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THE EFFECTS OF CLICKERS ON HIGH SCHOOL STUDENTS' SELF-EFFICACY AND INTEGRATIVE MOTIVATION TO LEARN AND ACQUIRE A SECOND LANGUAGE

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DISSERTATION APPROVAL PAGE

This is to certify that the dissertation prepared by Cora M. Roush, entitled The Effects of Clickers on High School Students' Self-efficacy and Integrative Motivation to Learn and Acquire a Second Language, has been approved by this committee as satisfactory completion of the requirement for the degree of Doctor of Education in Instructional Technology, in the Department of Educational Technology and Literacy.

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Abstract

THE EFFECTS OF CLICKERS ON HIGH SCHOOL STUDENTS' SELF-EFFICACY AND INTEGRATIVE MOTIVATION TO LEARN AND ACQUIRE A SECOND LANGUAGE

Cora M. Roush

In today's global community, the study of a second language (L2) is a necessity, and there are academic, cognitive, and cultural benefits of understanding an L2. Students in the U.S., when compared to students in many other countries, often lag far behind in their L2 capabilities, and there is a need to strengthen their L2 skills so they can compete within an international society. The use of technology has proven to enrich the L2 learning environment. Clickers are a technology that has been discovered to be a potentially helpful tool for transforming passive learning environments to active in which student participation and collaboration increase and student apathy decreases. This study examined the effects of the use of clickers on students' integrative motivation and self-efficacy to learn and acquire an L2 in six Spanish classes at a medium-sized, Mid-Atlantic high school. A crossover design and two surveys were used to collect data. A linear mixed model with repeated measures for month and a random intercept effect for participants was used to analyze the data. The findings of this study revealed that, after participation in a learning experience with clickers and a traditional learning experience, students' SE to learn and acquire an L2 slightly improved, whereas their integrative motivation to do so was not affected. Results suggested that other factors besides a

particular technology use affect SE and integrative motivation and, in order to change them, a much broader kind of intervention is necessary.

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CHAPTER I

Introduction

In today's global community, the study of a second language (L2) is a necessity. We live in an era in which the L2 field has been called upon to prepare students to be able to compete in a global economy, to travel and to experience personal, enjoyable adventures abroad, to deepen their knowledge of the human race, to strengthen our national defense, and to foster world peace (Garatti, 2013). Providing L2 education to students contributes greatly to our nation's capacity to maintain national security, promote international cooperation, compete effectively in a global economy, and enhance our domestic well-being (Duncan, 2010).

The advantages of learning an L2 are obvious, and knowledge of more than one language, regardless of what the language is, leads to academic, cognitive, and cultural benefits (Awad, 2014; Glew, 2001). For example, L2 learning has a positive effect on intellectual growth, enriches and enhances a child's mental development, and leaves students with more flexibility in thinking, greater sensitivity to language, and a better ear for listening (Center for Applied Linguistics, 2013). Mental flexibility, or the ability to shift between symbol systems such as mathematics and literacy, is increased in students who have experience with two languages, which improves the problem solving skills essential for academic achievement (Met, 2004). Martha Abbott, Director of Education for American Council on the Teaching of Foreign Languages (ACTFL), said, "The brain is like a muscle. When you learn a foreign language you begin working parts of the brain you do not normally use. It increases intelligence, communication skills, higher level

thinking skills, and critical analysis" (International Business Times, 2010, para. 29). Arne Duncan (2010), the United States' Secretary of Education, stated, "The President and I want every child to have a world-class education – and today, more than ever, a world-class education requires students to be able to speak and read languages in addition to English" (para. 8).

Despite the benefits of learning an L2 and the requirement of a world-class education, students in the United States, when compared to their counterparts in other industrialized nations and a significant number of developing ones, lag far behind in their L2 capabilities and knowledge of other cultures (Awad, 2014; Duncan, 2010; Met, 2004; Panetta, 2006). This lack of L2 competence among the people of our nation is a significant concern expressed by presidential commissions, politicians, business leaders, and educators (Panetta, 2006). An estimated 200 million school-aged children in China study English, and just 24,000 of their U.S. counterparts study Chinese languages (U.S. Department of Education, 2006). Additionally, only 18% of Americans report being able to speak a language other than English, while 53% of Europeans, and increasing numbers in other parts of the world, can converse in an L2 (Skorton & Altschuler, 2012). These are just a few of the many examples that illustrate this significant gap, identify this problem, and indicate that this problem has not yet been addressed.

Possible explanations of the lack of L2 skills among the students of the U.S. include the traditional, behaviorist instructional practices commonly overused in many of our L2 classrooms as well as the lack of motivation and self-efficacy commonly evidenced in many of our students.

Integrative motivation is one of the most influential factors in L2 learning and acquisition (Busse & Walter, 2013; Gardner, 2000; Guilloteaux & Dörnyei, 2008;

Khorshidi & Nimchahi, 2013; Nicholson, 2013; Xu, 2010). It is the extent to which an individual works to learn the language because of an enjoyment in doing so and strives to expand his own abilities because he wants to integrate himself into communities that use the target language (Gardner, 1985). In spite of the many advantages of having high integrative motivation, research shows that L2 students today are more instrumentally motivated than integratively motivated (Acheson, Nelson, & Luna, 2015; Kissau, Kolano, & Wang, 2010).

Another influential factor of L2 learning and acquisition is self-efficacy (Erkan & Saban, 2011; Gorsuch, 2009; Hsieh & Kang, 2010; Hsieh & Schallert, 2008; Jabbarifar, 2011; Magogwe & Oliver, 2007; Mahyuddin et al., 2006; Mills, Pajares, & Herron, 2007; Rahimi & Abedini, 2009; Raoofi, Tan, & Chan, 2012; Tilfarlioğlu & Ciftci, 2011). Self-efficacy (SE) is the beliefs that individuals have about their capabilities to complete a particular task successfully and the attributions, or the explanations, individuals give for their success or failure in a particular performance (Bandura, 1986; Hsieh & Schallert, 2008). Although the benefits of having high SE are evident, adolescents in the United States have been found to have low SE in their abilities to learn and acquire an L2 (Spurling, 2014).

The American Council for the Teaching of Foreign Languages (ACTFL) published the document *Standards for Foreign Language Learning: Preparing for the 21st Century* in 1996 to represent "an unprecedented consensus among educators, business leaders, government, and the community on the definition and role of foreign language instruction in American education" (para. 2). It contains the five educational goal areas or standards of Communication, Cultures, Connections, Comparisons, and

Communities, also known as the Five Cs, to be used as a guide for creating and implementing the best practices of L2 teaching.

The Five Cs promote constructivist teaching and learning and explain how knowledge acquired in decontextualized situations tends to be inert and of little practical utility (Land & Hannafin, 2000). Learners may successfully complete classical textbook and workbook exercises, but this does not mean that they are able to apply this knowledge outside of the classroom. Teachers who practice constructivist techniques do not isolate information. Rather, they embed it into realistic contexts, and students must themselves interpret, analyze, and solve problems related to the real world. They encourage the integration of new knowledge with existing conceptions with the belief that this results in more meaningful learning. Their learners continually increase their understanding as they generate, expand, test, and revise ideas. In constructivist environments, "teachers clarify rather than tell, guide rather than direct, and facilitate student effort rather than impose their own approaches" (Land & Hannafin, 2000, p. 17).

Constructivist Foreign Language (CFL) teaching takes on a very similar approach. When applying constructivism in the field of language teaching, students work in pairs or small groups and engage in cooperative and task-based learning (Mojica-Díaz & Sánchez-López, 2010). Prediction, creation, and peer-teaching and debate are promoted. As a result, they become skilled at cooperating with others, expressing their own opinions and ideas in the target language, and solving language problems in systematic ways. "When paired/group work requires negotiation of meaning, learners perform more language functions such as requests for content clarification and confirmation. These conversational exchanges are influential in language acquisition." (p. 477).

The previously mentioned characteristics of constructivist and CFL teaching and learning are very similar to the factors that have been determined to develop and improve L2 students' integrative motivation and SE. For example, in order to increase L2 students' integrative motivation, researchers suggest classrooms in which intellectual stimulations frequently exist, curiosity about the culture of the target language is aroused, students are actively-engaged, goal-orientedness is increased, and learner-autonomy is supported (Dörnyei & Csizer, 1998; Noels, Pelletier, & Vallerand, 2000; Shaver, 2012). In order to expand L2 students' SE, researchers suggest repeated experiences of success, emotional support, feedback, encouragement, and low-stress, low-anxiety environments (Hsieh & Kang, 2010; Jabbarifar, 2011; Raoofi et al., 2012). Noels, Pelletier, and Vallerand (2000) explained, "Students who learn an L2 in an autonomy-supported environment where feedback enhances their sense of competence in the learning task are likely to be those students who learn because it is pleasurable or because it appeals to their self-concept" (p. 76). Therefore, CFL teaching is an appropriate and effective method, and its use has the ability help increase and maintain L2 students' integrative motivation and SE.

Unfortunately, in many of the current L2 classrooms of the United States, traditional, transmissive instruction, built on the studies of behavioral psychologists such as Thorndike, Pavlov, Watson, and Skinner where knowledge is transmitted from teachers to learners, dominates instructional practices (Brown, 2009; Cutrim Schmid & Whyte, 2012; Hess, 2013; Nomass, 2013). In fact, two common objectives of L2 instruction courses are language recall and grammatical accuracy (Boufoy-Bastick, 2001). The Grammar-Translation Method, a method in which L2 students exhaustively use dictionaries to translate words, complete exercise drills to practice recently explained

(in English) grammatical rules, and have little opportunity for real L2 acquisition, is frequently used (Eaton, 2012; Fernandez, 2013; Hess, 2013). The Audio-Lingual Method, strongly influenced by Skinner's behaviorist view toward learning which favored habit-forming drill techniques, is still used today with CDs instead of audio tapes in L2 classrooms of the United States, and most students are unable to transfer these dialogues into their own real-life experiences (Boufoy-Bastick, 2001). These conventional methods of practicing through repetition of exercises to memorize language techniques are not exciting and do not give students a significant role in the learning process (Nomass, 2013; Yugandhar, Srinivas, Rao, & Sundarsingh, 2010).

The instructional techniques used in today's L2 classrooms do not enable students to experience activities that boost their integrative motivation and SE. By not following the best practices promoted by the Five Cs and CFL teaching, teachers are not promoting increased integrative motivation or SE, two important traits that are lacking in the L2 students of the United States.

Recognizing these problems, practitioners and researchers have tried different strategies to overcome them. One of the ways is the use of technology. The use of technology in L2 education has proven to enrich the learning environment of the L2 classroom and to help teachers and students meet the Five Cs (Castleberry & Evers, 2010). Additionally, integrating technology into the L2 classroom demonstrates the shift from a behaviorist to a CFL approach (Wang, 2005). Two popular approaches are Computer Assisted Language Learning (CALL), or the integration of technology into language learning (Arnó-Macia, 2012) and Mobile Assisted Language Learning (MALL), or the acquisition of L2 knowledge and skills through using mobile technology (Alemi, Sarab, & Lari, 2012; Hu, 2013). Their use supports the different needs of our younger,

digital generation (Hu, 2013) and enables them to see the other side of the world due to its "click-away" distance (Lakshmi & Sailaja, 2010). It provides them with a wealth of authentic materials and enables them to practice hearing, reading, speaking, and writing the target language (Nomass, 2013).

The flexibility that is gained by media such as digital text, images, audio, video, and multimedia cannot be provided by, or may not be possible with, print text, and traditional teaching methods (Castleberry & Evers, 2010). Even the basic technological techniques such as using a CD player to expose students to the music of another culture, using audio books to expose students to literature in the target culture and to develop their listening comprehension skills, and using a DVD player to show a film in the target language with subtitles enable students to link spoken and written words to actions and images on a screen. Blogging, interacting on social networks such as Facebook and Twitter, and contributing information to a wiki or a Google Doc promotes interaction and discussions in the target language (Fernandez, 2013). Using cameras on smartphones to take pictures of vocabulary and video recording features to videotape students speaking, completing webquests in the target language, taking a virtual field trip, designing a class webpage in the target language, creating graphic organizers, or using presentation software to write a digital story and illustrating it with digital photos are all examples of how technology can open the doors to the L2 classroom by allowing access to the curriculum and information about language and culture. "Hooking students into the technology they've embraced in the rest of their lives in the classroom brings the study alive" and makes it more relevant than traditional classroom techniques (Fernandez, 2013, p. 4).

One of the emerging technologies in today's L2 classrooms is clickers (Garatti, 2013). Studied under different names such as Personal Response Systems and Audience Response Technology, clickers are interactive, remote response devices that transmit and record student responses to questions typically displayed in a PowerPoint presentation and provide immediate feedback to students and teachers about the learning process (Blasco-Arcas, Buil, Hernández-Ortega, & Sese, 2012). Several researchers have determined that the use of clickers creates a shift from behaviorist to constructivist learning environments (Bojinova & Oigara, 2011; Cleary, 2008; Cunningham, 2008; D'Arcy, Eastburn, & Mullally, 2007; Gauci, Dantas, Williams, & Kemm, 2009; Griff & Matter, 2008; Herreid, 2006; Matesic & Adams, 2008; Morling, McAuliffe, Cohen, & DiLorenzo, 2008; Ribbens, 2007; Stowell & Nelson, 2007). The use of clickers promotes active, student-centered learning and increases the interaction amongst the learners when prompted to solve problems and make decisions (Blasco-Arcas et al., 2013; Cleary, 2008; Cunningham, 2008; Cydis, 2011; Gauci et al., 2009; Morling et al. 2008). It helps students become more engaged and participate in the class and increases their interests and enjoyment in learning class materials (Roush & Song, 2013). The displayed histogram of answers after each question enables the teacher to praise the students' efforts, encourage them, and immediately respond to their needs (Blasco et al., 2013; D'Arcy et al., 2007, Garatti, 2013; Morling et al., 2008, Ribbens, 2007; Roush & Song, 2013). Additionally, the anonymous nature of clickers decreases students' stress, fear, and anxiety when responding to a question; the shyness and fear of being wrong in front of one's peers is removed because clickers "provide a safe means for students to test their knowledge or to express their opinions" (D'Arcy et al., 2007, p. 7).

Each of these features of clickers is related to CFL teaching and the factors that influence integrative motivation and SE. For example, students' integrative motivation is improved when interactions with their teacher are increased, when they feel more involved, and when regular praise is given to them (Dörnyei & Csizer, 1998). Also, students' SE is strengthened when they have low anxiety and feel at ease as they perform a task they perceive as pleasant (Jabbarifar, 2011). Therefore, the use of clickers has the potential to increase these two highly influential factors on the learning and acquisition of an L2, and research is needed on their ability to do so.

Statement of the Problem

There is a need to strengthen the L2 skills of the students in the United States so that they can achieve the level of L2 proficiency that students in other countries have obtained, compete with them in our global society, and obtain the academic, cognitive, and cultural benefits associated with the knowledge of an L2. Students in the U.S. have been found to have low integrative motivation and SE. Many of the instructional techniques used in today's L2 classroom do not seem to meet the Five Cs or possess the characteristics of CFL teaching. Therefore, they do not seem to improve students' integrative motivation and SE in L2 learning and acquisition.

The integration of technology, specifically clickers, has the potential to boost students' integrative motivation and SE. However, there is a need for data on various L2 teaching methodologies and a need to investigate, research, and determine how effectively technologies are being used in the L2 classrooms (Pufahl & Rhodes, 2011). Even though clickers have been used in lecture halls since the 1960s and the many benefits of their use have been repeatedly discovered with numerous studies in other disciplines, clickers have attracted very little attention by L2 researchers (Cardoso, 2011;

Cutrim Schmid, 2008), and "their use is still in infancy" in this field (Garatti, 2013, p. 75). Furthermore, because clickers are an excellent tool for taking attendance in large, lecture hall classes, the majority of the research studies have taken place at the college and university levels, and there have been very few studies completed at the K-12 levels (Graham, 2013). Finally, because the majority of the published papers on clickers investigate how students feel about clickers or their perceptions regarding the use of them, there is insufficient research regarding the effects of clickers or the potential benefits that they could bring to learning outcomes (Bojinova & Oigara, 2011; Cardoso, 2011), including affecting L2 students' integrative motivation and SE. There is a need to fill these gaps in the literature and determine the effects of clickers on high school students' integrative motivation and SE to learn and acquire an L2.

Purpose of the Research

The purpose of the research was to determine if the SE and integrative motivation of L2 students at a medium-sized, mid-Atlantic public high school could be affected by participating in L2 instruction with the use of clickers. This study compared students' SE and integrative motivation after participating in traditional learning and learning with clickers.

Significance of the Study

This study examined the under-investigated area of research on the effects of clickers on high school students' SE and integrative motivation to learn and acquire an L2. The results of this study contributed to the scarcity of research on the use of clickers in the L2 classroom as well as at the K-12 levels. The findings also contributed to the literature body on teaching methodologies that help strengthen and improve the curricula of the L2 classroom and, as a result, may help provide American students with some of

the skills necessary to compete in our global world. Although completed in Spanish classes, the conclusions of this study are applicable to other languages, and L2 researchers and practitioners may benefit from them. Researchers and practitioners of instructional technologies may also find them useful.

Research Questions

In order to determine changes in SE and integrative motivation when using the different learning strategies, this research was guided by the following questions:

1. Is there a statistically significant difference in student self-efficacy to learn and acquire a second language after participating in second-language learning exercises with clickers as compared to traditional second-language learning exercises?
2. Is there a statistically significant difference in student integrative motivation to learn and acquire a second language after participating in second-language learning exercises with clickers as compared to traditional second-language learning exercises?

Research Design

This research study used a crossover design with non-equivalent groups. Quantitative methodologies were used with a sample of convenience composed of students from two Spanish I, one Spanish II, and three Spanish III classes.

At the participating high school, five levels of Spanish are offered. Spanish I is an introductory course that can be taken in eighth through twelfth grades which is designed to expand the target language through listening, speaking, reading, and writing exercises, and in which students develop communication skills through vocabulary

related to daily situations. Spanish II can be taken in grades nine through twelve and is designed to provide a smooth transition from Spanish I. The students continue to develop their communication skills, and proper pronunciation and intonation is stressed. Spanish III can be taken by tenth, eleventh, or twelfth graders. It is an intermediate course in which communicative skills continue to be reinforced, and reading and writing skills are given additional emphasis. In all three of these levels, students study and compare the cultures of Spanish-speaking countries.

The classes in this study were taught by the same teacher. Three classes, referred to in this study as the *Clickers 1st Group*, were assigned to the treatment group (clickers). The other three classes, referred to as the *Clickers 2nd Group*, were assigned to the control group (traditional learning). After one marking period, which consisted of 45 school days, the groups crossed over from treatment to control and from control to treatment. A total of 142 students were enrolled in the six classes; 124 participated in the study (Clickers 1st Group: $n = 57$ and Clickers 2nd Group: $n = 67$).

Data for this research were collected through the use of two instruments. The Attitude/Motivation Test Battery (AMTB) designed by Gardner (1985) was used to assess integrative and instrumental motivation. The Morgan-Jinks Student Efficacy Scale (MJSES) developed by Jinks and Morgan (1999) was used to gain information about students' SE beliefs. Both instruments were administered in a pre- and post-test fashion, prior to and subsequent to participation in both types of learning activities: at the beginning of the first marking period, at the end of the first marking period prior to the crossover, and at the end of the second marking period after the crossover. Students who chose to participate in this study also provided additional demographic data such as gender, grade, and ethnicity as part of the instruments.

Institutional Review Board (IRB) approval was granted by Towson University for Research Involving the Use of Human Participants under Approval Number 14-A062 on January 29, 2014. A copy of the IRB approval can be found in Appendix A.

Approval was also granted by Spring Grove Area School District's Assistant Superintendent on July 17, 2014. A copy of the letter of consent can be found in Appendix B.

Limitations and Assumptions

There are some limitations and assumptions in this study. This research was conducted with attempts to control as many factors as possible. The participants used the same curriculum, textbook, assignments, activities, lessons, and assessments throughout the two marking periods. The only variable was the use of clickers. The limitations and assumptions for this study were as follows:

- It is possible that outside issues in the media related to the Spanish language and the Hispanic culture may have affected students' opinions about these topics. It is beyond the control of the researcher to keep participants from exposure to these influences.
- The demographics of the research participants, including the facts that 75% were underclassmen and 83% were Caucasian, may limit the ability to generalize the findings to other participants, settings, and content.
- Like all studies in which the researcher is directly involved with the participants, existing researcher biases have the potential to affect outcomes. The Researcher's Personal Statement section describes her experiences and personal opinions about the investigated topic.

Researcher's Personal Statement

I served as both the researcher for this study and the teacher of all six Spanish classes. Therefore, the implementation of the learning strategies and the results of the study were subject to my beliefs, biases, perceptions, and experiences. The following statement is provided to assist the reader in having a clear understanding of my background and philosophy about teaching and learning.

I have been a Spanish teacher for the previous twelve years at the participating high school. I have taught students in ninth through twelfth grade Spanish level one through Spanish level five. I genuinely enjoy the Spanish language and the Spanish-speaking culture, but I realize that not all of my students may share the same level of enjoyment of these topics. However, as a Spanish teacher who cares deeply about my students' success in our global society and who is well aware of the personal and professional benefits my students could derive from learning and acquiring the Spanish language, I feel that it is my mission to motivate my students to increase their enthusiasm for these topics.

As the class teacher, I was involved in the design and implementation of both the traditional learning exercises and the learning with clickers. This involvement, along with my perceptions about the benefits and drawbacks of each learning environment, may have influenced the outcomes of the study.

Definition of Terms

Clickers – handheld devices that enable students to enter yes-no or true-false responses and answers to displayed multiple choice questions; the answers are gathered by a receiver, tallied, and immediately projected for the entire class to see (Ribbens, 2007).

Constructivist Foreign Language (CFL) Learning – learning that is embedded into realistic contexts and requires students to interpret, analyze, and solve problems related to the real world by generating, expanding, testing, and revising ideas with the guidance, not the directions, of the teacher (Mojica-Díaz & Sánchez-López, 2010).

The Five Cs – the standards for second language learning to be used as a guide for creating and implementing the best practices of L2 teaching: Communication, Cultures, Connections, Comparisons, and Communities (The American Council for the Teaching of Foreign Languages, 1996).

Integratively motivated student – a student who is highly motivated to learn another language, has an open and accepting approach to other cultural groups and/or a strong emotional interest in the target language group (Gardner, 2000).

Second language (L2) learning – the process by which people learn a language in addition to their first language

Self-efficacy – an individual's beliefs in his or her ability to succeed at a task that determine how he or she feels, thinks, motivates himself or herself, and behaves (Bandura, 1997).

CHAPTER II

Literature Review

Theoretical Framework

This study was informed by the L2 acquisition motivation theory and the social cognitive theory.

Second language acquisition motivation theory. According to Dörnyei (2001), motivation explains why we initiate learning, for how long we sustain it, and how much effort we invest in it. It determines whether our students learn and to what extent they learn, especially if the components necessary for learning are voluntary and under their control. Additionally, once humans have learned something, motivation is largely responsible for whether they continue to do it or not.

In 1959, Gardner and Lambert developed the second language acquisition motivation theory which has become the fundamental theory in the research of motivational L2 learning and acquisition. They proposed that there are two distinct orientations of student motivation: integrative and instrumental.

Students are integratively motivated to learn an L2 when they are interested in foreign languages and cultures and have a desire to interact with the foreign communities that speak the target language (Nicholson, 2013). Integrative motivation is associated with positive attitudes and feelings towards the target language group (Gardner & Lambert, 1972), and towards the target language speakers and their culture (Shenk, 2011). An integratively motivated learner has cultural and social goals and a "desire to

learn more about the language group, meet its people, and be able to fit into and participate in the culture of the language (Shaver, 2012, p. 68).

In contrast, students are instrumentally motivated to learn when they want to attain pragmatic goals such as satisfying school program requirements, enhancing their employment prospects, earning higher salaries, or furthering their careers (Nicholson, 2013). Instrumental motivation is associated with the potential utilitarian gains of L2 proficiency (Gardner & Lambert, 1972). An instrumentally motivated learner is motivated by anticipated rewards and perceived personal gains (Shaver, 2012).

Although instrumental motivation can promote successful learning and productive behavior, learners who are integratively motivated are more likely to complete a task on their own initiative, keep focused on task, attempt more challenges, strive for true understanding of the subject, show creativity, persist even if close to failing, enjoy what they are doing, look for more opportunities related to the task, and succeed (Gardner & Lambert, 1972; Nicholson, 2013). Both integrative and instrumental motivation facilitate learning. However, many researchers have concluded that learners with high integrative motivation work harder and learn second languages faster than those with instrumental motivation (e.g., Gardner & Lambert, 1972; Gardner, Tremblay, & Masgoret, 1997; Khorshidi & Nimchahi, 2013; Nicholson, 2013; Zhang, Su & Liu, 2013).

Khorshidi and Nimchahi (2013) explained that motivation to learn an L2 is very different than the motivation to learn other school subjects. This is because learning an L2 is not just learning skills or grammar; it also entails learning a second culture and, therefore, includes a change in self-image and an adoption of new social and cultural behaviors. In their research on how different types of motivation affect L2 learners' interlanguage pragmatic (ILP) competence, or their ability to comprehend and produce

actions in a target language, the researchers studied eighty learners of English at a language institute in Iran. After 115 students at the institute took the Attitude/Motivation Test Battery (AMTB) designed by Gardner (1985) to assess integrative and instrumental motivation, 40 integratively motivated and 40 instrumentally motivated students were selected to participate in the study. The scores of pre- and post-tests on ILP indicated that integrative learners' overall gain and performance were better. The researchers suggested, "This may be due to the profound effects of their intention to integrate in learning a language" (p. 90). Their willingness to integrate with the target culture and community, as well as their enjoyment in doing so, may help them work harder and make more progress.

Gardner, Tremblay, and Masgoret (1997) investigated possible characteristics of individuals that will influence how successful they will be at learning an L2. A sample of 102 students enrolled in introductory French at a university in Canada was tested in two stages. In the first session, they completed a questionnaire based on the AMTB (Gardner, 1985) including measures of attitudes, motivation, achievement, and self-rating scales of French proficiency. In the second session, they completed another questionnaire containing measures of anxiety, learning strategies, aptitude, and field dependence/independence and a short language history questionnaire. Results indicated that students who showed a strong desire to learn another language had higher confidence in their L2 skills and are more likely to remember things more effectively, use mental processes, organize and evaluate their own learning, learn with others, and have lower anxiety in the classroom. Additionally, they avoided compensating for missing information. In other words, they used strategies to further their understanding and found ways to communicate despite limited knowledge of the language.

Social cognitive theory. Students' attitudes toward the foreign culture, cultural stereotypes, and geopolitical considerations, as indicated by Gardner and his associates, are not the only variables that influence their L2 learning success (Mills et al., 2007). Theories of motivation from educational psychology have been adopted into L2 research, and L2 motivational psychologists argue that "one's perceptions of one's abilities, possibilities, and past performances are crucial aspects of motivation" (p. 418).

Bandura's (1977) social cognitive theory (SCT) is a theory of human functioning that explains how humans can regulate their behavior. At the heart of SCT is the emphasis on the interplay among personal, behavioral, and environmental influences, and an individual's behavior is determined by the interplay of these three factors. Because individuals possess a system of self-beliefs, they are able to exercise control over their thoughts, feelings, and actions. They have the ability to affect and shape their environment rather than passively react to it (Raoofi et al., 2012). According to SCT, "what people think, believe, and feel affects how they behave" (Bandura, 1986, p. 25).

Self-efficacy (SE) is a significant component of SCT (Mills et al., 2007; Raoofi et al., 2012). Self-efficacy is an individual's beliefs in his or her capabilities to perform a task, or, as defined by Bandura (1997), the "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). It determines the efforts and engagement he or she exerts for the tasks and proves to be a principal variable in predicting his performance.

Self-efficacy (SE) is based not on one's abilities, but on what one believes might be accomplished with his skill sets (Mills et al., 2007). Therefore, SE is often a better predictor of success than prior accomplishments are. SE influences individuals' "pursued courses of action, effort expended in given endeavors, persistence in the confrontation of

obstacles, and resilience to adversity" (p. 419). Individuals with high SE approach challenges with the intention and anticipation of mastery and intensify their efforts and persistence whenever necessary. They rapidly recover after enduring failure or difficulty and attribute this failure to insufficient effort or deficient knowledge.

Students with a strong sense of academic SE attain higher intellectual achievement because they have lower anxiety levels, are flexible in the use of learning strategies, demonstrate accurate self-evaluation of their academic performance, have greater intrinsic interest in scholastic matters and self-regulate better than other students (Mills et al., 2007). On the other hand, students with low SE prefer to complete only the academic tasks they find uncomplicated, apply minimal effort and limited persistence, or they choose to avoid the completion of an assignment. For these reasons, SE beliefs are often said to be better predictors of academic success than are actual abilities. Bandura (1997) claimed that people's beliefs of personal efficacy "affect almost everything they do; how they think, motivate themselves, feel, and behave" (p. 19).

> Students' difficulties in many academic skills are often directly related to their beliefs that they cannot learn when such things are not objectively true. In fact, many students have difficulty in school not because they are incapable of performing successfully, but because they are incapable of believing that they can perform successfully, that they have learned to see themselves as incapable of handling academic skills (Bandura, 1986, p. 390).

Self-efficacy is one of the most influential factors in L2 learning (Erkan & Saban, 2011; Gorsuch, 2009; Hsieh & Kang, 2010; Hsieh & Schallert, 2008; Jabbarifar, 2011; Magogwe & Oliver, 2007; Mahyuddin et al., 2006; Mills, Pajares, & Herron, 2007; Rahimi & Abedini, 2009; Raoofi et al., 2012; Tilfarlioğlu & Ciftci, 2011). Mills et al.

(2007) examined the influence of SE on the achievement of 303 college students enrolled in intermediate French courses at three universities in the U.S.: an urban public university in the northeast, an urban private university in the southwest, and an urban private university in the Midwest. A survey with multiple components was used to evaluate students' French grade SE, French learning anxiety, French learning self-concept, SE for self-regulation, and perceived value of language and culture. The students' final course grade was used to evaluate achievement. Their data analyses indicated that students' grade SE and self-regulation SE were the most significant predictors of the French students' achievement and supported Bandura's (1997) explanation of students with higher SE using more appropriate strategies to plan, monitor, and complete their academic tasks.

Gorsuch (2009) conducted a study on 150 undergraduate students at a large southwestern U.S. university enrolled in Arabic, Chinese, French, German, Italian, Japanese, Portuguese, Spanish, and Russian. An online questionnaire developed with the guidance of what faculty members and instructors think students ought to know and be able to do (e.g., speaking in conversational contexts, interpreting and producing the written language, etc.) and also how those things can be accomplished (e.g., interacting with classmates and the instructor, reading authentic materials, asking questions when they do not understand, etc.) was used to enable the students to express their SE in cognitive and affective terms to engage in these tasks. This instrument was also designed to capture students' future expectancy of use of the L2 they were learning. Gorsuch reported that classroom climate, interaction between learners, as well as interaction between teachers and learners positively affected learners' SE and, based on the results,

claimed, “It stands to reason that learners with greater self-efficacy will persist in L2 learning longer” (p. 531).

Raoofi et al. (2012) summarized the literature on SE quite well. The researchers completed a comprehensive review of thirty-two studies on the role of SE in learning an L2 to gain a clear understanding of the development of SE in learning an L2, the ways in which SE affects L2 learning, and how language teachers can help learners create positive beliefs about their abilities to learn an L2. Throughout the review, there were consistent findings: students’ SE is one of the most influential independent variables on learner’s performance and achievement within L2 learning contexts; SE is a strong predictor of grades and performance in different language skills such as reading and listening; students with higher SE make more personal control attributions such as effort; lower anxiety with language skills is a result of having higher SE; contextual variables such as classroom interaction and teacher feedback play a vital role in stimulating students’ SE; and if students have high SE about learning an L2, then they have the power and abilities to reach this goal.

Practices and Challenges in Current Second Language Instruction

The instruction used in many of today’s L2 classrooms unfortunately tends to possess many of the characteristics of traditional, behaviorist instruction (Brown, 2009; Cutrim Schmid & Whyte, 2012; Hess, 2013; Nomass, 2013). In fact, two common objectives of traditional L2 instruction courses are language recall and grammatical accuracy (Boufoy-Bastick, 2001). The focus is on grammar, memorization, and authoritative, teacher-centered approaches to teaching still exist (Eaton, 2012). The Grammar-Translation Method and the Audio-Lingual/Audiovisual Method, which were strongly influenced in the twentieth century by Skinner, Watson, and Pavlov’s

behavioristic views toward learning, are still used and include tedious drill problems that provide minimal interactions and are boring and slow for learners (Fernandez, 2013; Hess, 2013).

The conventional methods of practicing through repetition of exercises to memorize language techniques are not exciting and do not give students a significant role in the learning process (Nomass, 2013; Yugandhar, Srinivas, Rao, & Sundarsingh, 2010). "The traditional *chalk and talk* method which involves the teacher talking to students and writing notes on the chalkboard results in rote learning, learners' low level of retention, and passive learning" (Agbatogun, 2014, p. 257) and, with fewer opportunities to actively participate in class, learners are less confident to express themselves (Onukaogu, 2001). The interaction between the student, the learning materials, the other students, and the teacher, a key element to success, is not occurring (Singh & Mohammed, 2012). In order for students to learn and acquire an L2, they must take ownership of learning activities through interaction, active participation, and the use of the target language in a more authentic context, and these requirements are not being met in many of today's L2 classrooms (Agbatogun, 2014). Therefore, research is needed on improving the instruction used in today's L2 classrooms.

Influential Factors in Second Language Learning

One of the most influential factors in L2 learning and acquisition is integrative motivation (Busse & Walter, 2013; Gardner, 2000; Guilloteaux & Dörnyei, 2008; Khorshidi & Nimchahi, 2013; Nicholson, 2013; Xu, 2010). Integrative motivation is the extent to which an individual works to learn the language because of an enjoyment in doing so and strives to expand his or her own abilities because he or she wants to integrate himself or herself into communities that use the target language (Gardner,

1985). Many researchers suggest that learners with higher integrative motivation work harder and learn an L2 faster because they are more likely to complete a task on their own initiative, keep focused on task, attempt more challenges, strive for true understanding of the subject, show creativity, persist even if close to failing, enjoy what they are doing, look for more opportunities related to the task, and succeed (Khorshidi & Nimchahi, 2013; Zhang, Su, & Liu, 2013).

In spite of the many advantages of having high integrative motivation, research shows that L2 students today are more instrumentally motivated than integratively motivated (Acheson, Nelson, & Luna, 2015; Kissau, Kolano, & Wang, 2010). In other words, they are more motivated by anticipated rewards and perceived personal gains, such as enhancing their careers and earning higher salaries, than they are motivated by their desire to meet and participate in the target culture (Shaver, 2012). Therefore, it is important that we identify ways to improve L2 students' integrative motivation.

Another influential factor of L2 learning and acquisition is self-efficacy (Erkan & Saban, 2011; Gorsuch, 2009; Hsieh & Kang, 2010; Hsieh & Schallert, 2008; Jabbarifar, 2011; Magogwe & Oliver, 2007; Mahyuddin et al., 2006; Mills, Pajares, & Herron, 2007; Rahimi & Abedini, 2009; Raoofi et al., 2012; Tilfarlioğlu & Ciftci, 2011). Self-efficacy (SE) is the beliefs that individuals have about their capabilities to complete a particular task successfully and attributions, or the explanations individuals give for their success or failure in a particular performance (Bandura, 1986; Hsieh & Schallert, 2008). Many researchers have also concluded that students with higher levels of SE have increased achievement in L2 learning and acquisition because they are more interested in the language and culture, have more positive attitudes, are able to set concrete and realistic goals, are able to self-assess, and have increased persistence (Hsieh & Schallert, 2008;

Pae, 2008; Schunk, 1991). Although the benefits of having high SE are evident, adolescents in the United States have been found to have low SE in their abilities to learn and acquire an L2 (Spurling, 2014). Therefore, it is important that we discover ways to improve L2 students' SE.

An Important Factor Affecting Second Language Students' Integrative Motivation

A significant factor affecting L2 students' integrative motivation that has been consistently revealed throughout the literature is Foreign Language Anxiety (FLA). Horwitz, Horwitz, and Cope (1986) defined anxiety as "the subjective feeling of tension, apprehension, nervousness, and worry associated with an arousal of the autonomic nervous system" (p. 125). They then explained that FLA was a specific anxiety reaction, or an anxiety one might have only in a specific situation such as L2 learning. Similar to any other specific anxiety, FLA leads to difficulty concentrating, becoming forgetful, and sometimes even sweating and heart palpitations. However, anxiety centers on the two basic task requirements of L2 learning: listening and speaking. "Anxiety contributes to an affective filter which makes the individual unreceptive to language input; thus, the learner fails to 'take in' the available target language messages and language acquisition does not progress" (p. 127). Students who appear unmotivated in the L2 classroom may be experiencing FLA.

Having identified that anxiety can have profound effects on many aspects of L2 learning, Horwitz et al. (1986) investigated ways to be able to identify students with FLA. Students in beginning language classes at the University of Texas were invited to participate in a "Support Group for Foreign Language Learning." Seventy-eight of the 225 students informed of the support group indicated that they would like to join. Due to time and space limitations, participation was limited to two groups of fifteen students

each. During group meetings, students discussed their concerns and difficulties in L2 learning, presentations on effective L2 learning strategies were given, and exercises for anxiety management were practiced. Based on the experiences in this support group, the researchers developed the Foreign Language Classroom Anxiety Scale (FLCAS), which demonstrated internal reliability and, in pilot studies, established its ability to examine the scope and severity of L2 anxiety. The FLCAS was then given to 75 university students from four introductory Spanish classes, and it was found that students with FLA reported that they are afraid to speak in the L2, feared that they would not understand *all* language input, feared being less competent than other students and being negatively evaluated by them, and were afraid to make mistakes in the L2.

Wu and Lin (2014) examined whether anxiety about speaking an L2 mediated the relation between motivation and a willingness to communicate among 107 students enrolled in an English listening and speaking course at one private and two public universities in Taiwan. The participants were administered an English Speaking Anxiety Scale, a Willingness to Communicate-Speaking Scale, and Integrative and Instrumental Motivation Scales. Analysis demonstrated that scores on instrumental and integrative motivation were significantly negatively correlated with scores on speaking anxiety in an L2 and significantly positively related with scores on willingness to communicate. Also, scores on speaking anxiety were significantly negatively correlated with willingness to communicate. These findings suggest that anxiety can decrease motivation and create negative influences on L2 comprehension, students with greater motivation to learn an L2 use the language more frequently and are more willing to communicate in the classroom, and when students' anxiety about speaking the target language is high, their willingness to communicate is low.

Liu and Cheng (2014) investigated the relationship between language anxiety and motivation among 150 freshmen EFL students enrolled at a university in central Taiwan. The FLCAS developed by Horwitz et al. (1986) was used to evaluate students' perceptions of language anxiety in the English classroom, and Gardner's (1985) AMTB was used to measure their motivation. All of the findings confirmed the claim that "language anxiety should be of great concern in the language classroom as it does indeed play a significant role during the language acquisition process" (p. 294). Consistently, higher levels of motivation were associated with lower levels of anxiety.

FLA can cause students to withdraw from language study by, for example, no longer doing their homework or even skipping class (Horwitz, 2010). "To prevent the debilitating effects of learner anxiety and to maintain motivation, in addition to enhancing language proficiency and building a more positive attitude among the learners, it is imperative that language instructors make greater efforts to create a more supportive and friendly classroom environment" (Liu & Cheng, 2014, p. 295). Teachers should promote more favorable attitudes towards learning, help students attack their negative thoughts and focus less on what they are doing wrong and more on what they are doing right, and encourage students to attribute unsuccessful language performance to lack or effort rather than to a learning ability. Teachers can always avoid language teaching practices that promote anxiety (e.g., interrupting a student speaking to correct a grammatical error), give the students more positive feedback, and view a lesson from the students' perspectives to consider if an activity may be embarrassing or anxiety-provoking (Horwitz, 2010). Using group work and allowing students to practice a task before being asked to perform individually may reduce their anxiety. Also, discussing

students' anxious feelings helps them realize that FLA is a widespread phenomenon, and they will benefit from finding out that they are not alone in their struggles.

Important Factors Affecting Second Language Students' Self-Efficacy

Two important factors that affect L2 students' SE have been frequently found throughout the literature: a) self-assessment and b) attributions of success or failure.

Studies on self-assessment, or "assessment of learner performance in which an individual learner plays an active role evaluating and monitoring his or her production" (Geeslin, 2003, p. 858), in L2 learning and education have provided evidence that self-assessment can promote students' SE to learn another language (e.g., Baleghizadeh & Masoun, 2013; Brantmeier, Vanderplank, & Strube, 2012; Butler & Lee, 2010; de Saint Léger, 2009; Zeigler, 2014). Self-assessment fosters feelings of, contributes to, and stimulates positive SE because it promotes monitoring of progress, enables analyses and comparisons of personal learning strategies with the strategies of others, encourages setting goals that are attainable yet challenging and embody mastery orientation, and supports repair strategies (Paris & Paris, 2001).

Baleghizadeh and Masoun (2013) investigated whether or not experiencing self-assessment would foster EFL learners' SE. They conducted a quasi-experimental study which used two intact classes and a pretest/posttest control group design. Fifty-seven female adult intermediate EFL students at a language institute in Iran initially took a Preliminary English Test. The results enabled the researchers to examine the participants' English proficiency levels and make sure that both control and experimental groups were homogeneous. Both groups were exposed to the same syllabus, textbook, instruction, learning activities, assessments, and grading system. However, only the experimental group was introduced to the self-assessment component. A SE

questionnaire and a self-assessment questionnaire were administered during the second week of classes and again during the final week. Data analysis revealed that the participants in the experimental group had a significantly higher level of SE compared to their peers in the control group at the end of the treatment period indicating that implementation of a self-assessment component on a formative and regular basis enhances EFL learners' SE.

Butler and Lee (2010) examined the effectiveness of self-assessment among 254 sixth grade EFL students in two elementary schools in South Korea. A treatment group of two classes and a control group of two classes were used at each school. At the beginning and end of the semester, students in all eight classes completed a general self-assessment. Instruction was identical for both the treatment and control groups except self-assessments specifically designed for each lesson unit were completed by the treatment group throughout the semester. Student performance in English was measured by two objective tests administered twice during the semester to all of the participants as well as quizzes, oral presentations, role playing activities, and daily observations. Individual interviews were also conducted twice with the teachers. Additionally, students attitudes towards learning English were examined via a survey at the beginning and end of the treatment were completed. Both quantitative and qualitative analyses indicated positive effects on students' L2 learning and their SE. The researchers concluded that "the more one feels one has learned and mastered a given subject through one's effort, the more competent one feels" (p. 25). They suggested that self-assessment helps students understand the goal of a task, reflect on what they have achieved with reference to the goal, and determine what it will take reach the goal. It helps one determine his or her ability with reference to other people's abilities and provides a non-competitive

environment in which one's satisfaction is associated with perceived ability and effort. Therefore, self-assessment has the ability to enhance students' SE.

In an attempt to determine if the European Language Portfolio (ELP), which is a portfolio-based, self-assessment designed to integrate goal-setting, self-evaluation, strategy building, and self-reflection directly into the L2 classroom, is a valid means to foster self-regulated learners, Zeigler (2014) investigated students enrolled in EFL classes in Germany. An experimental group included 318 students using the ELP in classes ranging from grades four through nine in four different schools with 12 different teachers. A control group consisted of 257 students not using the ELP in grades five through nine at two different schools with seven teachers. The analyses of quantitative data collected with student and teacher surveys and qualitative data gathered from student and teacher interviews strongly supported the ELP as a valid means to foster self-regulated learners. Highlighted in some of the specific findings was the higher SE for learning English possessed by the experimental group and their stronger beliefs that they would be successful at learning English at the end of the treatment. Higher mastery and performance goal orientations stimulated by the ELP may account for this.

De Saint Léger (2009) explained, "Self-assessment seems to be a tool well-suited to helping learners develop appropriate goals and self-regulate to monitor their efforts accordingly" (p. 160). When used as an ongoing tool for reflecting concurrently on past and possible future performance and learning behavior, learners are able to set goals and attribute success or failure to their own level of effort rather than factors outside their control such as luck. Learners become active agents in their own learning, and this enhances their SE. Geeslin (2003) similarly described how learners who participated in self-assessment were actively involved in monitoring and assessing their own progress,

recognizing sources of difficulty, and identifying successful behaviors. This leads to a greater level of student accountability and puts students in charge of their own outcome. Additionally, dialogue between the instructor and his or her students, in which he or she provides formative feedback in a timely manner, is encouraged. These key feature of self-assessment also enhance learners' SE.

Additionally, researchers suggested that L2 teachers need to be able to recognize students who attribute failure or success to factors within their personal control, such as effort and preparation, or to factors beyond their control such as lack of ability, teacher bias, or task difficulty (Graham, 2006; Hsieh & Kang, 2010; Hsieh & Schallert, 2008). The way students interpret the reasons for their success or failure and to what they attribute their success or failure, or their attributions, can influence their expectancy for future success, their beliefs about their own competence, the amount of effort they invest, their motivation, and their level of achievement; this shapes their SE about completing a task successfully (Hsieh & Kang, 2010).

Graham (2006) investigated the language learning beliefs of 28 students, ages 16 to 18, studying French in England. With the use of a questionnaire and interviews, she elicited important characteristics of students with low and high SE, the factors that influence these beliefs, and the students' attributions to success or failure in specific language skill areas. Results indicated that students with low SE tended to believe they had no control over the learning outcome and seemed to be reluctant to accept responsibility for their failure or success. On the other hand, students with high SE believed that failure was due to insufficient effort and other factors that can be changed such as effectively using learning strategies that promote success.

At a state-funded university in the southwestern United States, Hsieh and Schallert (2008) examined the interrelationships between learners' SE and attributions for success and failure in learning an L2. They examined 500 undergraduates learning Spanish (*n = 252*), German (*n = 137*), and French (*n = 111*) for the first time. The participants were asked to report whether test scores represented a successful or unsuccessful outcome and to provide attribution and SE ratings upon receiving their grades. Students were assigned to successful and unsuccessful groups based on their satisfaction ratings for the grade they had just received on a major course exam. The researchers found that students who attributed failure to lack of effort had higher SE than students who believed that effort does not play a significant part in the test outcome and suggest that students' SE suffers when they do not feel they can control the outcomes.

In an effort to understand the factors that influence L2 learners' achievement, Hsieh and Kang (2010) conducted a similar study. They also examined the interrelationships between learners' SE and attributions in learning an L2, but examined EFL classrooms. The participants in their study, 192 ninth-grade EFL learners in Korea, were asked to provide attribution and SE ratings when they received their test grades. They found that learners with higher levels of SE attributed their test results to internal, personal control factors. This suggests that students who believe they have control over their academic outcomes hold higher expectation for success. "They tend to put in more effort and persist in the face of challenges" (Hsieh & Kang, 2010, p. 618); learners with high SE take responsibility for their failures. This also suggests that students who attribute negative outcomes to uncontrollable factors (e.g., lack of ability, teacher bias, luck, etc.) may develop learned helplessness which can result in low SE.

Strategies for Developing Second Language Students' Integrative Motivation

Motivational strategies for the L2 classroom are instructional interventions applied by L2 teachers to elicit, enhance, sustain, and protect students' motivated behaviors (Guilloteaux, 2013). Dörnyei and Csizér's (1998) study of the motivational beliefs and practices of 200 teachers of English in several different locations in Hungary initiated the research on motivational strategies. The participants of their study completed one of two questionnaires which included 51 motivational strategies and were asked to rate each strategy in terms of its perceived importance or the frequency of its use. Analysis of the data enabled the creation of the "Ten Commandments for Motivating Language Leaners," also known as the "Ten Macrostrategies":

1. *Set a personal example with your own behavior.* The teacher is the most prominent role model in a classroom and, therefore, is very influential on students' attitudes and motivation toward learning an L2. The teacher's projection of enthusiasm, or strong interest in the subject matter and the amount of effort he or she exerts in teaching, has a strong impact.
2. *Create a pleasant, relaxed atmosphere in the classroom.* A tense classroom climate increases students' anxiety and decreases their L2 motivation. A secure learning environment in which risk-taking is advocated and social comparisons are discouraged is promoted. When an accepting, supportive, friendly classroom environment is created by making it clear to students that mistakes are a part of learning, promoting risk-taking, using and encouraging humor, and encouraging students to share their thoughts, L2 motivation is enhanced.

3. *Present the tasks properly.* The way a teacher presents a task to the students strongly affects their perception of it and is a powerful tool in raising their interest and arousing their motivation. When realistic goals and effective strategies to reach them are presented, the expectancy of the task being completed also increases.
4. *Develop a good relationship with the learners.* Students' learning efforts are boosted by the motive to please their teacher, and showing students you care and establishing a good rapport with them are necessary.
5. *Increase the learners' linguistic self-confidence.* It is not what students know or can do that will determine their use of an L2, but what they think or know they can do. The way students perceive their own ability has a significant effect on the effort they put forth.
6. *Make the language classes interesting.* A learner's interest is an important contributor to his or her motivation to learn. When interested in a task, students are willing to invest time and energy in completing it. Arousing learners' curiosity and sustaining their interest as the course goes on improves their L2 motivation. One can make learning stimulating and enjoyable by introducing a variety of thought-provoking topics, using a variety of teaching aides, including multi-media, and breaking the routine by varying the way he or she presents the lessons.
7. *Promote learner autonomy.* Learners taking responsibility for their own learning, governing their own learning process, and attributing their successes and failures to their own efforts rather than factors beyond their control enhances their L2 motivation. It is important to promote learner autonomy by teaching strategies

that students can use to motivate themselves, being more of a facilitator than a lecturer, encouraging questions and contributions from students, and offering choices to students so they can pursue options that are personally relevant to them.

8. *Personalize the learning process.* An L2 class needs to be personally relevant to the students. Students' needs should be analyzed and the syllabus should be adjusted accordingly, and peer relations and group development should be promoted in the classroom.
9. *Increase the learners' goal-orientedness.* Setting goals, whether integrative or instrumental in nature, has "exceptional importance in stimulating L2 learning motivation" (Dörnyei & Csizer, 1998, p. 217). Self-evaluation of reaching these goals can be encouraged by giving students positive feedback, monitoring students' progress and celebrating their successes. Also, helping them realize to attribute failure to lack of effort rather than lack of ability will assist students in developing realistic beliefs about L2 learning.
10. *Familiarize learners with the target language culture.* Students' language learning success is highly influenced by their attitudes towards the target cultural group. Learners' awareness of the values associated with knowing the L2 can be enhanced by introducing authentic cultural materials, familiarizing students with the background of the target language, encouraging students to use the L2 outside of the classroom, and inviting native speakers to come to classes.

After basing their research on the results of Dörnyei and Csizér's (1998) study, many researchers found similarities in the perceived importance and frequency of use of motivational strategies as reported by educators. In Taiwan, Cheng and Dörnyei (2007) used two questionnaires on the motivational strategies of 387 EFL teachers and discovered that Taiwanese teachers agreed with the 200 Hungarian EFL teachers in Dörnyei and Csizér's (1998) study on four of the five top macrostrategies: set a personal example with your own behavior; create a pleasant, relaxed atmosphere in the classroom; present the tasks properly; and increase the learners' linguistic self-confidence.

In Hungary (Dörnyei & Csizér, 1998), Korea (Guilloteaux, 2013), Saudi-Arabia (Alrabai, 2011), Taiwan (Cheng & Dörnyei, 2007), and the United States (Ruesch, Bown, & Dewey, 2012), a consensus among educators was made: the most important strategies for enhancing students' L2 motivation are related to teachers displaying appropriate behaviors. The teacher is the most prominent role model in a classroom and, therefore, is very influential on students' attitudes and motivation toward learning (Dörnyei & Csizér, 1998). In those same countries, "promoting learners' self-confidence" and "creating a positive learning climate" were rated among the top five macrostrategies. A tense classroom climate increases students' anxiety and decreases their L2 motivation (Dörnyei & Csizér, 1998). It is important to point out that these similarities found across very different cultural contexts demonstrate the universal nature of Dörnyei & Csizér's (1998) macrostrategies (Guilloteaux, 2013).

Challenges in Current Second Language Students' Integrative Motivation

As pointed out in the previously mentioned research, there are evidently several strategies for developing and enhancing L2 students' integrative motivation and SE. However, challenges do exist with implementing these strategies. Today, L2 students

have been found to be more instrumentally motivated than integratively motivated (Acheson, Nelson, & Luna, 2015; Kissau, Kolano, & Wang, 2010). In other words, they are more motivated by anticipated rewards and perceived personal gains, such as enhancing their careers and earning higher salaries, than they are motivated by their desire to meet and participate in the target culture (Shaver, 2012). This might be due to guidance counselors encouraging them to take L2 courses in order to satisfy the school program requirements and parents, teachers, and society telling them that they will get better jobs and make more money if they study an L2 (Shaver, 2012).

In the current classrooms, traditional, behaviorist instruction tends to be applied and overused (Cutrim Schmid & Whyte, 2012; Mojica-Díaz & Sánchez-López, 2010). Many teachers are not constructivists, and CFL teaching and learning may be too limited. Students might not be completing tasks on their own initiative or challenged to solve problems, make decisions, and use higher-order thinking, and they may have limited opportunities to be creative (Eaton, 2012; Fernandez, 2013; Hess, 2013). They aren't likely to be provided with interactive, collaborative, or authentic environments and possibly do not enjoy being immersed in a class with grammar and translating (Nomass, 2013; Yugandhar, Srinivas, Rao, & Sundarsingh, 2010). As a result, students may not be interested in working harder or finding opportunities to use the L2 in the real world like integratively motivated students would be. Consequently, there is a need for research on pedagogical approaches that contain Dörnyei and Csizér's (1998) macrostrategies and positively influence L2 students' integrative motivation.

Strategies for Developing Second Language Students' Self-efficacy

The construct of SE began with Bandura's (1977) social-cognitive theory which follows the notion that humans can control and are able to regulate their behavior. According to Bandura, a student's belief in his efficacy to accomplish a task can be developed through the following four sources: (a) mastery experience, (b) vicarious experience, (c) social persuasion, and (d) physiological and emotional states.

Considered to be the strongest source of SE, mastery experience indicates that past experiences play a vital role in developing students' SE beliefs because individuals who have experienced successful task accomplishment tend to have a high SE (Bandura, 1977). Simply put, success raises SE, and failure lowers it.

Although not as strong as mastery experience, but still influential, is vicarious experience which explains that students develop positive beliefs about their own capabilities in performing a task when they observe their peers perform it successfully. This is defined as the "If He Can Do It, So Can I" experience (Jabbarifar, 2011).

In the case of social persuasions, students develop high SE concerning a specific task when they receive encouragement and positive feedback from mentors, advisors, or superiors who are valued for their expertise. Students' SE beliefs greatly depend on the positive or negative experiences they have in their environments and how they are viewed by significant others. If the experience is positive and the students feel worthy of love and value, rather than negative and the students feel rejected, unwanted, or unloved, their SE will be high. The positive experiences persuade students that they are capable of doing the task and, therefore, increase their SE.

Finally, through physiological and emotional states, students who have low anxiety, stress, and fear during a task performance feel at ease and perceive the situation

as pleasant and, as a result, strengthen their SE beliefs. Students who have sweaty hands or a dry mouth, interpreted signs of nervousness, have a lower sense of SE.

Many researchers have used Bandura's (1977) social-cognitive theory as a foundation for their work, and the four sources of SE have consistently been confirmed. For example, Alt (2015) used the four sources as a guide to find the most effective constructivist practices in university settings for enhancing SE for learning. One hundred sixty-seven undergraduate students from two regional colleges in Israel created a treatment group of 84 students studying in a Problem-Based Learning (PBL) environment informed by constructivist theory and a control group of 83 students studying in a traditional, lecture-based environment. Using two questionnaires, she found that motivating students to think reflectively about their learning processes, encouraging interaction and collaboration amongst her students in which they are given opportunities to express themselves and share their own experiences, using authentic tasks used in real-life situations to make activities more meaningful, and making students feel that their needs, concerns, learning difficulties, and personal goals are considered are the strongest predictors of academic SE.

Also in line with Bandura's (1977) four sources, Van Dinther, Dochy, and Segers (2015) revealed that formative assessment, or assessment that specifically intends to generate feedback on students' achievements to improve learning, has the potency to improve students' SE. At a large Dutch institute, 15 students were individually interviewed using open-ended questions on how their assessment experiences contribute to their SE. Coding and analyses revealed that feedback enhances students' SE if it provides "information about whether the task has been performed acceptably as well as how to improve subsequent performance" (p. 47). The researchers suggest that programs

should offer opportunities for mastery, persuading, and physiological and affective experiences.

A sample of 2,651 students from Australian and British secondary schools responded to questionnaires in Dornman and Adams' (2004) study on students' perceptions of the classroom environment and SE. The researchers concluded that high quality classroom environments which promote positive perceptions and include social harmony and genuine teacher support and encouragement promote SE. Alkharusi (2009) looked at the impact of the classroom assessment environment on 242 undergraduate students' SE. After analyzing data collected from a questionnaire, the researcher determined that classroom assessment practices that include challenge, variety, and active involvement and give students opportunities to make choices and decisions elicit SE. In their study on SE, test anxiety, and competitiveness on 338 second grade and high school students, Tehrani, Majd, and Ghamari (2014) used two questionnaires and confirmed that experiences of stress and anxiety decrease SE. Hutchison, Follman, Sumpter, and Bodner (2006) administered a survey including qualitative measures to 1,387 undergraduate students enrolled in Purdue University and claimed that SE benefits when students are able to work closely with peers and seek help when necessary and when verbal and influential feedback as well as enjoyment, interest, satisfaction with the course abound.

Challenges in Current Second Language Students' Self-efficacy

Adolescents in the United States have been found to have lower SE which has resulted in poor time-management skills, procrastination, unskilled prioritizing, and deficient study skills (Spurling, 2014). This is due to not sufficiently engaging in practices that contain the four sources that enhance SE as explained by Bandura (1977). For example, frequent intellectual stimulations and challenges which result in repeated

experiences of success, frequent emotional support, and receiving positive feedback, encouragement, care, and respect are limited (Jabbarifar, 2011). Instead, the current curriculum focuses on content standards and benchmarks (Cutrim Schmid & Whyte, 2012; Mojica-Díaz & Sánchez-López, 2010), and students are more stressed when completing grammar and translation exercises and have fear and anxiety when applying the target language due to not having the experience in doing so (Hsieh & Kang, 2010). The L2 classroom needs to be a place where care, respect, and mutual support are abundant so that positive self-images are enhanced, social relationships are improved, and learning the target language is unavoidable. As a result, there is a need for research on pedagogical approaches that contain Bandura's (1977) four sources and positively influence L2 students' SE beliefs.

The Use of Technology to Address Challenges in Second Language Classrooms

Technological innovations in L2 learning have proven to enhance learners' interest and motivation and improve attitudes toward learning; provide students with increased access to the target language, authentic materials, interaction and collaboration opportunities, and immediate feedback; and support learner autonomy and self-assessment (Golonka, Bowles, Frank, Richardson, & Freynik, 2014). The use of technology in L2 education has proven to enrich the learning environment of the L2 classroom and to help teachers and students meet the Five Cs, the five educational standards used as a guide to implement the best practices of L2 teaching (Castleberry & Evers, 2010). Additionally, integrating technology into the L2 classroom demonstrates the shift from a behaviorist to a CFL approach (Wang, 2005). Therefore, one may say that the use of technology has proven to provide strategies to address the motivation and SE challenges. A technology that has the potential to address these challenges is clickers.

An overview of clickers.

One of the emerging technologies in today's L2 classrooms is clickers. They were made famous by their use in the "Ask the Audience" component of the TV quiz show *Who Wants to Be a Millionaire?* and are also known as Classroom Response Systems, Student Response Systems, Pupil Response Systems, Personal Response Systems, and Audience Response Technology. Clickers are handheld devices that vary in form and number of buttons, but they all enable students to enter yes-no or true-false responses and answers to multiple choice questions that are displayed on the classroom overhead screen, usually within a PowerPoint presentation (Ribbens, 2007). The answers are transmitted by either infrared or radio frequency signal, and picked up by a receiver which relays them to a classroom computer (Herreid, 2006). With the assistance of the associated software, descriptive statistics (e.g., percentage distribution, mean, standard deviation, and variance) are conducted (Cardoso, 2011).

When the polling period has closed, the results are anonymously and immediately displayed in the form of a pie chart or bar graph illustrating the correct answer, the percentage distribution of responses, and other statistics considered relevant by the teacher (Cardoso, 2011). This display provides the teacher and students with a real-time view of the entire class, and instructors can promptly decide whether changes to the lesson may be needed while students can gain a sense of whether they are learning as the lesson unfolds (Garatti, 2013). The anonymity of the results enables students to compare their knowledge to their peers' without being concerned about answering incorrectly or having to speak in front of them (Gauci et al., 2009). The data collected with their use can be stored and retrieved later, either as an anonymous record or by identification with a personal ID (Trees & Jackson, 2007).

Clickers have become quite popular in a wide variety of disciplines in the last decade, but they are far from a novelty. In the 1950s, they were initially used by the U.S. Air Force personnel, and in the 1960s, they entered the large lecture hall (Garatti, 2013). Their use declined in the 1970s, but the corporate business world started using them in the 1980s and, subsequently, the entertainment business used them as a means of testing consumer preferences for upcoming movies and shows. Now wireless, portable, and more affordable, clickers have recently had quite a success in academic institutions. It is estimated that "today, at almost every university in the USA, somewhere a faculty member in at least one discipline is using a response system in their teaching" (Garatti, 2013, p. 74). Clickers have started being met with enthusiasm at the K-12 level as well, where units have been sold in thousands of school buildings.

The benefits of using clickers.

In his book *Teaching with Classroom Response Systems: Creating Active Learning Environments*, Bruff (2009) summarized more than 200 clickers-based studies completed across a wide variety of disciplines. A prevalent pattern with regards to the use of clickers as a positive addition to classrooms was revealed. In an even more recent review of literature, this pattern has been found to continue and four pedagogical benefits of clickers are consistently revealed: Clickers (a) decrease apathy and increase enjoyment, interest, and enthusiasm in the class; (b) decrease anxiety and increase involvement, engagement, participation, and active learning in the classroom; (c) allow learners to self-assess and compare their performance to their peers; and (d) foster learner-to-learner and learner-to-instructor interactions.

The use of clickers decreases students' apathy.

Many researchers have discovered that the use of clickers decreases students' apathy and increases both students' and teachers' interest, enthusiasm, and enjoyment in the class (e.g., Blasco-Arcas et al., 2013; Blood & Gulchak, 2013; Bojinova & Oigara, 2011; Caldwell, 2007; Cardoso, 2012; Cleary, 2008; Cunningham, 2008; Cydis, 2011; Draper & Brown, 2004; Garatti, 2013; Gauci et al., 2009; Graham, 2013; Herreid, 2006; Hoffman & Goodwin, 2006; Johnson & Meckelborg, 2010; Jordan & Crofts, 2012; Matesic & Adams, 2008; McCloskey, 2012; Miñano, 2012; Penuel, Boscardin, Masyn, & Crawford, 2007; Poirier & Feldman, 2007; Preszler, Dawe, Shuster, & Shuster, 2007; Roush & Song, 2013; Stowell & Nelson, 2007; Tlhoaele, Hofman, Naidoo, & Winnips, 2014).

Gauci et al. (2009) distributed a questionnaire to 175 of their undergraduate science students after using clickers questions with the intent to make their lectures more active and interesting for a semester at the University of Melbourne in Australia and found positive student feedback: 83% felt more engaged, 85% felt intellectually stimulated, and 89% felt motivated to think. Eighty-six percent (86%) perceived the use of clickers to be enjoyable and to improve understanding. The researchers claimed that students felt more engaged, intellectually stimulated, and motivated when using clickers, and also thought they improved their understanding.

Matesic and Adams (2008), when completing their study on the use of clickers to enhance students' library research at York University in Canada, not only experienced an increase in participation in the classroom through the use of general responses to survey questions, but they found that students were eager to share their ideas verbally. "Some actually held the clickers like a microphone when they responded verbally to elaborate on

personal views" (p. 8). The researchers explain how the use of clickers often provoked students' desire to verbalize their inner thinking after seeing the responses of their classmates. Using clickers as interactive technology to engage passive listeners in the classroom, students' participation approaches 100% in class sessions due in part to anonymity, ease of use, and the ability to see how many others answered in the same way. Questions can be designed to provoke learning and engage student attention in a fun and enjoyable manner and, as a result, students perceive the interactive nature of the technology as fun.

Jordan and Crofts (2012) investigated the effectiveness of clickers to enhance learning through increased interest and improved understanding. With an open-ended feedback questionnaire, they gathered perceptions of seven EFL instructors and, with an online survey, they gathered perceptions of 118 of their students at a university in China. The instructors felt that clickers increased interactivity and made lectures more engaging and interesting for students. The instant and visual feedback provided when clickers were used seemed to increase students' engagement and interactivity and also allowed a more reactive style of teaching when areas requiring reinforcement were highlighted in the real time data. The students expressed positive reactions in regards to useful feedback, heighted interest, increased enjoyment, and enhanced understanding and learning. The researchers concluded that the use of clickers has great potential to enliven language teaching.

In their study on students' and teachers' perspectives on using clickers, Roush and Song (2013) administered a questionnaire to 99 high school students studying Spanish and seventeen K-12 teachers. Forty-three of the students and 15 teachers also participated in a follow-up interview. The researchers found that both students and

teachers agreed that the use of clickers improved student engagement, made them more attentive and helped them focus, heightened their interest and participation, and increased enjoyment and excitement in learning.

Stowell and Nelson (2007) compared clickers use to standard lecture, hand-raising, and response card methods of student feedback in their introductory psychology classes at Eastern Illinois University. They found that the clickers group reported significantly less boredom and more pride than the standard lecture condition. The clickers group also had the highest classroom participation, greater positive emotion and increased classroom enjoyment, and was more likely to respond honestly due to a decrease in the influence of social conformity. The researchers argued that clickers create an avenue for interactions with students who might be too shy to speak or even raise their hands.

Graham's (2013) report on his observations of the use of clickers and interviews and reflective journals of teachers using clickers in elementary classrooms illustrated well the many other reports in the reviewed literature: there was an obvious "sense of fun and engagement" (p. 16) taking place when clickers were used.

As revealed in multiple studies in this review of literature, the use of clickers has the ability to decrease apathy and increase enjoyment, interest, and enthusiasm in the class. Based on Dörnyei and Csizér's (1998) ten macrostrategies for developing L2 learners' motivation, it is important to make language classes interesting and make learning stimulating by breaking the routine and varying the way one presents lessons. When interested in a task, students are willing to invest time and energy in completing it, and arousing their curiosity and sustaining their interest as the course goes on improves

their L2 motivation. This suggests that clickers have the potential to enhance L2 students' integrative motivation.

The use of clickers decreases anxiety.

Multiple researchers also suggest that the use of clickers decreases anxiety and, as a result, increases involvement, engagement, participation, and active learning in the classroom (e.g., Agbatogun, 2014; Blasco-Arcas et al., 2013; Blood & Gulchak, 2013; Bojinova & Oigara, 2011; Caldwell, 2007; Cardoso, 20120; Carnaghan & Webb, 2007; Cleary, 2008; Cydis, 2011; Draper & Brown, 2004; Garatti, 2013; Gauci et al., 2009; Graham, 2013; Hoffman & Goodwin, 2006; Johnson & Meckelborg, 2010; Jordan & Crofts, 2012; Kaleta & Joosten, 2007; McCloskey, 2012; Miñano, 2012; Nagy-Shadman & Desrochers, 2008; Penuel et al., 2007; Poirier & Feldman, 2007; Prezler et al., 2007; Ribbens, 2007; Suchman, Uchiyama, Smith, & Bender, 2006; Stowell & Nelson, 2007; Sun, 2014; Trees & Jackson, 2007; Tlhoaele et al., 2014).

In Cydis' (2011) study on how clickers impact student engagement and learning, 19 students enrolled in a college education program and five students in a seventh grade class for students with special education needs in New Jersey were observed and interviewed and completed a questionnaire. Additionally, instructors kept field notes to record their observations of their experiences using clickers. All participants indicated favorable responses to the use of clickers. Students found them fun and interesting. They appreciated being able to respond without the risk of being embarrassed if they provided the wrong answer as well as the ability for more students to be involved in answering the questions. Instructors reported that students engaged in conversations surrounding the questions and "appeared to demonstrate a commitment to obtaining the correct answer through their discussion with peers" (p. 54). After correct answers were

revealed, more conversations and inquiries to further clarify understanding would take place amongst the students. They also noticed that students who typically do not engage in conversations appeared to be more engaged in the small group conversations. The researcher pointed out that because students could answer questions with clickers without the fear of embarrassment, they were not anxious, and were, as a result, more engaged.

Sun (2014) compared clicker technology against mobile polling (polls conducted on students' smartphones) and the Just-in-Time Teaching (JiTT) strategy to determine how these methods may differently affect students' anxiety. To assess the differences between the effects of clickers and mobile polling, data was collected from two courses at a university in Taiwan in which 69 students used clickers (control group) or mobile polling (experimental group). Pre- and post-surveys were completed by all of the participants at the beginning and end of the experimental sessions. Brainwave data was collected from a total of 32 volunteer students across 16 class session as students participated in in-class polls using either clickers or mobile phones. Data analyses revealed that the use of electronic polling devices, both clickers and mobile phones, enhanced and maintained students' attention and heightened relaxation values, indicating that the subjects were in a more relaxed state and were not stressed. Their use alleviated anxiety.

Graham (2013) examined the pedagogy underlying the use of clickers in two sixth grade classes and one second grade class. Observations of clickers in use, interviews about their impact on student learning, challenges, and benefits, and a reflection log kept by all three teachers about using clickers were used to collect data. Qualitative analyses indicated the power of clickers to actively engage students in learning and their capacity to engage students who would not normally be willing to share during class discussions.

Graham also reported reduced levels of anxiety and increased attention during polling. He observed that enhanced participation and active involvement occurred as a result of the anonymity and comfort that clickers afford the students.

Bruff (2009) summarized the literature well when he reported many findings that seemed to suggest clickers create a safe space for shy and unsure students to participate in class and many discoveries that propose clickers-facilitated activities involve not one, but all students in the class.

Numerous studies in this literature review suggested that the use of clickers decreases anxiety and, as a result, increases involvement, engagement, participation, and active learning in the classroom. As explained by Horwitz et al. (1986), Foreign Language Anxiety (FLA) has a significant effect on learners' motivation. FLA can decrease motivation and create negative influences on L2 comprehension (Wu & Lin, 2014). Liu and Cheng (2014) suggested creating a more supportive and friendly classroom environment, and Horwitz (2010) recommended giving the students positive feedback, avoiding anxiety-provoking teaching practices, and using group work to allow students to practice a task to decrease FLA and increase students' motivation. Creating a pleasant, relaxed atmosphere and an accepting, supportive, and friendly environment is one of Dörnyei and Csizér's (1998) ten macrostrategies. It is important to promote risk-taking, make students aware that mistakes are part of learning, and to use and encourage humor. This suggests that the use of clickers has the ability to improve L2 students' motivation. According to Bandura (1977), one of the four sources of developing students' SE is physiological and emotional states. When students experience situations of low anxiety, stress, and fear, their beliefs in their efficacy to accomplish a task is enhanced. This suggests that the use of clickers is likely to improve L2 students' SE.

The use of clickers enables self-assessment.

Furthermore, numerous researchers claim that the use of clickers allows learners to self-assess and compare their performance to their peers (e.g., Agbatogun, 2014; Blasco-Arcas et al., 2013; Blood & Gulchak, 2013; Bojinova & Oigara, 2011; Caldwell, 2007; Cardoso, 20120; Carnaghan & Webb, 2007; Cutrim Schmid, 2007; Draper & Brown, 2004; Garatti, 2013; Graham, 2013; Johnson & Meckelborg, 2010; Jordan & Crofts, 2012; Kaleta & Joosten, 2007; McCloskey, 2012; Miñano, 2012; Morling et al., 2008; Nagy-Shadman & Desrochers, 2008; Tlhoaele et al., 2014).

Bojinova and Oigara (2011) evaluated students' experiences and perceptions about the use of clickers in attempt to determine whether they have a positive impact on student learning. Participants included undergraduate students enrolled in two sections of Microeconomics and two sections of Geography courses at a private university in the U.S. The two sections of each course consisted of a control and treatment group. Analysis of data received from a questionnaire given toward the end of the semester to the treatment groups indicated positive attitudes towards the use of clickers as an instructional tool. Students found them easy to use, that they helped them understand subject matter due to the immediate feedback, and made them feel more engaged. They appreciated the anonymity of the clicker process, and pointed out that they were more likely to participate in a class with clickers compared to traditional hand-raising. They thought using clickers was fun and they made the class more enjoyable. They increased their concentration and made them more aware of their misunderstandings about the course material. The distribution of class responses shown in a pie chart after answering a question increased their confidence in how well they knew the subject. The researchers indicated that clickers "allow students and instructors to get immediate feedback about

the teaching and learning process. The immediate feedback helps students develop confidence as they are able to relate their level of learning and understanding to that of their peers" (p. 182).

Cutrim Schmid (2007) explored the pedagogical potential of clickers in her qualitative study at a British university in an English for Academic Purposes and Study Skills class. The research instruments included classroom observations, teacher's field notes, video recordings of classes, interviews with students, and pre- and post-course student questionnaires. The researcher highlighted how students started a process of self-evaluation when they saw that their performance was inferior to that of their peers when the histogram of results was immediately displayed after a question. Her students explained how this self-evaluation process enabled by clickers gave them an idea of their own progress and worked as an indicator of which areas they had to work on more intensively or improve. They also expressed relief when they realized they were not the only ones struggling to understand a concept and, as a result, had a boost in confidence.

Four sections of introductory psychology at the University of Delaware participated in a study by Morling et al. (2008). The same teaching style, textbooks, assignments, and assessments were used in all four sections, but two sections used clickers ($n = 482$) and the other two sections did not ($n = 560$). Four multiple-choice exams, self-reports of engagement, and semester-end course evaluations were used to collect data on the efficacy of clickers in large, introductory psychology classes. Based on the results of their data analyses, the researchers suggested that clickers are a potential tool for increasing interactive engagement with the target material, and courses that use interactive engagement tend to result in higher levels of concept learning. They proposed that students benefit by comparing their performance to their peers using the displayed

histogram of the class' responses and, additionally, due to the JiTT method supported by the use of clickers, widespread misunderstandings can be corrected promptly.

A plentiful number of studies in this literature review proposed that the use of clickers allows learners to self-assess and compare their performance to their peers. As explained by de Saint Léger (2009), Geeslin (2003), and Paris and Paris (2001), self-assessment promotes students to monitor and assess their own progress and become active agents in their own learning. Overall, it fosters feelings of, contributes to, and enhances SE. These researchers also pointed out that self-assessment encourages setting goals that are challenging yet attainable, recognizing sources of difficulty and identifying successful behaviors, and attributing success or failure to their own level of effort rather than factors outside their control. As suggested by Graham (2006), Hsieh and Kang (2010), and Hsieh and Schallert (2008), students' attributions to their success or failure can influence their expectancy for future success, their beliefs about their own competence, the amount of effort they invest, their motivation, and their level of achievement, all factors that shape their SE. This also enables mastery experience, another source explained by Bandura (1977), in which students experience successful task accomplishments and their SE expands. Additionally, promoting learner autonomy is one of Dörnyei and Csizér's (1998) ten macrostrategies for improving L2 students' motivation. Learners taking responsibility for their own learning, governing their own learning process, and attributing their successes and failures to their own efforts rather than factors beyond their control enhances their L2 motivation. Increasing the learners' goal-orientedness is another macrostrategy because setting goals stimulates L2 learning motivation. Therefore, this suggests the probability that the use of clickers can improve L2 students' SE and integrative motivation.

The use of clickers fosters interactions.

Additionally, research shows that the use of clickers fosters learner-to-learner and learner-to-instructor interactions (e.g., Agbatogun, 2014; Blasco-Arcas et al., 2013; Blood & Gulchak, 2013; Bojinova & Oigara, 2011; Caldwell, 2007; Cardoso, 2012; Carnaghan & Webb, 2007; Cleary, 2008; Cook & Calkins, 2013; Cunningham, 2008; Draper & Brown, 2004; Garatti, 2013; Gauci et al., 2009; Graham, 2013; Griff & Matter; 2008; Hoffman & Goodwin, 2006; Hughes et al., 2011; Johnson & Meckelborg, 2010; Jordan & Krofts, 2012; Kaleta & Joosten, 2007; McCloskey, 2012; Miñano, 2012; Nagy-Shadman & Desrochers, 2008; Penuel et al., 2007; Poirier & Feldman, 2007; Suchman et al., 2006; Tlhoaele et al., 2014).

Bruff (2010) demonstrated how clickers are often used to generate and facilitate discussion in a classroom. The use of "think-vote-share" with clickers enables a teacher to pose a question, allows the students to think about it, discuss it with their peers, and anonymously submit their answers, and then facilitates the discussion amongst the teacher and the students which is informed and enhanced by the histogram of results that is immediately displayed.

Agbatogun (2014) compared the impact of clickers, the communicative approach, and the lecture method on the communicative competence of ninety EFL learners from three primary schools in Nigeria. Thirty-two students in a treatment group worked in groups as the teacher assigned different tasks, gave instructions, and went around prompting meaningful discussion and making clarifications. Forty-one students were in the clickers group in which clickers were used to trigger interaction and discussion after the first round of voting and to provide speech practice as they argued out their initial ideas with peers before answering the question again. The teachers of 26 students in a

control group used the lecture method. Analyses of data collected from performance scores on pre- and post- listening and speaking tests suggested that students in the treatment and clicker groups had significantly higher communicative competence scores. The clickers group had the highest communicative competence post-test score while the control group recorded the lowest. Overall, the results demonstrated that learners' EFL communicative competence would improve if they were exposed to the communicative approach and clickers, and that students taught with clickers would experience more communicative competence than those exposed to the communicative approach. The researcher proclaimed, "The interactive element of clickers enables students to showcase their levels of understanding of the lesson and to develop new knowledge while they test out their knowledge by sharing information with others" (p. 265).

Cook and Calkins (2013) focused on how clickers could be used to promote more complex thinking for 30 students enrolled in two sections of an intermediate college-level Spanish at a private university in the Midwest. They used Bloom's Revised Taxonomy to frame clicker questions and found that the questions helped engage students in the process of learning an L2, capture their attention, and encourage them to actively participate. A research assistant observed levels of student engagement and interaction and points of discussion that arose from the clicker questions. The observations highlighted how clickers seemed to engage the students more effectively, make them more enthusiastic about the material and stay on task. Students were more likely to consult fellow classmates for assistance, and students who tended to be quieter were more likely to explain their answers when clickers were used. The students were able to "probe one another's ideas" (p. 70) and consult each other for help. Student feedback

about clickers was gathered with small-group analyses, end-of-term student ratings, and informal conversations.

When McCloskey (2012) used clickers with the students enrolled in her French course at a university in Singapore, she practiced a common, useful technique when using clickers: pose a controversial question to incite dialogue from the students. She found that "heated discussion ensued" (p. 236), and the quieter students were engaged because they were discussing the topic with their non-threatening neighbor. She also found herself delving more into the context to promote further understanding.

Ribbens (2007) utilized clickers in his large lecture biology classes at Western Illinois University and found that an interesting group dynamic developed. When a question was displayed, the students hushed and read through the question. Students entered their answers and then began talking about the question. They shared their answers and, if they did not agree, they discussed the question even further, often teaching each other as they did so. Vigorous debates sometimes resulted and as long as the students knew that they must respect each other and the teacher, this was an appropriate way of active learning.

Blasco-Arcas et al. (2013) confirmed the review of literature with their explanation of how the use of clickers facilitates interactivity (e.g., discussions, dialogues, exchanging information, etc.) amongst the students and their peers and students and their teachers, which increases students' active collaborative learning and students' engagement. They wrote, "Clickers involve students in sharing ideas, in searching for the correct answer to questions, and in explaining their decisions, all of which contributes to increasing their interactions with peers and the teacher and, through this process, to better understand the course materials" (p. 108).

As established in this review of literature, research shows that the use of clickers fosters learner-to-learner and learner-to-instructor interactions. Geeslin (2003) recommended dialogue between the instructor and his or her students, in which he or she provides formative feedback in a timely manner to aide students during self-assessment, which has been suggested to improve students' SE. One of Bandura's (1977) four sources is social persuasions, which indicates that encouragement and positive feedback from mentors and peers develops students' SE. Another source is vicarious experience, in which students develop positive beliefs about their own capabilities in performing a task when they observe their peers perform it successfully. Other macrostrategies for heightening students' integrative motivation explained by Dörnyei and Csizér's (1998) are giving positive feedback, increasing learners' self-confidence by monitoring their progress and celebrating their successes, and developing a good relationship with the learners. This also suggests that the use of clickers likely improves both students' SE and integrative motivation.

Conclusion

The review of literature suggests a need for research on improving the instruction used in many of today's L2 classrooms in order to meet the Five Cs and incorporate CFL teaching and learning. The literature review has also revealed that students' integrative motivation and SE, two of the most influential factors in L2 learning and acquisition, are low in the United States, and studies on pedagogical approaches that improve these factors are needed. Throughout the literature, strategies to develop students' integrative motivation were suggested such as creating a positive learning environment, decreasing FLA, encouraging self-evaluation, providing positive feedback, monitoring students' progress, celebrating students successes, promoting risk taking, and making learning

stimulating and enjoyable. Strategies to develop students' SE were also found such as enabling students to experience success, observe their peers being successful, receive positive feedback and reactive encouragement, and experience learning with low anxiety and fear. Furthermore, the literature on clickers is abounding with credible and pedagogically-sound explanations for why clickers are a promising tool to improve L2 students' integrative motivation and SE because they have the potential to implement the strategies discovered to do so. They have been discovered to decrease apathy and increase enjoyment in the classroom, reduce anxiety, stimulate involvement and participation, allow self-assessment, promote positive feedback, and foster interactions. Therefore, the use of clickers seems to be helpful in promoting and facilitating strategies found to increase integrative motivation and SE. There is a scarcity of research to prove that the use of clickers can positively affect these two factors. Hence, the purpose of this research was to study the effect of the use of clickers on students' SE and integrative motivation to learn and acquire an L2.

CHAPTER III

Methodology

It has been suggested that two of the most influential factors in second language (L2) learning and acquisition are integrative motivation (Busse & Walter, 2013; Gardner, 2000; Guilloteaux & Dörnyei, 2008; Khorshidi & Nimchahi, 2013; Nicholson, 2013; Xu, 2010) and self-efficacy (Erkan & Saban, 2011; Hsieh & Kang, 2010; Jabbarifar, 2011; Rahimi & Abedini, 2009; Raoofi, Tan, & Chan, 2012; Tilfarlioğlu & Ciftci, 2011). Researchers have discovered that students are more likely to be successful at L2 learning and acquisition when they have higher integrative motivation (Khorshidi & Nimchahi, 2013; Zhang, Su, & Liu, 2013) and higher SE (Hsieh & Schallert, 2008; Pae, 2008; Schunk, 1991). Several strategies to develop students' integrative motivation and SE have been proposed. The use of clickers has been found to have many pedagogical benefits and, therefore, appears to have the potential to implement these strategies to increase students' integrative motivation and SE.

This research was designed to study the effect of the use of clickers on students' SE and integrative motivation to learn and acquire an L2 by comparing the changes in their integrative motivation and SE after participation in a learning experience with clickers and a traditional learning experience. The following two research questions guided the study:

1. Is there a statistically significant difference in student self-efficacy to learn and acquire a second language after participating in second-language learning

exercises with clickers as compared to traditional second-language learning exercises?

2. Is there a statistically significant difference in student integrative motivation to learn and acquire a second language after participating in second-language learning exercises with clickers as compared to traditional second-language learning exercises?

Research Context

Participating high school. This study took place at a medium-sized, mid-Atlantic high school. The ethnic breakdown of its 1,098 enrolled students includes .09% American Indian/Alaskan Native, 1% Asian, 3.01% African American, 2.82% Hispanic, 1.15% Multi-Racial, and 91.53% White (paschoolperformance.org). A bit over twenty-nine percent (29.02%) are economically disadvantaged, indicating that they are members of a household that meets the income eligibility guidelines for free or reduced-price school meals. Eight percent (8.11%) are enrolled in Special Education, .27% are English Language Learners, and 6.05% are gifted. The dropout rate is .01% (www.sgasd.org).

Participating courses. After conducting a pilot study during the 2013-2014 school year in which six Spanish II courses were taught, this study was completed during the 2014-2015 school year in which two Spanish I classes, one Spanish II class, and three Spanish III classes were taught. The curriculum of each level includes content from eight chapters of the McGraw-Hill's *¡Buen Viaje! Level I, II,* and *III* textbooks. Each chapter contains four sections, and each section is completed in approximately one week: Week 1 – Vocabulary; Week 2 – Grammar; Week 3 – Culture; and Week 4 – Assessment of the previous three weeks via a project and a test. At the end of each of the first three weeks,

the students are assessed with a quiz. The lessons used throughout this study were adapted from materials provided by these textbooks. These lessons were reviewed by content area experts to ensure that the content of the lessons included and adequately addressed the learning objectives. An example of an assessment sheet for these reviews can be found in Appendix C.

Participating instructor. I have been teaching at the participating high school for the previous twelve years. I have taught students in grades 9-12 Spanish levels I through V on a rotating schedule each of these years (e.g., Year 1: Spanish I, II, & III; Year 2: Spanish II, III, & IV). I received my B.Ed. in Spanish K-12 from Kutztown University in 2003 and my M.Ed. in Teaching and Curriculum from Penn State University in 2007. I am currently working on my Ed.D. in Instructional Technology at Towson University.

Participants. In the pilot study, 133 of the 152 students enrolled in the six classes participated. This included 55 males (41%) and 78 females (59%). Five (4%) of the students were seniors (ages 17-18), fifteen (11%) were juniors (ages 16-17), forty-two (32%) were sophomores (ages 15-16), and seventy-one (53%) were freshmen (ages 14-15). The ethnic breakdown of the 133 students consisted of 89% Caucasian students, 5% African American students, and 4% Hispanic students. One student was of Asian descent, and one student was of another descent.

As shown in Table 1, the demographic breakdown of the participants in this study is quite similar to that of the pilot study in which 124 of the 142 students enrolled in the six classes participated. This included 46 males (37%) and 78 females (63%). Eleven (9%) of the students were seniors (ages 17-18), twenty (16%) were juniors (ages 16-17), seventy-two (58%) were sophomores (ages 15-16), and twenty-one (17%) were freshmen (ages 14-15). The ethnic breakdown of the 124 students consisted of 83% Caucasian

students, 2% African American students, 6% Hispanic students and 4% Asian students. Six students were of another descent.

Table 1

Demographic Breakdown of Participants for the 2013-2014 and 2014-2015 School Years

	2013-2014 (*N = 133*)	2014-2015 (*N = 124*)
Males	55 (41%)	46 (37%)
Females	78 (59%)	78 (63%)
Freshmen	71 (53%	21 (17%)
Sophomores	42 (32%)	72 (58%)
Juniors	15 (11%)	20 (16%)
Seniors	5 (4%)	11 (9%)
Caucasian	118 (89%)	103 (83%)
African American	7 (5%)	3 (2%)
Hispanic	6 (4%)	7 (6%)
Asian	1 (1%)	5 (4%)
Other	1 (1%)	6 (5%)

Effect size and sample size estimation.

Using the data retrieved in the pilot study, GPower was used to determine the effect size and sample size needed for the study. Using the post-test results of the treatment and control groups, the difference between the means was used to determine the effect size. The effect sizes were 0.48 for the MJSES and 0.58 for the AMTB. Assuming (alpha 0.05) power = 0.8, the sample size needed to detect and effect of .48 or greater was 67 for both the treatment and control groups for the MJSES to be effective,

and 70 participants were needed in each group for the AMTB (see Table 2). Considering the number of participants in this study was 124, which exceeds these minimum sample sizes, there was sufficient power to detect moderate sized effects in the use of these tools to determine the answers to the research questions. Additionally, compared to similar studies in the review of literature (e.g., Agbotogun, 2014; Morling et al., 2008; Stowell & Nelson, 2007; Ushida, 2005; Sun, 2014) in which the effect sizes ranged from 0.12 to 1.02 and had a mean of 0.44, effect sizes of 0.48 and 0.58 are considered to be moderate sized effects.

Table 2

Sample Size Estimation Results

	MJSES (d = 0.48)		AMTB (d = 0.58)	
	Mean (SD)	Participants needed	Mean (SD)	Participants needed
Treatment	4.39 (0.97)	67	3.12 (0.46)	70
Control	3.94 (0.86)	67	2.84 (0.69)	70

Data Collection and Procedures

After obtaining approval for the study from the Institutional Review Board for the Protection of Human Participants of Towson University (see Appendix A) as well as the Spring Grove Area School District (see Appendix B), the students enrolled in the researcher's classes were given a consent form to share with and get signed by their parents or guardians if they allowed their child to participate (see Appendix D). The consent form explained the study and asked the student if he or she would be willing to and be permitted to participate.

Quasi-experimental design of the pilot study.

In the pilot study, to determine if the use of clickers enhanced students' SE beliefs and integrative motivation to learn and acquire Spanish, a quasi-experimental design was used, and the same content was taught to all six Spanish II classes throughout the study. In three of the six classes, the treatment group (*n = 62*), lessons which utilized clickers were implemented. These three classes were randomly selected. In the remaining three classes, the control group (*n = 59*), the use of traditional lessons without clickers were continued. To ensure consistency, the same content of each chapter was taught to both the treatment and control groups in the same time period. The same notes, practice exercises, homework assignments, and informal and formal assessments were used in both groups. However, the treatment group used clickers to complete the daily practice exercises and informal assessments. Observations were made of both types of lessons by an administrator to assess equivalence (see Appendix E).

Findings of the pilot study.

The MJSES has three subscales: Talent Items, Context Items, and Effort Items. The Talent Items subscale consists of 10 questions related to the student's view of his or her abilities in Spanish class. Context Items has 13 questions related to the student's view of his or her Spanish class, the teacher, and his or her classmates, and Effort Items has four questions related to the student's view of the amount of effort he or she puts forth in Spanish class.

At the end of the study, the means of the three MJSES subscales were compared in the treatment and control groups. The results (see Table 3) indicated higher SE levels in the treatment group relative to the control group indicating that the use of clickers may have improved their SE to learn and acquire an L2.

Table 3

Post-test Means of the MJSES Subscales in the Pilot Study

	Treatment Group (n=62)	Control Group (n=59)
Talent Items	3.05 (.88)	2.76 (.81)
Context Items	3.13 (.92)	2.88 (.88)
Effort Items	3.16 (.82)	2.92 (.85)

The AMTB consists of four indexes, the Integrativeness Index, the Motivation Index, the Attitudes toward the Learning Situation Index (ALS), and the Attitude/Motivation Index (AMI).

The Integrativeness Index contains 22 items and reflects affective reactions of the individual toward Spanish-speaking people, his or her desire to learn Spanish for social reasons, and his or her general interest in other languages. This assesses the attitudinal reactions that apply to learning an L2 which involve the Spanish-speaking community. It comprises the sum of scores on the following subscales: Attitudes toward Spanish-speaking Individuals (eight items), Ratings of Integrative Orientation (four items), and Interest in L2s (10 items).

In the pilot study, the post-test means of the treatment group were higher in all of the subscales except Interest in L2s, in which the treatment and control groups had the same mean (see Table 4). This indicated that the use of clickers may have improved students' Integrativeness Index.

Table 4

Post-test Means of the Integrativeness Index in the Pilot Study

	Treatment Group (n=62)	Control Group (n=59)
Attitudes	4.13	3.55
Integrative	4.53	4.08
Interest	3.58	3.58
Index	4.08 (.48)	3.74 (.30)

The Motivation Index contains 30 items and reflects the individual's motivation to learn Spanish. It incorporates the three-part conception of motivation consisting of the effort expended in learning Spanish, the desire to learn Spanish, and the affective reactions toward learning Spanish. The index is the sum of scores of the Motivational Intensity (10 items), Desire to Learn Spanish (10 items), and Attitudes toward Learning Spanish (10 items) subscales.

In the pilot study, the post-test means of the treatment group were lower than the control group in all subscales except Desire to learn Spanish in which they were just about equivalent (see Table 5). This indicated that the use of clickers did not improve students' Motivation Index.

Table 5

Post-test Means of the Motivation Index in the Pilot Study

	Treatment Group (n=62)	Control Group (n=59)
Intensity	3.39	3.41
Desire	3.36	3.34
Attitudes	3.41	3.47
Index	3.39 (.03)	3.41 (.07)

The Attitudes toward the Learning Situation (ALS) Index contains 19 items and consists of the students' reactions to the language learning context. It assesses students' attitudes toward the context in which languages are taught and is the sum of the Students' Evaluations of the Spanish Teacher (10 items) and the Students' Evaluations of the Spanish Course (9 items) subscales.

In the pilot study, the post-test means of the treatment group were higher in both subscales than the control group indicating the use of clickers may have increased students' Attitudes toward the Learning Situation Index (see Table 6).

Table 6

Post-test Means of the ALS Index in the Pilot Study

	Treatment Group (n=62)	Control Group (n=59)
Teacher	3.44	3.39
Course	3.40	3.21
Index	3.42 (.03)	3.3 (.13)

The Attitude/Motivation Index (AMI) includes all items from the previous three indexes plus measures of Spanish Classroom Anxiety (9 items) and Ratings of an Instrumental Orientation (4 items). "This composite score is used to produce one number which incorporates what currently appear to be the major attitudinal/motivational characteristics associated with proficiency in a second language" (Gardner, 1985, p. 5).

In the pilot study, the post-test means of these two additional subscales indicated that the use of clickers may have decreased the anxiety and increased the instrumental orientation of the students in the treatment group (see Table 7). The findings in the

overall AMI indicated that the use of clickers may have improved students integrative motivation to learn and acquire an L2.

Table 7

Post-test Means of the AMI in the Pilot Study

	Treatment Group (n=62)	Control Group (n=59)
Anxiety	2.77	3.23
Instrum.	4.56	4.36
Index	3.10 (2.12)	2.92 (2.19)

Note. Means from the other 8 subscales included in this score can be found in Tables 4, 5, & 6.

Crossover design of the current study.

Due to not being able to teach six classes of the same level as done in the pilot study, all six classes during the 2014-2015 school year were used as both the treatment and control groups using a within-subjects crossover design. The use of a crossover design prevents Classroom x Treatment confounding because all classes received both conditions (Scruggs, Mastropieri, Bakken, & Brigham, 1993). It is relatively more powerful than a single-treatment or single-group design because repeated measures are collected on both samples. As Scruggs et al. (1993) explain, "Because each student will receive both treatments and serves as his or her own control, preexisting differences between classrooms, such as ability of students, classroom atmosphere, or time-of-day effects, are not a particular concern" (p. 4).

During the first marking period of the school year (8/20/14 – 10/24/14), I got to know my students, enabled them to get to know me, and allowed them to become

familiar with Spanish class in order to appropriately rank their SE and integrative motivation when asked to do so in the study.

The study began with the second marking period of the school year (10/25/14 - 1/13/15). The same content of each chapter was taught to all of the students, varying by level respectively. Three of the classes, the Clickers 1st group, used clickers to complete the daily practice exercises and informal assessments, and the other three classes, the Clickers 2nd group, used traditional exercises.

At the beginning of the third marking period (1/14/15 – 3/24/15), the groups crossed-over from the treatment to the control and from the control to the treatment groups. To ensure consistency once again, the same note taking strategies and styles of practice exercises, homework assignments, and informal and formal assessments were used during both time periods. Also, an observation was made of both types of lessons by an administrator using the same form in the pilot study to ensure that the only difference in instructional experience was the use of clickers (see Appendix G).

Clickers were used with the treatment group three to five times each week. A wide variety of questions were asked when clickers were used. To review previous assignments and important points from prior classes, recall questions were asked. Conceptual understanding questions were often asked when discussing the target culture which enabled the teacher to identify and address any misconceptions the students may have had. Questions about "real-world" situations were asked which encouraged students to apply the target content to make decisions or choices in given scenarios. "One-best-answer" questions were used to encourage critical thinking and to motivate students to provide reasons for or against the different answer choices. Student perspective questions were used to enable students to share their opinions or experiences. After

asking a content question, students were then often asked to rate their confidence in their answers to that questions (high, medium, or low) using clickers. Students used them individually, in pairs, and sometimes in groups (e.g., one clicker per group of four). Peer discussion and instruction as well as class discussion was repeatedly encouraged.

Measures and Instruments

The Attitude/Motivation Test Battery (AMTB) designed by Gardner (1985) was used to assess integrative and instrumental motivation. The Morgan-Jinks Student Efficacy Scale (MJSES) developed by Jinks & Morgan (1999) was used to gain information about students' SE beliefs. These two tools were given to the students at the beginning and end of each of the marking periods in October, January, and March. They were slightly adapted, changing all of the terminology related to other subjects such as science, math, and social studies to "Spanish."

The attitude/motivation test battery. The AMTB (see Appendix G) was selected to determine the participants' levels of integrative and instrumental motivation because its development follows more than 20 years of research, much of which has been directed to English-speaking students learning French as an L2 and, therefore, is applicable to this study of English-speaking students learning Spanish as an L2 (Gardner, 1985). The AMTB is a research instrument that was developed to assess "the major affective components shown to be involved in second language learning" (p. 5).

The AMTB was validated and standardized on samples of students in grades seven to eleven drawn from seven regions in Canada (Gardner, 1985). Approximately 1,000 students at each grade level were included. After approval was obtained from the participating school boards, every attempt was made to obtain representative samples of students in each region. No time limit was set, but it is possible for students in grades

seven to eleven to complete the battery in a maximum of thirty minutes. The AMTB "provides a reliable and valid index of the various attitudinal/motivational characteristics which researchers may wish to investigate in many different contexts" (p. 5).

Reliability evidence for the AMTB. Gardner (1985) showed that two sets of reliability coefficients, Cronbach Coefficient α Reliabilities and Test-Retest Reliability, seem to warrant the generalization that the scales of the AMTB demonstrate a reasonable level of reliability. The Cronbach Coefficient α, which assesses the degree to which each scale is internally consistent, ranged from .13 to .97. The ranges of the Cronbach Coefficient α and Test-Retest reliability coefficients for the scales that comprise the composite measures are very wide, with a few coefficients falling below accepted levels of use (i.e., below 0.70). The only scale that was used in this study that is considered to have lower reliability is Instrumental Orientation. However, "it was retained for the Battery because of its potential value and the fact that, though the reliability coefficients are lower than for the other scales, they are nonetheless acceptable" (Gardner, 1985, p. 7). The vast majority of Gardner's reliability coefficients (89%) exceed 0.70, suggesting adequate reliability for use in this study.

Validity evidence for the AMTB. Gardner (1985) presented the correlations of the Attitude/Motivation Index (AMI) and the Modern Language Aptitude Test (MLAT) with the L2 grade and the academic average, or the mean grade of all subjects other than the L2, for grades seven to eleven. The AMI is a composite score used in the AMTB "to produce one number which incorporates what currently appear to be the major attitudinal/motivational characteristics associated with proficiency in a second language" (p. 5). Correlations between the AMI and the L2 grades ranged from .37 to .42. These were similar to the correlations with the MLAT ranging from .23 to .49. However,

correlations between the AMI and non-L2 academic average tended to be smaller (-.03 to .32) when compared to correlations between the MLAT and academic averages (.26 to .48). This suggests that the AMI assesses abilities unique to L2 learning, whereas the MLAT assesses characteristics which are related to both L2 learning and academic achievement. The moderate correlations between AMI and grades are evidence of predictive validity.

Gardner (1985) demonstrated further evidence of convergent validity for the three composite measures of Motivation, Integrativeness, and Attitudes toward the Learning Situation (ALS) with the four criteria of L2 grade, objective achievement, speech, and self-ratings. Motivation (L2 grade range = .36 to .40; Objective Achievement range = .14 to .21; Speech .26; Self-rating range = .44 to .99) correlated more highly with the criteria than either Integrativeness (L2 grade range = .22 to .29; Objective Achievement range = .05 to .27; Speech .35; Self-rating range = .34 to .09) or ALS (L2 grade range = .30 to .37; Objective Achievement range = .04 to .21; Speech = -.04; Self-rating range = .22 to .25). Although motivation has a slightly better correlation, the integrativeness and ALS are adequately related with L2 grades.

The AMTB has demonstrated adequate internal consistency reliability, test-retest stability, and convergent validity across multiple grades and regions. This suggests sufficient evidence to support its use in this proposed study.

The Morgan-Jinks student efficacy scale.

The MJSES (see Appendix I) is an instrument that can be used to gain insight into students' perceptions of their own SE regarding academic performance (Jinks & Morgan, 1999). It was selected to determine the participants' SE beliefs because it has undergone extensive development to show sufficient validity and reliability evidence and has proven

that understanding more about such beliefs has "important implications for both curriculum design and instructional behavior" (p. 224).

Using DeVellis' (1991) *Scale Development: Theory and Application* as a guide to assure validity and reliability, Jinks and Morgan (1999) created the initial version of the MJSES which originally contained 53 items. These items were subjected to content validity evaluation by three separate panels: (a) five university-level teacher educators, (b) four middle school teachers, and (c) fifteen public school students. In addition to the panels, the items were reviewed by the principal of one of the pilot schools and by an individual published in the area of self-report research.

The original version of the scale included four subscales and the university educators and middle school teachers were asked to categorize the content of each item into one of four categories: (a) talent, (b) effort, (c) task difficulty, or (d) context based on written definitions and examples (Jinks & Morgan, 1999). They were also asked to rate their confidence on a scale of 1 to 5, *not sure* to *very sure*, with those decisions. The ambiguous items and items in which judges' confidence was low were rewritten or eliminated. A group of 30 items plus four items requesting grade performance resulted.

The students were divided into two panels, one with younger students and another with older students (Jinks & Morgan, 1999). They were given the scale and led through a "think aloud" exercise which was intended to determine if items were readable, clear in content, and within their frame of school experience. This clarified that all of the items were readable and just a few needed to be adjusted for clarity.

The principal reviewed the items for appropriate content and readability and agreed with the earlier reviews regarding these issues (Jinks & Morgan, 1999). The self-report research expert also concluded that the items were not ambiguous.

Three schools that represented three very different demographic settings were selected to field test the scale (Jinks & Morgan, 1999). The first school was located in an urban setting and was made up entirely of African American students, all considered low income as defined by the criteria determining participants in a free-lunch program. The second school was located in a suburban city, and 19% of its students were considered low income. Eighty-eight percent were Caucasian, and the remaining 12% were of African American, Hispanic, Asian, or Native American ancestry. The third school was located in a small rural community, and 12% of its students were considered low income. The students were nearly all Caucasian. The three schools provided 900 usable returns, there were no indications that the scale was biased, and the results suggested that all three groups of students perceived the intent of the items in the same way

Content validity evidence from factor analysis revealed three major factors within the scale: (a) talent items, (b) context items, and (c) effort items (Jinks & Morgan, 1999). The items intended as task difficulty items on the original scale did not have sufficient strength to be considered a factor. A thirty-item scale that has an overall reliability coefficient of .82 resulted. The subscale alphas were .78 for talent, .70 for context, and .66 for effort.

Data Analysis

A linear mixed model with repeated measures for month and a random intercept effect for participants was used to detect and explain effects of the use of clickers on students' SE. Fixed effects for each group, including grade, ethnicity, and gender, were included. The use of a linear mixed model provided a more powerful analysis over the traditional repeated measures of ANCOVA analyses and helped minimize Type II errors by accounting for individual differences in students' initial SE and integrative motivation

levels. Initially, group-by-month interactions were tested. If significant interactions were detected, it was determined in which group the time effect was observed by testing month effects within each group, and for significant month effects, October-January and January-March within group mean differences were tested.

In order to remove variance associated with demographics and minimize residuals by accounting for individual differences, demographic features were controlled for grade, gender, and ethnicity. Due to concerns about skewed distributions, grade was collapsed into upperclassmen (25%) and underclassmen (75%) and ethnicity was collapsed into Caucasian (83%) and non-Caucasian (17%). The same analysis described previously in which group-by-month interactions, month effects within each group, and adjacent month means were tested, was conducted. There were ten outcomes for the AMTB and three outcomes for the MJSES.

Although gender, grade, and ethnicity were included in this study as covariates, or control variables, exploratory analyses were conducted on their effects to understand their relationship to SE and integrative motivation.

CHAPTER IV

Results and Findings

The purpose of this research was to study the effect of the use of clickers on students' SE and integrative motivation to learn and acquire an L2 by comparing the changes in their integrative motivation and SE after participation in a learning experience with clickers and a traditional learning experience. Data were collected from participants who were enrolled in six high school Spanish classes that were used as both the treatment and control groups using a within-subjects crossover design. Three classes, the Clickers 1st group, were selected to participate in learning with clickers while the other three classes, the Clickers 2nd group, participated in traditional learning for one marking period. The groups then crossed over from the treatment group to the control group and from the control group to the treatment group for another marking period.

Two instruments were utilized to collect data: the Attitude/Motivation Test Battery (AMTB) was used to measure integrative and instrumental motivation, and the Morgan-Jinks Student Efficacy Scale (MJSES) was used to gain information about students' SE beliefs. Both instruments were administered in a pre- and post-test fashion, prior to and subsequent to participation in both types of learning activities at the beginning of the first marking period in October, at the end of the first marking period prior to the crossover in January, and at the end of the second marking period after the crossover in March.

Data analyses consisted of a linear mixed model with repeated measures for month and random intercept for participants. Following a procedure by which significant

group-by-month interaction terms were assessed for significant time effects within each clicker group, within-group mean differences were tested for significance, and effect sizes for the differences were computed.

Descriptive Statistics

In addition to collecting data on students' motivation and SE, the AMTB and MJSES were also used to collect demographic information from all of the participants. Data were collected on gender, grade, and ethnicity.

Description of participants.

Out of a total of 142 students enrolled in the six classes, 124 participated in the study. This included forty-six (37%) males and seventy-eight (63%) females. Eleven (9%) of the students were seniors (ages 17-18), twenty (16%) were juniors (ages 16-17), seventy-two (58%) were sophomores (ages 15-16), and twenty-one (17%) were freshmen (ages 14-15). The ethnic breakdown of the 124 students consisted of 83% Caucasian students, 2% African American students, 6% Hispanic students and 4% Asian students. Six students were of another descent. A summary of the participants' demographic characteristics was previously provided in Table 1 in Chapter III. As seen in Table 8, data collected from the participants indicated that the groups were similar in gender, grade, and ethnicity. In both groups, there were more females than males, more underclassmen than upperclassmen, and more Caucasians than any other ethnicity.

Table 8

Demographic Breakdown of Clickers 1st and Clickers 2nd Groups

	Clickers 1st (*n = 57)*	Clickers 2nd (*n = 67)*
Gender		
Male	23 (40%)	23 (34%)
Female	34 (60%)	44 (66%)
Grade		
Freshmen	21 (37%)	0 (0%)
Sophomores	22 (38.5%)	50 (75%)
Juniors	8 (14%)	12 (18%)
Seniors	6 (10.5%)	5 (7%)
Ethnicity		
African American	3 (5%)	0 (0%)
Asian	3 (5%)	2 (3%)
Caucasian	42 (74%)	61 (91%)
Hispanic	5 (9%)	2 (3%)
Other	4 (7%)	2 (3%)

Description of learning environment.

The instructional methods used for the Clickers 1st and the Clickers 2nd groups were randomly assigned. Students were unaware of the instructional method that would be used in their class when they enrolled in it, and they did not know that a different instructional strategy was being utilized in other classes.

Of the 124 participants, 46% (*n = 57*) were in the Clickers 1st group and 54% (*n=67*) were in the Clickers 2nd group. The Clickers 1st group consisted of two Spanish I classes and one Spanish II class. The Clickers 2nd groups consisted of three Spanish III classes. Although the content of each level was different, the same format of note-taking,

practice exercises, homework assignments, classroom discussions, and informal and formal assessments were used in both groups. To complete the practice exercises, discussions, and informal assessments, the treatment group used clickers and the control group used traditional activities. Observations were made of both types of lessons by an administrator to assess equivalence, and it was determined that the only difference amongst the two was the use of clickers (see Appendix E).

Research Questions

This study focused on changes in students' integrative motivation and SE as a result of the utilization of clickers. The research questions for this study were: (1) Is there a statistically significant difference in student self-efficacy to learn and acquire a second language after participating in second-language learning exercises with clickers as compared to traditional second-language learning exercises? and (2) Is there a statistically significant difference in student integrative motivation to learn and acquire a second language after participating in second-language learning exercises with clickers as compared to traditional second-language learning exercises?

Findings for research question 1. *Is there a statistically significant difference in student self-efficacy to learn and acquire a second language after participating in second-language learning exercises with clickers as compared to traditional second-language learning exercises?* Data used to answer this question were obtained from the Morgan-Jinks Student Efficacy Scale (MJSES) which, as explained in Chapter III, has three subscales: Talent Items, Context Items, and Effort Items. The Talent Items subscale consists of 10 questions related to the student's view of his or her abilities in Spanish class. Context Items has 13 questions related to the student's view of his or her Spanish

class, the teacher, and his or her classmates, and Effort Items has four questions related to the student's view of the amount of effort he or she puts forth in Spanish class.

The first step of data analysis was to test the clicker group-by-month interaction because such an interaction effect would provide evidence that clickers may have had an effect on students' SE. The group-by-month interaction was statistically significant for Talent Items, $F(2, 110.01) = 19.19$; $p < 0.001$, Context Items, $F(2, 103.84) = 6.64$; $p < 0.002$, and Effort Items $F(2, 110.29) = 6.88$; $p < 0.002$, suggesting that the time effect was different for the two clicker groups in all three subscales of the MJSES. In other words, students' SE changed from the first time period to the next, and this prompted further analysis in order to determine if the use of clickers caused this change.

In order to probe these interactions separately by clickers group and determine if clickers did affect the students' SE, the second step of data analysis was to test the mean differences between October and January and January and March within each clicker group (see Tables 9 and 10; see Figure 1). In all three subscales, the October-January mean difference was positive and statistically significant for the Clickers 1st group indicating that the students' SE significantly improved while using clickers. The October-January mean difference of the Clickers 2nd group, however, was surprisingly negative and statistically significant demonstrating that their SE decreased during this time period while they did not have clickers. From January to March, the Clickers 1st group did not change while no longer using clickers, and the Clickers 2nd group significantly improved and experienced a significant increase in SE while using clickers indicating that the use of clickers had a positive effect on their SE to learn and acquire an L2.

Table 9

Clickers 1st Group's Means, Standard Deviations, and Within Group Comparisons (d) of MJSES Scales

	October	January	d	January	March	d
Talent	2.99 (.62)	3.16 (.55)[Sig.]	0.29	3.16 (.55)	3.19 (.54)	0.06
Context	3.14 (.37)	3.24 (.38) [Sig.]	0.27	3.24 (.38)	3.22 (.40)	-0.05
Effort	3.24 (.54)	3.34 (.50) [Sig.]	0.19	3.34 (.50)	3.36 (.52)	0.04

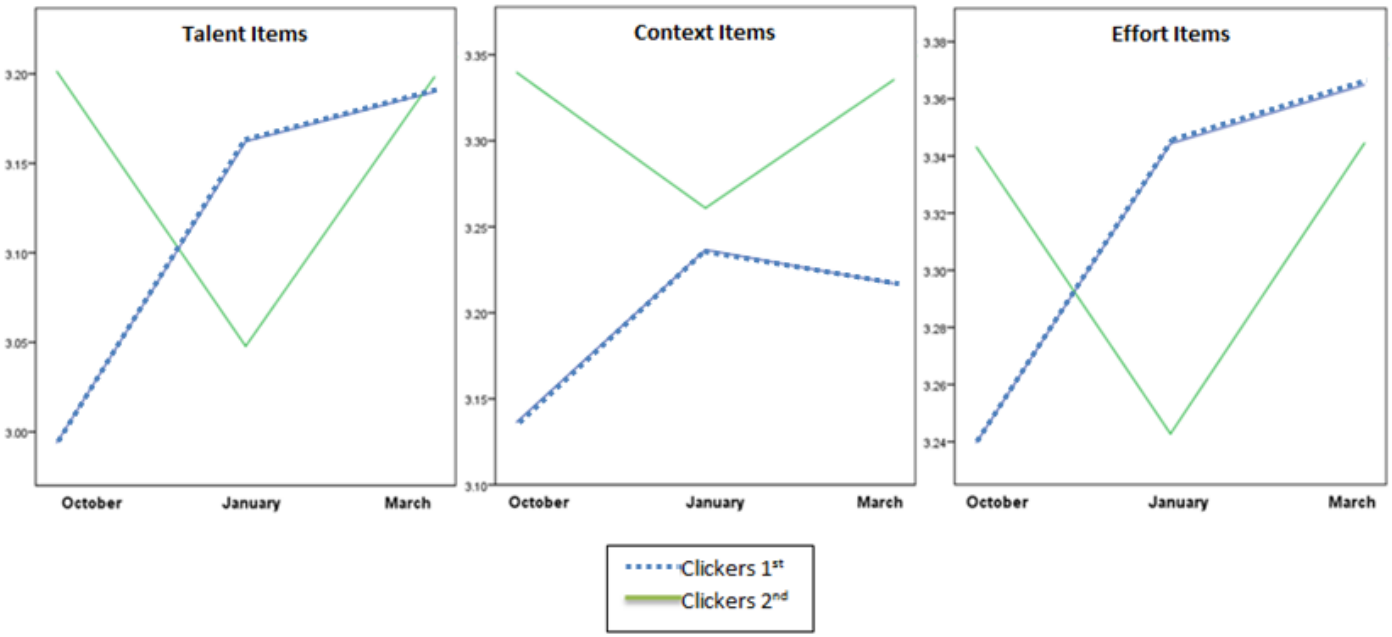
Table 10

Clicker 2nd Group's Means, Standard Deviations, and Within Group Comparisons (d) of MJSES Scales

	October	January	d	January	March	d
Talent	3.20 (.53)	3.05 (.54) [Sig.]	-0.28	3.05 (.54)	3.20 (.54) [Sig.]	0.28
Context	3.34 (.35)	3.26 (.37) [Sig.]	-0.22	3.26 (.37)	3.34 (.35) [Sig.]	0.22
Effort	3.34 (.54)	3.24 (.51) [Sig.]	-0.19	3.24 (.51)	3.34 (.51) [Sig.]	0.20

Figure 1

Means of Talent Items, Effort Items, and Context Items in October, January, and March



The effect sizes of the statistically significant changes ranged from 0.19 to 0.29 and had an average of 0.24. Compared to similar studies in the review of literature (e.g., Agbotogun, 2014; Morling et al., 2008; Stowell & Nelson, 2007; Ushida, 2005; Sun, 2014) in which the effect sizes ranged from 0.12 to 1.02 and had a mean of 0.44, the effect sizes of these findings are somewhat below average. The effect sizes were not zero and, therefore, were statistically significant, but they were small. This indicates that several factors may have influenced students' SE and, relative to the other factors, the use of clickers had a weaker effect on SE.

Overall, these findings indicate that students' SE slightly increased while using clickers. It is important to point out that these outcomes were found at two different time periods amongst two different groups, and this replication promotes confidence in the findings. However, due to the small effect sizes, it is implied that other factors besides, or possibly in addition to, the use of clickers affect SE and, in order to change SE, a broader kind of intervention is necessary.

Findings for research question 2. *Is there a statistically significant difference in student integrative motivation to learn and acquire a second language after participating in second-language learning exercises with clickers as compared to traditional second-language learning exercises?* Data used to answer this question were obtained from the Attitude/Motivation Test Battery (AMTB).

As done in the MJSES analyses, a linear mixed model with repeated measures for month and a random intercept effect for participants was used to detect and explain effects of the use of clickers on students' integrative motivation, and fixed effects for each group, including grade, ethnicity, and gender, were included. Group-by-month interactions were determined, and, if significant interactions were detected, it was

determined in which group the time effect was observed by testing October-January and January-March within group mean differences.

The AMTB consists of four indexes, the Integrativeness Index, the Motivation Index, the Attitudes toward the Learning Situation Index (ALS), and the Attitude/Motivation Index (AMI).

The Integrativeness Index contains 22 items and reflects affective reactions of the individual toward Spanish-speaking people, his or her desire to learn Spanish for social reasons, and his or her general interest in other languages. This assesses the attitudinal reactions that apply to learning an L2 which involve the Spanish-speaking community. It comprises the sum of scores on the following subscales: Attitudes toward Spanish-speaking Individuals (eight items), Ratings of Integrative Orientation (four items), and Interest in L2s (10 items).

There were no significant changes found in the overall Integrativeness Index. There were no significant group-by-month interactions found in any of the three subscales either indicating that clickers did not have an effect on them. As seen in Tables 11 and 12 and Figure 2, there was a main effect of time for the Attitudes toward Spanish-speaking Individuals subscale such that both groups significantly increased from October to January. Because this change occurred in both groups during the same time period, however, one can conclude that this is not an effect of clickers.

Table 11

Clickers 1st Group's Means, Standard Deviations, and Within Group Comparisons (d) of the Integrativeness Index

	October	January	d	January	March	d
Attitudes	3.77 (1.0)	3.92 (1.11) Sig.	0.14	3.92 (1.11)	3.89 (1.21)	-0.03
Integrative	4.11 (.57)	4.13 (.54)	0.04	4.13 (.54)	4.02 (.67)	-0.18
Interest	4.49 (.82)	4.51 (.85)	0.02	4.51 (.85)	4.44 (.94)	-0.08
Index	12.36 (2.01)	12.56 (2.24)	0.09	12.56 (2.24)	12.35 (2.57)	-0.09

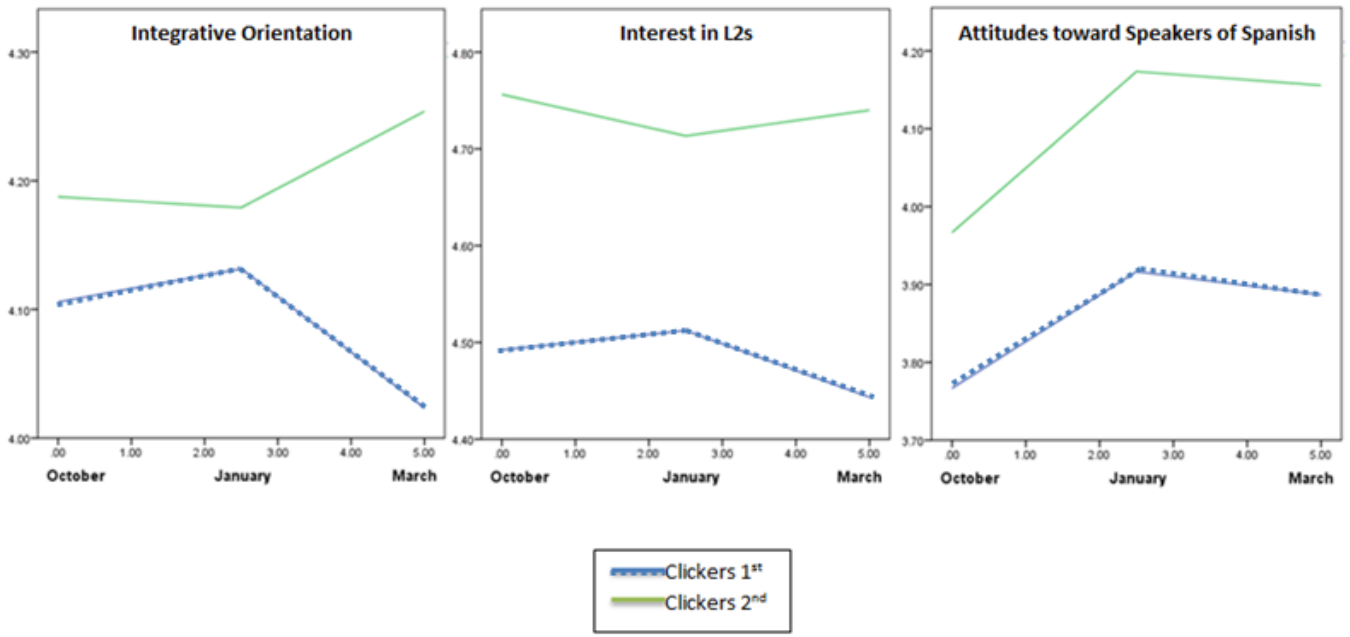
Table 12

Clickers 2nd Group's Means, Standard Deviations, and Within Group Comparisons (d) of the Integrativeness Index

	October	January	d	January	March	d
Attitudes	3.97 (.94)	4.17 (.84) Sig.	0.22	4.17 (.84)	4.16 (.90)	-0.01
Integrative	4.19 (.46)	4.18 (.51)	-0.02	4.18 (.51)	4.25 (.61)	0.12
Interest	4.76 (.68)	4.71 (.75)	-0.07	4.71 (.75)	4.74 (.70)	0.04
Index	12.91 (1.81)	13.07 (1.85)	0.09	13.07 (1.85)	13.14 (1.88)	0.04

Figure 2

Means of Integrativeness Index Subscales in October, January, and March



The Motivation Index contains 30 items and reflects the individual's motivation to learn Spanish. It incorporates the three-part conception of motivation consisting of the effort expended in learning Spanish, the desire to learn Spanish, and the affective reactions toward learning Spanish. The index is the sum of scores of the Motivational Intensity (10 items), Desire to Learn Spanish (10 items), and Attitudes toward Learning Spanish (10 items) subscales.

Although no significant changes occurred in the overall Motivation Index, a significant group-by-month interaction between the Clickers 1st and Clickers 2nd groups and time was found for Motivational Intensity subscale, $F(2, 110.61) = 4.64$; $p < 0.01$, but not for the other two subscales. This suggests that the time effect was different for the two groups in Motivational Intensity and the use of clickers may have affected it. Therefore, tests of mean differences between October and January and January and March were conducted within each clicker group in order to probe this interaction (see Tables 13 and 14; see Figure 3). The October-January mean difference was not significant in either group. From January to March, the Clickers 1st group significantly decreased, $t(51.29) = -2.68$; $p < 0.010$, when they no longer were using clickers, but the Clickers 2nd group did not significantly change when they used them. Because these changes occurred in the absence of clickers and no changes occurred in the presence of clickers, it can be concluded that clickers did not have an effect on these outcomes.

Table 13

Clickers 1st Group's Means, Standard Deviations, and Within Group Comparisons (d) of the Motivation Index

	October	January	d	January	March	d
Intensity	4.52 (0.82)	4.57 (0.83)	0.06	4.57 (0.83)	4.37 (0.85)[Sig]	-0.24
Desire	4.26 (1.06)	4.41 (1.17)	0.13	4.41 (1.17)	4.29 (1.16)	-0.10
Attitudes	4.41 (1.14)	4.49 (1.24)	0.07	4.49 (1.24)	4.32 (1.29)	-0.13
Index	13.18 (2.78)	13.46 (3.11)	0.09	13.46 (3.11)	12.99 (3.09)	-0.15

Table 14

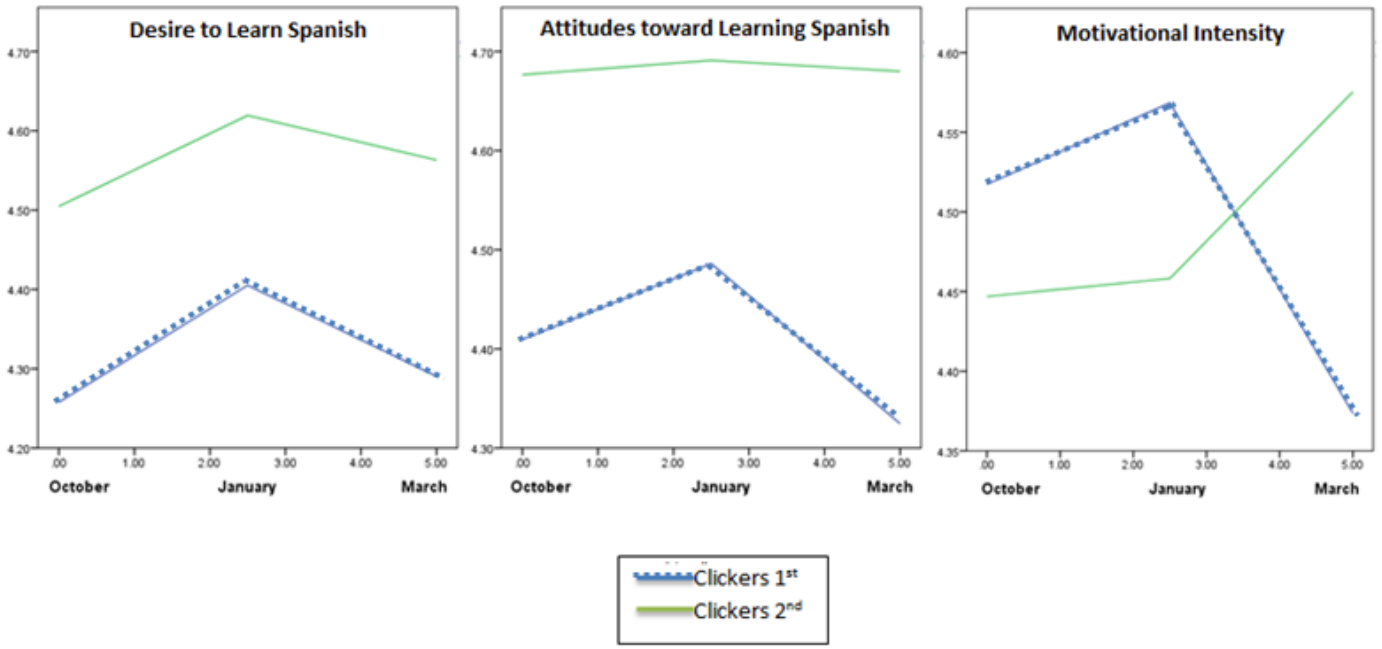
Clickers 2nd Group's Means, Standard Deviations, and Within Group Comparisons (d) of the Motivation Index

	October	January	d	January	March	d
Intensity	4.45 (0.81)	4.46 (0.87)	0.01	4.46 (0.87)	4.58 (0.80)	0.14
Desire	4.50 (0.99)	4.62 (0.99)	0.13	4.62 (0.99)	4.56 (0.93)	-0.06
Attitudes	4.68 (0.93)	4.69 (0.99)	0.01	4.69 (0.99)	4.68 (0.97)	-0.01
Index	13.63 (2.48)	13.77 (2.63)	0.05	13.77 (2.63)	13.82 (2.51)	0.02

The effect size of this statistically significant change was 0.24. Compared to similar studies in the review of literature (e.g., Agbotogun, 2014; Morling et al., 2008; Stowell & Nelson, 2007; Ushida, 2005; Sun, 2014) in which the effect sizes ranged from 0.12 to 1.02 and had a mean of 0.44, the effect size of this finding is small indicating that several factors may have influenced students' Motivational Intensity and, relative to other factors, the use of clickers had a weaker effect on it.

Figure 3

Means of Motivational Index Subscales in October, January, and March



The Attitudes toward the Learning Situation (ALS) Index contains 19 items and consists of the students' reactions to the language learning context. It assesses students' attitudes toward the context in which languages are taught and is the sum of the Students' Evaluations of the Spanish Teacher (10 items) and the Students' Evaluations of the Spanish Course (9 items) subscales.

There were no significant changes in the overall Attitudes toward the Learning Situation (ALS) Index. Nor were there significant group-by-month interactions between the Clickers 1st and the Clickers 2nd groups found in either of the two subscales indicating that use of clickers did not have an effect on them. There was a significant increase in the Clickers 1st group's Course Evaluation from October to January (see Table 15; see Figure 4). Because this change occurred in just one group and during just one time period, it can be concluded that clickers did not have an effect on these outcomes.

Table 15

Clickers 1st Group's Means, Standard Deviations, and Within Group Comparisons (d) of the ALS Index

	October	January	d	January	March	d
Teacher	4.75 (1.05)	4.88 (0.92)	0.13	4.88 (0.92)	4.78 (0.91)	-0.11
Course	4.19 (1.10)	4.38 (1.15) Sig.	0.17	4.38 (1.15)	4.21 (1.10)	-0.15
Index	8.94 (2.05)	9.26 (1.94)	0.16	9.26 (1.94)	8.99 (1.86)	-0.14

Table 16

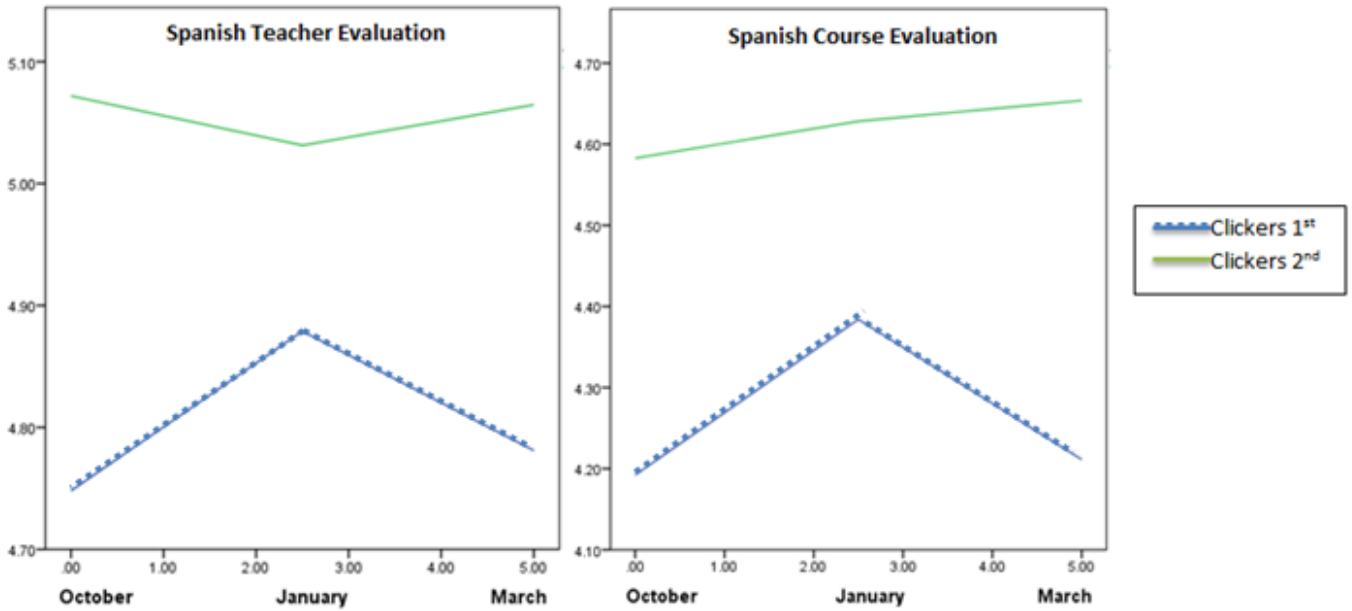
Clickers 2nd Group's Means, Standard Deviations, and Within Group Comparisons (d) of the ALS Index

	October	January	D	January	March	d
Teacher	5.07 (0.88)	5.03 (1.01)	-0.04	5.03 (1.01)	5.06 (0.90)	0.03
Course	4.58 (0.97)	4.63 (1.02)	0.05	4.63 (1.02)	4.65 (0.99)	0.02
Index	9.65 (1.71)	9.66 (1.93)	0.01	9.66 (1.93)	9.72 (1.76)	0.03

Additionally, the effect size of this change was 0.17 and, when compared to similar studies in the review of literature (e.g., Agbotogun, 2014; Morling et al., 2008; Stowell & Nelson, 2007; Ushida, 2005; Sun, 2014) in which the effect sizes ranged from 0.12 to 1.02 and had a mean of 0.44, this effect size is small. This indicates that if the use of clickers did have an effect on Course Evaluation, it was a weak effect.

Figure 4

Means of the ALS Index Subscales in October, January, and March



The Attitude/Motivation Index (AMI) includes all items from the previous three indexes plus measures of Spanish Classroom Anxiety (9 items) and Ratings of an Instrumental Orientation (4 items). "This composite score is used to produce one number which incorporates what currently appear to be the major attitudinal/motivational characteristics associated with proficiency in a second language" (Gardner, 1985, p. 5).

Although there were no significant interactions in the overall Attitude/Motivation Index (AMI), a significant interaction between the Clickers 1st and Clickers 2nd groups and time was found for Spanish Classroom Anxiety, $F(2, 118.66) = 3.24$; $p < 0.043$, and Instrumental Orientation, $F(2, 116.43) = 3.95$; $p < 0.022$. This suggests that the time effect was different for the two clicker groups in these two subscales and that the use of clickers may have had an effect on them. Therefore, tests of mean differences between October and January and January and March were conducted within each clicker group (see Tables 17 and 18; see Figure 5).

The October-January mean difference for Spanish Classroom Anxiety was negative and statistically significant for both the Clickers 1st group, $t(51.63) = -4.31$; $p < 0.001$, and the Clickers 2nd group, $t(64.54) = -2.05$; $p < 0.044$. Because this change occurred in both groups at the same time, it can be determined that this change is not due to clickers. From January to March, there was not a significant change for either group.

The October-January mean difference for Instrumental Orientation was negative and statistically significant for the Clickers 2nd group, $t(63.90) = -2.67$; $p < 0.010$, and the Clickers 1st group did not have a significant change. From January to March, the Clickers 1st group significantly decreased, $t(48.84) = -2.61$; $p < 0.012$, while the Clickers 2nd group did not have a significant change. Because these changes occurred in the

absence of clickers and no changes occurred in the presence of clickers, it can be concluded that clickers did not have an effect on these outcomes.

The effect sizes of these changes ranged from 0.13 to 0.17 and had an average of 0.31. Compared to similar studies in the review of literature (e.g., Agbotogun, 2014; Morling et al., 2008; Stowell & Nelson, 2007; Ushida, 2005; Sun, 2014) in which the effect sizes ranged from 0.12 to 1.02 and had a mean of 0.44, the effect sizes of these findings are small. This indicates that if the use of clickers did have effects on Spanish Classroom Anxiety or Instrumental Orientation, these would have been weaker effects.

Table 17

Clickers 1st Group's Means, Standard Deviations, and Within Group Comparisons (d) of the AMI

	October	January	d	January	March	D
Anxiety	3.54 (1.11)	3.16 (.96) Sig.	-0.37	3.16 (.96)	3.23 (.98)	0.07
Instrum.	4.42 (.73)	4.32 (.68)	-0.14	4.32 (.68)	4.06 (.71) Sig.	-0.37
Index	42.45 (6.21)	42.77 (6.87)	0.05	42.77 (6.87)	41.63 (7.15)	-0.16

Note. Means from the other 8 subscales included in this score can be found in Tables 11, 12, 13, 14, 15, & 16.

Table 18

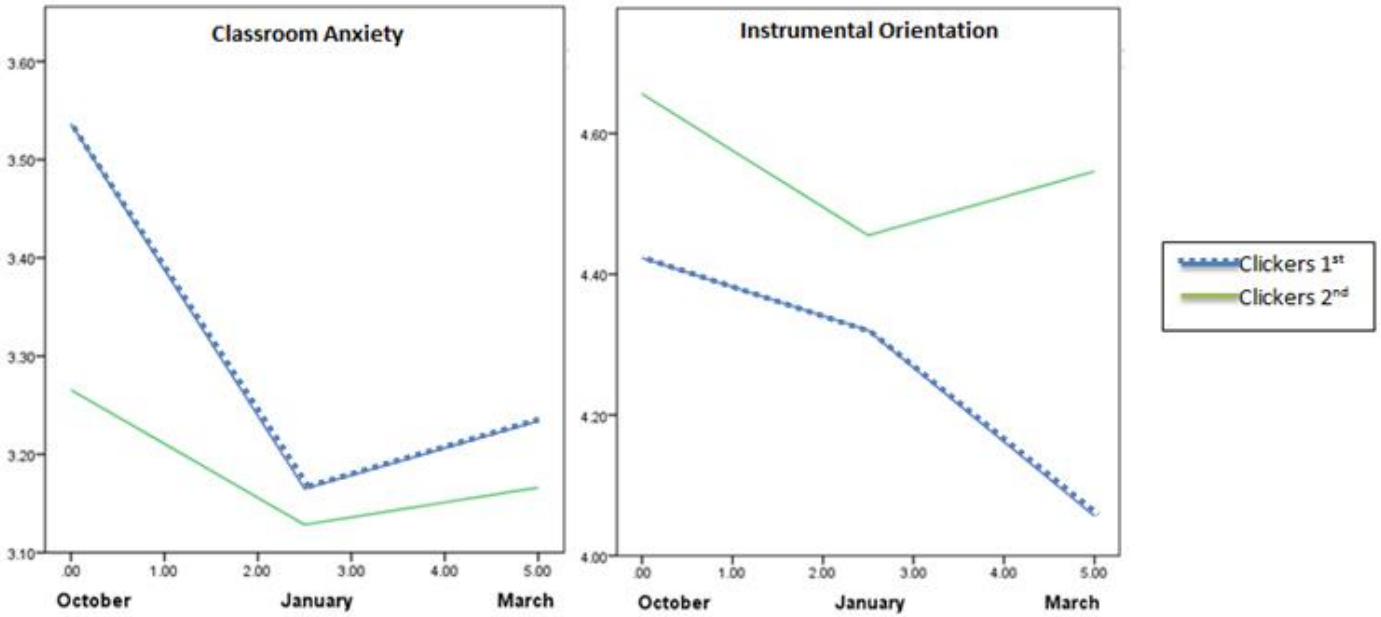
Clickers 2nd Group's Means, Standard Deviations, and Within Group Comparisons (d) of the AMI

	October	January	d	January	March	d
Anxiety	3.27 (1.03)	3.13 (1.06) Sig.	-0.13	3.13 (1.06)	3.17 (1.03)	0.04
Instrum.	4.66 (.54)	4.46 (.59) Sig.	-0.35	4.46 (.59)	4.55 (.60)	0.15
Index	44.12 (5.24)	44.08 (5.63)	0.01	44.08 (5.63)	44.40 (5.39)	0.06

Note. Means from the other 8 subscales included in this score can be found in Tables 11, 12, 13, 14, 15, & 16.

Figure 5

Means of Anxiety and Instrumental Orientation in October, January, and March



In summary, there was one significant change in the Integrativeness Index in which both the Clickers 1st and Clickers 2nd groups increased from October to January in Attitudes toward Spanish-speaking Individuals but, because this change occurred in both groups during the same time period, it was concluded that this was not an effect of clickers. In the Motivation Index, there was one significant change in which the Clickers 1st group decreased in Motivational Intensity from January to March but, because this change occurred in the absence of clickers and no changes occurred in the presence of clickers, it was determined that clickers did not have an effect on this outcome. In the ALS Index, one significant change occurred in which the Clickers 1st group increased from October to January in Spanish Course Evaluation. Because this change occurred in just one group and during just one time period, it can be concluded that clickers did not have an effect on this outcome. In the AMI, three significant changes took place. Both groups decreased in Spanish Classroom Anxiety from October to January but, because this change occurred in both groups at the same time, it was determined that this change was not due to clickers. The Clickers 2nd group decreased in Instrumental Orientation from October to January, and the Clickers 1st group decreased in this subscale from January to March. Because these changes occurred in the absence of clickers and no changes occurred in the presence of clickers, it was determined that clickers did not have an effect on these outcomes.

Overall, there was an inconsistent effect of clickers on students' integrative motivation to learn and acquire an L2 found. As a result, one cannot be confident in the potential of clickers to improve this important factor of L2 learning.

The Effects of Gender, Grade, and Ethnicity

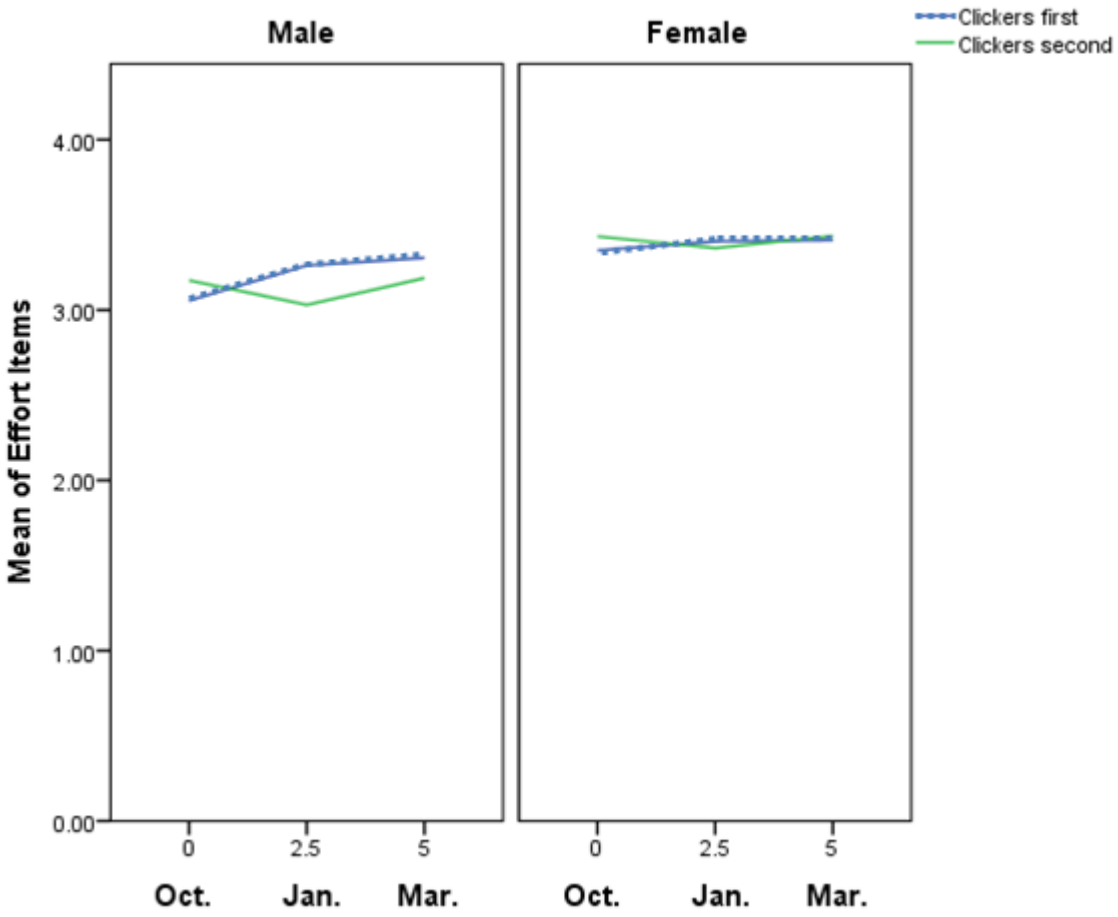
Although gender, grade, and ethnicity were included in this study as covariates, or control variables, their effects were assessed in order to understand their relationship to SE and integrative motivation or possibly to determine necessary future research. No research hypotheses were formulated about the differences between males and females, older and younger students, or students of different ethnicities.

In regard to SE, gender was found to have a significant effect on the Effort Items subscale, $t(110.29) = 6.87$; $p < 0.002$, of the MJSES. Gender was also found to be a main effect on students' integrative motivation in the Instrumental Orientation, $t(116.43) = 3.95$; $p < 0.02$, and Motivational Intensity, $t(110.61) = 4.64$; $p < 0.01$, subscales of the AMTB. This indicated that there was a constant difference between males and females, in which the females had larger means, over all three time periods.

A three-way interaction between gender, clicker group, and month was statistically significant for the Effort Items outcome, $t(110.29) = 6.87$; $p<0.002$ (see Figure 6). Females had slightly higher average effort levels at all three time periods. However, their effort was constant throughout the study whereas the males' effort levels seemed to increase when they had clickers.

Figure 6

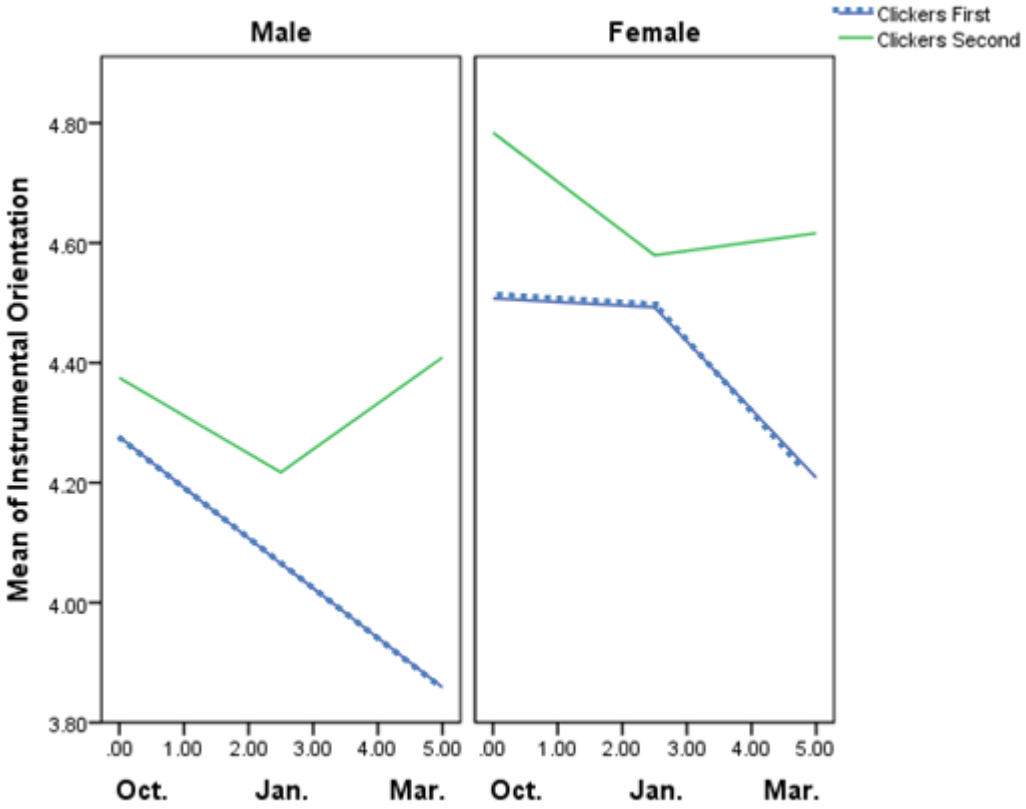
Means of Effort Items in Regard to Gender



Another treatment effect which indicated a three-way interaction between gender, group, and month was found in Instrumental Orientation, $t(116.43) = 3.95$; $p < 0.02$ (see Figure 7). However, improvements were only found in the Clickers 2nd group, especially for the males. If there were a clicker effect, even if just for the males, the Clickers 1st group would have improved and the means of the males in the Clickers 1st group would not have decreased.

Figure 7

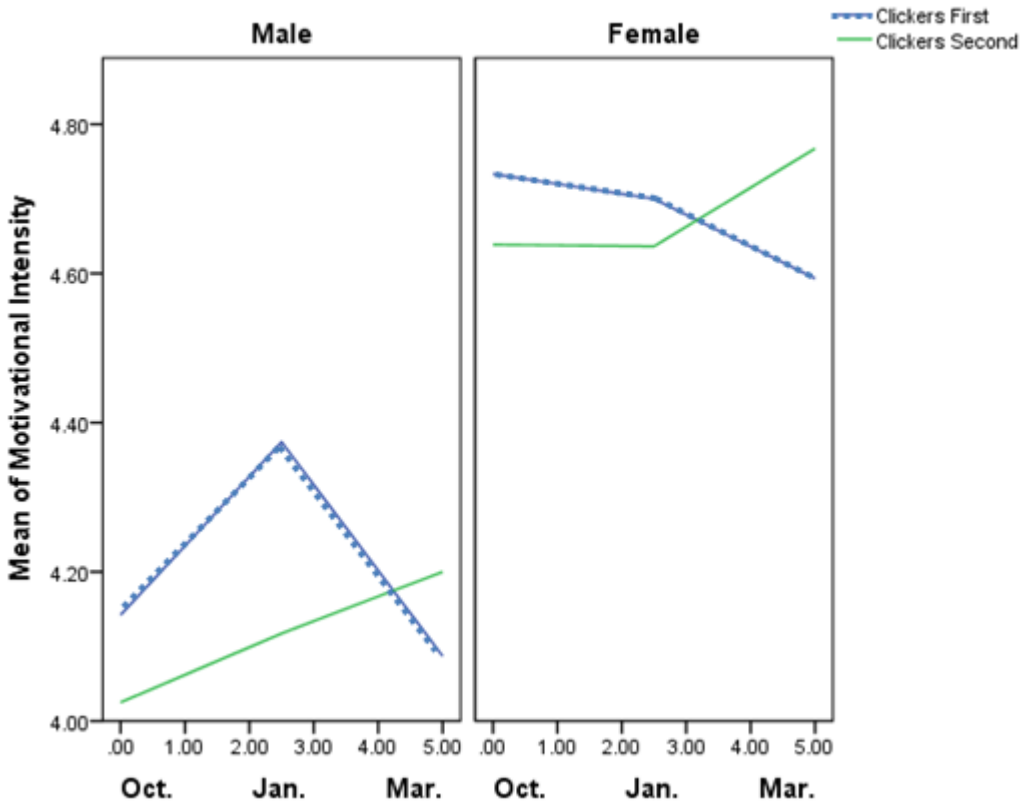
Means of Instrumental Orientation in Regard to Gender



An additional treatment effect that indicated a three-way interaction between gender, group, and month effect was found in Motivational Intensity, $t(110.61) = 4.64$; $p < 0.01$ (see Figure 8). All but the females in the Clickers 1st group increased when using clickers.

Figure 8

Means of Motivational Intensity in Regard to Gender



No grade or ethnicity effects on the outcomes were found. Because the ages of the Clickers 1st group were different than those of the Clickers 2nd group, there would not be any interaction between grade, clicker group, and month. Also, the ethnicity variable was too skewed to use in any interaction.

In summary, although neither grade nor ethnicity had a significant effect on students' SE or integrative motivation to learn and acquire an L2, gender was found to have a significant effect on Effort Items of the MJSES and Instrumental Orientation and Motivational Intensity of the AMTB. The females had larger means in all three of these categories over all three time periods. Males' Effort Items increased when clickers were used, whereas the females' Effort Items remained constant throughout the study.

Improvements in Instrumental Orientation were only found in the Clickers 2nd group, especially for the males, but because this occurred in only one group during only one time period, it can be concluded that this was not an effect of the use of clickers. All but the females in the Clickers 1st group increased in Motivational Intensity when using clickers. As seen in Figure 8, the females in the Clickers 1st group had the highest mean in this category when compared to the females in the Clickers 2nd group and the males in both groups. Perhaps there was a ceiling effect. In other words, they already had high motivational intensity and in order for it to improve, clickers would have had to have a significantly large effect on it. Based on these findings, one can suggest that the use of clickers has a larger effect on males than females.

CHAPTER V

Discussion

Two of the most influential factors for learning a second language (L2) are integrative motivation and self-efficacy (SE). This research studied the effect of the use of clickers on students' SE and integrative motivation to learn and acquire an L2 by comparing the changes in their integrative motivation and SE after participation in a learning experience with clickers and a traditional learning experience. Students in six Spanish classes (*N = 124*) at a medium-sized, Mid-Atlantic high school participated in the study. Three classes, referred to as the *Clickers 1st Group* (*n = 57*), were assigned to the treatment group (clickers). The other three classes, referred to as the *Clickers 2nd Group* (*N = 67*), were assigned to the control group (traditional learning). After one marking period, which consisted of 45 school days, the groups crossed over from treatment to control and from control to treatment groups.

Two surveys were administered in a pre- and post-test fashion, prior to and subsequent to participation in both types of learning activities: at the beginning of the first marking period, at the end of the first marking period prior to the crossover, and at the end of the second marking period after the crossover. The Attitude/Motivation Test Battery (AMTB) designed by Gardner (1985) was used to assess integrative and instrumental motivation. The Morgan-Jinks Student Efficacy Scale (MJSES) developed by Jinks & Morgan (1999) was used to gain information about students' SE beliefs.

A linear mixed model with repeated measures for month and a random intercept effect for participants was used to analyze the data and detect the effects of the use of

clickers. Analysis of the data collected with the MJSES indicated that students' SE in both the Clickers 1st and Clickers 2nd groups significantly increased while using clickers. Analysis of the AMTB data indicated that there was an inconsistent effect of clickers on students' integrative motivation in either of the clickers groups.

Discussion of Findings for Research Question 1

This section contains the discussion on the findings of the first research question for this study: Is there a statistically significant difference in student self-efficacy to learn and acquire a second language after participating in second-language learning exercises with clickers as compared to traditional second-language learning exercises?

Significant group-by-month interactions were found in all three subscales of the MJSES (Talent Items, Context Items, and Effort Items) suggesting that the time effect was different for the two clickers groups and that clickers may have had an effect on students' SE. It was then determined in which group the time effect was observed, and a significant time effect was found in both the Clickers 1st and the Clickers 2nd groups. Due to these significant interactions, October-January and January-March within group mean differences were tested.

In all three subscales, the October-January mean difference for the Clickers 1st group was positive and statistically significant, while the mean difference for the Clickers 2nd group was negative and statistically significant. From January to March, the Clickers 1st group did not change, and the Clickers 2nd group significantly increased.

The findings for research question 1 demonstrate that students' SE increased in both groups while using clickers, and because these outcomes were found at two different time periods amongst two different groups, one can be confident in these findings. Due to small effect sizes, it was determined that the use of clickers had a weak effect on this

increase. Therefore, it was implied that that other factors besides, or possibly in addition to, the use of clickers affect SE and, in order to change SE, a broader kind of intervention is necessary.

As previously discussed, four pedagogical benefits of clickers are consistently revealed throughout the literature: Clickers may (a) decrease apathy and increase enjoyment, interest, and enthusiasm in the class; (b) decrease anxiety and increase involvement, engagement, participation, and active learning in the classroom; (c) allow learners to self-assess and compare their performance to their peers; and (d) foster learner-to-learner and learner-to-instructor interactions. Additionally, according to Bandura's (1977) social cognitive theory (SCT), a student's belief in his or her efficacy to accomplish a task can be developed through the following four sources: (a) mastery experience, (b) vicarious experience, (c) social persuasion, and (d) physiological and emotional states. Therefore, clickers are a promising tool to improve students' SE because they have the potential to implement the strategies discovered to do so.

For example, when clickers were used throughout this study, students were able to experience successful task accomplishments as well as observe their peers be successful. They consistently received positive feedback and reactive encouragement from the instructor and their peers. An enjoyable atmosphere resulted, and they experienced situations of low anxiety, stress, and fear. With each displayed histogram of results, they were able to self-assess, and this guided them in their attributions of success or failure.

Studies on the effects of clickers on L2 learning and acquisition are scarce, and other studies on the effects of clickers on students' SE are limited. However, the findings of this study are consistent with the existing research on SE in other disciplines.

For example, Büyükkurt, Morin, Li, and Doreen (2013) investigated the impact of clickers on student engagement in an Introduction to Business Statistics course at a Canadian university. A questionnaire and voluntary online self-quizzes that indicated student engagement were used to collect data in two sections of clicker-based instruction and two sections of traditional lecturing consisting of 61 students. They found that measures of engagement were more strongly correlated in the classes where clickers were used. In the classes that used clickers, they observed heated discussions, cheering when they got the correct answer, and a significantly higher performance and participation in the voluntary, out-of-class self-quizzes.

Also, Batchelor (2015) examined the relationship between clicker use and mathematics anxiety among students enrolled in an undergraduate calculus course at a large Midwestern university. Students in two large lecture sections participated in classes with clickers ($n = 122$) or traditional classes ($n = 90$). Data collected from surveys and observations revealed a statistically significant increase in math anxiety in both classes during the semester. However, there was a slower rate of increase in math anxiety in the clicker class which may have been a result of the use of clickers.

Research indicates that the use of clickers has the potential to promote activities that enhance Bandura's (1977) four sources of developing a student's SE: (a) mastery experience, (b) vicarious experience, (c) social persuasion, and (d) physiological and emotional states. Additionally, research suggests that using clickers possibly assists students with self-assessment and guides them in their attributions of success or failure, two important factors that affect students' SE. The present study provides evidence of this potential and further proves that use of clickers quite possibly can improve students' SE.

Interesting but not central findings.

The decrease in the SE of the Clickers 2nd group from October to January was alarming. This indicated that other factors might have negatively affected these students' SE. There is a possible explanation for this surprising decrease. The Clickers 2nd group consisted of three Spanish III classes. Each year in Spanish III, when the students return from the holiday break, new classroom procedures are introduced. For the remainder of the school year, English will be not be used by the students nor the instructor at all. Previously, when the instructor would say, "No hablen inglés, por favor," the students nor she would use English, and when she said, "Pueden hablar inglés," they were able to use English when they needed to. Although the latter was limited, it was typically used when notes were given and discussed, when students completed projects or designed presentations in groups, and any time further clarification was needed. Additionally, the expression, "¿Cómo se dice…?" was no longer allowed to be used when one wanted to know how to say something in Spanish. Instead, the students were encouraged to use ways to avoid English by acting out the word, drawing the word, or, if necessary, using a dictionary.

This change occurred two weeks prior to the crossover and the completion of the MJSES questionnaire. Although the Spanish III students always seem to feel much more comfortable with this approach by the end of the school year, they were most likely not experiencing Bandura's (1977) four sources of enhancing one's SE during these two weeks. Encountering mastery experiences in which students experience successful task accomplishment and vicarious experiences in which students observe their peers successfully accomplishing a task for only two weeks was most likely not enough time to increase a students' SE. Additionally, this change most likely affected the students'

physiological and emotional states and increased their anxiety and stress. Although social persuasions such as encouragement and positive feedback were heavily prevalent, and a supportive and caring environment was promoted, how the students felt they were viewed by their peers may have been negatively affected as well.

Horwitz et al. (1986) suggested that foreign language anxiety (FLA) is a specific syndrome that may be related to the following three performance anxieties: communication apprehension, fear of negative evaluation, and test anxiety. They explained that communication apprehension refers to an individual's fear of or anxiety about communicating with others. Gregersen and Horwitz (2002) further explained, "The inability to express oneself fully or to understand what another person says can easily lead to frustration and apprehension (p. 562). Fear of negative evaluation is apprehension about academic and personal evaluations of the teacher and peers while communicating in the target language. When people are greatly concerned about the impressions that others form of them, they tend to behave in ways that minimize the possibilities of negative evaluations and may sit passively, withdraw from activities that could increase their language skills, or even avoid class. Test anxiety refers to a fear of failure which may result in inappropriately viewing L2 production as a test situation rather than an opportunity to communicate in the target language. Having experienced the new classroom procedures for only two weeks prior to completing the MJSES, the students most likely had increased FLA due to communication apprehension, fear of negative evaluation, and test anxiety and, as a result, their SE could have been negatively affected.

As explained in Bandura's (1977) Social Cognitive Theory (SCT), a person's behavior is determined by the interplay among personal, behavioral, and environmental

influences. Because individuals possess a system of self-beliefs, they are able to exercise control over their thoughts, feelings, and actions. SE, a significant component of SCT, is based not on one's abilities, but on what one believes might be accomplished with his skill sets. After having experienced the new classroom procedures for just two weeks, students' self-beliefs were most likely lower than usual. All of these factors could have easily negatively influenced the students' SE prior to taking the MJSES, and it would be interesting to see the difference in results if the MJSES had been given prior to the introduction of these new rules. In future research, this could be avoided by having more equivalent groups in which the students in both the Clickers 1st and Clickers 2nd groups were in the same levels and being introduced to the same classroom policies at the same times. This would help one to better determine if the recent introduction of the new classroom procedures caused the decrease in students' SE to learn and acquire an L2.

Findings on the effect of gender on self-efficacy.

A three-way interaction between gender, clicker group, and month was statistically significant for the Effort Items outcome of the MJSES. Females had slightly higher average effort levels at all three time periods. However, their effort was constant throughout the study whereas the males' effort levels seemed to increase when they had clickers. This indicates that this treatment effect may only apply to males. Considering the amount of research that has suggested that gender differences are far more pronounced in favor of males when clickers are used, this is quite possible.

For example, Kay (2009) investigated how 659 male and female high school students' attitudes toward clickers differ. Two main data collection sources were survey questions and open-ended comments. Data analyses revealed that the males had significantly more positive attitudes towards them. Male students were more motivated

and engaged when using them, participated more, liked using them to test their knowledge, thought they generated more class discussion, felt they helped improve their learning, and thought classes with clickers were better. An enthusiastic reaction toward clickers was observed more often for male students when analyzing the comments, as well. Remarks such as "It's fun to push the buttons," "They are fun and make it more interesting to learn," and "It made learning easier and more fun because there was less writing and we got our results instantly" are examples of their expressed enthusiasm.

One of Gok's (2011) research questions in his study of students' and instructors' evaluations of clickers was how male and female students differed in their attitudes toward clickers. Analyses of data collected from a survey completed by 523 undergraduate students at a university in Turkey revealed that male students had significantly more positive attitudes toward clickers than female students. They felt as though they were more engaged, were more motivated, participated more, and learned more when clickers were used. They also thought that using clickers generated more class discussion and liked seeing what the other students in the class selected for answers.

Balta and Duran (2015) investigated the attitudes of 255 students and twenty-three teachers on the use of interactive whiteboards in sixth through twelfth grade classrooms in Turkey. Although their study was on the overall use of interactive whiteboards, clickers are a feature of them. When analyzing the data obtained from two surveys to determine if attitudes differ for younger and older students or if they differ across gender, they found that the younger male students had a more positive attitude toward

Recommendations for future research.

Many researchers have suggested that SE is an influential factor in L2 learning and acquisition (Erkan & Saban, 2011; Gorsuch, 2009; Hsieh & Kang, 2010; Hsieh & Schallert, 2008; Jabbarifar, 2011; Magogwe & Oliver, 2007; Mahyuddin et al., 2006; Mills, Pajares, & Herron, 2007; Rahimi & Abedini, 2009; Raoofi et al., 2012; Tilfarlioğlu & Ciftci, 2011). However, research on different methods of enhancing L2 students' SE is limited. Based on the findings of this research, clickers seems to have the potential to improve L2 students' SE. Still, more investigations are needed to determine how and why clickers could do so.

Consistently revealed in the literature review, Foreign Language Anxiety (FLA) is considered a significant factor that affects L2 learning (Horwitz et al., 1986). Future research could be conducted on the effects of the use of clickers on students' FLA. Does it decrease communication apprehension, fear of negative evaluation, and/or test anxiety, the three performance anxieties related to FLA?

Additionally, the review of literature suggested that gender differences are far more pronounced in favor of males when clickers are used. The findings in this study enable the researcher to make the same suggestion as well as to suggest that males' SE is lower than the SE of females. Because much of the research has been done on students' attitudes toward the use of clickers, further research could instead be completed on determining which of Bandura's (1977) four sources that develop SE beliefs most strongly influence(s) males' SE - mastery experience, vicarious experience, social persuasion, and/or physiological and emotional states - and then investigate how the use of clickers can further enhance the source(s).

Finally, as previously explained, the smaller effect sizes of the findings of the data analysis implied that clickers had a weaker effect and students' SE slightly improved. Therefore, other factors besides, or possibly in addition to, the use of clickers could affect SE and, in order to change SE, a broader kind of intervention is necessary. Research could be conducted on the effects of the use of clickers in combination with other interventions on SE to determine if a stronger effect would result. For instance, several studies have provided evidence that self-assessment can promote students' SE to learn another language (e.g., Baleghizadeh and Masoun, 2013; Brantmeier et al., 2012; Butler & Lee, 2010; de Saint Léger, 2009; Zeigler, 2014). Zeigler (2014) investigated the use of the European Language Portfolio (ELP), a portfolio-based, self-assessment designed to integrate goal-setting, self-evaluation, strategy building, and self-reflection directly into the L2 classroom, with 318 students enrolled in EFL classes in Germany and determined their SE for learning English significantly increased with its use. The Lingua-Folio is the American adaptation of the ELP, and with its use, students can receive self-assessment training and become familiar with the process of self-assessing (Baleghizadeh & Masoun, 2013). Although it is suggested that the use of clickers enables students to self-assess, it is possible that they are not aware of the possibility to do so, or they may not even know how to do so. Further research could include the use of the Lingua-Folio in addition to clickers to determine their combined effect on students' SE to learn and acquire an L2.

Another possible study could research the combination of clickers and problem-based learning (PBL), a student-centered pedagogy informed by the constructivist theory in which students learn the course materials while encountering authentic problems (Alt, 2015). As Alt (2015) discovered in her study on the most effective constructivist practices for enhancing SE which included 167 undergraduate students from two regional

colleges in Israel, students in a PBL environment were more motivated to think reflectively about their learning processes, were more encouraged to interact and collaborate with other students, were given more opportunities to express themselves and use authentic tasks used in real-life situations to make activities more meaningful, and were more likely to feel that their needs, concerns, learning difficulties, and personal goals were considered. This resulted in a significant increase in their SE. As previously explained, the implementation of Constructivist Foreign Language (CFL) teaching and learning has demonstrated the ability to increase students' SE. Problem-based learning would be a type of CFL teaching and, when combined with clickers, could possibly further enhance students' SE to learn and acquire an L2.

Discussion of Findings for Research Question 2

This section contains the discussion on the findings of the second research question for this study: Is there a statistically significant difference in student integrative motivation to learn and acquire a second language after participating in second-language learning exercises with clickers as compared to traditional second-language learning exercises?

Significant group-by-month interactions were found in only three of the ten subscales and two of the four indexes of the AMTB: the Motivational Intensity subscale of the Motivation Index, and the Instrumental Orientation and Spanish Class Anxiety subscales of the Attitude/Motivation Index. This suggested that the time effect was different for the two clickers groups and that clickers may have had an effect in these three subscales. However, further analyses indicated that these changes occurred in the absence of clickers and no changes occurred in the presence of clickers. In other words,

there was an inconsistent effect of clickers on students' integrative motivation to learn and acquire an L2.

A probable cause of the ineffectiveness of the use of clickers on enhancing students' integrative motivation is its inability to provide direct contact with native speakers of the target language. Gardner and Lambert's (1959) second language acquisition motivation theory argues that integrative motivation to learn an L2 requires a positive attitude towards the L2 community and a desire to interact with, become similar to, or even become a member of that community. Although the use of clickers does promote many of Dörnyei and Csizér's (1998) macrostrategies for motivating L2 learners, it does not enable students to have direct contact with native speakers. When students do not have experience with the Spanish-speaking community, they cannot form attitudes about it, and a lack of desire to integrate into this community may result (Dailey, 2009). Students who have limited exposure to native Spanish speakers may not want to integrate or identify themselves with a Spanish-speaking society.

The questions asked while using clickers can certainly include indirect contact with native speakers by including authentic cultural content and familiarizing students with the background of the target language. Discussions about the culture's traditions and practices are easily prompted with the use of clickers. Also, as teachers use clickers, they can continue to set an example of their interest in and enthusiasm for learning about another culture and demonstrate real enjoyment of language learning. However, this has difficulty comparing to inviting a native speaker to talk to the students, organizing an exchange program, or taking a field trip to a destination in which the target language is spoken and direct interaction with the culture is possible.

Interesting but not central findings.

One finding that caught extra attention was that the Motivational Intensity subscale did not change for the Clickers 1st from October to January when they had the clickers, but significantly decreased when they no longer used clickers from January to March. A possible explanation of this decrease in intensity could be a negative response to the loss of clickers. Motivational Intensity is one of the three subscales of the Motivation Index of the AMTB. This index reflects the individuals' motivation to learn Spanish based on the effort expended in learning Spanish, the desire to learn Spanish, and the affective reactions toward learning Spanish. Perhaps, without clickers, the atmosphere did not seem as pleasant or relaxed as suggested to be by Dörnyei and Csizér's (1998) macrostrategies. Students may not have felt as comfortable taking risks without the anonymity provided by clickers. When the avenue for interactions created by clickers for the students who are too timid to speak or raise their hands was removed, their shyness most likely returned. Also, the learners' curiosity was possibly not aroused and their interest was not sustained, another recommended macrostrategy, when the clickers were no longer used.

Another perplexing finding was found in the Spanish Classroom Anxiety and Instrumental Orientation subscales for the Clickers 2nd group. They experienced a significant decrease in both subscales from October to January when they did not use clickers, and there was no significant change from January to March when they did use them. As previously explained, the addition of the new classroom procedures was introduced just two weeks prior to the crossover and the completion of the AMTB. This could be a possible explanation for the decrease in Instrumental Orientation. At this time, Dörnyei and Csizér's (1998) ten macrostrategies were most likely not greatly present, and

both instrumental and integrative motivation would, as a result, decrease. Even though, during this time period, the instructor frequently emphasized that it was okay to make mistakes, used and encouraged humor, and promoted risk-taking, the students most likely did not feel too relaxed after just two weeks. Also, their linguistic self-confidence and perceptions of their own abilities quite possibly were negatively affected when these new rules were implemented.

On the other hand, this could not be a possible explanation for their decrease in the Spanish Class Anxiety subscale. One, undoubtedly, would have assumed that Spanish Class Anxiety would have significantly increased due to the effect of these new classroom procedures on students' FLA levels. Could there be a possible explanation, or is this just a chance finding? The instructor's projection of enthusiasm for these changes and the promotion of an accepting, supportive, and friendly environment, two of Dörnyei and Csizér's (1998) macrostrategies, could have actually decreased their anxiety.

Finally, because there were no significant group-by-month interactions for the other seven subscales, further data analysis was not necessary. However, due to curiosity, it was determined if there were any other significant changes in the other subscales, and four were found. From October to January, both groups significantly increased in the Attitudes toward Spanish-speaking people subscale. Because this happened in both groups at the same time, another common cause other than clickers is suggested to be responsible for this change.

As a Spanish teacher, the instructor always goes out of her way to incorporate the Spanish-speaking culture in her classroom. All four walls of her classroom are decorated with posters, pictures, and authentic materials that she has brought home from her travels abroad. At the beginning of each class period, current events of the Spanish-speaking

countries of the world are discussed, and the different aspects of their cultures are highlighted. At a point in each chapter, a cultural reading and video always seems to capture the students' interest – especially when other teenagers from around the world or food are involved. Foreign music is heard and sang and foreign dances such as the salsa and flamenco are practiced. Dörnyei (1994) explained that an important strategy for motivating L2 learners is including a sociocultural component in the L2 classroom by sharing positive L2-related experiences, showing videos, and playing relevant music. Also, familiarizing learners with the target language culture is one of Dörnyei and Csizér's (1998) macrostrategies. The researcher believes that this could be a possible explanation for an increase in the Attitudes toward Spanish-speaking people subscale for all of the classes.

From October to January, the Clickers 1st experienced a significant increase in the Spanish Course Evaluation subscale. The researcher predicts that this increase was a result of the use of clickers due to the amount of freshmen males in this group. As previously explained, research has suggested that gender differences are far more pronounced in favor of males when clickers are used (Balta & Duran, 2015; Gok, 2001; Kay, 2009).

The Clickers 1st group consisted of two Spanish I and one Spanish II classes. Unlike the Clickers 2nd group in which there were no freshmen, freshmen made up thirty-seven percent (37%) of the Clickers 1st group. Also forty percent (40%) of the Clickers 1st group were male, whereas thirty-four percent (34%) were male in the Clickers 2nd group. Although the majority of the reactions the instructor observed when using clickers were very positive amongst both groups, a reaction distinct to the Clickers 1st group was the excitement in the freshmen males. They got very excited and seemed to feel as

though they were about to play a videogame when the instructor asked them to turn on their clickers. Dörnyei (1994) explained how including game-like intergroup competitions in a course promotes the development of group cohesion and enhances the relations of the group members and, as a result, improves their motivation. This could be a possible explanation for the increases in the Clickers 1st group's Spanish Course Evaluation subscale.

Findings on the effect of gender on integrative motivation.

Gender was found to be a main effect on students' integrative motivation in the Instrumental Orientation and Motivational Intensity subscales of the AMTB. There was a constant difference between males and females, in which the females had larger means, over all three time periods. In regards to Instrumental Orientation, improvements were only found in the Clickers 2nd group, especially for the males. If there were a clicker effect, even if just for the males, the Clickers 1st group would have improved and the means of the males in the Clickers 1st group would not have decreased. In regards to Motivational Intensity, all but the females in the Clickers 1st group increased when using clickers. As seen in Figure 8, the females in the Clickers 1st group had the highest mean in this category when compared to the females in the Clickers 2nd group and the males in both groups. Perhaps there was a ceiling effect. In other words, they already had high motivational intensity and in order for it to improve, clickers would have had to have a significantly large effect on it.

Recommendations for future research.

As previously suggested, the use of clickers does not enable direct contact with native speakers, but indirect contact could be possible with their use. In his book *Teaching with Classroom Response Systems: Creating Active Learning Environments*,

Bruff (2009) summarized more than 200 clickers-based studies completed across a wide variety of disciplines. He pointed out how many teachers see multiple-choice clicker questions as limited to testing students' recall of facts, but then explained how he found them to actually serve many other purposes in the classroom. Beyond the typical, multiple-choice recall questions, conceptual understanding questions can be asked to help teachers identify and address students' misconceptions. Application questions which connect course content to the "real-world" and require students to make a decision, or critical thinking questions which include multiple answer choices that have merit, can also be used. Also, student perspective questions are those that do not have correct answers and ask students to share their opinions or experiences. Each of these types of questions can be used to assess students' higher-order thinking skills and to further engage them in classroom discussions.

Consequently, future research could be done on designing clickers questions that provide increased indirect contact with the target culture and, as a result, when implemented, possibly increase students' integrative motivation. For example, what are the best ways to reveal common misconceptions about a target culture? When including authentic, "real-world" material, what content intrigues students the most? What is the best way to include this content – pictures, videos, or are there even more effective approaches?

Additionally, as revealed in the literature review, there are many pedagogical benefits of using clickers. Due to the increased amount of today's students using smartphones, laptops, and tablets, their familiarity with electronic devices, and the accessibility to the Internet, web-based polling has started to change the process of instruction (Méndez-Coca & Slisko, 2013). Webpages and applications such as Poll

Everywhere (www.polleverywhere.com), Socrative (www.socrative.com), Shakespeak (www.shakespeak.com), and SMSPoll (www.smspoll.net) all enable a teacher to design activities and control the flow of questions while the students simply log in with their devices and interact in real time with the content, and the responses are visually represented. Teachers can then review reports online as a Google spreadsheet or an excel file after their use.

These tools share many of the features of clickers. However, with web-based polling, questions can be open-ended and be used both synchronously and asynchronously. Future studies could compare and contrast the use of clickers and web-based polling. Considering the similarity of their features, one may assume that the pedagogical benefits of using clickers revealed repeatedly throughout the literature would also be applicable to web-based polling. However, would the extra benefits of web-based polling have a larger effect on students' SE or integrative motivation? Does the ability to post and answer questions prior to and after class encourage teachers and students to modify their approaches? For example, would a teacher adapt the learning activities in her upcoming class based on the results of the students' responses? Would it enable her to incorporate different pedagogies, including more Constructivist Foreign Language (CFL) teaching? Or, would students be encouraged to put forth more effort beyond the classroom after responding to a poll before or after class? Would the convenience, flexibility, and comfort of using their own devices affect students' SE or integrative motivation?

Possible Explanations for Small Effect Sizes

The effect sizes of the findings throughout this study were consistently somewhat below average. The effect sizes were not zero and, therefore, were statistically

significant, but they were small. This indicated that several factors may have influenced students' SE and integrative motivation and, relative to the other factors, the use of clickers had a weaker effect on them.

A possible explanation is that clickers most likely have effects on things other than SE and integrative motivation, but these effects spill over a little and slightly influence SE and integrative motivation. Perhaps only a key feature of clickers may have effects on SE and integrative motivation. For example, the immediate feedback provided by the use of clickers may affect the outcomes and, if this study had included a design feature that allowed the researcher to manipulate immediacy of feedback, large effects for students who received immediate feedback and weak effects for those who did not might have been seen. Possibly, SE and integrative motivation are multiply determined and, as a result, any isolated intervention such as the use of clickers could only have a weak effect on them because other experiences are necessary to improve them.

Conclusion

The findings of this study revealed that, after participation in a learning experience with clickers and a traditional learning experience, students' SE to learn and acquire an L2 slightly improved, whereas their integrative motivation to do so was not affected. Results suggested that other factors besides a particular technology use affect SE and integrative motivation and, in order to change them, a much broader kind of intervention is necessary. Four pedagogical benefits of clickers are consistently revealed throughout the literature: Clickers may (a) decrease apathy and increase enjoyment, interest, and enthusiasm in the class; (b) decrease anxiety and increase involvement, engagement, participation, and active learning in the classroom; (c) allow learners to self-assess and compare their performance to their peers; and (d) foster learner-to-learner and

learner-to-instructor interactions. Each of these benefits goes hand-in-hand with strategies suggested to improve students' SE and integrative motivation and, therefore, suggest that the use of clickers has the potential to improve them. Due to the importance of SE and integrative motivation in the success of learning and acquiring an L2, further research should yield information on other ways clickers could be used to enhance them. For example, could the use of clickers be combined with other interventions such as the Lingua-Folio to enhance students self-assessment skills and, therefore, possibly improve students' SE? Could clickers be used as a tool for problem-based learning (PBL), resulting in an increased use of constructivist foreign language (CFL) teaching and learning and, as a result, a possible improvement in SE and integrative motivation? Forthcoming research could be done on designing clickers questions that provide increased indirect contact with the target culture and, as a result, when implemented, possibly increase students' integrative motivation. Additionally, the effects of web-based polling on L2 students' SE and integrative motivation could be researched.

Appendix A

IRB for the Protection of Human Participants of Towson University

APPROVAL NUMBER: 14-A062

To: Cora Roush
8000 York Road
Towson MD 21252

From: Institutional Review Board for the Proctection of Human Subjects Melissa Osborne Groves, Member

Date: Wednesday, January 29, 2014

RE: Application for Approval of Research Involving the Use of Human Participants

Office of Sponsored Programs
& Research

Towson University
8000 York Road
Towson, MD 21252-0001

t. 410 704-2236
f. 410 704-4494

Thank you for submitting an Application for Approval of Research Involving the Use of Human Participants to the Institutional Review Board for the Protection of Human Participants (IRB) at Towson University. The IRB hereby approves your proposal titled:

The Effects of Clickers on High School Students' Self-Efficacy and Integrative, Intrinsic, Motivation to Learn and Acquire a Second Language

If you should encounter any new risks, reactions, or injuries while conducting your research, please notify the IRB. Should your research extend beyond one year in duration, or should there be substantive changes in your research protocol, you will need to submit another application for approval at that time.
We wish you every success in your research project. If you have any questions, please call me at (410) 704-2236.

CC: L. Song
File

Date: Wednesday, January 29, 2014

NOTICE OF APPROVAL

TO: Cora Roush **DEPT:** EDTL

PROJECT TITLE: *The Effects of Clickers on High School Students' Self-Efficacy and Integrative, Intrinsic, Motivation to Learn and Acquire a Second Language*

SPONSORING AGENCY:

APPROVAL NUMBER: 14-A062

The Institutional Review Board for the Protection of Human Participants has approved the project described above. Approval was based on the descriptive material and procedures you submitted for review. Should any changes be made in your procedures, or if you should encounter any new risks, reactions, injuries, or deaths of persons as participants, you must notify the Board.

A consent form: [√] is [ ] is not required of each participant

Assent: [ ] is [√] is not required of each participant

This protocol was first approved on: 29-Jan-2014

This research will be reviewed every year from the date of first approval.

Melissa Osborne Groves, Member
Towson University Institutional Review Board

Appendix B

Letter of Consent from the Spring Grove Area School District

Spring Grove Area School District

Educational Service Center
(717) 225-4731

100 East College Avenue
Fax: (717) 225-6028

Spring Grove, PA 17362
Web: www.sgasd.org

July 17, 2014

Mrs. Cora M. Roush
2614 Wren Terrace
York, PA 17403

Dear Cora,

I am in receipt of your e-mail, dated July 10, 2014, in which you requested consent to complete a research study in the Spring Grove Area School District for your dissertation through Towson University. It is my understanding that your research is on the topic of the effect of clickers on students' self-efficacy and integrative, intrinsic motivation to learn and acquire a second language. It is also my understanding that you will be using the results from your pilot study completed last year as a guide to make modifications. You will be receiving permission from your students' parents for them to participate.

I am happy to inform you that approval is being given to you to conduct your research within the Spring Grove Area School District. Best wishes with your research and dissertation.

If you have any questions, please feel free to contact me at (717)225-4731, extension 3023.

Sincerely,

David J. Renaut, Ed.D.
Assistant Superintendent

Shaping the Future... One Student at a Time!

Appendix C

Unit Content Score Sheet

Directions: The attached score sheet contains a table of objectives that need to be covered by the proposed unit. The purpose of this score sheet is to rate the content on how well it meets the learning objective. Establishing this relationship will allow me to ensure that the content of the unit includes and adequately addresses these learning objectives. Please rank the unit objectives with a score of 1 - 3 for each learning objective. Please use the following score values when rating each objective: 1 = learning objective not addressed; 2 = learning objective marginally addressed; 3 = learning objective adequately addressed.

Learning Objectives of *Chapter 5: Los pasatiempos* of the Spanish III course	**Rating**
To identify, define, and pronounce vocabulary related to hobbies	
To talk about leisure time activities	
To identify, define, and pronounce vocabulary related to activities in the park	
To talk about going to the zoo and the amusement park	
To use the future tense to talk about future events	
To use the comparative to compare two or more people or things	
To use the superlative to compare one person or thing to many people or things	
To discuss Sunday in the park in Spanish-speaking countries	
To establish a connection with another discipline, Literature, by reading about literary genres and their characteristics	
To compare game arcades in the Spanish-speaking world and the United States	
To prepare and conduct an interview for a Spanish-speaking person about the common pastimes in his country	
To meet the Communication World-Readiness Standard for Learning Languages	
To meet the Cultures World-Readiness Standard for Learning Languages	
To meet the Connections World-Readiness Standard for Learning Languages	
To meet the Comparisons World-Readiness Standard for Learning Languages	
To meet the Communities World-Readiness Standard for Learning Languages	

Comments:

Appendix D

Consent Form

Dear Parents or Guardians:

To fulfill the requirements of my graduate education, I will be conducting a research project designed to study how the use of Clickers technology impacts my students' self-efficacy and motivation to learn Spanish. I request permission for your child to participate. The study involves the use of two surveys. The purpose of the study is to help me understand how the use of Clickers technology impacts teaching and learning in the second language classroom.

Each student will be invited to complete the two surveys voluntarily. To complete the surveys, each student will be asked to select one of the Likert scale responses from strongly disagree to strongly agree for each question. Although I do not anticipate any difficulties, students expressing desire to not participate will be returned to class. Students' responses will be reported as group results only and will be retained by me at the study's conclusion. To preserve confidentiality, pseudonyms will be used to identify children if and when needed. Students' real names will not be used for the study.

Your decision whether or not to allow your child to participate will in no way affect your child's standing in his or her class or school, and you may withdraw consent at any time. At the conclusion of the study, a summary of group results will be made available to all interested parents. Should you have any questions or desire further information, please call me at (717) 225-4731 ext. 7337. You may also contact Dr. Debbie Gartland, Chairperson of the Institutional Review Board for the Protection of Human Participants, at (410) 704-2236. Thank you in advance for your cooperation and support.

Sincerely,
Cora Roush, Spanish Teacher
Department of World Languages
Spring Grove Area High School

Please indicate whether or not you wish to have your child participate in this project, by checking a statement below and returning this letter to your child's teacher.

_____ I grant permission for my child, _____, to participate in this project.

_____ I do not grant permission for my child, _____, to participate in this project.

_____ _____
Parent/Guardian's signature Date

THIS PROJECT HAS BEEN REVIEWED BY THE INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN PARTICIPANTS AT TOWSON UNIVERSITY (PHONE: 410-704-2236).

Appendix E

Observation to Ensure Consistency during Pilot Study

Teacher Cora M. Roush Observer Baron Jones Date 4/8/14

Treatment Group (Class in which clickers were used) Subject: Spanish II Class Period 2 Time Period 8:28-8:50	Control Group (Class in which traditional exercises were used) Subject: Spanish II Class Period 9/10 Time Period 12:10-12:29
Please write your observations of the teacher during this time period. -Mrs. Roush greeted students and check their clickers as the student entered the classroom. -Mrs. Roush posted the lesson objective and bell ringer. Mrs. Roush checked homework as students completed the bell ringer assignment. -Mrs. Roush reviewed the bell ringer assignment by retrieving responses from the students. -Mrs. Roush had the students hand in their bell ringer assignment sheets and pull out the clickers. -"Student stated he enjoys using the clickers because they are fun." -Mrs. Roush posted questions and the students responded using the clickers. Mrs. Roush reviewed the answer after each round of a clicker response. -The vocabulary on the quiz all had to do with technology. For example, sending and receiving emails and text messages. -Students were able to work cooperatively during the quiz.	Please write your observations of the teacher during this time period. -Mrs. Roush greeted students as they entered the classroom. -Mrs. Roush posted the lesson objective and bell ringer. Mrs. Roush checked homework as student completed the bell ringer assignment. -Mrs. Roush reviewed the bell ringer assignment by retrieving responses from the students. -Mrs. Roush had the student hand in their bell ringer assignment sheets. -Mrs. Roush posted different questions and had student answer the questions. -Student raised their hands to answer the questions. -The vocabulary on the quiz all had to do with technology. For example, sending and receiving emails and text messages.

Were the same methods for conveying information used? Yes No Similar

Were the same strategies employed while teaching concepts used? Yes No Similar

For each group:

Were the same objectives posted? Yes No Similar

Were the same directions given? Yes No Similar

Were the same questions asked? Yes No Similar

Was the same feedback provided? Yes No Similar

Were the same praise statements used? Yes No Similar

Please, comment on these answers in the following section.

Beyond the teacher's use of clickers, what differences were seen in how the teacher taught the two groups? Please, use your answers in the previous section as a guide to your response.

Mrs. Roush taught both class sections the same other than use of the clickers.

Thank you very much for taking the time to observe me and provide feedback. I greatly appreciate your assistance in completing my dissertation study.

Appendix F

Observation to Ensure Consistency during This Study

Teacher Cora M. Roush Observer Baron Jones Date 1/29/15

Treatment Group (Class in which clickers were used) Subject: Spanish III Class Period 1 Time Period 7:37-8:20	Control Group (Class in which traditional exercises were used) Subject: Spanish II Class Period 2 Time Period 8:25-9:08
Please write your observations of the teacher during this time period. Mrs. Roush greeted students as they entered the classroom. Mrs. Roush explained the bell ringer assignment and then checked students' homework as the students completed the bell ringer assignment. After review of the bell ringer, Mrs. Roush had the student review course content with use of the clickers. All students participated in the activity. Students received instant feedback after each question and Mrs. Roush discussed the results with the class in between each question.	Please write your observations of the teacher during this time period. Mrs. Roush greeted students as they entered the classroom. Mrs. Roush explained the bell ringer assignment and then checked students' homework as the students completed the bell ringer assignment. After review of the bell ringer, Mrs. Roush had students review course content by responding to the questions using sign language (showing a, b, c, or d with their hands). Mrs. Roush asked clarifying questions between student responses. Mrs. Roush provided the answers shortly after student responses.

For each group:

Were the same objectives posted?	Yes	No	Similar
Were the same directions given?	Yes	No	Similar
Were the same questions asked?	Yes	No	Similar
Was the same feedback provided?	Yes	No	Similar
Were the same praise statements used?	Yes	No	Similar

Beyond the teacher's use of clickers, what differences were seen in how the teacher taught the two groups? Please, use your answers in the previous section as a guide to your response.

Mrs. Roush used the same techniques in both classes. The clickers provided the students feedback that the group without clickers did not receive.

Thank you very much for taking the time to observe me and provide feedback. I greatly appreciate your assistance in completing my dissertation study.

Appendix G

The Attitude/Motivation Test Battery (AMTB)

Following are a number of statements with which some people agree and others disagree.
Please circle one alternative below each statement according to the amount of your agreement or disagreement with that item. The following sample item will serve to illustrate the basic procedure.

a. Eagles football players are much better than Ravens football players.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

In answering this question, you should have circled one alternative. Some people would have circled "Strongly Disagree", others would have circled "Strongly Agree", while others would have circled any of the alternatives in between. Which one you choose would indicate your own feeling based on everything you know and have heard. Note: **there is no right or wrong answer.**

1. I wish I could speak many foreign languages perfectly.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

2. My parents try to help me to learn Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

3. I don't pay much attention to the feedback I receive in my Spanish class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

4. I don't get anxious when I have to answer a question in my Spanish class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

5. I look forward to going to class because my Spanish teacher is so good.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

6. Learning Spanish is really great.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

7. If the U.S. had no contact with Spanish-speaking countries, it would be a great loss.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

8. Studying Spanish is important because it will allow me to be more at ease with people who speak Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

9. I have a strong desire to know all aspects of Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

10. My Spanish class is really a waste of time.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

11. I would get nervous if I had to speak Spanish to a tourist.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

12. Studying foreign languages is not enjoyable.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

13. I make a point of trying to understand all the Spanish I see and hear.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

14. I don’t think my Spanish teacher is very good.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

15. Studying Spanish is important because I will need it for my career.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

16. I never feel quite sure of myself when I am speaking in our Spanish class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

17. Knowing Spanish isn’t really an important goal in my life.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

18. I hate Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

19. I feel very much at ease when I have to speak Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

20. I would rather spend more time in my Spanish class and less in other classes.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

21. I wish I could read newspapers and magazines in many foreign languages.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

22. My parents feel that it is very important for me to learn Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

23. I don't bother checking my assignments when I get them back from my Spanish teacher.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

24. I feel confident when asked to speak in my Spanish class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

25. My Spanish teacher is better than any of my other teachers.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

26. I really enjoy learning Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

27. Most native Spanish speakers are so friendly and easy to get along with, we are fortunate to have them as friends.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

28. Studying Spanish is important because it will allow me to meet and converse with more and varied people.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

29. If it were up to me, I would spend all of my time learning Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

30. I think my Spanish class is boring.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

31. Speaking Spanish anywhere makes me feel worried.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

32. I really have no interest in foreign languages.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

33. I keep up to date with Spanish by working on it almost every day.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

34. The less I see of my Spanish teacher, the better.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

35. Studying Spanish is important because it will make me more educated.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

36. It embarrasses me to volunteer answers in our Spanish class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

37. I sometimes daydream about dropping Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

38. I would rather spend my time on subjects other than Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

39. It doesn't bother me at all to speak Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

40. I wish I could have many native Spanish speaking friends.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

41. I enjoy the activities of our Spanish class much more than those of my other classes.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

42. I would really like to learn many foreign languages.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

43. My parents feel that I should continue studying Spanish all through school.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

44. I put off my Spanish homework as much as possible.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

45. I am calm whenever I have to speak in my Spanish class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

46. My Spanish teacher has a dynamic and interesting teaching style.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

47. Spanish is a very important part of the school program.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

48. My parents have stressed the importance Spanish will have for me when I leave school.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

49. Native Spanish speakers are very sociable and kind.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

50. Studying Spanish is important because it will enable me to better understand and appreciate the Hispanic way of life.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

51. I want to learn Spanish so well that it will become natural to me.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

52. To be honest, I really have little interest in my Spanish class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

53. Native Spanish speakers have much to be proud about because they have given the world much value.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

54. It would bother me if I had to speak Spanish on the telephone.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

55. It is not important for us to learn foreign languages.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

56. When I have a problem understanding something in my Spanish class, I always ask my teacher for help.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

57. My parents urge me to seek help from my teacher if I am having problems with my Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

58. My Spanish teacher is one of the least pleasant people I know.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

59. Studying Spanish is important because it will be useful in getting a good job.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

60. It worries me that other students in my class seem to speak Spanish better than I do.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

61. I'm losing any desire I ever had to know Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

62. Learning Spanish is a waste of time.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

63. I would feel quite relaxed if I had to give street directions in Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

64. I like my Spanish class so much; I look forward to studying more Spanish in the future.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

65. If I planned to stay in another country, I would try to learn their language.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

66. My parents are very interested in everything I do in my Spanish class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

67. I tend to give up and not pay attention when I don't understand my Spanish teacher's explanation of something.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

68. I don't understand why other students feel nervous about speaking Spanish in class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

69. My Spanish teacher is a great source of inspiration to me.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

70. I plan to learn as much Spanish as possible.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

71. I would like to know more native Spanish speakers.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

72. Studying Spanish is important because I will be able to interact more easily with speakers of Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

73. I would like to learn as much Spanish as possible.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

74. To be honest, I don't like my Spanish class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

75. I would feel uncomfortable speaking Spanish anywhere outside the classroom.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

76. Most foreign languages sound crude and harsh.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

77. I really work hard to learn Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

78. I would prefer to have a different Spanish teacher.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

79. Studying Spanish is important because other people will respect me more if I know Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

80. I get nervous when I am speaking in my Spanish class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

81. To be honest, I really have no desire to learn Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

82. I think that learning Spanish is dull.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

83. I would feel comfortable speaking Spanish where both Spanish and English speakers were present.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

84. I look forward to the time I spend in Spanish class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

85. I enjoy meeting people who speak foreign languages.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

86. My parents encourage me to practice my Spanish as much as possible.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

87. I can't be bothered trying to understand the more complex aspects of Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

88. Students who claim they get nervous in Spanish classes are just making excuses.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

89. I really like my Spanish teacher.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

90. I love learning Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

91. The more I get to know native Spanish speakers, the more I like them.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

92. I wish I were fluent in Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

93. I have a hard time thinking of anything positive about my Spanish class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

94. I feel anxious if someone asks me something in Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

95. I would rather see a TV program dubbed into Spanish than in Spanish with English subtitles.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

96. When I am studying Spanish, I ignore distractions and pay attention to my task.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

97. My Spanish teacher doesn't present materials in an interesting way.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

98. I am sometimes anxious that the other students in class will laugh at me when I speak Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

99. I don't have any great wish to learn more than the basics of Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

100. When I leave school, I will give up the study of Spanish because I am not interested in it.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

101. I would feel calm and sure of myself if I had to order a meal in Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

102. Spanish is one of my favorite courses.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

103. My parents think I should devote more time to studying Spanish.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

104. You can always trust native Spanish speakers.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

Appendix H

Morgan-Jinks Student Efficacy Scale (MJSES)

1. I work hard in Spanish class.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

2. I could get the best grades in Spanish class if I tried hard enough.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

3. Most of my classmates like to learn Spanish because it is easy.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

4. I would get better grades in Spanish class if my teacher liked me.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

5. Most of my classmates work harder on their Spanish homework than I do.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

6. I am a good Spanish student.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

7. I will pass Spanish class.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

8. I am in a good Spanish class.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

9. I always get good grades in Spanish class when I try hard.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

10. Sometimes I think an assignment in Spanish class is easy when my classmates think it is hard.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

11. Adults who have good jobs probably were good foreign language students when they were in school.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

12. When I pass Spanish 2, I will take Spanish 3.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

13. I am one of the best students in my Spanish class.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

14. No one cares if I do well in Spanish class.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

15. My Spanish teacher thinks I'm smart.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

16. It is important that I continue taking a foreign language course.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

17. My classmates usually get better grades in Spanish than I do.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

18. What I learn in Spanish class is not important.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

19. I usually understand my homework assignments in Spanish class.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

20. I usually do not get good grades in Spanish because it is too hard.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

21. It does not matter if I do well in Spanish class.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

22. My classmates in Spanish who get better grades than I do get more help from the teacher than I do.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

23. It is not hard for me to get good grades in Spanish class.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

24. I am smart.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

25. I will quit taking a foreign language as soon as I can.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

26. My Spanish teacher likes students even if they do not always get good grades.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

27. When my Spanish teacher asks a question, I usually know the answer even if my classmates don't.

Really Agree	Kind of Agree	Kind of Disagree	Really Disagree

28. What grade did you get in Spanish on your last report card? ____

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