VT1 and VT3. Results showed that a significant number of students used higher scores and felt more confident in their pronunciation skills during the comparison task after VT3 ($Z = -2.321, p < .05$). Furthermore, Pearson correlation tests used on the self-confidence measures from Part 1 revealed that students who gave higher scores to self-confidence after participation in VT1 continued to feel confident throughout the semester, as seen in Table 5.1.

Table 5.1

<table>
<thead>
<tr>
<th></th>
<th>Part 1 Total, VT1</th>
<th>Part 1 Total, VT2</th>
<th>Part 1 Total, VT3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part 1 Total, VT1</td>
<td>$r$</td>
<td>1</td>
<td>.633</td>
</tr>
<tr>
<td></td>
<td>$p$</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Part 1 Total, VT2</td>
<td>$r$</td>
<td>.633</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>$p$</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Part 1 Total, VT3</td>
<td>$r$</td>
<td>.628</td>
<td>.873</td>
</tr>
<tr>
<td></td>
<td>$p$</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

Test results shown in Table 5.1 shows that initial feelings of pronunciation-related self-confidence after VT1 – based on how students viewed their performance in relation to peers – were strongly and positively associated with scores assigned to the same section of the SA form in VT3. The strength of the self-confidence correlations grew from .633 after VT2 to .873 after
VT3. These statistical results suggested that interpersonal audio discussions’ effects on self-confidence were not experienced momentarily after each activity, but produced prolonged feelings of self-confidence that lasted until the end of the semester. Continuous indications of positive self-confidence meant that students’ self-confidence about pronunciation showed a tendency to improve over the course of the semester.

**Influences on Self-Confidence in the VT Context**

MacIntyre et al. (1998) stated that L2 self-confidence was a result of “judgments of proficiency and feelings of apprehension” (p. 551) – in terms more applicable to the present study, perceived performance in pronunciation and anxiety. Results pointed to sustained, positive levels of self-confidence, a finding implying that associations between students’ self-confidence and anxiety within the context of developing pronunciation skills through interpersonal audio discussions were weak due to the fact that students’ self-confidence about their pronunciation grew despite ongoing feelings of anxiety that were unaffected by participation in the audio discussions. Further supporting this point, examination of the Pearson’s correlation tests did not indicate any significant relationship between the Part 1 total representing students’ self-confidence about their pronunciation in relation to peers and the anxiety-specific Item 5 in Part 2 of the SA form. In conclusion, quantitative results indicated that there was no significant relationship between the variables of self-confidence and anxiety when participating in interpersonal audio discussions to develop pronunciation skills. Based on MacIntyre et al.’s definition of self-confidence, it was clear that because anxiety was not identified as a major influence that other variables would emerge as contributors to students’ self-confidence in pronunciation skills. Further analysis presented in the following subsections shows that
influential variables were the students’ perceptions about their pronunciation abilities and their specific level of L2 speaking anxiety.

**Perceived performance in pronunciation and self-confidence.** Because anxiety linked to developing pronunciation skills was not associated with self-confidence about pronunciation skills, I explored the relationship between students’ perceptions of their pronunciation skills (Part 3 of the SA form; results addressed in Chapter 4) and their pronunciation-related self-confidence (Part 1) in order to determine if perceived performance in pronunciation was an influence on self-confidence within the context of developing pronunciation skills. To investigate this relationship, I ran Pearson’s correlational analyses on additive measures of Parts 1 and 3 of the SA forms where students compared their skills with classmates in the former, and then reported on their opinions of their own skills such as accuracy or fluency as well as their enjoyment of developing pronunciation skills in the latter. These analyses are summarized in Table 5.2 below, and results suggest that the two variables measured after each VT activity have significant positive correlations.

Table 5.2

Relationship Between Students’ Comparisons of Pronunciation Skills With Peers (Part 1) and Perceptions of Pronunciation-Related Skills (Part 3), n = 36

<table>
<thead>
<tr>
<th>Variables</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>VT1 Part 1 Total &amp; Part 3 Total</td>
<td>( r = .430, p = .009 )</td>
</tr>
<tr>
<td>VT2 Part 1 Total &amp; Part 3 Total</td>
<td>( r = .345, p = .040 )</td>
</tr>
<tr>
<td>VT3 Part 1 Total &amp; Part 3 Total</td>
<td>( r = .447, p = .006 )</td>
</tr>
</tbody>
</table>
From the results of the correlational analyses in Table 5.2, it is clear that there is a relationship between how students’ were feeling about their performance in the comparison tasks with peers (Part 1) and later on in the SA form when self-evaluating their pronunciation-related performance after participation in each VT activity (Part 3). Statistically, the relationship between the two variables is shown through the positive correlations between Parts 1 and 3 in each VT activity. The interpretation of correlations \((r)\) above .40 indicated that there was a strong, positive relationship between scores in Parts 1 and 3 of the SA form. Additionally, all p-values calculated below the threshold of .05 which means that the results were significant and very unlikely to have occurred by pure chance. Statistical results showing a strong and significant positive correlation between the two variables implied that positive perceptions of performance on pronunciation-related tasks were associated with more optimistic opinions of performance when making comparisons with peers throughout the semester. Consequently, students who were satisfied with their pronunciation (based on how they compared themselves with their peers’ performance in pronunciation) tended to report that pronunciation-related tasks seemed easier as they progressed through the VT activities.

**L2 speaking anxiety and self-confidence.** Because general L2 speaking anxiety appeared to be a determining factor in pronunciation-related anxiety as revealed by previously reported results, I chose to explore how it also affected students’ self-confidence about their pronunciation skills. Spearman’s rank-order correlation tests were used to investigate the relationship between initial L2 speaking anxiety as reported on the pre-questionnaire (Appendix A) and students’ self-confidence when focusing on pronunciation skills during the comparison task in the interpersonal audio discussions from Part 1 of the SA form (Appendix E). Results suggesting a significant negative association are presented below in Table 5.3.
Table 5.3

*Relationships Between Initial L2 Speaking Anxiety and Pronunciation-related Self-Confidence*

*When Making Comparisons With Peers, n = 36*

<table>
<thead>
<tr>
<th>Pre-Questionnaire Item 4 (Anxiety)</th>
<th>VT1, Part 1 Total</th>
<th>VT2, Part 1 Total</th>
<th>VT3, Part 1 Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>$r_s = -.521, p = .001$</td>
<td>$r_s = -.525, p = .001$</td>
<td>$r_s = -.518, p = .001$</td>
<td></td>
</tr>
</tbody>
</table>

The Spearman correlations in Table 5.3 indicate that the higher the anxiety score from the pre-questionnaire, the lower students scored their self-confidence when comparing themselves to classmates on pronunciation-related tasks and when assessing their overall performance as compared to peers. The inverse relationship between L2 speaking anxiety and the comparison tasks in the SA form is shown in Table 5.3 through statistically significant and negative correlations – for example, a negative correlation of -.521 between L2 speaking anxiety and comparison with peers in Part 1 after VT1 ($p = .001$), and then after VT2 ($r_s = -.525, p = .001$) and VT3 ($r_s = -.518, p = .001$). Through results presented in Table 5.3, it can be ascertained that students who reported higher L2 speaking anxiety on the pre-questionnaire tended to self-report lower scores when comparing their own performance with their peers’ performance in pronunciation throughout the entire semester. In line with previously reported findings in this study, the results of the correlational analyses implied that L2 speaking anxiety influenced motivational variables, specifically self-confidence, when focusing on pronunciation skills in interpersonal audio discussions.

Further correlational tests run on pre- and post-experience anxiety from the questionnaires and Item 4 from Part 2 of the SA form (My participation in this week’s VoiceThread resulted in __________ confidence regarding my pronunciation skills) demonstrated inverse relationships between the two variables. For example, there was a negative
correlation between pre-questionnaire anxiety scores and self-confidence scores reported after VT3 ($r_s = -.475, p < .005$). This result suggested that higher scores assigned to initial L2 speaking anxiety were associated with lower self-confidence scores after participating in all three interpersonal discussion activities on Item 4 of Part 2 in the SA form. There was a similar association discovered between post-experience anxiety as reported on the exit-questionnaire (Appendix K) and self-confidence levels after VT3 showing that students who assigned the highest scores to L2 speaking anxiety at the end of the semester were also the ones who reported feeling least confident about pronunciation skills after participation in all interpersonal audio discussion activities ($r_s = -.516, p < .005$). In spite of this result, the overall analysis implied that anxiety did not permanently get in the way of students’ self-confidence because comparative analyses reported earlier in this chapter (that compared scores assigned to L2 speaking anxiety) pointed out that a significant number of students (46% or 17 out of 37) reported less anxiety at the end of the semester, indicated by students giving lower scores to this variable. In turn, they gave higher scores to self-confidence about pronunciation skills, a result that further demonstrated the inverse relationship between the two variables. Thus, results suggested that improvements to anxiety – even sustained, low levels of anxiety – facilitate and encourage students’ self-confidence about developing pronunciation skills.

**Summary: Relationship Between Anxiety and Self-Confidence when Developing Pronunciation Skills in Interpersonal Audio Discussions**

To summarize findings pertinent to answering RQ2, the analysis found that general anxiety with regard to using the L2 for speaking and communication was not only associated with pronunciation-related anxiety but also correlated with low self-confidence when it came to developing pronunciation skills. As a result, general L2 speaking anxiety was the common denominator among introductory-level students that negatively affected the motivational
variables of anxiety and self-confidence that influenced their experience in developing pronunciation skills through VT. General L2 speaking anxiety is a result of many other variables untested in the present study. Therefore, although a comparative analysis suggested that L2 speaking anxiety diminished, this change could not be linked to participation in interpersonal audio discussions. In the end, the only definitive conclusion was that L2 speaking anxiety correlated positively with pronunciation-related anxiety as well as negatively with students’ self-confidence concerning their pronunciation skills.

Regarding the role of interpersonal audio discussions in pronunciation development, results from comparative tests assessing students’ self-reported scores at different points in time indicated that about one-third of students (31% or 11 out of 37) were giving higher scores to their self-confidence when participating in VT to develop pronunciation skills near the end of the semester. This result implied that their participation had positive effects on this variable. On the other hand, students’ anxiety about pronunciation development remained unchanged in the over half of students (64% or 23 out of 36) because scores used to describe anxiety levels throughout the semester did not greatly fluctuate. This result was an indication that interpersonal audio discussions had no significant effects on anxiety linked to pronunciation development. Furthermore, pronunciation-related anxiety was not identified as an influence to students’ self-confidence levels concerning abilities or performance in pronunciation.

Finally, self-evaluation was part of the process of completing the SA forms and participating fully in the VT activities. Tests suggested that improvements in students’ perceived abilities in pronunciation – which were determined from the SA tasks – positively influenced their self-confidence about developing pronunciation skills, demonstrated by statistically significant calculations and strong, positive correlation coefficients above .40. Chapter 4 reported
that comparative tests indicated significant, positive differences in scores that students assigned to perceptions of their pronunciation performance after completing all three VT activities. Therefore, when considering the variables collectively, the results of the analysis pointed to the conclusion that participation in the interpersonal audio discussions had the most impact in building students’ self-confidence about their pronunciation skills through the SA tasks that required them to self-evaluate their performance.

**The VoiceThread Experience’s Influence on the L2 Motivational Self-System**

Motivational variables influencing pronunciation were considered through an ideal L2 self filter (defined by students through qualitatively oriented instruments) because findings from Chapter 4 indicated that students’ L2 motivation to develop pronunciation skills was consistent with goal-setting behaviors and future self-guides (Dörnyei, 2010; Dörnyei & Ushioda, 2009). As a reminder, students’ descriptions of the ideal L2 self were generally fixated on the notion of being able to successfully participate in L2 communicative exchanges, with a focus on native-like pronunciation fluency.

Through the investigation of motivational variables from a quantitative perspective, the present study revealed the profoundness of students’ feelings during the experience of developing pronunciation skills in interpersonal audio discussions. From the additional qualitative viewpoints afforded by the mixed-methods design, the students’ experiences using VT can further be viewed as a whole rather than separate variables influencing self-motivation. To add to the illustration of students’ ideal L2 self as presented in Chapter 4, the following subsections elaborate on students’ self-motivation to develop pronunciation skills: (a) understanding students’ motivational thinking while participating in VTs and (b) the impacts of the interactive VT context on motivation to develop pronunciation skills. The aforementioned
subsections provide a mixed methods interpretation of students’ self-motivation by quantitatively investigating additive measurements of motivation (Part 2 of the SA form, Appendix E) in addition to exploring underlying factors to self-motivation examined qualitatively based on students’ unique perspectives found in journal entries (Appendix G).

**Students’ Motivational Thinking During Participation in VT**

**Quantitative results.** One goal of the present study was to explore if the pronunciation-focused activities in VT influenced students’ motivational thinking with regard to the development of pronunciation skills. It was important to investigate the relationship between VT and self-motivation because the immediate learning environment – including experiences that take place within that environment – contributes to the L2 motivational self-system (Dörnyei, 2010). Furthermore, individual affective variables previously mentioned – anxiety and self-confidence – are contributing factors to the L2 motivational self-system and students’ self-defined notions of ideal the L2 self.

In order to investigate the potential effects of interpersonal audio discussions on students’ self-motivation to focus on the development of their pronunciation skills, I consulted Part 2 of the SA form (Appendix E). This section of the instrument was developed specifically for this study to provide an additive measure of individual motivational variables. As mentioned earlier in this chapter, a reliability analysis showed that the 15 items addressing affective variables contributing to motivation to develop pronunciation skills demonstrated internal consistency (α = .826). A Wilcoxon signed-rank test was used to determine if there were any notable changes to scores assigned by students regarding their motivational thinking about pronunciation skills. No significant differences were found between scores assigned to motivation to develop pronunciation skills after VT1 and then again after VT3. Table 5.4 shows the percentage of
students who reported increased and decreased pronunciation-related motivation, as well as those who assigned the same scores to their level of motivation to improve pronunciation skills.

Table 5.4

Changes to MIP Between VT1 and VT3, n = 36

<table>
<thead>
<tr>
<th>Time</th>
<th>Negative Ranks</th>
<th>Positive Ranks</th>
<th>Ties</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>From VT1 to VT2</td>
<td>9</td>
<td>14</td>
<td>13</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>25%</td>
<td>39%</td>
<td>36%</td>
<td></td>
</tr>
<tr>
<td>From VT2 to VT3</td>
<td>12</td>
<td>10</td>
<td>14</td>
<td>33%</td>
</tr>
<tr>
<td></td>
<td>33%</td>
<td>28%</td>
<td>39%</td>
<td></td>
</tr>
<tr>
<td>From VT1 to VT3</td>
<td>9</td>
<td>10</td>
<td>17</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>25%</td>
<td>28%</td>
<td>47%</td>
<td></td>
</tr>
</tbody>
</table>

The percentages shown in Table 5.4 reveal that although there were no significant changes in the additive measures of MIP, the majority of students (75% or 27 out of 36 students) experienced either the same (47%) or increased (28%) motivation to develop their pronunciation skills after participating in the interpersonal audio discussions after VT3. In comparison, about one quarter of students reported decreased motivation (25%), a figure suggesting that interpersonal audio discussions resulted in no substantial adverse consequences to pronunciation-related motivation. Statistically speaking, results implied that motivational thinking was neither significantly nor negatively affected by the specific learning context of interpersonal audio discussions. Almost half of students (47%) reported the same level of motivation at the end of the semester as after VT1, meaning that interpersonal audio discussions did not greatly influence the scores students chose to assign to the level of motivation they felt regarding the development of their pronunciation skills. Although participation appeared to have resulted in changes to
individual variables, the additive measure representing students’ motivational thinking about the development of pronunciation skills did not fluctuate.

**Qualitative findings.** Students’ entries in Journal 3 (24 responses collected out of 37 students, Appendix G) suggested that in spite of no significant quantitative changes to MIP from analysis of the SA forms, there was an abundance of qualitative reports explicating motivational thinking among students during their participation in the interpersonal audio discussions. Therefore, it seemed logical to explore how students experienced motivation from a qualitative perspective as well in order to unite students’ experiences with VT and motivation to hone pronunciation skills.

Students who completed Journal 3 (65% or 24 out of 37) made note of how participation in the audio discussions motivated them to develop pronunciation skills based on a list of features specific to the activities and VT technology as suggested to them in the journal prompt (Appendix G). Although completion of journal entries was mandatory, students were not required to list anything as motivating or demotivating and responded to these items voluntarily. Through textual analysis, a close reading of these entries was performed. Then, common categories were identified by tracking the occurrences of key words and ideas – such as the words *instructor* or *peer* or the idea of wanting “…to be sure they [peers] could understand…” Categories that emerged were later quantified. The categories represented how students identified specific motivational aspects of their participation in interpersonal audio discussions, as shown in Table 5.5 below. The journals were open-ended, and students sometimes mentioned more than one feature of the VT experience as motivating, thus the number of motivating features exceeded the number of students who participated in this journal. Twenty out of 25 students who responded to this journal situated their motivation within the context of
pronunciation development; four students referred to their L2 speaking abilities in their entry, and one student did not list any motivating features.

Table 5.5

*VT’s Motivating Features, n = 49*

<table>
<thead>
<tr>
<th>Feature</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor assigning a grade</td>
<td>12</td>
<td>24%</td>
</tr>
<tr>
<td>Desire for peers to understand recording</td>
<td>10</td>
<td>20%</td>
</tr>
<tr>
<td>Desire for listeners to view recording positively</td>
<td>9</td>
<td>18%</td>
</tr>
<tr>
<td>Focused activity on speaking</td>
<td>9</td>
<td>18%</td>
</tr>
<tr>
<td>Using images to convey spoken language</td>
<td>5</td>
<td>10%</td>
</tr>
<tr>
<td>Using VT to listen to oneself and others</td>
<td>4</td>
<td>8%</td>
</tr>
</tbody>
</table>

The percentages in Table 5.5 show that students were frequently motivated by the anticipated outcomes of their performance in pronunciation. About one quarter of motivating features listed (24% or 12 out of 49 features mentioned) were tied to the students’ desire to perform well in pronunciation because they knew their instructor would be grading them. This finding suggested that students anticipated extrinsic rewards of performing well in pronunciation, such as receiving a good grade (Dörnyei, 1994). Regarding the L2 motivational self-system (Dörnyei & Ushioda, 2009), avoiding a negative outcome – receiving a bad grade from the instructor, in this case – is consistent with the ought-to self that represents qualities learners believe they should possess as part of their classroom responsibilities and expected performance. The ought-to self may or may not be consistent with students’ notions of the ideal L2 self due to differences between a sense of
obligation (ought-to self) and a true desire or aspiration (ideal L2 self). Results in Table 5.5 imply that students’ ought-to and ideal self often overlapped because a little less than one quarter (20% or 10 out of 49 features mentioned) of features listed as motivating were centered on students’ desires to upload a comprehensible recording to the group conversation so that their peers could understand them and successfully continue participating in the activity. Students’ anticipation of conversations with their classmates demonstrated desires to effectively communicate with other L2 speakers and become more like their ideal L2 self, a finding reported in Chapter 4. Additionally, students wanted to avoid linguistic difficulties during communication, thereby suggesting that they channeled the ought-to self facet of the L2 motivational self-system as well.

A small number of students (4 or 8%) reported being motivated by using the technology for listening purposes. Due to this small proportion of students who were concerned with listening, prominent categories in Table 5.5 suggest that students centered on language production, a finding that corresponded to Magnan et al.’s (2014) report stating that introductory-level students are more focused on producing language, or output, when compared to spending time on input activities such as listening. In conclusion, the mixed methods investigation of how and why students were motivated in the particular context of VT suggested that aspects of both the VT technology and the pronunciation-focused activities carried out in VT were compatible with students’ L2 motivational self-systems and progress in reaching their ideal L2 self. Although students did not quantitatively vary scores they used to indicate how motivated they were feeling throughout the study to work on pronunciation skills, the qualitative analysis indicated that the output-focused and interactive oral activities in VT allowed students to get
practice in pronunciation while also participating in group conversations – production-oriented steps in the L2 toward developing both pronunciation skills and an ideal L2 self.

**Interactivity and the L2 Motivational Self-System**

In this section, I focus on the specific indications identified in the qualitative analysis regarding how students used VT to activate motivational thinking in the present study. Nearly half of all mentions of motivating factors (23 out of 49 mentions or 47%) were centered on opportunities for communicative interactions afforded by VT in Journal 3 (Appendix G). Thus, in the study, students suggested that communicating and collaborating with others in interpersonal audio discussions was a condition that not only activated motivational thinking with regard to the L2 motivational self-system but also helped them to define and reach L2-related goals in pronunciation.

The students’ interactivity with peers that fostered goal-directed behaviors indicated that students were committed to pronunciation development in the future, and not just for the current semester. Consequently, students revealed traits of *possible selves*, or a self-state that occurs when learners reflect on unrealized potential by pulling from personal goals and aspirations (Markus & Nurius, 1986) as also described in Chapter 4. Dörnyei and Ushioda (2009) applied the concept of self-types to the L2 setting – creating the L2 motivational self-system – and elaborated on the idea that future-oriented possible selves are not merely goals. Students who experience possible self-states also experience motivational factors psychologically because they associate the images and senses attached to their possible L2-self as a reality, as opposed to reward-based goal-setting actions that are not relevant to the L2 motivational self-system. Thus, communicating with classmates in the VT activities was an environment where students experienced affective variables and emotions that were attached to their ideal L2 self as part of
their current reality. Notable affective variables amplified by the interactive VT environment and linked to preserving and developing the ideal L2 self are discussed in the subsections below.

**Saving face with peers during collaborative conversations.** One particular scenario that students associated not only with their current reality but also with the ideal L2 self was the indication of a keenness to avoid experiencing embarrassment due to lackluster pronunciation skills in VT activities. When a student speaks aloud in a traditional classroom setting, the utterance is heard only once and by classmates who are attending to what is being said at that moment. When a student participates in VT, the utterance is recorded and can be accessed by anyone at any time, and can then be replayed multiple times. Because of increased interactivity and the way information is exchanged in VT, students wanted to “save face” – or earn respect and build confidence – with their peers regarding pronunciation. For example, a student commented:

…I believe the fact that my classmates’ recordings were easily accessible made me want to be better at speaking French. The fact that anyone could have logged on to Voice Thread and listen[ed] to my recordings made me want to make sure they were a little better. Honestly with little effort the recordings could be so bad they were embarrassing so I felt the need to take the extra time to make sure I was getting the pronunciation correct.

This student was motivated to perform well in pronunciation in order to avoid a negative consequence; in this case, feeling embarrassed and experiencing low self-confidence due to lack of effort in pronunciation. The student was aware that his peers had open access to the VT conversations posted within his class, thus the collaborative nature of the conversations motivated him to spend additional time on his recorded contributions. Expending a conscious effort on a focused activity – here, in improving pronunciation skills – was prompted by the student’s desires to avoid a disagreeable outcome, to achieve the extrinsic reward of earning recognition from his peers, and finally, reach intrinsically oriented goals to become more like his
ideal L2 self which was someone who appeared confident and knowledgeable about the L2. Again, because of the increased interactivity within VT and through the design of the interpersonal audio discussion activities where students were constantly accessing multiple VT conversations, self-motivation to perform well in pronunciation was prevalent because students wanted to look good and maintain respect from their classmates, as well as live up to their opinions of ideal L2 speakers.

Likewise, a student exemplified the theme of saving face instead of losing the respect of his classmates. He wrote about his experience using VT and pointed out: “…I knew that I wasn't the only person that would listen [to] it,” a factor that “…motivated me to attempt to speak more clearly…” Again, in this example, knowing that others could listen in at their leisure was a source of motivation to perform well in pronunciation. The student also commented that he was motivated by “…being able to easily listen to my classmates’ recordings in the VoiceThread format because it made me realize how bad I was in comparison to them and I really hate losing.” This student’s words described how he used VT to make comparisons with classmates not for the sake of accessing opportunities for learning, but in order to see how he measured up to others’ abilities in pronunciation as a form of competition. The notion of being in competition with others is commonly related to group activities and environments as opposed to independent and individual learning opportunities. Thus, sensing success and confidence were feelings that connected to how learners identified with the ideal L2 self in addition to contributing to affective, motivational factors that resulted from interactivity with peers in the VT environment.

**Interactivity with peers and self-regulatory strategies.** Within the context of the L2 motivation self-system, Dörnyei and Ushioda (2009) pointed out that proximal guides used to help one achieve a possible or ideal self are ineffective if there is no plan of action designated by
the learner. In the present study, students suggested that the development of their ideal L2 selves contained the necessary goal-directed components, applied from Dörnyei and Ushioda’s suggestions: (a) imagery in the form of pronunciation models and proximal guides as well as evidence of (b) goal-setting behaviors and (c) self-regulatory strategies. One student’s comments explicated the interpretation that collaboration with peers within VT promoted the L2 motivational self-system (Dörnyei & Ushioda, 2009). The student immediately pointed out in Journal 3 that the social nature of the audio discussions was a condition that resulted in increased MIP. She commented, “Being able to listen to my classmates’ contributions and knowing that my response would be graded certainly helped motivate me to improve my French pronunciation skills….” The student recognized VT as a community where her performance in pronunciation was available to the instructor and classmates alike, thus open for judgment by VT users. The student wanted to be judged favorably. Consequently, she was motivated to give her best performance in pronunciation in order to avoid the undesired result of sounding like her feared self (a facet of the ought-to self) – weak in pronunciation and not being able to be understood by others – instead of her desired self (Oyserman & Markus, 1990). She continued, “My classmates’ responses were helpful because they allowed me to see how other French students performed in French pronunciation. I would try to mimic those students who had impressive pronunciation skills.” Her reflections pointed out that having participated in this virtual community afforded access to additional sources of information about pronunciation learning. Because the student wrote that she used VT to intentionally listen to and judge her classmates’ pronunciation, she showed that she considered VT contributions to be additional sources of information. The student reported using her peers’ recordings as proximal guides because she tried to imitate their pronunciation. Furthermore, by describing her peers’ pronunciation as “impressive” she
indicated that she honed in on more advanced peers as part of her learning strategy until she could perform the pronunciation-related tasks independently. As a result, her comments suggested that collaboration with peers in VT was helpful to the development of her pronunciation skills. She also indicated that the interactivity of VT had helped her to not only progress toward pronunciation-related goals but also to conceptualize her ideal L2 self with regard to pronunciation by constructing her perceptions of an ideal pronunciation model – in this case, by listening to her peers. The student indicated in Journal 1 that she wanted to sound like one of her peers who had “correct pronunciations” and “hardly ever hesitates in her speech,” thereby suggesting that developing the ideal L2 self could be promoted through improving pronunciation accuracy and fluency.

Another student also pointed to changes in her L2 motivational self-system when she wrote about sharing her own recorded contributions and also when perusing her peers’ recordings in VT:

Knowing that my classmates were able to listen to my contributions to VoiceThread definitely motivated me to do my best and speak as accurately as I could. This is because some of my classmates are really really good at speaking French and knowing that they could hear my contributions made me want to work hard and sound as good as they do.

In this excerpt, the student inferred that the peer-to-peer interactions in VT had allowed her to pay close attention to her peers’ pronunciation abilities and was conscious in her efforts to replicate them. Just as the first student noted that she had selected whom she believed to be high-performing classmates, and then tried to imitate their pronunciation skills, the student’s comments indicated that she was also using her classmates’ recordings as references in order to sound “as good as they do,” thus setting a personal goal in pronunciation development that motivated her. By expressing that she was doing her best and expending effort to sound like her classmates, the student implied that all elements of the L2 motivational self-system were at work.
in helping her become like her ideal L2 self. She defined her ideal L2 self as “pronouncing words clearly... [through] practicing and continuing to listen and reiterate what I hear from those speaking French around me” in prior journal entries. Her comments exemplified how participation in VT allowed students to access proximal guides as well as take steps to learn both collaboratively and independently.

**Interacting with technology as a means to develop pronunciation skills.**

Communicating virtually through VT not only expanded students’ access to various routes of goal-setting in pronunciation – such as using peers as proximal guides – but it also reduced boundaries between class members. As a result, the collective and shared conversations in VT increased opportunities for students to compare and scrutinize each other’s abilities in pronunciation as part of developing pronunciation skills. Although less prevalent than students who focused on the interactions they experienced with other people in the audio discussions as motivating, a little more than one-third of motivating features noted (37% or 18 out of 49 mentions) referred to interactions with the technology itself as a factor that motivated them to work on pronunciation skills in Journal 3 (Appendix G). In these cases, the students saw the computer and complementing technology as a facilitator to their pronunciation development experience. To exemplify an interaction between learners and VT that was connected to the development of their pronunciation skills, one student remarked in Journal 3:

> I feel that being able to hear myself actually speaking French helped in urging me to work on my pronunciation even more than before. It is different when you can actually hear yourself speaking than just speaking to others. You can pick out mistakes in yourself like you can in talking to others.

Consistent with a focus on the benefits of collaborative technologies as triggers for the L2 motivational self-system, the student noted a specific feature of the technology as a condition that resulted in motivational thinking. Because carefully listening to oneself speak during
classroom discourse is impractical – unless the student makes an effort to audio record these tasks – the interpersonal audio discussion activities fulfilled a void for pronunciation practice and development because students were able to review their oral recordings as often as they desired. Consequently, students’ comments exemplified Mayer and Moreno’s (2003) claims that learner-controlled features available in multimedia technologies – demonstrated through the previous comment as the ability to freely revisit VT conversations – promote learning in these environments.

The theme of feeling motivated from interactions within VT was exemplified in students’ comments that focused on how they developed pronunciation skills while manipulating the technology. One student expressed that having another outlet to listen to and express oneself in French through VT was useful “…because listening to myself made me realize how badly I murdered the language and I try to do things well so that provided another challenge to overcome.” Instead of making comparisons with classmates, this student appeared to be using VT to make comparisons among his own recordings. After, he then set benchmarks toward progress in improving his spoken French as overcoming obstacles, a practice that motivated him. Another student noted that “using technology helped me because hearing myself on VoiceThread made me understand where I messed up.” These students acknowledged that going back and listening to their own recordings in VT resulted in a heightened awareness of their performance in pronunciation that they applied to future pronunciation development and their ideal L2 selves. They also indicated that they were developing skills through listening that could transfer to oral tasks, such as using their newfound awareness to better edit their speech and set realistic goals for improvement.
The analysis and interpretation of qualitative data also indicated that students (5 occurrences or 10% of motivating features mentioned) connected MIP with the VT environment and the ability to use images to supplement their recorded contributions, a unique feature of the technology. Interacting with this feature allowed students to ensure that responses “were focused at least somewhat directly on the picture” or “gave [them] something to focus on” when completing the activity. Thus, collaborating with images during spoken output was a technological feature that promoted the use of self-regulatory strategic actions during pronunciation development, components of the L2 motivational self-system. Students’ remarks demonstrated self-regulatory behaviors, such as being able to better “understand or layed [sic] a background for what we were trying to talk about” because the “images helped add content and made it easier to speak in French.” These comments exemplified strategies such as planning and self-evaluation as a result of their interactions with the multimedia features of the VT technology. Lee’s (2014) VT study using new stories as topics of conversation also found that familiarity and background knowledge encouraged social interaction in the interpersonal audio discussions. In the present study, creating a sense of comfort about the topic was facilitated through the use of appropriate images on the VT slides. Self-regulatory behaviors are consistent with a learner who synchronizes actions with goals such as expanding expertise and self-improvement, components of the L2 motivational self-system according to Dörnyei and Ushioda (2009). Consequently, although students did not attribute gains in pronunciation development specifically to the ability to use images in VT, they did connect increased motivation to properly complete the activity with this condition afforded by the interactive, multimedia learning environment. Therefore, by interacting with images during L2 speaking tasks in VT, students received focused practice in the development of pronunciation skills.
Discussion of Chapter 5 Results

The present study suggests that influential motivational variables to the development of pronunciation skills for the introductory-level students were those affiliated with learners’ L2 motivational self-systems. According to Dörnyei and Ushioda (2009), efforts to achieve an ideal L2 self-state encompass the following variables: (a) students’ attitudes toward members of the L2 community, addressed in Chapter 4 through the identification of the development of an ideal L2 self when developing pronunciation, and (b) students’ natural desires to be successful, which are closely linked to students’ self-confidence. In this chapter, self-confidence was identified as a significant variable concerning motivation to develop pronunciation skills as it was not correlated with students’ anxiety about developing pronunciation skills in the study. Anxiety about pronunciation development remained constant throughout the semester, and test results did not suggest that students’ widely varied the self-reported scores they assigned to this variable. On the other hand, students had a tendency to give higher, more positive scores at the end of the semester to self-confidence about their pronunciation skills when making comparisons with peers in addition to reporting more positive perceptions of how they performed on certain aspects of their pronunciation. Although the study did not focus on actual changes to judged samples of performance, sensing improvement increases L2 self-confidence and suggests that students are more willing to communicate (MacIntyre et al., 1998), thereby affording more opportunities for practice, progress in intelligibility, and more frequent communication. Therefore, results suggested that variables influencing MIP for students in introductory-level language courses may well differ from what is known about pronunciation-related motivation in more advanced learners (Ducate & Lomicka, 2009; Lappin-Fortin & Rye, 2014; Lord, 2008; Medina & Gordon, 2014; Smit, 2002).
In the current study, qualitative findings addressed how the VT context influenced L2 self-motivation. Findings indicated that increased interactivity during the pronunciation-focused tasks in VT supported the development of the students’ ideal L2 selves by providing opportunities for participation in pronunciation-focused activities where students experienced affective variables linked to the ideal L2 self, for example: anxiety, self-confidence, and self-regulatory behaviors (e.g. goal-setting strategies and self-evaluation). Dörnyei and Ushioda (2009) emphasized the effects of the learning context on L2 self-motivation where impacts such as peer interaction or the curriculum play a role in influencing students’ motivation. Accordingly, the study revealed aspects of the VT learning environment that resulted in positive changes to affective variables and the L2 motivational self-system – primarily, the interactive and social nature of the interpersonal audio discussions. Social interactivity refers to students and teachers communicating and listening to one another, exemplified in the present study by students mentioning the following motivational aspects of VT: knowing the instructor would listen to and grade the activities, desiring for other contributors to comprehend recordings and also view them positively, and, finally, using VT as a learning tool to go back and listen to recordings. The majority of students in the study responded to the particular learning experience of honing pronunciation through collaborative participation in interpersonal audio discussions, indicated by increases in self-reported scores in self-confidence and perceived performance on pronunciation tasks.

**Understanding Influential Factors to Introductory-Level Students’ MIP**

Findings from the study did not suggest any significant correlations between the two variables of self-confidence and anxiety when developing pronunciation skills, thereby indicating that anxiety and self-confidence functioned independently. This result differs from
published research that has maintained a strong, negative correlation between the two variables – as L2 anxiety increases, L2 self-confidence decreases and vice versa (MacIntyre et al., 1998; Saint Léger & Storch, 2009; Smit, 2002; Young, 1991). The study centered on anxiety and self-confidence in order to shed light on the status of these notable variables in introductory-level students who were honing pronunciation skills in the unique environment of interpersonal audio discussions. Due to significant increases in students’ self-confidence despite simultaneously experiencing anxiety about developing pronunciation skills, the study’s findings emphasized the L2 motivational self-system (Dörnyei & Ushioda, 2009) as a strong indicator of MIP in introductory-level L2 learners. Improved L2 self-confidence in pronunciation suggested that students felt they were narrowing the gap between their actual self and the ideal L2 self. This outcome is indicative of promotion-focused instrumental motivation that Dörnyei and Ushioda (2009) described as being associated with learners’ “hopes, aspirations, advancements, growth, and accomplishments” (p. 28) in relation to the ideal L2 self. Building L2 self-confidence through the L2 motivational self-system suggests that a “one size fits all” approach to the construct of MIP is impractical, thereby adding to published research concerning how students’ with lower L2 proficiency levels experience motivation and the affective variables of anxiety and self-confidence, specifically during tasks related to the development of pronunciation skills.

**Interactive Technologies’ Place in Approaches to Pronunciation Development**

Based on students’ emic perspectives, the current study indicates that increased interactivity during the development of pronunciation skills – in VT through interactions with their peers and the ability to manipulate knowledge through an interactive, multimedia technology – is beneficial to pronunciation development in learner populations similar to the participant sample. Consequently, findings implied that students’ motivational thinking with
regard to pronunciation was connected to the notion of developing skills through interactions, a feature specific to the environment afforded by the interpersonal audio discussions. For this reason, a larger impact to students’ motivational thinking and L2 self-systems, although not explicitly listed in the journal prompt, was the students’ reactions to collaborations with other real time users afforded by the VT conversations. This section thus highlights the study’s results that reveal promise for developing pronunciation skills through peer-to-peer interactions and collaborations at the introductory level.

The study’s theoretical framework referenced sociocognitive theory in L2 education maintaining that opportunities for learning are created through our environments, for example, through participation in VT conversations (Atkinson, 2000; Hall & Stoops Verplaetse, 2000). Findings indicating that motivation to develop the L2 self-system with regard to pronunciation was encouraged by shared, collaborative conversations between the learner and other L2 speakers during pronunciation development disputes Neri et al.’s (2002) thoughts that emerging technologies are suitable for a focus on pronunciation because CALL technologies offer “private” environments where students “…receive individualized, instantaneous feedback” (p. 441). Although Neri et al. encouraged contextualized pronunciation teaching and learning – as opposed to listen and repeat drill exercises – their descriptions of appropriate pronunciation-based technologies focused on acquiring pronunciation skills and reducing students’ anxiety through interactions between the learner and the courseware. On the other hand, the findings corroborate more recent research in CALL (Kessler, 2013; Lee, 2014; Thomas, Reinders, & Warschauer, 2012) underscoring the advantages associated with increased interactivity through CALL technologies – for example, more opportunities to use the L2 and greater learner autonomy due to students’ increased control of their membership in a collaborative group setting.
Furthermore, the WTC construct used to study students’ MIP noted the influential variable of interpersonal motivation. This variable addresses students’ desires to actively learn the L2 through opportunities to communicate with similar L2 interlocutors – in the present study, with peers. Because this study purports that students successfully develop pronunciation skills through interactions with peers, VTs appear to foster interpersonal motivation, thereby positively influencing students’ readiness to communicate and desire to hone pronunciation skills. Such a conclusion supports approaches to pronunciation teaching and learning that originate from sociocognitive views of language acquisition (Atkinson, 2000) and focuses on the critical role of contexts that promote interaction and interpersonal communication.

Exemplified by increased self-confidence about L2 pronunciation at the end of the study, students demonstrated successful pronunciation development through collaborations with peers (Kessler & Bikowski, 2010, as cited in Kessler, 2013), such as improved perceptions of performance on pronunciation-related tasks. Thus, when considering the importance of students’ interactions during the development of their pronunciation skills, the discussion focuses on the notion of interactive learning (Tapscott, 1998) – or, in the present study, interactive pronunciation development – and how it resulted from the learning context. Characteristics of interactive learning are: discovery-based rather than instructional, learner-centered, customized learning, and learning for pleasure. First, students demonstrated that they were able to use the L2 independently to share personal thoughts and individual knowledge while also contributing to their group conversation in VT. Next, students described in journal entries their many strategies for communicating and developing pronunciation skills in a collaborative group setting. Finally, because students remarked throughout participation in the three activities about specific steps they were taking to develop their pronunciation skills while using VT, they showed willingness
to hone pronunciation skills interactively. In addition to the study’s suggestion that students successfully developed pronunciation skills in an interactive environment (as detailed above), aspects of students’ experiences with the VT technology that correlated to interactive learning for pronunciation development are: (a) task-based collaborations that result in collective wisdom (Atkinson & Burden, 2008; Shrum & Glisan, 2010) demonstrated by the completed VT conversations themselves, (b) increased learner control and autonomy (Mayer & Moreno, 2003; Kessler, 2013) exemplified by students’ manipulation of the technology for the development of pronunciation skills, and (c) a learning environment that positively influences the L2 motivational self-system through self-regulatory behaviors (Dörnyei & Ushioda, 2009). Specific to the present study were the opportunities for peer-to-peer interactions within the VT context, revealed through the concurrent development of students’ ideal L2 self and goal-setting encouraged by proximal guides in pronunciation – in other words, interpersonal oral communication with peers fosters L2 self-motivation and pronunciation development.

Mayer (2005) also purported that interactive, discovery-based learning is effective in multimedia environments such as VT because students must use their intuition and collaborate with other learners, characteristics of learning that result in greater conceptual knowledge. Participation in VT not only emphasized the oral, recorded interactions between classmates but also interactions with the VT technology. Students detailed the actual processes of interaction between themselves, their peers, and the learning environment as a means to discuss the specific conditions motivating them to develop pronunciation skills and the effects of an interactive, shared environment on their pronunciation development experience.

In conclusion, VT shows promise for interactive, communicative approaches to pronunciation teaching and learning. Although the topics of the conversations where quite
different, Lee’s (2014) use of VT to discuss news articles in an advanced Spanish course produced similar peer-to-peer interactions and results, reporting that more than 80% of participants enjoyed interacting with others in VT by not only sharing ideas but also by increasing awareness. In Lee’s study, students used peers’ comments to become more aware of current events in Spanish-speaking countries, whereas in the present study, students used peers’ comments to self-evaluate and develop pronunciation skills. Comparing Lee’s study with the current study not only validates the flexibility of VT in the language classroom, but adds to the this study’s findings that increased interactivity within VT conversations positively influenced students’ L2 motivation, particularly in oral tasks as that is the primary method of communication in VT conversations. Furthermore, Ducate and Lomicka (2009) and Lord (2008) conducted similar studies using podcasting technologies that produced parallel reactions in more advanced students focusing on pronunciation skills. Therefore, to respond to RQ3, there is mounting evidence that increased interactive, learner-centered, and discovery-based learning, such as that afforded by interpersonal audio discussions as described in this report, are important components of pronunciation development in introductory L2 classrooms.
CHAPTER 6
CONCLUSIONS AND IMPLICATIONS

The present study set out to explore an emerging technology (VT) and investigate how introductory-level students’ motivation to develop pronunciation skills was affected by the implementation of this technology in their second-semester French course. Using qualitative, open-ended questionnaires and journals as well as quantitatively oriented feedback forms, the current study identified the following: (a) how students’ opinions of L2 learning influence their perceptions about the skill of pronunciation, (b) students’ perceptions of their own performance in pronunciation, (c) motivational variables associated with pronunciation development at the introductory level, and (d) specific characteristics of interpersonal audio discussions that activate motivational thinking with regard to pronunciation development. Specifically, the research used Wilcoxon signed-rank tests to uncover any significant changes to self-reported scores given to affective variables of anxiety and self-confidence about pronunciation skills as well as scores that students assigned to perceptions about their performance of pronunciation-related tasks. Additionally, the research analyzed correlational tests between affective variables throughout participation in interpersonal audio discussions to investigate how they interacted and changed over time when developing pronunciation skills. Qualitative, textual analyses were also carried out on students’ open-ended response items in questionnaires and journals, a process that revealed their actual experiences and emic perspectives about developing pronunciation skills in VT. Insights into the context of developing pronunciation skills through interpersonal audio discussions and participation in the complementing reflective activities from the students’
viewpoints assisted in clarifying the role of interactive, social technologies like VT for pronunciation development.

In this chapter, I first repeat the RQs in order to situate the findings, implications, and conclusions within the framework that guided the development and execution of this research project. Next, a summary of findings is presented, followed by the pedagogical and theoretical implications of the present study. Finally, the chapter describes the study’s limitations, and then suggestions for future research on this topic are shared before returning to the study’s final conclusions.

**Research Questions**

RQ1: What are the effects of participation in interpersonal audio discussions on students’ perceptions of pronunciation skills in introductory French courses?

RQ2: How does participation in interpersonal audio discussions affect students’ anxiety and self-confidence about developing pronunciation in introductory French courses?

RQ3: How are students influenced by participation in interpersonal audio discussions to develop pronunciation skills in introductory classrooms?

**Summary of Findings**

By addressing each RQ, the study’s results suggest that interactive, emerging technologies – such as VT as implemented in the present study – are effective motivators during the development of pronunciation skills in introductory-level L2, communicatively oriented classrooms. Findings indicate that students’ perceptions about pronunciation (RQ1) are consistent with prior research claims—there was some confusion about how this skill fit into their language learning experience, and they did not consider it to be as important as other skills such as grammar or listening comprehension (Brandl, 2000; Munro & Derwing, 2011; Omaggio
Concerning students’ perceptions of their own performance in pronunciation, the study purports that students experienced improvements in perceived performance in pronunciation-related after participation in audio discussions, a result that replicates prior findings about learning pronunciation through emerging technologies (Lord, 2008). Finally – and in line with prior research (Lappin-Fortin & Rye, 2014; Murakami et al., 2012; Saint Léger & Storch, 2009) – results indicate that increased awareness about pronunciation skills through participation in pronunciation-focused activities and self-evaluative activities are paramount to defining, developing, and reaching goals associated with the ideal L2 self, part of the L2 motivational self-system (Dörnyei & Ushioda, 2009) and a key factor in the development of pronunciation skills at the introductory-level. Through the exploratory nature of the study’s design, results point to the importance of students’ perceived ideal L2 self – defined by the majority of the participant sample as someone who can maintain a successful and natural communicative exchange in the L2. Consequently, the study adds to previous research in motivation to develop pronunciation skills (Smit, 2002) by emphasizing the ideal L2 self as a central motivational variable to MIP in introductory-level students.

Because the L2 motivational self-system and the ideal L2 self were revealed as notable mediating variables in introductory-level students’ motivation to develop pronunciation skills, the study suggests that students’ self-confidence about pronunciation skills is a primary influence to students’ MIP (RQ2). The study’s quantitative results indicated that students’ experience increased self-confidence about pronunciation skills as a result of participating in the pronunciation-focused audio discussions, thereby linking participation in VT for the development of pronunciation skills to the concurrent development of the ideal L2 self.
Correlation coefficients generated during the analysis also indicate that for introductory-level students such as those in the present study, pronunciation-related anxiety and self-confidence are not negatively correlated as maintained in other motivational constructs (Csizer & Dörnyei, 2005; MacIntyre et al., 1998; Smit, 2002). Accordingly, this study offers a different point of view on introductory-level students’ MIP with an emphasis on the L2 motivational self-system.

Concerning how students rated their motivation to develop pronunciation skills (RQ3), the study implies that students’ did not necessarily feel more or less motivated to develop pronunciation skills after participating in interpersonal audio discussions. From a qualitative perspective, the current study demonstrates how students used interpersonal audio discussions in VT as activities that stimulate motivational thinking with regard to pronunciation development, findings that do not dispute prior research maintaining that students are generally more motivated in pronunciation when using emerging technologies (Ducate & Lomicka, 2009; Lord, 2008). However, the conflicting outcomes of the quantitative and qualitative analysis highlight the difficulty of measuring pronunciation-related motivation. In spite of whether or not interpersonal audio discussions motivated students more or less to hone pronunciation skills, the study demonstrates how communicatively based activities such as interpersonal audio discussions are compatible with introductory-level students’ particular orientation to pronunciation learning, one where students consider pronunciation as a skill that is not taught through memorization of rules such as in a phonetics course but acquired continuously through meaning-based, communicative needs of the L2. Additionally, the study indicates that increased interactivity in VT encourages students to develop pronunciation skills. This finding underscores a connection between learner-centered, collaborative pronunciation development and the development of the ideal L2 self through the use of proximal guides (Dörnyei & Ushioda, 2009;
Vygotsky, 1978). Building upon the study’s aforementioned findings, upcoming sections in this chapter focus on how the present study informs pedagogical practices and theoretical stances that correlate to pronunciation teaching and learning.

**Pedagogical Implications**

In the spirit of applied linguistics research within the field of L2 education, one purpose of the present study is to address a real-life issue related to language learning, as well as offer some solutions for current teachers. The central issues that provoked the study are the questions of if and how to address pronunciation learning in introductory L2 classrooms. National Standards (ACTFL, 2014), Proficiency Guidelines (ACTFL, 2012), and pedagogical approaches are separate entities created for different purposes within L2 education. Despite the distinctions between them, this section addresses the Standards, Proficiency Guidelines, and the CLT approach collectively because they are inherently connected by learners, instructors, and scholars (Magnan, 2008; Magnan et al., 2014). With the goal of addressing what can be done with pronunciation from a research-based perspective, the study offers several implications for pronunciation’s role within introductory L2 classrooms. Pedagogical implications are suggested through consulting the study’s findings that demonstrate how students’ goal-setting behaviors in pronunciation development are associated with National Standards along with how an interactive approach to pronunciation development fits into L2-learning environments that are influenced by the CLT approach.

**Introducing Pronunciation Through Interactive Technologies**

With the constant influx of digital technologies, online learning platforms, and course delivery systems, L2 learning is happening both inside and outside of the traditional, face-to-face classroom. With regard to using emerging technologies for the development of oral language
skills – and a particular focus on teaching pronunciation – instructors have been cautioned to implement carefully designed, high-interest activities through research-based methods (Derwing & Munro, 2005). The present study claims that introductory-level French students respond positively to participation in social and interactive online environments, indicated by statistical results pointing to significant increases in pronunciation-related self-confidence and in perceptions of performance in pronunciation. Based on these claims, the study offers not only a rationale for introducing pronunciation development through virtual interactions with peers but also some implications for pedagogical practices.

The study maintains that VT is a practical tool for motivating students in pronunciation because introductory-level students appear to be strongly influenced by the L2 motivational self-system and future self-guides. Due to this specific orientation to motivation, students’ experiences of an actual L2 self and an imagined L2 self are compatible with the use of social technologies for pronunciation development that “straddle the virtual and real social worlds” (McCloughlin & Lee, 2007, p. 665). Consequently, this study purports that interactivity afforded through technology can be effective in developing the ideal L2 self – exemplified here by the pronunciation-specific facet of the ideal L2 self. Because the ideal L2 self is an imagined version of oneself that students often experience psychologically as a reality (Csizer & Dörnyei, 2005), teachers can encourage its development through virtual interactions that simulate and complement real-life interactions.

Furthermore, instructors should consider interactive technologies such as VT for pronunciation because although the study’s findings noted that students experienced similar levels of motivation throughout the study, students called attention to numerous ways that participation in interpersonal audio discussions activated motivational thinking about
pronunciation. During pronunciation development through interpersonal audio discussions, teachers can expect to observe motivational thinking in students at several levels (McCloughlin and Lee, 2007): the students’ learning level, the contextual level, and the language level. At the learning level, the study indicates that students are likely to experience positive changes to perceived L2 performance and self-confidence as a result of participation in socially oriented technologies such as VT. Additionally, teachers can focus on learner-centered instruction with the implementation of VT because the current study demonstrates how students acquire new knowledge through social interactions in VT, indicated by the study’s results showing more positive self-reports of performance in pronunciation. Furthermore, students in this study remarked that they not only felt accountable for their own pronunciation development in VT but also that they were motivated to enhance their peers’ learning experiences in VT by sharing comprehensible and accurate recordings. Thus, in VT, there are elements of information discovery and sharing through interactions at the learning level.

At the contextual level, evidence of peer-to-peer interactions exemplified how a social, online environment supports networking between students and also facilitates communicative exchanges – interpersonal communication as defined by ACTFL (2012). Furthermore, students’ success in creating collaborative conversations through the three interpersonal audio discussion activities indicates that students at the introductory level can focus on pronunciation while collectively constructing user-generated content, a process that involves working together to generate new knowledge. This outcome may not have been possible without the editing and review structures available exclusively through the VT context. Finally, at the language level when developing pronunciation skills in VT, students’ reflections indicate that they accessed information available exclusively through VT – such as peers’ speaking samples – for personal
needs in pronunciation development. Accordingly, teachers can view interpersonal audio discussions as environments where students reuse information through content modification (e.g. honing pronunciation skills), also described as learner uptake or learners’ attempts to produce more accurate language.

Therefore, the present study adds to the few studies investigating online social environments for the development of pronunciation skills and purports that there are many affordances associated with emerging, multimedia technologies and interactive learning when it comes to pronunciation. Because pronunciation has not traditionally received equal instructional time in introductory-level classrooms when compared with the four major skills of listening, reading, speaking, and writing (ACTFL, 2012), the development of pronunciation through technological affordances and interactive environments outside of class time is a viable and perhaps preferable alternative to how to address it. For example, interpersonal audio discussions may be considered for extension activities focusing on pronunciation skills that promote interpersonal communication (ACTFL, 2014) and learner-centered development of pronunciation at the conclusion of a unit or lesson. Alternatively, slides within VT may be used for structured input (Lee & VanPatten, 2003) in pronunciation teaching in flipped learning models where students cover and practice new concepts at home, and then apply the learned material in class (Bergmann & Sams, 2012). At minimum, the study exemplifies how participation in VT along with the self-evaluation of pronunciation skills create a type of electronic pronunciation portfolio where students store, access, and also assess samples of their development and learning with regard to pronunciation skills. Recent research (Kennedy et al., 2014) noted that a future challenge for instructors and researchers is to identify formats in pronunciation instruction that require students to participate in activities stressing
comprehensibility and communication along with efforts to “express meaning through interaction” (Kennedy et al., 2014, p. 90) – all while focusing on the development of pronunciation skills. In line with the need for interactive approaches to pronunciation teaching and learning, because increased interactivity afforded by interpersonal audio discussions was beneficial to students’ pronunciation development, teachers who are introducing pronunciation skills to novice-learner populations should thoughtfully consider interactive discourse facilitation systems similar to VT. The following sections build upon this pedagogical rationale for an interactive approach to pronunciation development by sharing how the study informs instructors with regard to preliminary activities that enhance students’ experiences in pronunciation development and suggestions for integrating pronunciation instruction into communicatively oriented classrooms.

**First Steps in Motivating Students to Develop Pronunciation Skills**

A major focus of the project was to investigate how introductory-level students experience MIP through interactive and emerging technologies. This section thereby addresses the prominent motivational factors identified in the present study and discusses specific pedagogical approaches that instructors may consider as learners begin to participate in pronunciation development exercises.

**Increasing awareness about pronunciation.** In this study, terms reflecting the notion of pronunciation were derived from definitions of speaking proficiency as stated by ACTFL’s (2012) Proficiency Guidelines. Although the Guidelines are widely accepted, the specific terminology used in the descriptions was unfamiliar to students at the beginning of the semester (and rightfully so as the Guidelines are geared toward professionals, not students). To review the terms that were presented to students in the present study, accuracy refers to the accurate
production of French vowel and consonant sounds, and fluency represents the rate and naturalness of speech. Finally, comprehensibility represents how much the listener understood or had to interpret. In Journal 1, students were describing these terms by giving examples of their pronunciation models – for example, students described the person they wanted to imitate as having fluid or authentic speech rather than using the terms fluent or fluency. In Lappin-Fortin and Rye’s (2014) investigation of self-assessment in a French pronunciation course, they also found that after students’ first self-evaluation, they had not yet gained enough knowledge to express phonological notions or use appropriate vocabulary to talk about pronunciation. By the end of the course, Lappin-Fortin and Rye reported that students “possessed greater theoretical understanding and had acquired the metalanguage to assess their own output” (p. 311) – in other words, students were able to recognize aspects of their own pronunciation and describe it accordingly. Likewise, in Journals 2 and 3, students started using the correct terminology to refer to their pronunciation models, define their goals, discuss their motivations in pronunciation development, and rate their own performance in pronunciation.

Because the current study shows that students had limited experience with pronunciation and possibly even less factual knowledge about the skill, I contend that the study’s results advocate for more frequent practical experience with pronunciation in introductory-level L2 classrooms. For students in this study, a preliminary step to expanding proficiency about aspects of pronunciation – such as accurate production of L2 sounds or a focus on suprasegmental features of pronunciation (e.g. normal pausing or rate of speech) – began with learning about the skill ahead of developing it. Thus, conclusions about the study’s results maintain that for introductory-level learners with limited experience in the development of pronunciation skills, gaining basic knowledge about the skill and being made aware of L2 output related to this skill
(Schmidt, 1990) are important, preliminary steps to sustaining students’ MIP. For practicing teachers, raising students’ awareness can be accomplished by supporting them with a feedback-supported environment, such as the self-evaluation and continuous assessment of pronunciation skills as addressed in the next subsection.

**Support for the self-evaluation of skills during pronunciation development.** Because published research consulted during the review of the literature for this project overwhelmingly pointed to the benefits of providing multiple opportunities for feedback to students, the present study (and the pilot study) was also designed to include this component. In fact, regarding oral proficiency, recent research (Kunnan & Jang, 2011; Long, 2011) has pushed for more detailed feedback in oral proficiency testing because providing nothing but a score does not help to identify areas where students should seek extra help, thus limiting progress. In response to a need for more descriptive feedback, the study suggests that students’ ability to notice pronunciation-related output by increasing awareness is essential to pronunciation development and motivation to develop this skill, a conclusion that is consistent with Schmidt’s (1990) noticing hypothesis maintaining that explicit attention to a feature of the L2 facilitates learning. The next issue is thereby pinpointing how students who are developing pronunciation skills in introductory-level CLT classrooms can develop consciousness of performance in pronunciation as a means to improve upon this skill set. Findings revealed that increased awareness and consciousness with regard to performance in pronunciation was most influenced by reflecting on pronunciation development – students’ completion of the SA forms and journal entries after participation in each interpersonal audio discussion activity. Although the study used multiple resources for feedback in pronunciation development, findings where consistent with Murakami et al.’s (2012) research maintaining that providing feedback solely from the instructor resulted in the least
effective approach to assessing oral activities. Based on students’ positive reactions to the self-evaluative and reflective activities, it appears that continuous participation in pronunciation-focused activities that are followed by a short assessment of students’ perception of performance – such as the identification of strengths and weaknesses along with a plan for continued improvement in pronunciation development – is an appropriate method of self-evaluation at the introductory-level. Regarding students’ ability to outline future-oriented goals in pronunciation development, the present study underscored the role of students’ selected pronunciation models. Students were successful in using the models to draw comparisons and contrasts during the self-evaluations performed after each activity. Thus, it seems that defining an ideal pronunciation type that correlates to the students’ ideal L2 self is a crucial component to subsequent participation in quantitatively oriented assessments such as ranking or scoring aspects of pronunciation.

Further emphasizing the importance of self-evaluation during pronunciation development is the fact that some teachers may not feel up to the task of addressing pronunciation instruction or assessment due to the topic having been ignored in their own L2 learning experiences (Derwing & Munro, 2005; Morin, 2007). The present study highlighted a similar sentiment because an instructor who had no prior experience with the French phonological system or pronunciation rules. As a result, there was some uneasiness about providing pronunciation-specific feedback to students. On the other hand, an instructor was extremely comfortable with offering feedback to students regarding pronunciation due to experience gained from several phonetics courses and the study of multiple languages. In this study, the use of VT was amenable to providing feedback because instructors and students could review progress without interrupting class time devoted to topics outside of pronunciation (Hunter, 2012). Furthermore,
for instructors who are not comfortable giving constant on-the-spot pronunciation feedback during class time, they can attend to each students’ pronunciation needs in a more private and relaxed setting through VT (Arnold, 2007; Hincks, 2003) while also remaining interactive and supportive of students in their pronunciation development.

Consequently, feedback from self-evaluation may be all that is available to students in some scenarios, and prior research suggests that noticing pronunciation skills through self-evaluation is effective. Exemplified in Lappin-Fortin and Rye’s (2014) study on self-evaluation in French pronunciation, students rated certain aspects of their pronunciation (e.g. liaison, enchaînement, nasal vowels, and consonants) similarly to experts’ evaluation of their skills. Brown, Dewey, and Cox (2014) also claimed that advanced-level students’ self-evaluations of oral performance in Russian consistently matched oral proficiency interview test results and ACTFL’s (2012) Proficiency Guidelines. Similarly, Préfontaine’s (2014) investigation of students’ perceptions of French fluency reported moderate correlations between learners’ and judges’ perceptions of fluency. The cited research studies along with this study’s conclusions thereby support pedagogical approaches to self-evaluation for pronunciation development at the introductory level. Therefore, the pedagogical stance of this study is that self-evaluation coincides with students’ conscious noticing of pronunciation skills (Schmidt, 1990) and positively influences the development of pronunciation skills. In conclusion, the study’s findings add to the extremely homogenous opinion that when it comes to assessment of oral activities (particularly pronunciation), it is imperative that students perform some type of self-assessment activity not only to measure and consciously notice the skill but also to positively foster motivational variables related to pronunciation development.
Pedagogical Shifts in CLT to Include Pronunciation Instruction

The study demonstrated improvements in perceived pronunciation abilities while participating in a combination of both form- and meaning-based activities in the interpersonal audio discussions. This result promotes L2 research regarding form-focused instruction in pronunciation while also hinting at theoretical shifts concerning the future direction of pronunciation teaching within the CLT methodology (Ahmad & Roe, 2012; Celce-Murcia, 2007; Larsen-Freeman 2000; Savignon, 2007; Spada 2007). Students’ perceived improvements in pronunciation development after participation in the interactive VT conversations thereby underscores the balance between interactional aspects of language alongside linguistic competence to achieve effective instruction in pronunciation and a well-rounded communicative competence. In order for future models of CLT to address some type of pronunciation instruction through form-meaning connections, each learning objective (e.g. a sound, intonation, rhythm, etc.) should not only be contextualized, but also learner-centered and interactive. The procedures and activities from the current study provide examples of how pronunciation may initially be presented to introductory-level L2 students. Furthermore, because Kissling’s (2013) pronunciation study did not find any differences in the learning curve associated with pronunciation-related tasks among novice, intermediate, and advanced learners, it is plausible that findings and suggestions produced from this study may also be applicable to other learner populations.

The study addressed form (e.g. pronunciation accuracy and attention to rules) indirectly by asking participants to focus on three aspects of pronunciation – accuracy, fluency, and comprehensibility – during their conversations in VT. Conclusions from this study offer implications for preventing a divide between efforts to develop pronunciation skills and the
outcomes of such an effort, supporting prior research stating that only input that is noticed can be processed (Schmidt, 1990). Assuming learners will develop pronunciation skills in a plethora of settings unrelated to pronunciation learning – for example, presuming students are honing pronunciation skills during a grammar lesson – is unreliable (Lord, 2010; Schmidt, 1990). Because students’ reactions were positive and provided clear answers to the study’s RQs concerning how interpersonal audio discussions motivate students in pronunciation, the present study concludes that the characteristics of the VT activities were effective for pronunciation development at the introductory-level. Accordingly, the study suggests that some attention to form should complement meaning-based, communicative pronunciation development, a recommendation addressed in the following subsections.

**Maintaining meaning during pronunciation development.** The study indicated that students’ perceptions of their performance in pronunciation increased concurrently with their self-confidence as they communicatively interacted with their peers in collaborative VT conversations to successfully develop pronunciation skills. As a result, the study suggests that form-focused instruction and practice in pronunciation does not always present itself through explicit instruction that uses NS models to encourage learners to achieve accuracy and learn rules that regulate L2 pronunciation. Furthermore, Isaacs (2009) noted that purely form-focused instruction and repetition – as opposed to a meaning-based approach – in pronunciation teaching is not compatible with CLT classrooms. The current study applied concepts consistent with CLT – such as the input-output hypothesis (Krashen, 1985) and Brandl’s (2008) thoughts on planning communicative tasks – to emphasize form-meaning connections in pronunciation development. Because of students’ success in developing pronunciation skills and awareness, the instructional design of the interpersonal audio discussions may be consulted as resources for focusing on
pronunciation development at the introductory-level. Furthermore, Brandl explained communicative tasks as those that use language “…in an open-ended, creative way…” where there is a “…simultaneous use of a combination of skills” (p. 190), a description that is consistent with students’ participation in interpersonal audio discussions as designed for this study, also demonstrating their appropriate use in other CLT-based classrooms.

**The form-meaning balance in VT.** Each VT activity (Appendix H) was created from a topic that students were covering in their second-semester French course and acted as an open-ended communicative application of the content that also integrated multiple skill sets (Brandl, 2008). To improve students’ self-confidence with regard to pronunciation skills, teachers might consider a VT activity upon the completion of a unit once learners have received sufficient input and show evidence of internalization of the new content that has been learned, thereby allowing students to focus on pronunciation development during an extension activity. Because students are building collaborative conversations through participation in VT, they use an interpersonal mode of communication and address National Standards (ACTFL, 2014) as well. With regard to the progression of skills within each VT activity, the study indicates that students should first participate in an assimilation phase – for example, brainstorming – where they receive some guidance from the teacher that assists them in activating prior knowledge and organizing information before contributing to a VT conversation. During the study, students appeared to be “linguistically and functionally prepared” (Brandl, 2008, p. 295) to begin recording their VT comments after this step as there was no evidence of confusion or hesitation to participate.

Next, this study exemplifies that the VT activity design provides adequate opportunities for learners to interact with their peers, asking them to comment within one small group, and then mix with another group conversation. Through these interactions, students compare and
contrast their pronunciation skills with those of their peers. Based on the study’s results, conclusions maintain that group work within VT promotes interactive and collaborative learning that is likely to increase students’ self-confidence about pronunciation skills. Furthermore, the current study exemplifies interactive learning during pronunciation development in VT that recalls Vygotsky’s (1978) notion of ZPD, suggesting that peer-to-peer interactions during the interpersonal audio discussion activities promote learning and motivation with regard to the development of pronunciation skills.

Concerning the role of the instructor when using VT to develop pronunciation skills, two of the three interpersonal audio discussion activities were created by the researcher and pre-loaded into the web-based VT format for students. Accordingly, the creation of interpersonal audio discussion activities requires the teacher to act as the activity’s “designer, organizer, and guide” (Brandl, 2008, p. 181). The study suggests that prolonged participation in teacher-created VTs is optimal for introductory-level learners as students in the current study least enjoyed the last VT activity where they were required to upload their own material and images in the final steps before recording the VT conversation. Perhaps student-created VTs are more appropriate as a final, culminating tasks associated with the completion of a unit or project at the introductory-level rather than an isolated activity as proposed to students in this study.

Interpersonal audio discussion activities are learner-centered, thus the teacher’s role is that of a facilitator who offers appropriate models of participation, provides resources, and assists with technical difficulties. The time allotment for group activity within VT is an issue that was unresolved during the research project. During the pilot study, the instructors and students felt they needed more time to interact in the VTs whereas time frames were extended, and instructors had the opposite reaction (e.g. too much time was offered) in the final research study.
Brandl (2008) emphasized that for collaborative tasks to be successful and efficient, it is important to keep students on task through an allotted time frame. Consequently, the study suggests that teachers who use this format for pronunciation development through interpersonal audio discussions should be firm and goal-oriented in finishing an activity, but also sensitive to scheduled breaks and other classrooms demands. Time spent in VT will certainly vary depending on the educational setting (e.g. high-school, university-level, a phonetics course, etc.).

**Suggestions for assessing pronunciation development.** Had the study not demanded any type of instructor-provided feedback, the students would only have had access to their self-reported performance evaluations. This information is better than no feedback and is the norm in most settings (Derwing & Munro, 2005). The study also yielded quantitative data (scores from the students SA forms) that permitted statistical tests to be run concerning perceived changes in performance, information that could also be useful to teachers who want to assess students’ pronunciation development. Journal entries provided another emic perspective on pronunciation development as also exemplified in this study. To apply the study’s design and procedures concerning the self-evaluation of pronunciation skills to real-world settings, it seems that a similar mixed methods approach is a realistic design for students in introductory-level classrooms. For example, the SA form might be adapted to simply address students’ perceptions of performance (Parts 3 and 4) followed by a journal response allowing for more unrestricted reflection and the development of the ideal L2 self. In combination with students’ recordings in VT conversations, teacher feedback, self-evaluations and journals may collectively be considered for a portfolio-style assessment in pronunciation development. Portfolio assessment, according to the National Capital Language Resource Center (2014), is an organized and longitudinal compilation of student work created for a specific L2 objective, such as pronunciation.
development. Although there has been an emphasis on self-evaluation, it should be noted that learners’ ability to self-assess pronunciation is thought to be less reliable without adequate feedback (Couper, 2003; Dlaska & Krekeler, 2008; Lappin-Fortin & Rye, 2014). Therefore, teacher feedback is an important component to success in self-evaluation and should be represented in a portfolio assessment. Because pronunciation may not necessarily be addressed systematically through quizzes or unit tests due to its absence in many textbooks (Arteaga, 2000; Gilbert, 2010; Jones, 1997; Silveira, 2002), portfolio assessment is a viable option for assessing pronunciation development because it measures individual assignments and performance in addition to globally evaluating the portfolio. The study recommends this type of assessment based on its similarities with students’ participation in VT and supplementing reflective activities that included student- and teacher-provided feedback on pronunciation.

**Theoretical Implications**

Because the study has offered some pedagogical implications, I now present how these implications relate to evolution within the respective theories that influenced them. Additionally, I present how the findings further support the conceptual development of theories and constructs referenced within this study by addressing (a) how the study informs researchers and teachers about pronunciation development’s changing conceptual role in the National Standards (2013) and CLT teaching and (b) how the MIP construct may be adapted to address introductory-level learners and the associated motivational influences at this level of L2 pronunciation development.

**Impacts of the Present Study on Connecting Pronunciation Development to National Standards**

In the current study’s findings, it was clear that both the classroom’s and students’ objectives aligned with National Standards (ACTFL, 2014) through a stress on meaningful
communication and improved intelligibility. Regarding expectations in oral proficiency that are outlined by states and teachers whose agendas are guided by National Standards and Proficiency Guidelines (ACTFL, 2012, 2014; Magnan et al., 2014), participation in appropriate activities that enhance oral language – including pronunciation development (Rossiter, Derwing, Manimtim & Thompson, 2010) – is encouraged by results of the this study. Recent research (Moeller & Theiler, 2014) claimed that students’ oral proficiency after four years of high school did not meet ACTFL’s (2012) expectations of learners at this level to reach an intermediate-low oral proficiency. Although there are many factors that contribute to an overall oral proficiency ranking, the study offers avenues for introductory-level learners to reach personal goals as well as expected outcomes (as defined by ACTFL’s Proficiency Guidelines and Standards) through the development of pronunciation skills. ACTFL’s (2014) philosophy on learning languages states that L2 education should result in students who are “linguistically and culturally equipped to communicate successfully in a pluralistic American society and abroad.” Because this statement reflects a social, interactional, and cognitive orientation to L2 learning, it aligns with sociocognitive theory (Atkinson, 2002, 2012) in SLA that was used to develop the present study. Participation in interpersonal audio discussions via VT requires using the L2 to interact and build collaborative conversations with peers. Therefore, students’ positive reactions to developing pronunciation skills in this context exemplify a method to pronunciation development that shares the same principles as our National Standards. Consequently, the present study purports that stakeholders in classroom activities – curriculum designers, instructors, and possibly even students – should thereby encourage interactive pronunciation development in introductory-level L2 classrooms as a means to meet and to enhance ACTFL’s National Standards and Guidelines that direct communicative classroom practices.
Conceptual Changes to CLT to Include Pronunciation Instruction

The present study’s conclusions have already suggested that students’ awareness of their abilities in pronunciation – achieved through self-evaluation – is crucial to motivation and successful development of this skill. There is a common thread between students’ pronunciation awareness (or consciousness of the skill), descriptions in national Proficiency Guidelines that explain what students can do with the L2 (ACTFL, 2012), CLT and communicative competence (Brandl, 2008; Savignon, 1991), and students’ primary goal of improved intelligibility in the present study – some type of explicit or form-focused phonological instruction. Although it was made clear to students in the study through the interpersonal audio discussion activity instructions and in the self- and teacher-evaluations of pronunciation that they were meant to focus on their pronunciation skills, there was no explicit pronunciation instruction as recommended by researchers (Isaacs, 2009; Kennedy & Trofimovich, 2010). Consequently, minimalist approaches to explicit or form-focused instruction such as this may fuel a disconnect between two significant motivational variables in pronunciation development: (a) students’ desires to improve L2 communication and intelligibility and (b) their estimations of pronunciation as a means to achieve this goal. Students’ attitudes that pronunciation is not an important skill is contrary to prior research (Kennedy & Trofimovich, 2010; Kennedy et al., 2014; Saito, 2011; Venkatagiri and Levis, 2007) indicating a relationship between explicit (or form-focused) instruction, students’ positive perceptions of pronunciation, and qualitative language awareness. Although the notion of qualitative pronunciation awareness appears to conflict with explicit or form-focused instruction that focuses on linguistic accuracy and phonological rules, the present study – similar to the previously cited research studies – revealed that introductory-level learners’ qualitative awareness of pronunciation learning promoted their
ability to conceptually link pronunciation development with improved intelligibility and more successful communication in the L2.

Another disconnect between students’ motivation and corresponding attitudes about pronunciation is drawn from students’ desires to sound like NSs and the belief, based on their commentaries, that they could someday become like their pronunciation models thereby achieving the ideal L2 self. Although the participant sample favored the notion of intelligibility, they had positive perceptions of the L2 and wanted to learn from native-like or NS examples. Despite an emphasis on peer-to-peer interactions in students’ pronunciation development, students’ stress on native-like pronunciation influences perceptions of the ideal L2 self. Thus, the notion of nativeness – which reflects an approach to pronunciation that uses NS approximations – is an influence on students’ beliefs about what constitutes pronunciation instruction and learning. Accordingly, the study concludes that contextualized pronunciation instruction with attention to form – and even comparisons to NS – is what introductory-level L2 learners desire. Students’ qualitative orientations to pronunciation learning as well as their beliefs about the role of explicit instruction in the development of pronunciation skills are consistent with previously cited research findings claiming that form-focused pronunciation instruction leads to improved intelligibility. Based on students’ positive reactions to participation in interpersonal audio discussions that offered opportunities for students to focus solely on L2 output and pronunciation, the study further adds to current research that supports improving intelligibility through form-focused approaches to pronunciation development and instruction.

Regardless of evidence indicating that students’ qualitative learning style and L2 French pronunciation awareness were compatible with the communicative VT activity format, students in the study still tended to demonstrate confusion about the role of pronunciation in their L2
experience and language development. Therefore, the study’s conclusions purport that pronunciation development at the introductory level may be ineffective without the following elements: (a) pronunciation development that is attached to specific learning outcomes similar to those found in national Proficiency Guidelines (ACTFL, 2012) that influence teaching methodologies such as CLT (Magnan, 2008; Magnan et al., 2014) and (b) pronunciation knowledge that is learned and available for monitoring during L2 oral output (Krashen, 1985; Lord, 2010; Schmidt, 1990). With regard to those who believe that CLT does emphasize a focus on form – as this is a debatable and subjective topic (Spada, 2007) – for CLT to successfully integrate pronunciation into the teaching of the four major skills of listening, reading, speaking and writing (ACTFL, 2012), what is expected of students concerning this skill should be delineated, better defined, and connected to appropriate skills such as listening and speaking. In conclusion, students’ inability to connect their pronunciation development with L2-related outcomes and goals further exemplifies the study’s recommendations for pronunciation to be addressed in CLT in order for this skill to be connected to learners’ overall communicative competence.

**Contributions to the Nativeness vs. Intelligibility Debate**

Levis (2005) pointed out that some learners and instructors adhere to the nativeness principle and believe that achieving native-like pronunciation is both desirable and achievable during the L2 learning experience. In fact, students’ comments exemplify the nativeness principle because they remarked on the authenticity of their ideal pronunciation model’s speech, describing their ability to sound just like a NS of French. As Chapter 4 pointed out, students focused on achieving native-like pronunciation themselves, indicated through the parallel descriptions of the ideal L2 self and their pronunciation models. Regarding whom students chose
as models, students remarked in some cases that their instructor was an NNS or an NS; clearly, all peers they chose were NNSs. Although students favored native-like models and thus emphasized the nativeness of that person’s speech, their perceptions of nativeness were not necessarily linked exclusively to an NS. Thus, the study shows that achieving nativeness is important to students. However, this term is broad and thereby reflects students’ opinions of native-like pronunciation models that may include but are not limited to NSs. Students’ understanding of nativeness – or accurately producing L2 sounds similar to an NS – guided them in choosing a model and developing the ideal L2 self. As a result, the nativeness principle is a factor in introductory-level L2 classrooms with regard to motivation to develop pronunciation skills and is represented by a variety of models – NSs in textbooks, more advanced NNS peers, or an L2-speaking instructor. Because of students’ strong motivational reactions to the ideal L2 self – a persona that was driven by native-like pronunciation models – the study maintains that the notion of nativeness cannot be completely dismissed when discussing introductory-level students’ MIP.

On the other hand, the intelligibility principle recognizes that learners can successfully communicate with some accentedness, rather focusing on how much is understood during communication (ACTFL, 2012). Based on students’ self-defined goal of increased intelligibility in the study – described as effectively communicating or having successful conversations in the L2 – students’ remarks corresponded to the intelligibility principle as well. The study thereby exemplifies how introductory-level students displayed motivations for pronunciation learning reflective of both the intelligibility and nativeness principles. The study purports that although introductory-level students want to sound native-like, they do not emphasize sounding like an NS as a main objective. For example, students underscored that intelligibility and functional
communicability (Pawlack, 2011) were important to them. They placed importance on communication by using words reflective of the intelligibility principle in statements describing what they felt they needed to be able to do to be successful in the L2. To juxtapose the two principles and discuss how they influence introductory-level students’ MIP, the following subsections explicate how the dual influences of nativeness and intelligibility motivated students in pronunciation as they participated in the interpersonal audio discussions.

**Sociolinguistic influences on students’ perceptions of nativeness.** Although introductory-level students favorably perceived the L2 and its speakers – even imagining their ideal L2 self – the study concludes that they were not sufficiently invested in the language to take on the idea of nativeness due to their introductory-level status. Perhaps for those students who will go on to major in the L2 or study abroad – devoting years of study to the language or developing close relationships with L2 speakers – their orientation to pronunciation learning may change. To explain the dichotomy between the two principles as it occurred in the present study, accent – molded by pronunciation – has both biological and sociolinguistic influences (Levis, 2005). In terms of social context, “speakers speak the way they do because of the social groups they belong to or desire to belong to” (Levis, 2005, p. 374). Because of students’ emphasis on accessible models of pronunciation (e.g. more advanced peers or instructors), the study illustrates the type of group that introductory-level L2 learners strive to belong to through pronunciation development – L2 speakers who are perceived to be native-like speakers of the language, not NSs.

The population sample was made up of young students (aged 19-25 years) and was a mix of true- and false-beginners who had spent little time in the L2 culture. When considering this particular group of participants, L2 use happens primarily in a classroom environment (social
context) through interpersonal modes of communication. Therefore, to situate L2 use within students’ social world, pronunciation development is a tool that introductory-level learners use to be perceived in a certain way – again, L2 learners whom peers recognize as native-like speakers, not NSs. Exemplified in the social context of VT, participation requires collaboration and interaction to create conversations; thus, students rely on one another’s intelligibility in interpersonal audio discussions, which allows them to demonstrate comprehension. Although the study maintains that the ideal, native-like L2 self is an effective guide and strong motivator for students in pronunciation development, sociolinguistic factors weighed heavily on not only developing the ideal L2 self but also developing pronunciation skills in the interactive, social learning environment of VT. Thus, within introductory classrooms, researchers and instructors contemplating different approaches to pronunciation teaching and learning should consider the bond between pronunciation, sociolinguistic factors (Levis, 2005), and intelligibility.

**Sociolinguistic influences on interactive, multimedia environments.** Students participating in the VT conversations were exposed to L2 accentedness typical of learners as opposed to NS speech. Likewise, they often chose pronunciation models that were NNSs but that they thought sounded native-like. To address how accentedness played a role in motivating students to develop pronunciation skills, Mayer (2005) noted that it is important during instructional design to take into account both social and cognitive considerations, a suggestion that aligns with Atkinson’s (2002) sociocognitive theory. Mayer maintained that in multimedia learning, certain expected social cues result in greater cognitive processing during a learning experience thereby elaborating on multimedia designs that trigger “deep” learning. For example, he stated that students experience greater learning when words are written in a conversational style over a formal style (the personalization principle) and that learners also respond socially to
voices with standard accents as opposed to machine-generated or foreign accents (the voice principle), resulting in better performance because the cognitive load is reduced.

Peer-to-peer interactions in VT were revealed to be a factor to students’ motivation to develop pronunciation skills, and students indicated that they consulted their peers and NNS instructors as proximal guides when developing pronunciation. Therefore, although pronunciation teaching and learning is often geared toward accurate and sometimes native-like production of target-language sounds, interacting with speech samples through classroom-led interpersonal audio discussions (including contributions from peers) may reduce cognitive load in introductory-level learners of pronunciation, thereby improving learning, performance, and L2 self-confidence. This conclusion is merely a hypothesis and would require further research to investigate which types of speech in L2 communication produce “deep” pronunciation learning. However, the present study did demonstrate increases to pronunciation-related self-confidence as well as indications that students felt more positive about their performance in pronunciation. In conclusion, Mayer’s (2055) suggestions, along with the present study’s results, recall sociocognitive theory and should prompt researchers and instructors who focus on CALL methods in pronunciation learning for introductory-level learners to first and foremost consider the social context of learning— in the present study, VT – during instruction design and explanation of expected outcomes. Depending on the learning environment, the intelligibility principle appears to be a more appropriate outcome in addition to motivating students in pronunciation development based on their interactions with NNS interlocutors.

Understanding MIP at the Introductory Level

Despite known interactions between anxiety and self-confidence during oral tasks, in addition to the general belief that anxiety and self-evaluation are highly correlated and form self-
confidence in the L2 context (Clement, Gardner, & Smythe, 1977; MacIntyre et al., 1998; Maclntyre, Noels, & Clement, 1997; Smit, 2002), the study was purely exploratory, thus it was uncertain if it would yield similar relationships between the two variables. The study offered a new setting where the MIP construct could be tested. As a result, it produced some unique results discussed in this section.

**Pronunciation-related anxiety in introductory-level learners.** Findings regarding motivational variables in pronunciation development complement existing constructs addressing students’ motivation during oral tasks (MacIntyre et al., 1998; Smit, 2002). Contrary to prior research findings (Ducate & Lomicka, 2009; Lord, 2008; Saint Léger & Storch, 2009; Smit, 2002; Young, 1991), the study found that motivational variables behaved differently in students with much less experience in the L2 who were developing pronunciation skills. Because higher levels of anxiety with regard to pronunciation development did not result in low self-confidence (and vice versa), the study concludes that an alternative operationalized construct of MIP may be more appropriate for introductory-level learners when compared with Smit’s (2002) theory. As a result, conclusions regarding significant, motivational variables to introductory-level students’ MIP are based on how students rated self-confidence, anxiety, and MIP when participating in the VT activities in the study. Despite improved self-confidence and perceived performance of pronunciation skills, anxiety lingered. To explain anxiety’s lingering presence in introductory-level learners, the study concludes that anxiety is not necessarily a negative influence to MIP, a conclusion discussed in the subsequent section. Consequently, when considering the implementation of pronunciation-focused activities at levels of language learning consistent with the second-semester French students in this study, it should be noted that the study suggests
students are likely to experience sustained anxiety about pronunciation development despite other psychological and linguistic improvements.

**Explaining anxiety’s presence alongside development of the ideal L2 self.** Students’ reliance on their idealized, possible (and native-like) selves as motivators in pronunciation development is a possible reason explaining why students experienced sustained anxiety connected to pronunciation development; their goals were out of reach for an introductory-level course. Young (1991) offered one of Price’s (1991) suggestions for alleviating anxiety by recommending that instructors assist students in developing realistic expectations. Price stated that in order to set realistic goals, instructors should communicate to learners that perfect, native-like speech is not a typical outcome after one or two semesters in a language course. Although Young and Price’s recommendations represent sound advice, students used their perceptions of native-like speech to guide them in goal-setting behaviors such as choosing a pronunciation model and developing the ideal L2 self.

To apply the aforementioned conclusion to efforts in better understanding MIP, I present the following argument. Because the introductory-level students experienced self-motivation tied to the ideal L2 self, they desired to “reduce the discrepancy between [their] actual and ideal selves” (Dörnyei & Ushioda, 2009, p. 29). The ideal L2-self is a strong, intrinsic motivator; therefore, I purport that pronunciation-related anxiety when developing the ideal L2 self takes on a facilitative direction rather than debilitative – a type of anxiety that impedes learning or performance. Facilitative anxiety is known to increase motivation and often results in improved performance (Marcos-Llinás & Garau, 2009). To clarify, I explain pronunciation-related anxiety through sports psychology where athletes use anxiety to “psyche themselves up” for upcoming performances. This interpretation of anxiety is consistent with Neil, Hanton, Mellalieu and
Fletcher’s (2011) Processing Efficacy Theory, one postulating that when anxiety is experienced there are increases in efforts to succeed – in other words, a negative emotion stimulates motivation. Furthermore, Burton and Naylor (1997) have claimed that facilitative interpretations of anxiety symptoms were synonymous with words such as: challenge, self-confidence, or excitement. Horikawa (2013) applied Processing Efficacy Theory from sports psychology to cognitive tasks and found that the intensity of self-confidence was negatively correlated with anxiety, but it was positively associated with the direction – debilitative or facilitative – of anxiety.

Moving back to pronunciation, Smit (2002) also maintained that anxiety can be double-sided in MIP, being both a cause and effect of students’ self-confidence. Therefore I ask the question, does it seem natural that students in the present study would feel some anxiety to become like the idealized L2 self? Dörnyei and Ushioda’s (2009) commentary regarding possible selves suggests that yes, it is normal, due to a “language learning vision” (p. 32) and “imagery enhancement” (p. 32), elements that are consistent with the ought-to L2 self that imposes obligations and demands on students. Dörnyei and Ushioda also noted that both imagery and vision are common among professional athletes, where the person vividly imagines himself or herself performing a task, thus enhancing chances of success. Because students in the present study had goals of performing pronunciation-related tasks like their model and ideal L2 self, the variable of anxiety appeared to be part of students’ self-confidence and a facilitative factor in MIP rather than a separate, debilitating influence. The centralization of self-confidence in motivation is consistent with the WTC construct (MacIntyre et al., 1998) that combines students’ perceptions of their L2 skills and anxiety into a single self-confidence construct; however, WTC focuses on the negative correlations between anxiety, perceived performance and self-
confidence. Dörnyei and Ushioda pointed out that mental imagery, or visualizing success, was an important facet of the ideal L2 self. Consequently, the notion of becoming a confident speaker was an important aspect of the students’ ideal L2 selves because linguistic self-confidence – defined by Dörnyei and Ushioda as the “…anxiety-free belief that the mastery of an L2 is well within the learner’s means” (p. 26) – helped to strengthen the learner’s vision of success in becoming fluent and effective communicators. Because Dörnyei and Ushioda used the expression “anxiety-free” to describe a confident speaker, the present study suggests that “anxiety-free” refers to the negative influences of anxiety and excludes facilitative orientations to this affective variable.

**Defining MIP at the introductory level.** To theoretically situate and operationalize MIP based on results from the study, there are two important points to consider. First, students’ anxiety did not negatively influence self-confidence to develop pronunciation skills; this suggests that anxiety may work in a facilitative direction regarding motivation to develop pronunciation skills. Secondly, students’ self-reported anxiety during pronunciation development produced no significant correlations with self-confidence levels; however, students’ estimations of their performance in pronunciation were positively correlated with self-confidence levels. These two points suggest that students in the study were performance-driven (Magnan et al., 2014) and motivated by the L2 self-system that focused on integrative, implicit orientations to motivation (Dörnyei & Ushioda, 2009), such as an athlete’s motivation to perform a skill. This conclusion is reflective of students’ goals in Magnan et al.’s (2014) monograph that were associated with performance in two Communication standards as defined by ACTFL (2014): (a) Learners interact and negotiate meaning in spoken, signed, or written conversations to share information, reactions, feelings, and opinions and (b) learners understand, interpret, and analyze
what is heard, read, or viewed on a variety of topics. The third standard that correlated to students’ goals was a Communities-based standard that states learners use the language both within and beyond the classroom to interact and collaborate in their community and the globalized world. In reviewing how the students’ goals in Magnan et al.’s monograph aligned with the 5 C’s in L2 learning, there was a similarity with students’ visions of the ideal L2 self as reported in the present study. Magnan et al.’s claims that students in their study valued oral interactions for communication the most, students’ definition of the ideal L2 self as someone who successfully communicates in conversations with other L2 speakers in L2-speaking environments in this study mirrored the variables that influence today’s students’ L2 motivation that is founded in language production through interactivity.

To conclude, students’ motivations were comparable with athletes as considered in the Processing Efficacy Theory (Neil et al., 2011) and visual imagery exercises (Dörynei, 2009). For introductory-level students developing pronunciation skills, anxiety is not always debilitative but rather drives their performance to achieve a future state or goal. In addition to the ideal and ought-to selves, the L2 motivational self-system considers the L2 learning experience and environment. I purport that for introductory-level students, it is probable that the context or environment in which they are communicating influences debilitative forms of anxiety. Because participation in interpersonal audio discussions (a) did not significantly affect scores that students assigned to pronunciation-related anxiety, (b) resulted in increased L2 self-confidence in pronunciation, and (c) provided a learning environment where students could perform and interact in the L2 with peers (Magnan et al., 2014), I contend that VT is a suitable environment with a low affective filter for pronunciation development in addition to being conducive to students’ MIP as they develop the ideal L2-self.
Limitations

As with any empirical investigation, there were limitations to this study. Despite some limitations, they did not prevent the present study from obtaining viable results. Three key limitations were identified in this particular investigation: the uniqueness of the study’s context and participant sample, limitations that arose from the study’s design, and methods used to assess MIP.

Findings Restricted to a Specific Context, Population, and Procedures

One purpose of the present study was to fill a gap in prior research by addressing pronunciation in novice learners. In doing so, outcomes suggesting that participation in interpersonal audio discussions led to positive changes in students’ MIP should be cautiously applied to other populations addressing pronunciation – for example, students in phonetics courses or more advanced learners. Furthermore, although the response rate was high, a small number of students was surveyed (N = 37). Additional participants would be welcome in any replication studies to ensure that results apply to a larger variety of novice learners.

Because there was not a control group that had the capacity to determine if a non-participating classroom would experience the same results, findings are applicable uniquely to students who are developing pronunciation skills in the same circumstances as those in the present study. Consequently, the use of interpersonal audio discussions for purely form-focused instruction in pronunciation is unclear as the activities in the present study were designed from communicatively oriented and meaning-based angles in classrooms with no explicit pronunciation teaching. Additionally, as explained in the study’s procedures, students had access to extensive instructor- and self-evaluation as part of their participation in the activities. Therefore, the practicality and effectiveness of using interpersonal audio discussions as casual
supplements for pronunciation development without feedback or assessment is inconclusive. Finally, the present study addressed students’ emotions and perceptions concerning pronunciation and their experiences in developing this skill. Consequently, results indicating that students’ perceptions and motivation improved cannot be applied to their actual proficiency in pronunciation.

**Limitations of the Study’s Design**

One of the study’s key findings was that students’ self-awareness of oral production through self-evaluation activities was a mediating variable in the L2 motivational self-system, thus fueling students’ efforts in progressing toward the ideal L2 self. The finding is an interpretation of the data constructed by the researcher. As part of the process of qualitative research design and analysis, it is through a researcher’s lens that the learning environment of VT for pronunciation development and students’ reactions within that environment have been explained and presented (Hatch, 2002). That being said, it is uncertain if the L2 motivational self-system (as it relates to pronunciation development) would have been activated if students had not participated in the pronunciation-focused interpersonal audio discussions activities because the curriculum was adjusted to accommodate the present study’s needs and normally did not include any pronunciation-focused work of this kind, a specific research design that limits the study’s findings. Furthermore, evidence of goal-setting behaviors could only be observed through students’ self-reported data. Thus, without prompting the students to choose an ideal speaker or monitor their performance in pronunciation through reflective journals and self-evaluation forms, it is questionable that participation in the audio discussions alone would have elicited a self-oriented motivation to develop pronunciation skills. I hypothesize that without a feedback-supported environment and reflective component, students’ motivation may have
stemmed from other sources: for example, from intrinsic or extrinsic rewards (e.g. honing pronunciation skills because they genuinely wanted to improve or working on skills because they wanted to receive a good grade). In this case and at such early stages of language acquisition, it is unlikely that students would have participated in sufficient reflection to properly notice errors in language production (Lappin-Fortin & Rye, 2014), and then make adjustments consistent with the ideal L2 self, thus activating the L2 motivational self-system.

Limitations During the Assessment of MIP

One of the most significant limitations to this study was the exclusive use of self-reported data for measuring students’ MIP. In order to have a more complete picture of how motivational variables changed over time, it would be ideal to analyze a combination of both self-reported and observational data. Furthermore, MIP is a construct that must be fully operationalized before observation begins to ensure that learners’ behaviors being observed actually reflect the construct. Next, there is the question of how to observe MIP. The literature review pointed out that many variables in MIP correspond to variables that make up students’ WTC, a construct that has been operationalized and widely applied to research studies (D’Amico, 2012; MacIntyre et al., 1998; Saint Léger & Storch, 2009). Studies in WTC have frequently used observational techniques in order to study non-linguistic and linguistic outcomes in L2 classrooms. For example, MacIntyre and Legatto (2011) recorded students’ responses during communicative tasks, and then ask students to self-rate changes in WTC. Finally, they consulted observations from when the learners were speaking to explore changes and effects to WTC moment by moment. MacIntyre and Legatto suggested that nonverbal behaviors – such as eye gaze, facial expressions, and other behaviors that reflect affective variables – should be considered when rating WTC. Consequently, because students participated in VT at their leisure and were not
required to use webcams (it was their personal preference if they chose to record with this method or not), observing gestures and non-linguistic behaviors alongside their WTC scores was not possible in the present study.

To build on the study’s design to include some observational techniques, it would be possible to record students as they were developing pronunciation skills in the classroom. However, this would require that pronunciation-focused activities be addressed during class time, and then the data would only apply to developing pronunciation skills in that particular setting. Because the study drew attention to introductory-level students’ qualitative awareness of pronunciation – meaning they constantly seek out opportunities to develop skills no matter the topic or situation at hand – I imagine the possibility of developing an application (or app) compatible with today’s smart phones and operating systems. This app might allow students to self-report on different motivational variables continuously (in and out of class), and even provide the potential for students to record communicative exchanges in the L2. To counterbalance students’ self-reports in the app, it seems wise to consider adding an observational component that allows more advanced or NS interlocutors (or instructors) to estimate students’ MIP as well. Obviously, developing such a method is risky and would be subject to extensive trial and error procedures. However, it seems that emerging technologies provide opportunities for more extensive observation of behaviors, thus integrating them into the observation of non-linguistic outcomes such as MIP and WTC appears to be a potential avenue for reducing limitations in future investigations.

Secondly, a limitation of the study is that analysis relied on students’ self-reported data on pronunciation in a setting where pronunciation was not explicitly taught. Prior research has highlighted the correlation between L2 experience and the accuracy of students’ output, along
with learners’ difficulty in differentiating between native and non-native sounds thereby skewing their perceptions (Dlaska & Krekeler, 2008; Levy & Law II, 2010; Levy & Strange, 2008; Major, 2008). Consequently, the less experience learners have with the L2 phonological system, the less accurate their perceptions are when compared to native-like production. Because of this dynamic, researchers maintained that students’ self-evaluation of skills is at its best when accompanied by explicit pronunciation instruction and feedback-supported environments (Dlaska & Krekeler, 2008; Lappin-Fortin & Rye, 2014). Because explicit pronunciation instruction was not part of the study’s design as I wanted to study students’ pronunciation development as it would naturally occur in a typical, introductory CLT classroom, students relied on the instructor feedback form and their own self-evaluations of pronunciation skills as measures of progress. Although the study’s findings indicated that students’ awareness of their pronunciation ups and downs increased over the course of the semester, results may not be overgeneralized because there was not any explicit instruction associated with the skills they were developing, a factor that had the potential to distort students’ perceptions of their pronunciation development.

**Suggestions for Future Research**

The aforementioned limitations reveal opportunities for future research in pronunciation development through interpersonal audio discussions. First and foremost, future projects using VT or similar technologies should take place on a more longitudinal scale to investigate the prolonged effects on students’ motivation and perceptions of abilities in pronunciation over a longer duration than the one, 15-week semester allotted for the present study.

Additionally, it is important to note that the data analyzed in this study were self-reported, both quantitatively and qualitatively. There was little outsider perspectives on students’ pronunciation, thus conducting observations, judging students’ recordings, or performing a case
study may provide new perspectives into this topic as suggested in the previous section discussing the study’s limitations. For example, quantitative data was collected through the instructor feedback form with regard to students’ pronunciation in recorded contributions, and was then judged by a listener (the instructor). The study’s objective was not affiliated with determining measurable gains or losses in pronunciation performance scores nor did it seek to investigate how motivation to develop pronunciation skills correlated with scores assigned to proficiency. Furthermore, the scoring of students’ pronunciation was completed by their own instructor as opposed to a group of outside judges who could offer more valid and objective reactions to students’ recordings in the VT conversations. Therefore, future research may emphasize quantitatively oriented performance measures and correlational tests in addition to investigating any correlations between students’ self-reported scores and scores from outside judges.

Next, because the study did not offer any form-focused or explicit instruction in pronunciation that complemented participation in interpersonal audio discussions, it would be of interest to conduct additional research that includes this component. One avenue for delivering instruction in pronunciation that would be compatible with students in a similar setting – second-semester L2 learners in a CLT classroom – is through processing instruction (Lee & VanPatten, 2003; Shrum & Glison, 2010). Processing instruction happens when “learners are pushed to process the form or structure during activities with structured input…so that learners have a better chance of attending to it [the structure of form]” (Lee & VanPatten, 2003, p. 142). This approach directs students’ attention to form without explicitly teaching it. As it stands, researchers (Farley, 2001; Lee & VanPatten, 2003; Wong & Patten, 2003) have praised structured input’s effectiveness over traditional, explicit instruction that provides an explanation
of the rule. Unfortunately, instruction through structured input has primarily been applied to the presentation of grammatical structures, thus suggestions for teaching pronunciation rules or explanations while keeping the communicative approach in mind would expand on teaching methodologies for how to meaningfully address pronunciation with novice learners. In combination with procedures from the present study, future research might speak to the significance of VT as a tool for pronunciation development when combined with instruction in pronunciation.

To continue, the study suggests that there are limited overt connections between students’ pronunciation development and National Standards. In order to connect students’ goals, their pronunciation awareness and development, and National Standards and Guidelines (ACTFL, 2012, 2014), future research might consider offering rubrics and guidelines (both quantitatively and qualitatively oriented) as part of students’ evaluation of pronunciation development. Although students had access to some limited definitions of pronunciation-related terms in the present study, the outcomes of their efforts in honing these skills was not connected to a specific end-result in pronunciation development. Accordingly, the purpose of offering rubrics and guidelines is not only to assist students’ goal-setting behaviors but to also connect pronunciation development to reasonable and desired outcomes reflective of learners’ proficiency level. For example, ACTFL’s (2012) Proficiency Guidelines for a Novice High speaker may be adapted to emphasize its connection to pronunciation skills. The Guidelines state: “On the other hand, since their [the learners’] language often consists of expansions of learned material and stock phrases, they may sometimes sound surprisingly fluent and accurate” (p. 9). At the learner level, instructors might relay the message that accurate and fluent pronunciation coincides with familiar, high frequency topics and vocabulary, meaning that accuracy and fluency may be
perceived as more difficult when addressing new topics. The Guidelines continue with, “Pronunciation, vocabulary, and syntax may be strongly influenced by the first language” (p. 9). For learners, this guideline corresponds to pronunciation and tells students that they are at a level where accentedness is inevitable thereby allowing students to set realistic goals in pronunciation development. Finally, the Guidelines explain that “Novice High speakers can generally be understood by sympathetic interlocutors used to non-natives… and [they] can sometimes respond in intelligible sentences, but will not be able to sustain sentence-level discourse” (p. 9). This particular extract from the Guidelines speaks to students in the present study who wanted to achieve increased intelligibility and have successful conversations with other L2 speakers because it is an opportunity to connect their efforts in pronunciation development to meeting national Guidelines and to achieving personal goals (Kennedy & Trofimovich, 2010). An additional example of adaptations to the Guidelines that addresses pronunciation specifically is Fairfax County’s (2014) Performance Assessments for Language Students – or PALS rubrics – which offer student-friendly descriptions of outcomes in pronunciation development and include conversion charts for using performance scores as grades. Another easy-to-understand set of guidelines are ACTFL’s (2014) “can-do” statements, which act as proficiency indicators and checklists for L2 learners concerning tasks that they are able to do in the three modes of communication (ACTFL, 2014). These statements may also be preferable for any research conducted in secondary-education settings because they reflect state standards driven by the common core initiative, a set of national recommendations for the preparation of students for college studies and future careers (National Governors Association Center for Best Practices and Council of Chief State School Officers, 2010). In conclusion and based on the present study’s findings, it would be interesting to see how students might adjust their pronunciation models and
ideal L2-self personas according to prior knowledge of some of the rubrics and guidelines mentioned above.

Online learning has been defined by the Quality Matters Program (Daniel & Uvalić-Trumbić, 2013) – a guide that constitutes quality online learning – as educational opportunities and information that are accessed by using the Internet. Content ranges from digital textbooks to digital video or audio materials. Because VT is web-based and does not require a download, it would be of interest to study how L2 students respond to participation in this emerging technology in online courses because the Quality Matters standards state that instructional resources should be current and appropriate for the setting. Furthermore, Quality Matters standards state that course tools and media must support learning objectives as well as guide active learning. If one objective of an online L2 program was to develop pronunciation skills, replication of the present study could provide a starting point in this venture. Then, future research could potentially determine how interpersonal audio discussions can be implemented to reach desired outcomes in pronunciation learning in the unique setting of online L2 courses. Finally, because the topic of the present research is pronunciation, it seems obvious that it may be beneficial to research interpersonal audio discussions in environments where pronunciation learning holds a larger stake in the curriculum, such as a phonetics course, to expand upon the role of interpersonal audio discussions in L2 education.

Concluding Remarks

This study has shown that learners are not only motivated but also prepared to take on pronunciation development at the introductory level, exhibiting a qualitative awareness of pronunciation learning. These characteristics permit them to apply linguistic aspects of pronunciation, such as rules, to efforts in achieving meaningful and successful communicative
exchanges. Furthermore, the acquisition of intelligible, but not necessarily unaccented, speech was students’ primary goal, one that correlated with researchers’ suggestions for realistic pedagogical outcomes (Cook, 1999; Derwing & Munro, 2005; Isaacs, 2009; Pica, 1994a; Piske et al., 2001; Saito, 2011). Thus, learners’ perceptions of pronunciation were in line with upcoming practices in pronunciation teaching and learning. The study’s assessment of learners’ readiness for pronunciation development should alleviate hesitations to focus on pronunciation in CLT classrooms.

Regarding MIP, students’ motivation to develop pronunciation skills was promoted by the L2 self-system that focused on achieving the ideal L2 self through a feedback-supported environment in pronunciation development. Participation in the interpersonal audio discussion activities positively influenced important variables to MIP, such as self-confidence and perceived competence in L2 pronunciation. Furthermore, the collaborative and interactive learning environment of the interpersonal audio discussions encouraged the development of pronunciation skills because it provided opportunities for students to use self-regulatory strategies connected to the L2 motivational self-system, channel and develop the ideal L2 self, and hone pronunciation skills collaboratively through meaningful, communicative tasks. These findings are of interest within the field and to instructors of introductory-level students for the following reasons: they draw attention to how introductory-level students’ MIP differs from more advanced students, they demonstrate expected results of such a focus on the skill, and the findings offer an example of one method of instruction concerning how pronunciation development may be initiated with an emerging technology. Furthermore, the present study complements recently published research studies in pronunciation that pointed out the positive effects of instruction delivered
through emerging technologies on their participants’ abilities in pronunciation (Ducate & Lomicka, 2009; Lee, 2014; Lord, 2005, 2008).

Thus, to capitalize on students’ MIP during the early stages of L2 acquisition and best help them reach personal goals (as well as those outlined in the National Standards and Proficiency Guidelines, ACTFL, 2012, 2014), those responsible for L2 education should consider the incorporation of pronunciation teaching and learning and equalize its presence in L2 classrooms. The present study demonstrates an interactive approach to pronunciation development, thus pronunciation shows promise to be a skill that is more than drill exercises linked to explicit instruction or perhaps overlooked. Attitudes about pronunciation are shifting to student learning through collaborations with other speakers in socially based multimedia learning environments, a conclusion that speaks to the reconceptualization of L2 learning in the age of connectivity, an era that has increased accessibility to authentic materials and interactive learning environments (Kramsch, 2014). The impact of globalization on the teaching and learning of foreign languages emphasizes the timeliness of the present study’s contributions to the issue of how and when to develop students’ pronunciation skills, a topic that is receiving increased attention.
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Appendix A
VoiceThread Participant Consent Form and Pre-Questionnaire

University of Alabama

Dear student,

You are being asked to participate in a research study that investigates the relationship between an internet-based technology called VoiceThread, foreign language learning, and spoken language. The principal investigator is Cindy E. Lepore who is a doctoral student at the University of Alabama under the supervision of Dr. Isabelle Drewelow, assistant professor of French in the Modern Languages and Classics department. As new technologies become available, it is important to study them in order to evaluate their usefulness in language learning. Understanding the relationship between VoiceThread and foreign language learning is important because the results of the study will help future teachers and learners and potentially improve their experience in the classroom.

Why have I been asked to take part in this study? You have been asked to participate in this study because you are enrolled in French 102 at the University of Alabama and are completing required VoiceThread recordings as part of the homework grade for the course.

How many people will be in this study? Depending on the enrollment numbers at the end of August 2012, approximately three sections of French 102 will make up the participant pool in this study; therefore, no more than 65 people will be in this study.

What will I be asked to do in this study? You are being asked to provide consent to allow the researcher to use your VoiceThread recordings as part of her research study. As part of the normal course requirement for French 102, you are required to participate in VoiceThread recordings during the fall 2012 semester. As part of the normal class requirement, you should expect to do the following:

- Participate in interpersonal, online audio discussions assigned by your instructor.
- Use a VoiceThread account that will be set-up by the researcher. Since the account is yours, you will “own” all of your recordings. Once the study and data analysis have been completed, your VoiceThread account will be deleted, and any contributions belonging to you will be removed at this time as well.
- Review your own recordings through the use of feedback forms and journaling activities.
- Receive feedback from your instructor concerning your VoiceThread recordings.
If you consent and allow the researcher to use your recordings for research purposes, you will also:

- Fill out two questionnaires.

It should take approximately 3 hours of class preparation time to complete your VoiceThread assignments. You should expect to spend about 5 minutes after each VoiceThread recording filling out a feedback form where you will reflect on your recording. You will also complete some journals online that should take about 30 minutes total to complete. Additionally, it will take approximately 30 minutes to complete both of the questionnaires. Total time spent on the VoiceThread assignment is anticipated to be 4-5 hours.

**Will being in this study cost me anything?** No. Access to the VoiceThread account and activities is provided to you free of charge by the researcher.

**What are the benefits of being in this study?** There are no direct benefits to participants in the study other than increased exposure to the French language and receiving feedback regarding recordings. It is hoped that students may use this feedback to improve spoken language competency and that the study will ultimately produce knowledge on the use of foreign language learning tools that may someday benefit foreign language learners.

**What are the risks (dangers or harm) to me if I am in this study?** The researcher does not anticipate any risks to you participating in this study other than those encountered in day-to-day life.

**Will I be compensated for being in this study?** You will not be compensated for being in this study.

**How will my privacy be protected?** When you participate in the VoiceThread, your recordings will be heard only by other members of the class, the researcher, the researcher’s supervisor, and your instructor. Your recordings will be housed online through the VoiceThread website, and may only be accessed by people assigned to your VoiceThread group (the people mentioned at the beginning of this section). As previously stated, your VoiceThread account will be deleted, and all recordings will be permanently removed at the end of the study. In the questionnaires, you will be asked about your experiences when speaking French and participating in the VoiceThreads. You may skip any questions you do not wish to answer.

**How will my confidentiality be protected?** Your activity within VoiceThread will be managed by the researcher and will be protected by setting the activities to a “private” status, meaning the links are not available to the general public. Your responses to the reviews and questionnaires will be kept confidential, and the records of this study will be kept private in a locked file. Copies of original documents will be kept with the researcher’s supervisor for safekeeping. Only
the researcher and her supervisor will have access to the records. In any sort of report that is made public, no information will be included that will make it possible to identify you.

What are the alternatives to being in this study? Do I have other choices? Your VoiceThread recordings are considered part of the normal course requirements. The alternative is not to participate in the study, which means that you will still use VoiceThread, but you will not allow the researcher to use your recordings for the study.

What are my rights as a participant in this study? Taking part in this study is completely voluntary. You may skip any questions on the questionnaire that you do not want to answer. If you decide not to take part or to skip some of the questions, it will not affect your current or future relationship with the University of Alabama or your instructor. If you decide to take part, you are free to withdraw at any time. The guidelines of the study have been reviewed by the University of Alabama Institutional Review Board (IRB), a committee that protects the rights of people in research studies.

Who do I call if I have questions or problems? If you have questions about the study right now, please direct any questions you have to the researcher, not your instructor. You may contact the researcher, Cindy Lepore, by email at celepore@crimson.ua.edu or the supervising professor, Dr. Drewelow at idrewelow@as.ua.edu. You may view the YouTube study invitation at http://youtu.be/uITbJrlpXJQ. If you have questions about your rights as a person taking part in a research study, you may call Ms. Tanta Myles, the Research Compliance Officer of the University at (205) 348-8461 or toll-free at 1-877-820-3066.

You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach Website at http://osp.ua.edu/site/PRCO_Welcome.html. You may email us at participantoutreach@bama.ua.edu.

After you participate, you are encouraged to complete the survey for research participants that is online at the outreach website or you may ask the investigator for a copy of it. Mail it back to the University of Alabama Office for Research Compliance, Box 870104, 152 Rose Administration Building, Tuscaloosa, AL 35487-0104.

What am I agreeing to by completing the questionnaire? Completion of the attached questionnaire indicates your agreement to participate in the research study as described by this information sheet.
Participant Pre-Questionnaire

Part 1: Read each question carefully, and then provide a personal, short answer response (a couple of sentences) to explain your answer.

As a student enrolled in an introductory French course, what concepts are most important for you to learn this semester (e.g. vocabulary, grammar, reading or listening comprehension, pronunciation, writing skills, etc.)?

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

How important is it for you to develop a French pronunciation that is accurate, meaning that you can correctly sound out French consonant and vowel sounds when speaking French?

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

Do you feel that you need to improve your existing pronunciation in French? Why or why not?

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

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How would you describe your anxiety level when speaking French? Do you ever feel nervous or hesitant to speak?

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Part 2: Read the following statement, and then complete the statement by expressing your opinion. Use the scale below, indicating the symbol that best corresponds to your personal beliefs.

- (minus sign) → strongly disagree
= (equal sign) → mixed feelings, do not agree or disagree
+ (plus sign) → strongly agree

Pronunciation skills are improved by…

_____ 1. Practicing pronunciation on my own with the lab exercises available through my textbook.

_____ 2. Recording myself and then carefully listening to my recording.

_____ 3. Self-evaluating my own samples of my French pronunciation.

_____ 4. Talking with native French speakers.

_____ 5. Participating in group and pair work with classmates.

_____ 6. Watching French films or video clips in the original version.

_____ 7. Practicing pronunciation through reading aloud.

_____ 8. Receiving regular feedback from my instructor to get a clearer picture of my pronunciation in French.

_____ 9. Receiving pronunciation instruction of individual sounds in class.

_____ 11. Being presented with activities and materials that challenge me so that I can learn more.

_____ 12. Being presented with activities and materials that arouse my curiosity and are fun to do.

_____ 13. Being presented with activities and materials that are easy to complete.
14. Being encouraged to reflect about what I am doing while working on pronunciation skills.

15. Planning specific study time to practice my French pronunciation.

**Part 3:** Please complete the information below.

First and last name: _____________________________________________________________

Crimson email address: __________________________________________________________

Gender (circle one): male  female  Age: ___________

Did you study French in high school?  ☐ Yes  ☐ No

If yes, how many years of French did you have?
________________________________________________________________________

If yes, how many semesters of French did you have?
________________________________________________________________________

If no, have you studied other languages and for how long?
________________________________________________________________________

Have you ever taken a vacation in a French speaking country? Please indicate the country and the length of time spent in that country.
________________________________________________________________________

Have you ever studied abroad in a French speaking country? Please indicate the country and the length of time spent in that country.
________________________________________________________________________

Do you have any close friends or family members that speak French as their native language? Describe the relationship.
________________________________________________________________________

What is the primary language spoken in your home? ______________________________

What is your major? __________________________________________________________
Are you planning to major or minor in French?  □ Yes    □ No

Are you planning to major or minor in another foreign language?  □ Yes    □ No

If yes, which language? ____________________________

Are you considering teaching a language in the future?  □ Yes    □ No

If yes, which language? ____________________________

Are you considering using a foreign language in your future career?  □ Yes    □ No

If yes, which language? ____________________________

If yes, what is your projected career goal? ____________________________

Thank you for completing this questionnaire.
Appendix B
YouTube Script and Video Link

Developing Pronunciation Skills at the Introductory Level: Motivating Students through Interpersonal Audio Discussions

Script for YouTube study invitation video

YouTube link:  http://youtu.be/uITbJrlpXJQ

Hello everyone. My name is Cindy Lepore, and I am a doctoral student in the department of Modern Languages and Classics. I apologize that I cannot be present in person to present this information to you. Although I am a proud University of Alabama student, I live in another state with my family and am currently a distance student. I am conducting a research study using VoiceThread in foreign language classrooms this fall, and you have been selected to be part of the official study.

Your instructor has probably already explained to you that your VoiceThread recordings will be integrated into your regular homework activities this semester. I would like to ask you to consider giving me consent to use the information from your VoiceThreads in my research. As someone who has also gone through the process of learning a foreign language, finding new ways to improve this experience is very interesting to me.

If you consent to be part of the research study, you will also need to complete a couple of questionnaires.

At this time, your instructor will be handing out an information sheet that details the study and talks about how your privacy will be protected. I hope that you will consider taking part in the study. By consenting to participate, you will also be helping future teachers and students who are going through the same experience as you in learning a foreign language.

Thank you for your time. After you have read the information sheet, I invite you to send me any questions or concerns that you may have. You can also contact Dr. Isabelle Drewelow, who is my supervisor for this project. My contact information as well as hers is included in the last section. I hope that you have an enjoyable semester learning French, and look forward exploring VoiceThread with you.
Appendix C
Explanation of VoiceThread Activities as Homework Grades

VoiceThread Homework Information Sheet

In addition to the homework activities designed to help you practice the new structures and vocabulary assigned through iLrn, in this section of FR 102 you will use an internet-based software called VoiceThread.

What is a VoiceThread? Watch this video to find out more. https://voicethread.com/share/409/

What will I do in the VoiceThreads? The VoiceThread activities will help you practice orally the vocabulary and structures you are currently learning. Each VoiceThread activity will be different, but you will be presented with a set of “goals” for each VoiceThread recording you make (e.g. asking questions or making comparisons). You will complete a practice activity at first to make sure that you are comfortable using VoiceThread. After you have completed a VoiceThread activity, you will complete two reflective activities that will help you self-evaluate your performance as well.

How will VoiceThread be graded? As indicated on your syllabus, the overall homework grade is 15% of the final grade in this course. VoiceThread assignments will count as 20% of the final homework grade in the course. Your grade for each VoiceThread assignment will be calculated in the following manner:

- 60% of the grade will be based on your completion of the activity, which means you fully participated and did all of the tasks requested (full participation includes the completion of the self-evaluation activities as well).
- 40% of the grade will be based upon your instructor’s evaluation of the quality and content of your VoiceThread contributions.

All of your VoiceThreads will be reviewed by your instructor who will then provide you with helpful feedback. Your instructor will monitor your participation, and will then enter your score in the gradebook.

How do I get a VoiceThread account? You will be provided with a username and password generated for you. You will receive this information via email (your Crimson account).

Why am I using VoiceThread? A doctoral student from the University of Alabama is currently conducting research involving VoiceThread recordings for her dissertation. Later on in the
semester, she will ask your consent to participate in her study to use for her research. More information regarding the study will be provided once you begin using VoiceThread. For research purposes, we ask that you keep your VoiceThread account information private and do not share the links to activities with anyone outside of your class. Please note that participation in the study is completely voluntary.
Appendix D
Troubleshooting for VoiceThread

Troubleshooting tips for VoiceThread

This document addresses the most common issues reported by students when using VoiceThread. Please do not hesitate to visit the VoiceThread website for more information, or contact the researcher at celepore@crimson.ua.edu at any time if you are experiencing technical difficulties that are preventing you from completing your VoiceThread assignments.

VoiceThread Troubleshooting website: http://voicethread.com/support/howto/Troubleshooting/

Issue #1 – I’m not sure what’s wrong, but I can’t open or see the VoiceThread.

You will need to have Adobe Flash Player in order to use VoiceThread. If you do not always run updates on your computer, this could prevent you from having the latest version installed on your machine. Find a free download at http://get.adobe.com/flashplayer/. Always try to access the VoiceThread from another computer (through a friend or by going to an on-campus lab) to identify if the problem is related to your machine or the VoiceThread website.

Another reason you may see a gray screen when you try to load the site is due to a necessary port or URL being blocked by your local network. Please check your local network settings to make sure they are compatible to run VoiceThread. To see the network requirements for running VoiceThread, go to: http://voicethread.com/support/howto/Troubleshooting/What_are_the_network_requirements_for_using_VoiceThread/

Issue #2 - There is no sound when I record comments / My webcam shows a black screen

First, check to make sure that your sound is not muted. You can do this in your computer’s sound settings. Next, make sure that your microphone is selected as the recording source, both for your computer and for Flash. Check your computer’s sound settings to make sure your microphone is selected there. To change the Flash settings, follow these steps:

- Right-click (or control-click) anywhere on a VoiceThread.
- Select Settings...
- Click on the image of a microphone.
- Select your microphone from the drop-down menu.

You can follow these same steps to troubleshoot issues with your webcam: for example, your computer is not recognizing your webcam and the screen is black when you try to record. Follow the same instructions above, but look for the settings and/or image of the webcam instead.
Appendix E
VoiceThread Self-Assessment Form

VoiceThread Self-Assessment Form

Date: ____________________

VoiceThread# (circle one): Practice #1 #2

My VoiceThread ID: ____________________________________________________________

Part 1: use the symbols provided below to describe your self-evaluation of your performance in the VoiceThread by comparing it to that of your peers.

- (minus sign) \( \rightarrow \) less competent than my peers

= (equal sign) \( \rightarrow \) equal with or about the same as my peers

+ (plus sign) \( \rightarrow \) more competent than my peers

When comparing myself to my peers in the VoiceThread….

1. The accuracy (specific vowel/consonant sounds) of my pronunciation in French is ________

2. My fluency (speed/pauses) when speaking is ________

3. My comprehensibility (able to be understood) when speaking is ________

4. My overall performance in the VoiceThread is ________

Part 2: use the symbols provided below to express your feelings regarding this particular VoiceThread experience.

- (minus sign) \( \rightarrow \) decreased

= (equal sign) \( \rightarrow \) remained the same / no change

+ (plus sign) \( \rightarrow \) increased

1. I believe that my pronunciation skills have ________ from participating in this week’s VoiceThread.

2. Communicating and working with others through VoiceThreads contributed to a/an ________ desire to improve my pronunciation.

3. Knowing that peers are listening to my VoiceThread resulted in ________ performance in my pronunciation today.
4. My participation in this week’s VoiceThread resulted in __________ confidence regarding my pronunciation skills.

5. Feelings of anxiety regarding my pronunciation have __________ after participating in this week’s VoiceThread.

Part 3: use the symbols provided below to express how easy or how difficult it was to participate in the VoiceThread.

- (minus sign) → difficult or very difficult
= (equal sign) → ok, somewhat challenging
+ (plus sign) → easy or very easy

1. It is ______ for me to speak fluently with little hesitation and pausing.
2. It is ______ for me to speak in a clear and understandable manner that requires little or no interpretation on the part of the listener.
3. It is ______ for me to imitate and produce a French pronunciation when speaking.
4. It is ______ for me to relax and have fun while performing an oral task in French.
5. It is ______ for me to be excited and willing to participate in the VoiceThread activity.

Part 4: answer the following short answer questions by sharing your personal responses.

1. What was the strongest point in this VT contribution concerning your pronunciation? Check one item.
   ______ accuracy (ability to produce French sounds)
   ______ fluency (naturalness and rate of speech)
   ______ comprehensibility (how much was understood)

2. What was the weakest point in this VT contribution concerning your pronunciation? Check one item.
   ______ accuracy (ability to produce French sounds)
   ______ fluency (naturalness and rate of speech)
   ______ comprehensibility (how much was understood)

3. What do you plan to do specifically to focus on an area of improvement concerning your pronunciation?

______________________________________________________________________________

______________________________________________________________________________

4. If you had to give yourself a grade based on your overall pronunciation on this VoiceThread contribution, what would it be? Circle one.
   > 90%  80-89%  70-70%  < 70%
Appendix F
VoiceThread Instructor Feedback Form

VoiceThread Instructor Feedback Form
Date: ____________________

Student name: __________________________________________________________________

This form is for instructor use only. Please keep all pages attached. Use the scale below to rate each item in the tables. You will then assign an overall score for Parts 1-3.

+ (plus sign) → above average = (equal sign) → average
- (minus sign) → below average

**Part 1, Pronunciation accuracy**: production of French vowel and consonant sounds

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silent letters (e.g. final consonants)</td>
<td></td>
</tr>
<tr>
<td>L’enchaînement</td>
<td></td>
</tr>
<tr>
<td>Liaison</td>
<td></td>
</tr>
<tr>
<td>Nasal vowels</td>
<td></td>
</tr>
<tr>
<td>Other (please explain):</td>
<td></td>
</tr>
</tbody>
</table>

**Overall Score Part 1**: 1 2 3 4 5 6 7 8 9 10
10 = no or few errors in pronunciation, 1 = meaning unclear due to abundance of pronunciation errors

**Part 2, Pronunciation fluency**: rate and naturalness of speech

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of speech</td>
<td></td>
</tr>
<tr>
<td>Normal pausing*</td>
<td></td>
</tr>
<tr>
<td>Intonation</td>
<td></td>
</tr>
<tr>
<td>Articulation</td>
<td></td>
</tr>
<tr>
<td>Stress/rhythm</td>
<td></td>
</tr>
<tr>
<td>Other (please explain):</td>
<td></td>
</tr>
</tbody>
</table>

*Normal pausing is under 3 seconds (Riggenbach, 1991)

**Overall Score Part 2**: 1 2 3 4 5 6 7 8 9 10
10 = natural flow with little or no starts and stops, 1 = many hesitations and recording sounds “read aloud”
Part 3

Comprehensibility: how much was understood?

Instructors: provide score and leave comments when necessary.

Overall Score Part 3: 1 2 3 4 5 6 7 8 9 10
10 = extremely easy to understand and readily comprehensible requiring no interpretation on the part of the listener, 1 = impossible to understand

Comments/Notes:

Part 4

Overall Assessment

Teacher comments and notes

Final Score: _______ / 30 points

Instructors: total ratings from Parts 1-3 to calculate final score.
Appendix G
VoiceThread Student Journal Activities

Student Journal Prompts

1. After VoiceThread 1 (practice): Is there a specific person (someone in your class, someone you know, an example in your workbook, or someone notable that you have seen/heard) that you try to imitate when speaking French? Explain why you wish to imitate this person or example.

2. After VoiceThread 2: You previously identified a person or a pronunciation type that you try to emulate when speaking French. Do you feel that you have made progress in achieving a French pronunciation that is more like that of the example you chose? Explain your response and identify what you are doing to achieve this goal.

3. After VoiceThread 3: The table below represents a list of features you accessed when using VoiceThread in your French class. Please read over the features and then respond to letters A and B below.

   a. During your experience using VoiceThread, did one of these features motivate you at all to improve your pronunciation skills? Why?
   b. During your experience using VoiceThread, did any of these features have a negative impact on your motivation to improve your pronunciation skills? Why?

<table>
<thead>
<tr>
<th>Features of VoiceThread</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having an assignment that allowed me to focus only on spoken language as a means of expression</td>
</tr>
<tr>
<td>Knowing that my peers would listen to my contributions</td>
</tr>
<tr>
<td>Using emerging technology to show my competency in French</td>
</tr>
<tr>
<td>Using images to help get my point across</td>
</tr>
<tr>
<td>Collaborating with my peers to create an original VoiceThread</td>
</tr>
<tr>
<td>Being able to easily listen to my classmates’ recordings in the VoiceThread format</td>
</tr>
<tr>
<td>Knowing that my instructor would give feedback on my contributions</td>
</tr>
<tr>
<td>Using images to better understand my peers’ contributions</td>
</tr>
<tr>
<td>Engaging in oral speaking practice with peers outside of the classroom</td>
</tr>
<tr>
<td>Having another outlet to listen to and express myself in French</td>
</tr>
</tbody>
</table>
Appendix H
VoiceThread Activity 1

VoiceThread Practice Activity - Se présenter

Étape 1
Pour compléter cette activité, votre professeur va désigner des groupes. Vous allez participer à votre groupe de VoiceThread mais vous allez travailler individuellement aussi. D’abord, vous allez vous présenter aux autres étudiants de la classe. Répondez aux questions suivantes pour organiser une petite biographie (travail individuel, au minimum 4 questions).

1) Comment vous appelez-vous ?
2) D’où venez-vous ?
3) Quel âge avez-vous ?
4) Quelles langues parlez-vous ? Quelle est votre nationalité ?
5) Qu’est-ce que vous étudiez à l’université ?
6) Qu’est-ce que vous aimez faire le week-end ?
7) Est-ce que vous faites du sport ? Quel(s) sport(s) ?
8) Votre description physique ? (e.g. je suis petit(e), j’ai les cheveux noirs, etc.)
9) Décrivez votre famille.

Étape 2
Allez sur votre site VoiceThread qui correspond à cette activité. Imaginez que vous faites la connaissance de vos camarades de classe pour la première fois. Présentez-vous avec au moins 4 commentaires et faites référence à votre biographie pour ajouter des détails (ne répétez pas le modèle).


Before Deadline 1:
☐ Did you answer at least four questions to organize your thoughts and tell about yourself?
☐ Did you visit your group’s VoiceThread and post 4 comments that help others get to know you better?
Étape 3
D’abord, visitez de nouveau votre site VoiceThread. Puis, chaque membre de votre groupe pose \textit{au moins deux (2) questions} à des personnes différentes pour mieux connaître les membres du groupe. Voici quelques possibilités pour vous aider:

1) Qu’est-ce que vous étudiez à l’université ?
2) Qu’est-ce que vous aimez faire le week-end ?
3) Est-ce que vous faites du sport ?

Vous pouvez utiliser les questions au début de cette activité pour vous aider aussi.

Enfin, allez sur votre site VoiceThread et répondez aux questions posées par vos visiteurs.

Before Deadline 2:
- Did revisit your VoiceThread and listen to the comments left by your group members?
- Did you leave at least 2 recorded questions directed at different classmates with your microphone or webcam?
- Did you listen to comments left within your own VoiceThread and respond?
Appendix I
VoiceThread Activity 2

VoiceThread Activité 2 - L’imparfait et le passé composé

Étape 1
Pour compléter cette activité, votre prof va désigner des groupes. Vous allez participer à votre groupe de VoiceThread mais vous allez travailler individuellement aussi. D’abord, imaginez que vous avez passé un week-end formidable avec la star de vos rêves. Comment était le week-end ? Qu’est-ce que vous avez fait ?

Maintenant, regardez ce clip :
http://goanimate.com/videos/0NnfTGpxHT5c?utm_source=linkshare

Ensuite, choisissez une star que vous aimez et racontez votre week-end et distinguez entre le passé composé et l’imparfait. Enfin, organisez vos idées dans le tableau suivant (travail individuel).

<table>
<thead>
<tr>
<th>Un week-end avec… Qui est-ce?</th>
<th>le passé composé</th>
<th>l’imparfait</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Comment était-il/elle ?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) Qu’est-ce qui s’est passé ?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3) Quel temps faisait-il ?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4) De quoi est-ce que vous avez parlé ?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5) Où est-ce que c’était ? (chez vous ? au restaurant ?)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6) C’est à vous de choisir un souvenir particulier associé à ce week-end extraordinaire !</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Étape 2
Allez sur votre site VoiceThread qui correspond à cette activité. Imaginez que vous avez passé le week-end avec cette personne célèbre. Votre groupe va travailler ensemble pour inventer l’histoire complète. Commentez au moins 3 fois et faites référence au tableau que vous avez créé pour ajouter des détails et parler de ce week-end extraordinaire (travail individuel). Employez le passé composé et l’imparfait selon le contexte.


Before Deadline 1:
☐ Did you imagine your ideal weekend with your favorite celebrity?
☐ Did you visit your group’s VoiceThread and find out which celebrity you met over the weekend?
☐ Did you add at least 3 details in the passé composé or the imparfait to the slides in the VoiceThread to help build the story of an extraordinary weekend?

Étape 3
Votre professeur va désigner un autre groupe et votre groupe va travailler avec ce groupe. D’abord, visitez le VoiceThread de l’autre groupe. Puis, chaque membre de votre groupe pose au moins deux (2) questions. Voici quelques possibilités pour vous aider:

- Comment étaient les ami(e)s de ______ ?
- Qu’est-ce que vous aimiez / vous n’aimez pas ?
- Quand vous êtes arrivé(e)(s), ______ a été surpris(e) / était heureux(se) ?
- La famille de ______ était comment ?
- Vous avez téléphoné à votre famille pour raconter le week-end ?

Enfin, allez sur votre site VoiceThread et répondez à au moins une question faite par vos visiteurs.

Before Deadline 2:
☐ Did you listen to another group’s VoiceThread?
☐ Did you leave at least 2 recorded questions with your microphone or webcam?
☐ Did you listen to comments left within your own VoiceThread and respond?
Appendix J
VoiceThread Activity 3

VoiceThread Activité 3 - Destination bonne forme!

Avant de commencer
You will create your own VoiceThread for this activity. You should watch this short tutorial before creating your VoiceThread:  http://voicethread.com/share/8381/

Étape 1
Vous allez travailler dans un groupe de trois personnes pour compléter cette activité. D’abord, imaginez que vous (et les autres membres du groupe) ne sentez pas en bonne forme à cause du stress pendant l’année scolaire. Pendant les vacances de Noël, vous allez passer des vacances sportives ensemble. Où voudriez-vous aller pour rester en bonne forme ? Pour vous aider à explorer les meilleures destinations, explorez les sites Internet suivants. Enfin, choisissez une destination (n’importe où !) et complétez le tableau pour noter toutes les activités de fitness qu’on peut y faire. Notez au minimum 3 informations pour chaque question.

- Station de ski, Mont Tremblant au Québec : http://www.tremblant.ca/index.htm
- Safaris au Cameroun en Afrique
  - Parc national de Waza : http://www.easyvoyage.com/cameroun/le-parc-national-de-waza-540
  - Parc national de Boubandjida : http://www.paulboursafaris.com/
- La Martinique aux îles Caraïbes: http://www.martiniquetourisme.com/Organisez/VOS-ACTIVITES
Qu’est-ce que vous pouvez y faire pour faire du sport ou d’autres activités physiques ?

Qu’est-ce que vous pouvez y faire pour vous reposer ?

Est-ce qu’il y a des opportunités pour manger sainement ?

Quels sont les autres aspects positifs de ces vacances pour rester en bonne forme et être moins fatigué ?

Est-ce qu’il y a des aspects négatifs ?

Étape 2
Avec votre groupe, travaillez ensemble pour parler de vos vacances sportives. D’abord, créez un VoiceThread pour expliquer les activités qu’on peut y faire. Ce VoiceThread doit se composer de 5 diapos en plus qui répondent à ces points :

1. Expliquez pourquoi vous avez choisi _______ (le pays / la ville).
2. Présentez les activités sportives que vous pouvez y faire.
3. Présentez les activités que vous pouvez y faire pour avoir moins de stress et pour vous reposer.
4. Expliquez ce que vous pouvez y manger pour avoir un régime sain.
5. Présentez les aspects négatifs de cet endroit (e.g. la météo, la cuisine, etc.).

TOUJOURS expliquez pourquoi.

Modèle :
On peut acheter les fruits au marché pour manger des produits bio.
On peut aller à pied en ville pour rester en forme.

Vocabulaire utile :
une diapo → abréviation de « diapositive » qui signifie slide (e.g. PowerPoint slide) en anglais

Ensuite, chaque membre de votre groupe doit commenter chaque diapo pour décrire les vacances et les raisons pour y aller. Choisissez une image qui corresponde à chaque diapo pour expliquer mieux vos commentaires. Utilisez votre microphone ou webcam pour commenter. Faites référence à la liste que vous avez créée pour discuter des aspects importants de la destination que votre groupe avez choisie.

Enfin, PARTAGEZ votre site VoiceThread avec vos camarades de classe.
Before Deadline 1:
- Did your group research good vacation spots for staying healthy and de-stressing?
- Did you create a VoiceThread with 5 slides total?
- Do your content slides contain images that correspond to the activities you are discussing?
- Did you use give reasons why the place you chose is good for your health?
- Did each group member comment on each slide?
- Did you share your VoiceThread link?

Étape 3
Votre professeur va désigner un autre groupe et vous et votre groupe allez travailler avec ce groupe. D’abord, visitez le VoiceThread de l’autre groupe. Puis, chaque membre de votre groupe fait au moins deux (2) commentaires. Voici quelques possibilités pour vous aider:

- Demander des informations – Quelles nourritures saines est-ce qu’on peut y manger ?
- Comparer et contraster – Nous avons choisi _______ parce que…
- Commenter en général – J’aime la plage parce qu’on peut y faire du sport ou se reposer.

Enfin, allez sur votre site VoiceThread et répondez à au moins 2 questions ou commentaires faits par vos visiteurs.

Before Deadline 2:
- Did you listen to another group’s VoiceThread?
- Did you leave at least 2 recorded comments with your microphone or webcam?
- Did you listen to comments left within your own VoiceThread and respond?
Dear Participant,
Thank you for answering the following questions about your use of VoiceThread this semester. Please be as detailed as possible in your responses and feel free to give examples to illustrate your answer. Remember, you don’t have to talk about anything you don’t want to and you may stop answering questions at any time. I am interested in both the positive and negative aspects of your experience, so please feel free to share any issues you encountered. Please email me at celepore@crimson.ua.edu before you begin responding if you have any questions about what was just explained.

**Instructions:** Please answer the following questions (minimum of 3-5 sentences).

**Participant name:** ___________________________________________________

1. You previously identified a specific person that you try to imitate when speaking French. Has this changed at all? Please briefly explain why or why not.

2. As you near the end of this semester of French, what concepts do you feel are most important for those who are learning French (e.g. vocabulary, grammar, reading or listening comprehension, pronunciation, writing skills, etc.)? Why?
3. How important is it to you to develop an accurate French pronunciation? Why or why not?


4. As you near the end of this semester of French, how motivated are you to improve your existing set of pronunciation skills in future settings? Please explain the factors affecting your level of motivation.


5. Describe your level of anxiety when speaking French. Has this changed since the beginning of the semester? Why or why not?
6. If you were asked to use VoiceThread in a future foreign language course, how would you feel and why?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

7. Indicate two responses that best describe your habits. I primarily accessed the VoiceThread website by using …
   a. my personal laptop or desktop computer
   b. my personal tablet computer
   c. a computer in one of the on-campus labs
   d. a computer or tablet checked-out from the library
   e. my cell phone
   f. another internet-connected device (please describe)

________________________________________________________________________

Thank you for completing this questionnaire and participating in the study this semester.
Appendix L
Instructor Interview Protocol

I want to thank you for taking the time to meet with me today. We are going to talk about the VoiceThread treatment that was carried out in your classroom. The interview should take less than half an hour. I will be taping the session because I don’t want to miss any of your comments. Because we’re on tape, please be sure to speak up so that I don’t miss your comments. All responses will be kept confidential. This means that your interview responses will only be accessible by me, and any information I include in research reports will not identify you as the respondent. Remember, you don’t have to talk about anything you don’t want to and you may end the interview at any time. I am interested in both the positive and negative aspects of the treatment, so please feel free to discuss any negative issues you encountered. Are there any questions about what I have just explained? Are you willing to participate in this interview?

__________________________________________________________________________ ________________
Interviewee Date

Interview
1. Describe your role as the instructor during the VoiceThread treatment and the steps you took to facilitate the treatment.
2. Describe the students’ attitudes toward participating in the VoiceThread assignments.
3. Did you notice any specific incidences of a student who had a strong aversion to using technology to develop pronunciation skills?
4. Who do you believe students try to imitate when working on improving pronunciation skills: the instructor, peers, a notable person, or a native-speaker from a francophone country? Please explain.
5. What are your feelings about the social nature of VoiceThread (for example, the fact that all students can hear all recordings and then interact) and how this affects the students’ self-confidence? Please explain.
6. Based on your classroom observations during spoken tasks, to what extent did the VoiceThread treatment advance or hinder student pronunciation development? What seemed to be the most difficult areas of pronunciation for the students (fluency, accuracy, comprehensibility, or something else)? Please explain.
7. What effect, if any, do you think the VoiceThread treatment had on your classroom and on the students’ existing pronunciation skills? Which features of the VoiceThread treatment played key roles in getting students to become more perceptive about their pronunciation skills? Please explain.
8. Have any of your beliefs about what motivates students to improve pronunciation skills changed this semester? Please explain.

Closing
Is there anything more you would like to add? Thank you for your time.
### Appendix M
VoiceThread Procedures Timeline

<table>
<thead>
<tr>
<th>DATES</th>
<th>ACTIONS REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>• Distribute VoiceThread homework information sheet to students; refer all</td>
</tr>
<tr>
<td>24 – August  (end of Week 1)</td>
<td>questions to researcher or on-campus supervisor</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>• Before study start date (04-Sept.), please email class roster including Crimson</td>
</tr>
<tr>
<td></td>
<td>email addresses to researcher</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>• Show study invitation through YouTube video link to potential participants</td>
</tr>
<tr>
<td>04-September  Week 3</td>
<td>• Distribute information sheet (consent form)</td>
</tr>
<tr>
<td></td>
<td>• Administer pre-questionnaire to consenting participants in class</td>
</tr>
<tr>
<td><strong>Step 4</strong></td>
<td>• Students receive VoiceThread account information</td>
</tr>
<tr>
<td>10-September  → 28-September</td>
<td>• Students complete training</td>
</tr>
<tr>
<td>Weeks 4-6</td>
<td>• Students are introduced to and complete 1st (practice) activity</td>
</tr>
<tr>
<td></td>
<td>• Instructors complete assessment and return results to students</td>
</tr>
<tr>
<td></td>
<td>• Students complete 1st journaling activity and self-assessment</td>
</tr>
<tr>
<td><strong>Step 5</strong></td>
<td>• Students participate in 2nd VoiceThread</td>
</tr>
<tr>
<td>8-October  → 26-October</td>
<td>• Instructors complete assessment and return results to students</td>
</tr>
<tr>
<td>Weeks 8-10</td>
<td>• Students complete 2nd journaling activity and self-assessment</td>
</tr>
<tr>
<td><strong>Step 6</strong></td>
<td><strong>Step 7</strong></td>
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<tr>
<td>29-October → 16-November Weeks 11-14</td>
<td>26-November (upon return from Thanksgiving break) Week 16</td>
</tr>
<tr>
<td>• Students participate in 3rd VoiceThread</td>
<td>• Administer exit questionnaire</td>
</tr>
<tr>
<td>• Instructors complete assessment and return results to students</td>
<td>• Conduct instructor interview with researcher</td>
</tr>
<tr>
<td>• Students complete 3rd journaling activity and self-assessment</td>
<td></td>
</tr>
</tbody>
</table>
Appendix N
Instructor Debriefing

Dear Instructors,

Please follow the procedures below when presenting each VoiceThread activity to ensure consistency. Also, please note that you will always need to make copies of the instruments completed by students. One folder will be kept on campus with Dr. Drewelow for safekeeping, and the other copies will be mailed to Cindy Lepore. Rachel Caver will have the pre-labeled envelopes and folders for you in the main office. All folders for Dr. Drewelow should be placed in her mailbox in the work room, and all envelopes for Cindy Lepore should go out in campus mail at your earliest convenience as she will begin data analysis as soon as results are available. Remember, ALL students will participate in the VoiceThread treatment (despite their choice to give consent for me to access their information) which includes:

- Participation in VoiceThread activities
- Receiving and reviewing instructor feedback
- Completion of self-assessment forms
- Completion of journaling activities (self-reflection)

**PRE-QUESTIONNAIRE:** Allow 15 minutes at the end of your class period to show students the study invitation via YouTube link and for students to read over the consent form. If students have questions, please ask them to contact the researcher or the researcher’s supervisor as indicated on the form. Students will not sign anything, but indicate their consent to allow the researcher to use their information by completing the attached questionnaire. Students who do not wish to consent should not complete the questionnaire. Collect questionnaires and make copies. Place originals in the folder for Dr. Drewelow and mail copies to Cindy Lepore.

**TRAINING:** Please schedule a convenient class period to take students to the lab (with microphone headsets) during the week of September 4th or 10th for about 20 minutes. You should not complete the training until you have provided a roster with email addresses to the researcher as the researcher will use this list to generate the VoiceThread accounts and provide students with their login information. Once in the lab, everyone should login to their VoiceThread account (including the instructor). If possible, project your screen and ask students to follow along as you navigate through the site. You may show the introduction video (link located on homework information sheet) if needed. Next, distribute the practice activity to students and ask them to locate their VoiceThread’s group. I recommend asking them to record at least one comment at this time (it can be edited or deleted later) so they can ask questions or address problems during the training. The troubleshooting document should also be distributed and common issues addressed during the training.
ACTIVITY PROCEDURES:

1) Make copies of the VoiceThread activity and distribute to students. Virtual copies of all assignments and related documents will also be uploaded into the BlackBoard Learn classroom for easy reference.

2) Each VoiceThread will have two deadlines. The first deadline will allow the students to get organized and then upload and record the initial comments in the activity. The second part of the activity will foster interaction such as asking questions or leaving comments. It is very important for the instructor to actively participate in the interactions for several reasons:
   a. The students will know that you are paying attention to their activity and participation within VoiceThread.
   b. You are supporting students in their work and encouraging them to continue to comment and add detail.
   c. You will be able to accurately evaluate students when completing the rater form in addition to having a better understanding of areas where students are experiencing difficulty.

3) Within 2-3 days of the final deadline, complete the rater form. Make TWO COPIES of the form, and then give the original to the student. Distribute copies to researcher and supervisor as directed.

4) Make copies of the self-assessment form and distribute to students. Once students have received your feedback, they should then complete this form IN CLASS during the last 5 minutes of a class period that you choose. Please choose a class period that falls after they have had time digest the instructor’s feedback as this is part of the self-assessment process. Make ONE COPY of the feedback form. Place the original in Dr. Drewelow’s folder and mail copies to Cindy Lepore.

5) Direct students to the online journaling activity. Please assign a deadline that falls before the students begin work on the next activity. Please communicate all deadlines to the researcher, as she will periodically email students with reminders as they progress through the treatment. The journaling activity will be submitted virtually, and no copies need to be made.

6) Repeat this procedure for subsequent VoiceThread activities.

Note: Students will have small breaks between each VoiceThread activity. It may be a good idea to assign the journaling activity during these breaks as to not overwhelm them near deadlines.

EXIT-QUESTIONNAIRE: Once all VoiceThread activities, instructor evaluations, self-assessments, and journaling activities have been completed, allow 15 minutes at the end of your class period for students to complete the exit questionnaire. Students who did not initially consent do not need to complete this instrument. Collect questionnaires and make copies. Place originals in the folder for Dr. Drewelow and mail copies to Cindy Lepore.

INSTRUCTOR INTERVIEW: Before the end of the semester and after the study has concluded, the researcher would like to interview you about your experience using VoiceThread in the classroom. The interview can be arranged at a mutually convenient time for you and the researcher.
Appendix O
Example of Weekly Communication E-mail with Instructors

Send Step 3.  

1. Send out assignments and others.

2. Set up a 15-20 minute class at the end of the day of Friday (or some other day).

3. Send the information sheet to students (and ask them to send it to other students), and then send it to the professor by email. This way you can avoid sending multiple emails to your students. I will send you email lists for each of the sessions.

4. Set up a 15-20 minute class at the end of the day of Friday (or some other day). This way you can avoid sending multiple emails to your students. I will send you email lists for each of the sessions.

Remember, if you don’t have a clear idea of what you’re doing, it’s important to make sure that you’re sending the right message to your students. This can help prevent confusion and ensure that everyone is on the same page.

Prospectivem.png. 1: Any questions about Step 3 can be asked here. Don’t forget to make copies of your graphs to D. Remember that the original graphs are also included in the email you receive.

Looking forward to the next session!
Appendix P
Approved Institutional Review Board Protocol

August 15, 2014

Cindy Lepore
Department of Modern Languages & Classics
College of Arts & Sciences
The University of Alabama
Box 870246

Re: IRB # 12-OR-022-R3 “Developing Pronunciation Skills at the Introductory Level: Motivating Students through Interpersonal Audio Discussions”

Dear Ms. Lepore:

The University of Alabama Institutional Review Board has granted approval for your renewal application.

Your renewal application has been given expedited approval according to 45 CFR part 46. Approval has been given under expedited review category 7 as outlined below:

7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behaviors) or research employing surveys, questionnaires, and interviews from groups, program evaluation, human factors evaluation, or quality assurance methodologies.

Your application will expire on August 14, 2015. If your research will continue beyond this date, complete the relevant portions of the IRB Renewal Application. If you wish to modify the application, complete the Modification of an Approved Protocol Form. Changes in the study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, complete the appropriate portions of the IRB Study Closure Form.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,

Signature removed:
Carpantato Myles, MSM, CIM, CIP
Office for Research Compliance
The University of Alabama