IN WHAT WAYS DO LANGUAGE LESSONS THAT INCORPORATE STUDENT- AND TEACHER-GENERATED GESTURES SUPPORT LANGUAGE LEARNING IN AN 8TH GRADE BEGINNING-LEVEL SPANISH CLASSROOM?

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IN WHAT WAYS DO LANGUAGE LESSONS THAT INCORPORATE STUDENT- AND
TEACHER-GENERATED GESTURES SUPPORT LANGUAGE LEARNING IN AN 8TH
GRADE BEGINNING-LEVEL SPANISH CLASSROOM?

by

Simone Johnson

A capstone thesis submitted in partial fulfillment of the requirements for the degree of
Master of Arts in Teaching.

Hamline University

Saint Paul, Minnesota

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DEDICATION
First, I would like to dedicate this project to Leif, who is my inspiration and brings me so much joy. I am so grateful that you are in my life. I would also like to dedicate this to Daniel. I couldn’t have done this without you.
“A revolution without dancing is a revolution not worth having.”
- Emma Goldman
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CHAPTER ONE

Introduction

“Language is only a little thing sitting on top of this huge ocean of movement” (as cited in Burke, 2013, p.A8). As a middle-school Spanish instructor, I have been tasked to teach the building blocks of language - vocabulary. Yet L2 vocabulary retention requires a high level of engagement and commitment on the part of the learner (Asher, 1969). One way I have addressed this is to incorporate embodied movement in order to teach vocabulary. I have taught a series of yoga poses in Spanish, and have required that students move, stretch, touch their toes, and follow a series of directions dictated to them in Spanish. Utilizing movement and conducting informal classroom observations have led me to understand the importance of embodiment as a means to help with L2 vocabulary learning, especially amongst the diverse group of students I have worked with. While middle-school level students may not be used to being asked to move in the classroom, I sought to engage them in a way they could enjoy and simultaneously learn.

I have realized that having students use gestures as a way to learn and practice vocabulary is the way in which I would like to incorporate movement in the classroom. Not only do they help with learning, gestures are a natural way to facilitate conversation. Gestures are innate to all human communication, despite the culture of the speaker, as all cultures use nonverbal signs in their communication. Since movement is innate to all
learners, the use of it in the classroom could result in an effective teaching pedagogy. I pose the question- in what way do language lessons that incorporate student-and teacher-generated gestures support language learning in an 8th grade beginning-level Spanish classroom?

In this chapter, I will explain how my personal and professional journey has led me to become interested in utilizing gestures as a means of providing a culturally responsive L2 teaching tool. I will also include the rationale and the context for selecting this area of interest. In addition, I will provide the significance of the study to various stakeholders, which include students, families, colleagues, and policy makers. Finally, I will outline the proposed action research study.

**Rationale**

I am currently a 7th and 8th grade Spanish teacher, but have also taught dance through community education classes. I have always considered dance my first language. It has been such a passion of mine that as a child I would mimic all of the moves I saw, whether it be a grass dance performed at a powwow or hip-hop moves I saw on MTV. Dance has been a way for me to express myself, and to connect to the world.

After completing my undergraduate degree, I had the opportunity to teach a community dance class. It was during this class that I realized my passion and talent for teaching. Soon after this, I taught early learners through an after school Spanish enrichment program. While teaching Spanish through the program I had the privilege of utilizing many engaging techniques such as song, dance, and movement-based activities. One of these was a popular L2 teaching-technique called Total Physical Response (TPR). TPR allows the educator to incorporate movement in the curriculum via commands made in the L2 while
students enact on the said commands. Students showed enthusiasm and excitement to learn Spanish in these engaging ways.

I later obtained my license and started teaching at a charter school where I taught Spanish to fifth-to eighth-graders. It was there that I started to shift away from movement-based techniques, as it was not part of the curriculum nor was it supported or understood by colleagues and administration. Despite this, I understood the importance of physically engaging students in the Spanish classroom and continued to implement a few movement-based Spanish activities to boost student engagement. In each class I directed students to do a series of yoga poses, touch their toes, and stretch their arms up to the sky.

Students showed interest in learning a second language with the help of movement, but I also noticed another phenomenon. The class that showed the most positive results on L2 vocabulary acquisition due to the physically-engaging activities was also the most diverse demographically. I noticed a significant improvement in students’ ability to retain L2 vocabulary amongst the students who were of diverse ethnic and cultural backgrounds. Prior to the implementation of movement-based activities, the engagement and participation level of these students was almost non-existent. Teaching without the use of movement, or solely relying on a visual or auditory method for learning L2 vocabulary seemed ineffective.

Unfortunately, a few key events discouraged me from incorporating the little amount of movement left in my curriculum, despite its proven success. One day an angry parent called, advising me not to teach his daughter movements influenced by Eastern religion. Of course, my goal was not to teach or encourage the practice of a religion; I incorporated yoga
into my daily lesson as an impetus for learning, practicing, and retaining Spanish words and phrases.

As I had learned first-hand, using non-traditional techniques in the mainstream educational classroom may be considered “New Agey” (Maxwell, 1999). Maxwell elaborates on Eastern-originated techniques used in the classroom, and notes that it might be considered “too controversial to be introduced into a contemporary educational setting,” (Maxwell, 1999, p.15). The same may be true for yoga, as the movement-based practice can also be linked to Eastern Philosophies. Maxwell (1999) further indicated that even if such innovative programs are successful, they might not be appreciated- as I clearly found out from my student’s angry parent.

Irrespective of the amount of appreciation, the effects of physical activity and movement have been repeatedly proven beneficial for learning in the K-12 classroom setting (Blythe, 2002, 2005; Griss, 1994;). Physical movement not only provides a release of energy that can be beneficial in a learning environment, but according to research and personal experience, it has a plethora of other benefits, such as assisting in learning (Damasio, 1999; Goddard Blythe, 2005), calming students, and helping them retain focus (Blythe, 2002). All of these benefits are much needed in any classroom, particularly in a beginning-level L2 classroom at the middle school level. Above all, the incorporation of movement had a positive effect on Spanish learning outcomes in my classroom and on vocabulary acquisition among all students, specifically the diverse learners.

My goal is to address all learners and to provide a pedagogy that is culturally responsive (Peoples, 2019), which is a way of teaching that addresses the needs of students in
an effective, relevant, and meaningful way with the understanding that students’ learning styles are influenced by their culture. For example, using an approach that relies on students’ innate abilities, and one that they have been utilizing their whole life, their bodies. This can be done by incorporating movement, rhythm, song, dance, drama into curriculum or as behavior management tools, for example.

One way to be culturally responsive is to include movement in my curriculum as one of the tools I can use to teach Spanish. To implement physical movement in my classroom would be to allow students to use a powerful resource innate to them— their embodied selves, which is something that they have been familiar with and using to discover the world since their time in utero.

However, it was clear that if I wanted to maintain the use of movement in my classroom, I would need to find creative ways of doing so. This ultimately motivated my interest to study the use of movement further. In doing so, I found that gestures could be the most appropriate and applicable type of movement utilized with ease in a beginning-level middle-school L2 classroom setting.

Indeed, utilizing gestures in an L2 classroom to learn vocabulary would be an ideal type of physical movement to use. Gestures are a type of non-verbal physical movement that is intrinsic to human communication (Tomasello, 2008). In addition to their usefulness in communication, gestures have been proven to facilitate learning and convey meaning in an L2 class (Eskildsen & Wagner, 2015).

In terms of type of gesture, student-generated gestures seem to be a very appropriate and accessible type of movement to use in an eighth-grade beginning-level L2 classroom.
They are beneficial because when students invent their own gestures, they are able to use creative processes. Plus student-generated gestures are self-guided movements that stem from the learner’s associations and interpretations. When students use their own gestures to convey meaning, it happens in a very natural way and becomes a very personal experience. When a learner connects to their learning in an embodied and personal way, they learn more (Schmidt et. al., 2019; Eskildsen & Wagner, 2015; Mavilidi et al., 2015; Freiler, 2008; Blythe 2005; Hannaford, 1995; Angelova & Lekova, 1995; Griss, 1994; Asher, 1993).

While conducting preliminary readings of previous research, a study by Clark (2016), stood out to me as best addressing the use of student-generated gestures. It also used teacher-generated gestures in a way that enhanced the process of students using and creating their own gestures. Due to its similarity in methodologies that aligned with my interest, I decided I would conduct an approximate replication of the study by Clark (2016). Therefore, my goal is to explore ways that both student and teacher-generated gestures affect Spanish language acquisition, and particularly the impact that they have on middle school learners’ ability to retain Spanish vocabulary.

**Stakeholders**

Results of this study could potentially impact everyone involved in language acquisition. Of course those most directly impacted by this study will be the students and teachers. If I see that there is a positive correlation between gestures and either Spanish acquisition or student perception and engagement, I will include the gesture curriculum into Spanish class in future classes. Similarly, the study may also benefit other instructors and their pedagogical practices, as it could potentially influence the way they teach their
respective subjects. If gestures prove to be beneficial and play a crucial role in the acquisition of language, this study could influence teachers’ pedagogical practices and the curriculum of other content areas. Teachers may want to implement a curriculum that utilizes gestures or other movement-based activities if they are convinced of the educational benefits. This would engender a more well-rounded curriculum and provide an environment that caters to the needs of all students, and is more culturally responsive.

This study could also indirectly affect families, administrators, policy makers, and the like. Families would potentially be affected by the results of the research. As stated previously, I’ve had a confrontation with a parent regarding the use of movement due to the fact that they did not realize the potential impact that movement has on learning. Therefore, I would use the data to advocate for the inclusion of multimodal approaches to learning, especially with families, in order to educate them about the potential that physical movement and gestures have that enhance learning. Families may then come to see the positive role that movement has on learning, and hopefully will support its use in the classroom and at home.

Lastly, administrators and policy makers could be inspired to acknowledge and even implement physical engagement into education if they, too, see the benefits that gestures have on learning. Although they could benefit tremendously, it has historically been known for policy makers to make the least change. However, I am optimistic and hope that enough people are positively influenced by this study that policy makers act upon the information and findings of this study.
Summary

In this chapter, I proposed a study inspired by my own experiences and passion and Clark’s (2016) study. In Chapter Two I will provide a review of the literature conducted on multimodality. I will then debrief studies on embodiment and its role on learning in general and specific to that of second-language-acquisition. I will then report on studies conducted on gestures, a form of embodiment, in an L2 classroom setting.

In Chapter Three, I will describe my action research and indicate the process that I will take in order to conduct the study including the rationale, the setting, participants, methodology: replicating the previous study performed by Clark and Trofimovich (2016); and ethical considerations. In Chapter Four I will provide the results of my research, and in Chapter Five I will present concluding feedback regarding the results.
CHAPTER TWO

Literature Review

Introduction

Chapter One explained how my personal and professional journey has led me to become interested in utilizing gestures as a means of providing a culturally responsive L2 teaching tool. I also included the rationale and the context for selecting an approximate replication study based on Clark (2016). I provided the significance of my study to various stakeholders, which include students, families, colleagues, and policy makers. Finally, I outlined this capstone paper.

Chapter Two will summarize relevant research pertaining to embodiment and multimodality, and their classroom implications. I will also report on studies conducted on gestures, a form of embodiment, in an L2 classroom setting. I will specifically provide a composite of research that has been conducted on the use of gestures as a tool for assisting in the process of L2 acquisition with an implicit goal of providing a culturally responsive learning experience.

As second language educator, I hope to effectively teach and reach as many students as possible through the use of culturally relevant methods. Utilizing embodied practices in the classroom is one effective way of teaching that reaches many students of diverse learning styles. Incorporating gestures in an L2 classroom is one multimodal and effective way to reach many students of diverse learning abilities. In an attempt to address this, I pose the question: In What Ways Do Language Lessons That Incorporate Student-And
Teacher-generated Gestures Support Language Learning in an 8th Grade Beginning-level Spanish Classroom?

**Cultural Responsiveness**

In the state of Minnesota, a limited number of teachers reflect the ethnic background of their students. While 20 percent of Minnesotans are people of color, only five percent of teachers are people of color (Magan, 2016). This fact alone does not pose a problem. However, the fact that learning and teaching styles are influenced by culture typically means that when teachers do not represent the demographic of students whom they are teaching, they also often do not match student learning styles. Therefore, there is a potential risk of teaching and learning style mismatch. Not only that, but the current educational system favors rational thought versus embodied knowledge (Dei, 2000; Shahjahan, 2014a) which in turn can benefit some students (Wagner & Shahjahan, 2015) while oppressing others.

It can be detrimental to student learning if their learning style does not fit that of the teacher’s teaching style (Leopold, 2012). For example, if a teacher uses one mode of teaching, for example, by using visual representations to teach vocabulary, they are only reaching students who learn visually. They are potentially missing out on reaching students that have other learning styles. By incorporating kinesthetic modes of teaching into the lesson, for example, they would reach both students who learn visually, as well as those who learn kinesthetically.

Leopold relates mismatches in teaching-to-learner styles with poor academic performance (2012). However, when there is a match between learner and teacher styles, the rates of students’ achievement tend to increase. For example, when material is presented,
students of non-Western cultural backgrounds tend to gravitate towards a more kinesthetic approach to learning. Studies have found that English language learners in the U.S., particularly those of Arabic, Spanish, Chinese, Korean, Malay, and Thai backgrounds, had strong preferences to learn kinesthetically (Leopold, 2012). With the growing numbers of students reflecting increasingly diverse cultural backgrounds, it is important to understand and address their needs as learners. This, in turn means creating and establishing a culturally responsive pedagogy. In order to establish a culturally-responsive pedagogy, a teacher must first be aware of their own teaching practices.

Critical assessment of one’s pedagogy is especially necessary in an L2 classroom, where the material tends to be new, especially to mono-lingual students. It is most appropriate to address any potentiality of creating an oppressive environment by establishing a culture of inclusivity. This begins with the review of pedagogy and ensuring that all students have an opportunity to learn and utilize their skills. Countering monomodal tendencies, such as only teaching to one learning style, entails incorporating various teaching styles into pedagogy, or to teach using multiple modes. One mode is not adequate because it tends to favor those who learn by that single mode.

Multimodality

In response to discrepancies in educational pedagogy that only address a single type of learning style, such as audio-visual methods, many teachers and researchers have noted the importance of incorporating multiple modes of teaching (Eskildsen & Wagner, 2015; Wagner & Shahjahan, 2015; Katz, 2013). Utilizing various techniques is important in a classroom setting because each individual learns their own way, as Gardner addresses in his
multiple intelligence theory (2011). It is up to the educator to teach students in various ways that address their different learning styles and needs. To create an environment where multiple teaching methods are present, or multimodal opportunities for learning, educators need to incorporate methods of various teaching theories and combine them in their curriculum. Researchers and educators alike state that it is important that there be various methods of instruction in order for learning to take place (Richards & Rodgers, 2014; Griss, 1994; Maxwell, 1999). Samimy points out that it is important to include both the traditional method and innovative methods of learning (Samimy, 1989). A multimodal pedagogy incorporates multiple teaching methods in order to address diverse students with diverse learning styles. Multimodality is one way of being culturally responsive as it addresses the many needs of a diverse student population. As has been well established, learning style is largely influenced by culture (Maxwell, 1999). Multimodal teaching practices address the needs of students who have various learning styles. This is especially important as the demographics of students continue to change.

In one study, an instructional technique that combines a traditional and innovative arts-based approach proved to show positive results. In his study, Maxwell used drama, a form of movement, in addition to repetition, to teach a second language (1999). Maxwell (1999) states that repetition is not useless when it comes to second language learning, as advocates of the Natural Approach have argued. Instead, Maxwell claims that there is an aspect of repetition that is, in fact, necessary and beneficial for language learning. One can become fluent in another language through constant practice of its vocabulary and structures; however, it must be accompanied by other modes of teaching (Maxwell, 1999).
A perfect way to provide this repetition in a way that engages student learning is by having students enact situations in a drama or play (Maxwell, 1999). Plays are an excellent way to provide repetition along with an emotional connection. “Rehearsing a play requires constant repetition” (Maxwell, 1999, p. 11). Drama elicits an emotional response from the participants; students identify with characters in plays and develop empathy for the characters. Plays can also cause excitement and wonder (Maxwell, 1999). This emotional response is crucial for second-language-acquisition learners to make connections to the language, facilitate deeper understanding, and therefore the acquisition of the language. Yet, emotions and feelings are in fact associated with the body, and not so much with the mind. This points towards the use of the body and movement in the classroom—for as Damasio (1994) states, without emotions and feelings we would not be able to reason effectively.

Teaching using innovative methods can be seen as teaching in a multimodal way. A great example of this can be found in an unconventional collaboration that took place in California. In an effort to accommodate the growing number of English Language Learners (ELL), teachers and performing artists living in San Diego teamed up to create a teaching method that utilizes a performing arts-based approach to learning. This approach addresses more students in their natural way of learning (Greenfader & Brouillette, 2013). From this collaboration they created the Teaching Artist Project (TAP), which included drama, theater, creative movement, and dance integrated with literacy lessons that addresses English Language Development (ELD) standards.

In order to determine TAP’s effectiveness as a program that increases literacy skills among ELL, a mixed-methods study, consisting of standardized tests, interviews, and focus
groups, was conducted (Greenfader & Brouillette, 2013). In addition, five school-level focus
groups were carried out in 2010-2011. Participants of the study included kindergarten and
first grade ELL from two different schools. In one school, 77.8% of the students were ELL,
96% of which were enrolled in free or reduced lunch program. In the second school, 27% of
students were ELL and 72% were eligible for free or reduced lunch. Participants were tested
on speaking and listening scores on the 2010-2011 California English Language
Development Test (CELDT), a test designed to assess English proficiency.

It was discovered that in both schools TAP had a significantly positive impact on the
oral language skills of ELL, especially those at the kindergarten level (Greenfader &
Brouillette, 2013). Results showed significant benefits for kindergarten ELL and marginally
significant benefits for first graders. The two different types of schools with varying
demographics indicates the program’s success (despite the type of school). From this study it
can be concluded that multimodal teaching can boost the oral language skills of young ELL;
and creative arts activities, in combination with appropriate teacher support and education,
can provide valuable opportunities for ELL to develop foundational literacy skills.

Similarly, the effectiveness of drama-based pedagogy was examined in another study.
The study consisted of 24 adolescent ELL learners who participated in a four-month
drama-based English language program in order for researchers Galante and Thomsom
(2017) to determine the results of the following questions: Do learners in a drama-based ELL
program experience greater gains in oral fluency compared to learners in a traditional
classroom ELL program that does not use drama?
The study evaluated results of instruction on two groups: one that was given a drama-based lesson and one that was not. The group that was given drama-based lessons received drama-based activities in addition to traditional classes and also participated in a small performance that took place in class. The traditional classroom participants were given the same lessons without the drama-based lessons. The oral fluency was measured by speech tasks that were conducted in a series of pre-tests and post-tests. Each pre- and post-test was measured and a mean rating was determined in order to assess students’ abilities. Participants were also given a short questionnaire at the beginning of the study to determine participants’ base level of fluency.

Results determined that students who were given the drama-based activities performed higher on their oral fluency scores than those that were taught without drama-based instruction. Implications are that second language learners can benefit from lessons that include drama, which is one example of a multimodal form of teaching and learning. Drama tends to involve a physical component, in that when performer takes on a role, they embody the emotions of the character they are portraying. This component of embodiment in a classroom to facilitate learning can be conducive to being a culturally relevant practice, as students of diverse backgrounds learn in diverse ways. The following study exemplifies a report on students’ backgrounds and their preferred learning styles.

It is important to know the learning-style needs of students and provide a variety of styles in lessons as a way to address students’ different learning styles (Goodson, 1994). In 1994, Goodson used a survey to determine the preferred learning style of 227 ELL residing in the U.S. The students were of Chinese, Korean, Taiwanese, and Japanese descent. The
students of Chinese, Korean, and Taiwanese descent preferred to learn visually, auditorially, and kinesthetically. The group of Japanese students preferred to learn kinesthetically. If this is the case for ELL students, one might assume that this could also prove to be true for L2 students learning Spanish, for example. The implementation of movement in combination with another learning style in a second-language classroom would be more culturally responsive than teaching to a single learning style, as using multiple modes of teaching apply to more learners.

**Embodiment**

As a way to create a culturally relevant pedagogy, an educator can utilize strategies that foster embodied ways of knowing (Wagner & Shahjahar, 2015). Pedagogical practices need to be “attentive to our bodies and its experiences as a way of knowing” (Freiler, 2008, p. 40) in order to be culturally responsive and address the needs of all learners.

The notion of the body playing a key role in cognitive functioning is becoming more and more understood; however, this fact has not always been accepted. The concept of the body being a mere tool and vehicle of the mind, powerless in the process of cognition (Juelskjaer, Moser, & Schilhab, 2008) has been a common misconception, which started years ago. Descartes, a key philosopher of the classical era, wrote “I think, therefore I am,” (p. 45, 2009), spawning a deeply held Western notion of the mind and body being two separate entities. The dualistic approach to the mind-body connection lasted centuries, but would later be criticized by researchers and philosophers alike as inaccurate.

Fortunately, there has been an alternative approach to understanding the processes involved in cognition (Thelen, 2001). Recent findings have revealed a strong connection
between the body and mind regarding cognition (Thelen, 2001) and functions that apply to learning (Damasio, 1999; Goddard Blythe, 2005). Due to studies and findings in fields such as neuroscience, psychology, and linguistics, a correlation has been drawn between the body and cognition, and therefore learning. In other words, physical activity is linked to cognitive development and functioning (Griss, 1994). We can now see the role of the body as a “locus of learning” (Wagner & Shahjahar, 2015, p. 245). Griss (1994) states that interpreting a concept through physical means helps people, specifically children, grasp, internalize, and maintain information. This philosophy of embodied cognition is a promising alternative approach to the traditional theories of cognition.

Embodiment draws on the fact that we are social beings that interact in our society (Thompson, 2008), and it is through our bodily experiences that we are able to perceive the world around us and to be able to internalize abstract thoughts, for example. “To say that cognition is embodied means that it arises from bodily interactions with the world,” (Theler, 2001, p. 1). The way that we think, construct ideas, or conceptualize the world is influenced by society. We would not have our lived experiences without being in our bodies (Theler, 2001). To understand something is to have an experience through the bodily senses, out of which the mind forms concepts, thoughts, and language. To say that someone “grasps something” is a way to convey that a person understands a concept. It is through this personal experience that one can internalize, grasp, and therefore learn information. Michael Polanyi correlates learning movement to “personal knowing,” (as cited in Sevdalis & Keller, 2011).

Jensen (2000a) confirms the correlation between physical activity and its direct enhancement of the learning process. Hannaford (1995), a proponent of Brain Gym, a
popular movement-based classroom instructional tool, concurs and states that physical
movement plays an important role in the creation of nerve cell networks, “the essence of
learning” (p. xx). This process happens not only during infancy but throughout a person’s
life (Hannaford, 1995).

The misconception of the dualistic nature of the mind and body has had long-lasting
repercussions enduring centuries. The education system still seems to be guided by the
dualistic argument that mind and body are separate entities. This is evidenced by the lack of
support or funding for the arts, music, and movement-based education and other methods that
facilitate types of kinesthetic learning. Despite the need for movement to provide a
multimodal and culturally responsive classroom, there seems to exist a fear of connection
with our bodies and using movement and physical activity in core curriculum courses
(Jensen, 2000a).

Many researchers (e.g., Schmidt et. al., 2019; Eskildsen & Wagner, 2015; Mavilidi et
al., 2015; Blythe 2005; Hannaford, 1995; Angelova & Lekova, 1995; Griss, 1994; Asher,
1993) understand movement to be a resource in the classroom and have conducted studies to
prove its positive effects on learning. For example, Blythe (2005) created developmental
exercises to determine if neurological dysfunction played a significant role in students’
academic achievement. The goal of the study was to increase cognitive functioning among
learners who showed developmental delays through the use of these exercises. Based on
several previous studies (Goddard 1996, 2002; Goddard Blythe, 2009), she selected
particular reflexes that have the most significant influence on physiological development.
These reflexes influence crucial abilities that have a direct effect on learning and can cause
learning difficulties if not developed properly (Goddard Blythe, 2005). In order to feasibly conduct the study in classrooms, Goddard Blythe (2005) chose three key reflexes for teachers to focus on when evaluating students’ abilities. The three reflexes were the asymmetrical tonic neck reflex (ATNR), which plays a role in hand-eye coordination and hand control when writing; the symmetrical tonic neck reflex (STNR), which can influence posture when sitting, while its delay can produce difficulty sitting still and keeping attention; and the tonic labyrinthine reflex (TLR), which can affect balance, coordination, perceptual stability, and eye movement control (Goddard Blythe, 2005). The study consisted of a total of 810 children aged four to eight years old. Goddard Blythe (2005) led in the implementation of the program, which utilized the key reflexes in daily exercises, and found that the program positively affected students’ neurological dysfunction, and that neurological dysfunction was linked to educational performance. Although the progress was small amongst those who initially had scores of more than 25% for neurological dysfunction and low reading scores, those who participated in the program showed significantly greater progress than those who did not participate.

Movement & SLA. Many researchers have sought to find a correlation that movement has on learning a second language, specifically. Angelova and Lekova (1995) found that second language skills and knowledge increased among 4- to 6-year-olds when playing motoric games. Among the 183 children participants, games that involved movement helped the children remember words and phrases and helped them produce language independently.
In a 2015 study, Eskildsen and Wagner studied the interrelationship between embodied actions and L2 vocabulary learning. The study took place in an EL classroom and in particular studied a learner named Carlos and his learning process with two prepositions, *under* and *across from*. The researchers looked at the participant’s use of the words in addition to his embodied actions relating to the two vocabulary words over the course of a total of three years. In summary, Carlos used the same or similar embodied actions that were provided for him when he learned the words and they helped convey the meaning of the target vocabulary words, *under* and *across from*. While learning the words, Carlos repeated the L2 vocabulary words and mimicked the teacher’s use of gesture relating to each word. While participating in a group activity, he used gestures to convey the meaning of the newly acquired words, while not necessarily producing them verbally. In one instance, he used the L1 translation of the word while providing the gesture to convey its meaning. With the help of classmates, the teacher, and repetition, he eventually produced the words with the gestures.

Within two and a half months, Carlos would spontaneously verbalize the vocabulary words in a group discussion with the help of embodied actions. At a later date, he assisted a classmate after the teacher commanded him to put his glasses under the table. When that classmate had trouble, Carlos directed his classmate then to put his "glasses under the table" while making the same sweeping motion the teacher originally taught for the word *under*. With time, Carlos would be able to use each word spontaneously. He eventually stopped using the gesture completely when verbalizing *under* and used a different gesture than the one given for when saying *across from* in a spontaneous conversation. Results confirm that
the act of understanding is a highly embodied activity, and that there is a strong correlation
between L2 vocabulary learning and gestures.

Implications of embodied actions having a facilitative role in the learning process and
a direct connection to cognitive processes are discussed. The body has a direct relationship
with socially organized processes of learning and understanding, challenging the outdated
misconception of the mind, or cognition and understanding, being solely located in the brain.
The mind and body are inseparable (Eskildsen & Wagner, 2015).

In a study conducted in 2019, authors investigated the effects of physical activity on
elementary students’ L2 vocabulary acquisition. Schmidt, Benzing, Wallman-Jones,
Mavilidi, Lubans, & Paas tested the memory performance of 104 children aged 8- to 10-years
old using a cued recall test. The study consisted of three groups. In one, students were
given an embodied learning condition, which consisted of task-relevant physical activities.
The second group was given a physical activity condition where students were taught with
physical activities that were irrelevant to the L2 vocabulary words to be learned. In the third
controlled condition, the students received a sedentary teaching style. The goal for all groups
was to learn 20 exotic animal names in French. The learning program and study took place
in four lessons that took place over the course of two weeks. The results determined that
both the embodied learning and physical activity conditions proved to be more effective in
teaching children new words than the controlled condition. Implications indicate that
movement in general is more conducive to L2 vocabulary learning than when students learn
in a seated position.
In another recent study, Mavilidi, Okely, Chandler, Cliff, and Paas (2015) observed preschool students and the effect that movement had on their ability to learn a second language. They hoped to build upon previous research by Macedonia and Klimesch (2014) and Tellier (2008) suggesting that integrating movement in the classroom would produce a positive effect on L2 learning due to its cognitive and physical benefits. Mavilidi et al.’s (2015) study consisted of four groups, all of which were tested on their ability to retain action vocabulary taught in different ways. In one group, participants were given integrated physical exercises where they would be given actions to be done with physical movements that were relevant to the learning task. Another group was given physical exercise tasks that were unrelated to the learning objective. The third group gestured the action vocabulary words while remaining in a seated position. The control group repeated words aloud while seated. As a result of the study, the researchers found that the students who were given the integrated physical exercise achieved the highest learning outcomes. This study determined that when used in meaningful ways, physical movement produces positive results on second-language learning.

*Total Physical Response.* Perhaps the most widely used and implemented gesture-based second-language acquisition theories and practices is Total Physical Response, or TPR. TPR is a method that integrates gesture-based movements with L2 vocabulary learning. TPR was developed in the 1970s by James. J. Asher, a psychologist who observed and studied the sequences involved in natural language learning (Asher, 1993; Sutherland, 1978). In response to addressing the limitations of rote-memorization, a technique that had
been widely used in L2 classrooms across the nation, TRP was invented as an attempt to improve second-language teaching techniques.

One example of the effectiveness of TPR in a Spanish language classroom is a study conducted by Redfield (1986). In his article Redfield reports on the effects of a curriculum on his beginning level Spanish class of college freshmen. The curriculum was guided by a book entitled *Aprendimiento con Movimientos*, which provided guidelines on how to apply TPR techniques in an early learning classroom; however, Redfield adapted the lessons to meet the needs of college freshmen where he taught Spanish as a second language class. The study involved 21 instructional hours.

To test the effectiveness of the TPR method on learners’ acquisition, he compared students’ ability to carry out mandated actions of 20 commands in a test. Three students were selected from a class where he did not use TPR as an instructional tool, and three students from the class in which he used TPR. Each student was tested on the acquisition of mandated commands and instructed to interact with the commands by carrying out the mandated actions. As a result, the non-TPR students obtained a 3, 4, and 4 on the test; the TPR students received scores of 19, 20, and 20 on the test. Redfield commented on the positive effect the TPR instruction had on student's overall achievement.

This study can be replicated and the same results are more than likely to be found, as the author details, among other students who meet the same demographics as the students in this study—college-age foreign language majors who study at a fairly selective school in a non-intensive language course. Redfield mention that the positive results are likely among students who meet the same demographic as those in this study. This leads one to question
the cultural relevance of this pedagogy. Redfield was not the only teacher-researcher that has
scrutinized the TPR approach, as it does not meet the needs of all students and is a
teacher-centered approach to L2 learning.

Al Harrais (2014) questions the effectiveness of TPR as an L2 learning tool. He
states that using the program for too long has proven to cause students to be stuck in the
action without attempting to speak. In an immersion school in Oman, students performed
gestures based on commands such as ‘circle’, ‘sing’, or ‘match’, yet when they were
requested to verbally respond they could not. They were only trained to respond to
commands via gestures, and could not necessarily produce the language themselves.

TPR has its benefits but does not fully address the needs of all learners in a culturally
responsive way. As mentioned, despite its benefits, there are discrepancies of the TPR
program. The fact that TPR is a teacher-led pedagogy would lead one to question if it is the
most appropriate for all learners as it is not student-led. In TPR students only physically act
out the teacher’s commands in the target language. To be fully effective it would seem
beneficial to have students generate their own gestures. The implementation of TPR in L2
teaching pedagogy should be limited and combined with other teaching methods, as Asher
himself described (as cited in Richards & Rodgers, 2014).

The time has come for a technique using movement multimodally and also in a way
that does not just fit the needs of the teacher, but focuses primarily on the needs of the
learner. Utilizing gestures in combination with target vocabulary words, for example, would
be beneficial for a multitude of learners, as this teaching and learning strategy would create a
multimodal environment. According to this research it has been repeatedly shown that the
use of movements proves to be effective in the classroom for learning; but to specifically target L2 learning, it is beneficial to use physical movement in a very directed way.

**Gestures.** Gestures are an integral part of communication (Tomasello, 2008) that can be used to complement speech or even convey messages without the use of words at all. The utilization of gestures while learning and verbally practicing L2 vocabulary allows students to learn multimodally, helping to create a culturally responsive L2 learning environment. It allows learners to utilize something that they have been familiar with and learning how to use since in utero— their bodies, while speaking and communicating. It is also the most applicable form of movement, as gestures are an outward physical form of expression (Mavilidi et al., 2015). Not only that, gesture is intrinsic to all human communication, and can act as an aid in an L2 classroom.

Gestures have proven to be an extremely useful and efficient tool in the L2 learning environment. Utilizing embodiment, specifically gestures, in an L2 learning allows us to learn naturally (Macedonia, 2013, p.110). Among many benefits, they have helped with vocabulary acquisition (Clark & Trofimovich, 2016), using expressions (Angelova & Lekova, 1995), conveying meaning (Eskildsen & Wagner, 2015), and practicing communication (Eskildsen & Wagner, 2015) in the L2 amongst various levels of learners. The use of gestures combined with verbalizing L2 vocabulary provides the multimodal pedagogy addressing multiple learning styles. This in turn provides an opportunity for all students to be able to learn respecting their differences.

Gestures demonstrate the strong connection between the body and the ability to communicate as supported by Ulbricht (2018) “gestures can support comprehension, memory
and recall," (p. 311). In a neuroscience study, brain electrical impulses were measured while subjects were given words. Researchers could see a direct connection to words like doorknob, which stimulated the same neurons in the brain as would the movement of a hand gripping. Words are only a small aspect of communication, while movement represents true expression of one’s knowledge. Embodiment theory would explain cognition as an interaction with the world and the body as the vessel for connecting to it.

Various studies exemplify the beneficial results of the use of gestures in L2 classrooms. Since gestures are an integral and universal part of human communication, and research suggests that gestures enhance comprehension (Kelly, Özyürek, Maris, 2010) and leave a strong impact on memorization (Tellier, 2010), utilizing them to facilitate L2 vocabulary acquisition would seem most appropriate.

In the following studies, gestures were used in combination with verbal practice of the target vocabulary and therefore represent a multimodal way of learning. In a study conducted in 2010, Tellier studied 20 English-language French-speaking students, whose mean age was five, to demonstrate the effect that gestures have on the ability to memorize English vocabulary words. A control group consisting of ten students was taught vocabulary words with pictures and were not given gestures at any time during the study. The experimental group which also consisted of ten students was taught the vocabulary words with gestures that they reproduced while repeating the new vocabulary. Results confirmed the main hypothesis, indicating that gestures, especially when reproduced, significantly increases students’ ability to memorize second language vocabulary (Tellier, 2010).
In 2016, Clark and Trofimovich led a classroom-based research study to determine if both student- and teacher-generated gestures were effective for learning vocabulary in a French as a second language classroom. The French class consisted of 21 adult students who were immigrants of Montreal, Quebec, and their ages ranged from 18-52. The study took place for six weeks and included three 3-hour classes per week.

The teacher designed four gesture-based themed activities which were used the first four weeks of the six-week action-based study. A pretest was administered to determine students’ prior knowledge in order to obtain a true sense of the students’ language learning. The first and third lessons were teacher-led, and the second and fourth lessons were comprised of student-led gesture activities. The teacher used the first lesson to introduce the concept of using gestures to teach vocabulary, as this type of learner-centered movement activity was such a new concept for the students. For the same reason, included in the lesson was a brief explanation of the techniques and its potential benefits, which most likely influenced student’s attitude towards performing gestures in the classroom. This process fit with the action research model, as the goal was to enlighten students of the learning process (Clark & Trofimovich, 2016).

In order to review vocabulary words learned in previous weeks, lessons included presentations, role-plays, interactive games and weekly quizzes. Students’ vocabulary word acquisition was evaluated by four weekly quizzes, all taking place a week after the lesson, and a final vocabulary test. Two questionnaires were administered to address the students’ experiences performing the gesture-based activities, their perceived learning, their preference for teacher-versus student-generated gestures, and their enjoyment levels regarding the use of
gestures in L2 learning. They also participated in a discussion guided by open-ended questions in audio-recorded discussions to share their experience and perception of the effect that gesture had on their learning. Questionnaires and discussions were led in the students’ native languages, which added valuable information to the data that a test alone would not be able to capture. The teacher’s journal was also used to record the process and findings.

Based on the teacher’s and students’ responses, the students required more prompting in the first lesson, but were more comfortable with the process as the weeks progressed. The teacher reported that when encouraged with a playful environment, students were more likely to use gestures. This was also reflected in the students’ responses. Students’ responses generally indicated that their learning experience was very positive, and overall, they claimed that their enjoyment helped them learn.

Based on the results of the qualitative and quantitative data collected in the study by Clark and Trofimovich (2016), it can be concluded that gestures facilitate L2 learning. In all four lessons students learned a multitude of vocabulary words and there was not a clear difference between student-led gestures vs. teacher-led gestures in regards to second-language learning in this context.

Another study that took place in an English-language classroom was conducted in two schools in Germany as part of a seven-week joint theater project (Ulbricht, 2018). The participants consisted of 54 primary-aged students who were in a sixth-grade class and refugee class. The study consisted of two experimental groups that were given two different movement-based teaching methodologies. Both groups were tested in a pre-test and post-test to measure the English-language learners’ ability to learn and memorize lines of a play. The
two methods included codified gestures, which were given to participants at one school, and scenic learning, given to the students of the other school. Both groups of participants learned the text of a simple play and they were both given English instruction for the duration of a week.

In the experimental group, participants were given codified gestures that were assigned to every morpheme and were not given any written text. Instead, they enacted the gestures that were provided to them by their teacher and repeated the words once they could understand their meaning. In the scenic learning group, students were given a gesture for important sentences of a play with access to written text. The scenic learning group learned by hearing and reading the gestures. After becoming familiar with the text, the students acted out scenes of the play using gestures that accompanied their sentences.

A pre-test was conducted before the first week so that students were only compared with their own speaking levels before and after the test. The pre-test consisted of a fluency test to determine the student’s ability to describe pictures. This type of test was chosen in order to accommodate various speaking abilities and to be non-threatening in nature. The post-test was given during the fourth week and the delayed post-test was given during the seventh week.

Results indicated that students who had a lower speech ability in the initial test benefited the most from learning with gestures when they learned words with complex meanings. Students who started the experiment with higher speech rates benefited more from gestures that were provided with sentences. Ulricht (2018) suggests that teachers looking for an effective teaching method that improves second language fluency can benefit
from using gestures. The findings of this study can act as a beneficial tool to determine the type of gestures to use based on a student’s speech ability in their second language.

Gestures not only have a temporary effect on L2 learning, but it has been found that they can have a long-term effect on the memorization of L2 vocabulary. In 2014, researchers Macedonia and Klimesh performed a study to determine the long-term effect that gestures have on students’ L2 word memorization compared to the effect learning audio-visually. The longitudinal study took place over the course of 14 months. Participants included 29 German-speaking college students. The researchers developed and used an artificial language to conduct their research in order to demolish any possibility of word recognition, as many words in other languages can have many similarities to student’s native language.

The researchers compared two groups: the treatment group was given gestures while learning foreign words and a control group received an audio-visual encoding treatment. The results prove that compared to simply listening and reading words, performing a gesture, or enacting a movement does have a superior effect on memorization of foreign language words. Implications indicate that foreign language classes should include the use of gestures to increase the likelihood that students retain vocabulary. As demonstrated by this study, their use has a positive effect on memorization of foreign language vocabulary.

Summary

Utilizing movement, specifically student-generated movement, in the classroom is crucial because knowledge is embodied (Snowber, 2012). Since L2 teaching that does use movement generally caters to audio-visual and logical learners, utilizing gestures would be reaching many students who may not learn in the former ways. Teaching with gestures
would target kinesthetic learners, especially when students get to create their own movement. Targeting kinesthetic learners would "pick up the slack" and address a whole other realm of students who may not learn by communicative language teaching that doesn't use movement.

Utilizing gestures, a form of embodiment, is a culturally responsive way of teaching L2 vocabulary acquisition. There is not a specific study pertaining to the effect that student- and teacher-generated gestures have on L2 vocabulary acquisition amongst eighth-grade students. Therefore I pose the question: In what ways do language lessons that incorporate student- and teacher-generated gestures support L2 vocabulary learning in an eighth grade beginning level Spanish classroom?

In Chapter Three, I will describe my action research and indicate the process that I will take in order to conduct the study, including the rationale, the setting, participants, methodology: replicating the previous study performed by Clark and Trofimovich (2016); and ethical considerations. In Chapter Four I will provide the results of my research, and in Chapter Five I will make concluding feedback regarding the results.
CHAPTER THREE

Methodology

Introduction

Chapter two summarized previous research conducted on second language acquisition, various types of movement and its effects on L2 acquisition. This review has indicated the need for a targeted study that investigates the relationship between gesture and language acquisition further. Due to the similarities and direct application to my research question, I will be replicating the study conducted by Clark and Trofimovich (2016).

My research question asks: In what ways do language lessons that incorporate student- and teacher-generated gestures support L2 vocabulary learning in an eighth-grade beginning level Spanish classroom? In an attempt to answer this research question, I will conduct an action research study in an eighth-grade public school setting. This chapter details the rationale, the setting, participants, methodology: replicating the previous study performed by Clark and Trofimovich (2016); and ethical considerations.

Methodology

I will perform a six-week action research study in order to explore the use of student- and teacher-generated gestures on the acquisition of Spanish vocabulary words in a Spanish classroom. This study seeks to answer the following research questions adapted from Clark (2016):

1. What are the most important considerations to prepare for when designing gesture-based vocabulary lessons?
2. What differences are there between student- and teacher-generated gestures in
3. How do students perceive gesture-based vocabulary activities?

Both performance observations and introspective methods will be employed in order to be able to answer the research questions. The two methods are often inherent in action research, and according to Mackey and Gass (2016), both are important pieces to learning, as introspective methods “can afford researcher access to information unavailable from observational approaches” (Mackey & Gass, 2016, p.277).

Rationale

The purpose of this study is to gain insight into the use of student- and teacher-generated gestures and their effects on Spanish vocabulary acquisition. Teacher-generated gestures are gestures that are created and demonstrated with the target words by the teacher. Student-generated gestures are ones that are created by the student. The idea of the use of student-generated gestures is to get students physically engaged in their learning, memorization and acquisition process.

Both student- and teacher-generated gestures are important elements that belong in an L2 eighth-grade classroom. Student-generated gestures are self-guided movement that stems from the learner’s associations, and their interpretations. When students enact their own gestures to convey meaning in their own way, it becomes a very personal experience. Then the movement becomes meaningful and the individual connects to their own embodied experience. Research shows that when a learner connects to their learning in an embodied and personal way, they learn more (Schmidt et. al., 2019; Eskildsen & Wagner, 2015; Mavilidi et al., 2015; Freiler, 2008; Blythe 2005; Hannaford, 1995; Angelova & Lekova,
1995; Griss, 1994; Asher, 1993). Since gestures are not something that they are used to performing in class, a warm-up lesson that uses teacher-generated gestures seems most appropriate to familiarize them with using gestures in the classroom. It is important that students see the teacher using gestures to convey the appropriateness and acceptance of this embodied instructional tool. Students need to know and trust that it is okay to move, as student-generated movement is not something that generally occurs in a traditional educational setting. It is best to introduce the students to the concept of using gestures to learn L2 vocabulary by having the teacher introduce them (Clark, 2016; Clark & Trofimovich, 2016).

Researchers Clark and Trofimovich (2016) studied the use of student- and teacher-generated gestures and their effects on vocabulary learning in their L2 classroom. As indicated by Mackey (2012), the replication of studies is utilized by the sciences, and should be used more in L2 research; however, it is not entirely possible, as no two studies are likely to be exact replications, as the variables will most-likely change. For example, no two studies will have the same students, language being taught, etc. Therefore, this study will be a conceptual / approximate replication, as it is impossible to produce an exact replication that would involve the same variables such as the same participants, same language and curriculum, for example. This study, however, will replicate the questions asked by Clark and Trofimovich in their 2016 study, “L2 Vocabulary Teaching with Student- and Teacher-Generated Gestures: A Classroom Perspective.” The use of the teacher-generated and student-generated gestures will be measured in this study in a similar way to how they were measured, analyzed, and demonstrated in their study.
Macedonia and Klimesh (2014) have noted the effectiveness of having students invent their own gestures. Having students create their own gestures adds an element of creativity to their learning. Teacher-researcher Griss (1994) uses creative movement in the classroom and advocates for its use in the classroom due to the beneficial effects that creative movement has on learning. Ideally, it would be best to have students create their own gestures for every lesson; however, since it is such a new concept, I will lead the first and third gesture-based activities to demonstrate the possible ways to use gestures when speaking a new language. This was noted by Clark and Trofimovich (2016) because of the students’ use of gestures in the classroom being such a new concept. Since the gestures are not something that they are used to performing, a warm-up lesson that uses teacher-generated gestures would be required in order to get the students more familiar with the possible techniques and potential of using gestures in vocabulary learning.

Setting

The study will take place in my classroom, where Spanish is one of the school’s required eighth-grade courses. Conducting the study in the classroom will provide an opportunity for students to learn in their natural classroom environment, which is true to the action research model (Mackey & Gass, 2016; Creswell & Creswell, 2018). There is a call for observing learning in a classroom environment versus a lab (Macedonia & Klimesch, 2014). Macedonia and Klimesch, a teacher-researcher pair, used an action research model in order to teach students in a natural learning setting in their 2014 study. Clark and Trofimovich (2016) did as well, as they saw a need to conduct action-research based study on the use of gestures in a communicative classroom of adult L2 students.
My study will take place in a non-immersion eighth-grade Spanish classroom within a K-8 suburban public school. The population of the school is 771 students and the student-to-teacher ratio is 16:1. Of the 771 students, 66% are White or Caucasian, 13% are Asian, 10% are Black or African American; 6% are Hispanic or Latino, and 5% are two or more races. 22% of the students qualify for free or reduced lunch.

**Participants**

The participants will consist of 18 eighth-grade Spanish students. Their ages range from 12 to 14 years old. The students are all non-native Spanish speakers taking a beginning-level 45-minute Spanish course that they will attend 5 days a week for 45 minutes a day. The majority of the students speak English as their native language, and two students’ native language is Somali. Prior to this, students had taken an introductory course with me as their teacher for one trimester the preceding year.

**Lessons**

As previously noted, the study will be conducted for a duration of six weeks. Prior to teaching the vocabulary words, I will give a brief explanation of the importance, and potential benefits of the use of gestures in communication and L2 vocabulary learning. Providing students this explanation is aligned with the action research model, which cites the importance of informing students of pedagogical practices and methodologies, or in other words answering that oh-so-known question, “Why are we doing this?”

On the first day of each lesson, before they are shown or taught any vocabulary words, students will take a pre-quiz on the Spanish vocabulary to determine any words that they knew prior to the lesson. After the pre-quiz I will teach students the target words of the
lesson and require that they write them down. During the teacher-generated gesture lessons, I will also demonstrate the gestures associated with each vocabulary word. As a way to guide students and have them practice using gestures to learn L2 vocabulary words, I will lead the first gesture-based lesson, *cooking*, since the use of gestures will be such a new concept for students. It seems most appropriate to start the study with a teacher-generated gesture lesson to familiarize the students with this new technique; therefore, it is best to introduce the students to the concept of using gestures to learn new L2 vocabulary by having the teacher introduce them (Clark, 2016; Clark & Trofimovich, 2016). During the student-generated gesture lessons, students will be given time to invent their own gestures, as indicated in detail below. One week following the pre-quiz and first day of instruction, I will conduct a post-quiz in order to evaluate the Spanish vocabulary words learned in each lesson.

**Teacher-generated gesture lessons.** During the teacher-generated gesture lessons, I will introduce target vocabulary words by saying the Spanish words multiple times, demonstrating the gestures associated with each vocabulary word, and ask students to repeat the Spanish words and gestures. Then I will provide students a list of vocabulary words either on the screen or as a worksheet and have students write down the vocabulary words. In the *cooking* lesson, I will read from a guacamole recipe and then say the word multiple times; I will provide the gesture when a target vocabulary word arises, and students will repeat the word and the gesture. Students will then write the vocabulary words on a worksheet that contains the images of the cooking actions. They will be able to keep the worksheets they are given to use as a study guide in order to study for the weekly tests. The
final activity will involve creating, rehearsing, and presenting a recipe with a partner using the target vocabulary words and corresponding gestures.

During the introduction of vocabulary for the third lesson, *the move*, I will provide the words and gestures, have students repeat them multiple times, and then students will receive copies of a dialogue between an owner and renter, which have the target vocabulary embedded throughout. The teacher and students will read the dialogue together and, when a target word arises, I will repeat the word with a gesture and I will instruct the students to mimic the words and gestures. Then as an activity, students will circle all of the target vocabulary words in the dialogue. They will write down the list of Spanish and English words in their notebooks. Students will then practice the words with a game of charades. The final activity will involve a skit of a dialogue between an apartment owner and a tenant, and will require students to say the vocabulary words and use the accompanying gestures.

**Student-generated gesture activities.** During the first student-generated gesture lesson, *directions*, students will review the lesson given on the first day, which addresses gestures and communication. The teacher will ask students what are some things that they need to consider when creating a gesture in order to communicate efficiently. Following that, students will be given a picture glossary, located in Appendix C, with a list of directional pictures and Spanish words. Students will then use a Spanish dictionary or translation application tool to translate the Spanish words into English to ensure that they understand the meaning of the words. It will be my goal not to say the English words for this, or any other lesson, though there may be times when I will need to do so in order to clarify the meaning of words.
Once students translate the vocabulary into English, they will work together with a partner to come up with a gesture for each word given for the directions lesson. Then they will be instructed to find a new partner and play a guessing game using flashcards that I will prepare prior to the lesson. The flashcards will be cutouts of each individual picture and word in the picture glossary. Working with partners, students will draw a card and without showing their partner, enact the vocabulary word. If the partner cannot guess a word, the gesturing student will then tell it to their partner, put that flashcard in a pile, and when done with all other words, go back to the pile and have their partner guess again. They will be encouraged to repeat this process until they can correctly say the word.

During the doctor visit lesson, after learning the vocabulary, students will create the gestures for each word. Then I will hand out to partners one of two conversations, conversation A and conversation B, involving a conversation between a patient and their doctor regarding their ailments, which are the vocabulary words for this lesson. With their partner, students will read their conversation embedded with the target vocabulary words. The pairs will then be instructed to find another pair who has the opposite conversation. For example, students who were given conversation A will be working with a pair who has conversation B. Then one of the pairs will read their conversation while enacting the gesture for each vocabulary word that arises. This activity will require the most detail to explain, as no other activity had instructed students to pair up with a pair, or work in groups of four. It will require very specific instructions with a guided release of responsibility where I asked two groups to demonstrate what to do in front of the class.
Data

There will be various methods for data collection, and all of these procedures, including the timeline start and end in relation to the weeks of the study, have been demonstrated in Table A and will be described in detail.

Table A.

Study design, procedures, & timeline

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Timeline Start</th>
<th>Data Collection Method</th>
<th>Timeline End</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What are the most important considerations to prepare for when designing gesture-based vocabulary lessons?</td>
<td>Prior to Week 1</td>
<td>Teacher’s Journal</td>
<td>Week 6</td>
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<td>Week 4</td>
<td>Audio-Recorded Student Feedback Sessions</td>
<td>Week 4</td>
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<td>2. What differences are there between student- and teacher-generated gestures in regards to student L2 performance and assessments?</td>
<td>Week 1</td>
<td>Teacher’s Journal</td>
<td>Week 4</td>
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<td>Observation checklist</td>
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<td></td>
<td>Week 4</td>
<td>Audio-Recorded Student Feedback Sessions</td>
<td>Week 4</td>
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<td>Week 1</td>
<td>Quiz: Cooking</td>
<td>Week 2</td>
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<td>Week 2</td>
<td>Quiz: Directions</td>
<td>Week 3</td>
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<td>Week 3</td>
<td>Quiz: The Move</td>
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<td>Week 4</td>
<td>Quiz: The Doctor Visit</td>
<td>Week 5</td>
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<td></td>
<td>Week 6</td>
<td>Final Vocabulary Test</td>
<td>Week 6</td>
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<tr>
<td>3. How do students perceive gesture-based vocabulary activities?</td>
<td>Week 1</td>
<td>Teacher’s Journal</td>
<td>Week 6</td>
</tr>
<tr>
<td></td>
<td>Week 4</td>
<td>Perception Questionnaire</td>
<td>Week 4</td>
</tr>
<tr>
<td></td>
<td>Week 4</td>
<td>Audio-Recorded Student Feedback Sessions</td>
<td>Week 4</td>
</tr>
</tbody>
</table>
**Data collection methods for question 1.** As noted in Table A, to answer the first research question, which asks: what are the most important considerations to prepare for when designing gesture-based vocabulary lessons, I will utilize a teacher’s journal and Audio-Recorded Student Feedback Sessions. Both qualitative information includes important aspects that a test alone would not be able to convey. I will utilize the journal prior to the first week of lessons and will finalize during the sixth week of the study. The journal will be used to document the discoveries of designing, planning, and teaching the lessons. Should there be any alterations in the lesson or teaching process, this will be reported as well. I will also note any changes to the lesson that I created in response to students’ feedback.

I will also utilize the answers students provide for the discussion questions that will be audio-recorded on the fourth week of the study after the final lesson. This qualitative tool will provide insight into student’s perceptions, likes, dislikes, and other input that they can provide in regards to their learning.

**Data collection methods for question 2.** In investigating the second question, which asks: What differences are there between student- and teacher-generated gestures in regards to student L2 performance and assessments?, the acquisition of Spanish vocabulary words associated with each of the four lessons will be measured by a weekly pre-quiz given prior to each lesson and a post-quiz that will be administered one week following each lesson. On the sixth week, a final vocabulary test will be conducted to measure the student’s overall ability to retain the target vocabulary. An observation checklist will also be administered during each of the four gesture-based activities performed by students on weeks one through
four. I will also write in my journal to document any pertinent information that is not obtainable by means of quantitative measures during that time.

The pre-quiz for each of the four lessons will be given prior to any learning of the target vocabulary in each lesson in order to determine students' knowledge of the words before the gesture-based vocabulary lessons. Students will be given the checklist of vocabulary words for each lesson and they will be able to mark whether they know or do not know each word, and, if they know the word, they will be asked to translate that word.

A final vocabulary test will be conducted the sixth week, which is a week after the fourth and final gesture-based vocabulary test, to measure students' knowledge and acquisition of Spanish vocabulary words associated with the topic of each of the four lessons.

As a way of measuring the effectiveness of the gesture-based activities and the success in word learning, I will conduct an observation scheme that measures the frequency of gestures enacted and target vocabulary verbalized during each lesson. This is necessary data to collect, as it is not only important to see tests results, but also to see the language being used and practiced. Practicing a language sets up an individual for future success in L2 learning. The observation scheme I will use is similar to the one created by Clark and Trofimovich (2016), which was an adapted version of the COLT observation scheme (Spada and Fröhlich, 1995). I will conduct the observation checklist using triangulation method. With an iPad I will video-record students during one activity per lesson in order to conduct the observation checklist accurately. I might be preoccupied and need to be present for all students during the lesson. I will randomly select a group of students for each lesson to conduct the observation checklist, which is demonstrated in Table B1.
The two observational pieces that will be measured are the students’ use of target vocabulary words and gestures. When a student uses a word correctly and the word is comprehensible, I will label their use of the word as “correct.” If they do not speak, use English, or the word is not comprehensible, I will mark “incorrect” (Clark & Trofimovich, 2016, p.13). If students use a gesture, I will mark “yes” indicating that a gesture was used, or “no,” indicating that a gesture was not used.

If I observe that students are either not gesturing, or perhaps are using gestures but not using the target vocabulary, then I will have to reflect on this and find out why in order to help me find new ways of encouraging students’ use of target language and gestures. There is a chance that I would then alter a future lesson if necessary.

Table B1.

Summary of Classroom Observation Checklist

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Word</th>
<th>Gesture</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Correct</td>
<td>Incorrect/none</td>
</tr>
<tr>
<td>1- Cooking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 - Directions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 - The Move</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 - The Doctor Visit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


I will record in my journal during and after each lesson in order to document how students use the target vocabulary words and gestures. Following Clark (2016), I will take “notes during and after each lesson on how they unfolded: How well students participated,
what issues arose, and what changes to classroom management were made on the spot.” (p. 13). I will include any other pertinent information that seems most appropriate in documenting aspects that are conducive toward a learning environment, such as the energy of the classroom.

**Data collection methods for question 3.** Following the final vocabulary test, a questionnaire and audio-recorded student feedback sessions will be administered in order to address the third question, which addresses students’ perception of gesture-based vocabulary lessons. The questionnaire and discussion will be an essential component of the study and it is necessary to occur in addition to the quantitative assessments since an assessment alone would not capture students’ sentiments and perceptions that have to do with learning (Creswell & Creswell 2018; Oki, 2000), which are essential components to language learning and impossible to calculate through solely relying on quizzes or a post-test. The questionnaire, located in Appendix A, will include a list of questions soliciting the students’ perception of their learning, the use of gestures, etc.

After completion of the final lesson, students will be given the audio-recorded student feedback session questions and assigned to work in pairs and use their iPad to audio-record a conversation between themselves and their partners discussing the list of questions listed in Appendix B. Included in this is a list of questions soliciting their opinions, perceptions, and likes and dislikes using gestures with targeted vocabulary.

In an attempt to understand the student’s perception, their reaction and details important to the implementation of gesture-based lessons, the student’s opinion and feedback
will also be recorded in my journal during and after each lesson should there be any
discussion or student comments throughout the study.

**Data analysis methods.** After the final data collection, I will conduct data analysis
of each portion of the recorded data. The results of each weekly quiz will be compiled and
represented in a total of four bar graphs. Each of the four bar graphs will contain the data
from each of the four gesture-based lessons. The bar graph will categorize “words into
words known (recognized) beforehand, words learned between the pre-test and the quiz, and
words not learned,” (Clark, 2016, p.21). Each bar on the graph will represent a student, and
only the data of the students who take both the pretest and relevant quiz will be included.

Results of the scores students receive on their final vocabulary test will be
demonstrated in a table that lists the theme of each lesson and includes data for each lesson.
The data will include the range, mean, and percentage of words learned per lesson divided by
the total words taught in that lesson.

The results of the observation checklist will be compiled and demonstrated in a table, as
demonstrated in Table B1. I will transcribe the audio-recorded discussion and the data
will then be recorded, compared, and analyzed. I will code for themes in both the teacher’s
journal and the student’s answers to the audio-recorded student feedback sessions. The data
on selected results from the perception questionnaire will be relayed in a table listing selected
questions and the range and mean of the student’s scores from the likert scale. I will also
report on the three most common themes associated with students’ perception, comments,
and feedback on gesture-based learning that came up in the discussion. Once the information
is calculated and the project is finalized, the information will be made available to the staff and parents of the students in the classroom.

**Ethical Considerations**

In order to conduct this study, I received permission from the school’s director. I will ensure that I keep the identity of all participants protected. I obtained the appropriate permissions from the district that the school is a part of and then consulted with the Institutional Review Board (IRB) to review my research study and informed them of the participants. I described to the IRB information about the rationale, research methods, participants, the setting, and include how I protect the privacy of those involved in the study. I also include potential risks and benefits of the study.

I administered consent and permission forms for parents or guardians to sign and to inform them of the study. In the description of the consent form, I stated that I will be using the research conducted in the classroom as a way to enhance teaching and learning of Spanish vocabulary words. I included the option to opt out of the study and, when there were students who chose not to participate, they engaged in the lessons but their data was not recorded. Results are described without using any of those students’ names who participated in the study, and anonymity will be maintained throughout.

**Summary**

This chapter presented the methodology for a study to answer the following research question: In what ways do language lessons that incorporate student- and teacher-generated gestures support language learning in an eighth-grade beginning level Spanish classroom?
Included in this chapter was the rationale, the setting, and participants of the study. Also discussed were the lessons and procedures, the data collection methods, and ways of analyzing the data which were all part of the methodology of the study, replicating the previous study performed by Clark and Trofimovich (2016); and ethical considerations. In Chapter Four I will provide the data and results of my research and in Chapter Five I will make concluding feedback regarding the results.
CHAPTER FOUR

Results

Introduction

The previous chapter presented the details, including the rationale, setting, participants, methodology and ethical considerations for conducting a study. This action research study which was an approximate replication of a study performed by Clark and Trofimovich (2016), which sought to answer the following research question: In what ways do language lessons that incorporate student-and teacher-generated gestures support language learning in an eighth-grade beginning level Spanish classroom? This question was broken into three questions, adapted from Clark (2016):

1. What are the most important considerations to prepare for when designing gesture-based vocabulary lessons?
2. What differences are there between student- and teacher-generated gestures in regards to student L2 performance and assessments?
3. How do students perceive gesture-based vocabulary activities?

In an attempt to answer this research question, I conducted an action research study in an eighth-grade Spanish classroom. This chapter details the results, analysis, and interpretation of the data collected in an attempt to better understand the answers to these questions.

Research Question 1

The first question asked: What are the most important considerations to prepare for when designing gesture-based vocabulary lessons? To answer the first research question, I
utilized two main data collecting techniques: a teacher’s journal, and audio-recorded student feedback sessions. Students were asked to answer discussion questions reflecting on their experience, perceptions, likes and dislikes regarding gesture-based lessons and audio-recorded them in order to gain perspectives and reactions to the gesture-based lessons. The teacher’s journal was maintained to document the preparation of lessons and tweaks made to the following lessons based on the results and reactions during the previous lesson. Some results of other tools, such as the observation checklist, test, and weekly quizzes, will be referenced, as well.

My findings indicate that I had two main considerations when planning gesture-based vocabulary lessons. First of all, it is important to plan the vocabulary lessons ahead of time so that there is some sort of structure and process. It is equally important to be open and responsive to student feedback and alter activities upon discovering their rates of success or failure among students, for example. With a balance of planning and flexibility, it is more likely that students will respond well to a concept and approach that is new for them. Finally, it is important to include both student- and teacher-generated gestures, but also include an introduction to prepare students appropriately in regards to the importance of gestures, how to create them, and also how to utilize them in order to communicate nonverbally.

**Plan lessons in detail, but open to student feedback.** Based on student’s reactions, I discovered how important it is to use gestures that make the most sense to them. Despite this, I found it important to stick to my goal of determining the difference between student- and teacher-generated gesture lessons. When students expressed distaste for a gesture that I
had created and taught during the teacher-generated gesture lesson, I took note, but generally kept the same gesture for most vocabulary words. I later found this to be a main source of confusion and frustration for students, as confirmed by the audio-recorded student feedback sessions. I did hear a lot of frustrated comments throughout the gesture-based lessons, but I decided to ignore most of the comments, as I deemed it important to stay the course for the sake of the study. It would become a major stressor and source of confusion for students, as indicated in the audio-recorded student feedback sessions, and ultimately, the quantitative measurement tools. Therefore I reconsidered this approach, as part of the goal in the study was to provide a culturally responsive pedagogy, and therefore one that reflects the needs of the students.

The first teacher-generated gesture lesson, *cooking*, proved easy to teach gestures, as all of the vocabulary words were verbs. The proceeding lessons involved adjectives and nouns, therefore it was important to take extra planning and consideration regarding the gestures and lessons. Each gesture needs to be simple to understand and easily distinguishable between each other, which seemed like an easy rule to follow, however, I could have taken more precaution and careful consideration in the creation of those gestures. This could have involved soliciting a few students' reactions before teaching the teacher-generated gestures, and, while sticking to the plan of using teacher-lead gestures, just a few would be altered to diminish the chance of causing confusion.

One gesture that received the most comment or uncertainty was *disponible* (available) whose action was to raise and repeatedly curl one forefinger. Students seemed to be completely thrown off by this gesture, despite the teacher’s attempt at teaching them that
this gesture means “yes” in many Spanish-speaking countries. Despite the confusion, I choose to keep this gesture, as it looked different than any other gesture of the move lesson. Regardless, students were not satisfied with the gesture, as indicated in the audio-recording. When asked what were the worst topics to learn with gestures, a student indicated, “The move- many like disponible, didn’t make sense.” (Student 1, Audio-Recorded Student Feedback Sessions, October 15th 2019). This ultimately had an effect on student’s performance levels. Students learned the least amount of words in the move lesson, as indicated by the results of the weekly quizzes. Also, according to the observational scheme, it was the lesson where students gestured the least amount of correct times.

During the second teacher-generated gesture-based lesson, the move, I finally decided to respond to my students’ learning needs and changed a gesture based on my student’s response to the original gesture. In my notes I reported, “The gesture for the Spanish word electrodomésticos (home appliances) gesture was altered in order to clarify the meaning, and also because it looked similar to the gesture for habitación (bedroom).” (Teacher’s Journal, September 24th 2019). The original movement conveyed a box, while the new gesture was one created by a student. On the first day of the lesson, a student asked, “why can’t we try this gesture for electrodomésticos?” (Student 4, September 24th 2019), and gestured as if they were picking up a toaster, setting it on a counter and plugging it in. Other students agreed that this gesture was better, which I concluded was simply easier for them to understand because, and, as another student indicated later in the lesson, it was distinctly “different than any of the other gestures,” (Student 6, September 24th 2019).
Although it is important to methodically plan the teacher-generated gestures, it is important to be willing to incorporate their feedback into the creation and utilization of gestures to ensure student success, for it is not the teacher, but the student who knows how they learn. “I know how I learn the best,” (Student 15, September 24th 2019).

**Include both student- and teacher-generated gestures.** I chose to include both student- and teacher-generated gesture-based lessons, starting with a lesson indicating the importance of gestures in L2 learning as a way to introduce the gesture-based lessons. I then proceeded with teaching teacher-generated gestures with the vocabulary, as a way to ease-in the idea of using gestures as a learning tool in the Spanish classroom. After the first teacher-generated gesture lesson, I included a lesson on communicating through gestures to give students an opportunity to reflect on the gesture-creating process in the hopes that they the gestures that students created would assist in facilitating communication between students and their partners.

It is ideal for students to be able to create their own gestures; however, students need to feel comfortable doing something so new in a learning environment. I initially incorporated an introductory lesson that taught students the role of gestures in the memorization and communication of L2 vocabulary words, making reference to previous studies as indicated in chapter two.

Allowing for students to learn and utilize the teacher-generated gestures is ideal for learners to be able to ease into such a new concept. Notes from the teacher’s journal indicate, “Students eased into the gesture-based lessons when they learned teacher-generated gestures. It probably allowed students to get out of their minds and let go of any previous
apprehensions when they were able to practice the teacher’s gestures in their first lesson,” (Teacher’s Journal, September 8th 2019).

When it came time for students to invent their own gestures, they showed some apprehension, but all fears were diminished once they started to share the gestures they invented with other classmates. This was documented in my teacher’s journal on the first day of student-generated gesture activities, “some students asked that I provide the gestures and showed some apprehension at first, but once they started playing the activities, or working with a partner, all perceived limitations were forgotten about. Perhaps they had been afraid of the unknown, and once they were doing something new, they overcame their fears. They also might have sensed a bit of power with collaboration,” (Teacher’s Journal, September 17th 2019).

Eventually, students enjoyed student-generated gestures so much that many preferred to invent their own gestures. Referring to gestures, one student reported “it’s really fun to invent them on our own” (Student 4, Audio-Recorded Student Feedback Sessions, October 15th 2019). A student commented on creating their own gestures, “I prefer it because it sticks better to my brain because I was the one who made it,” (Student 14, Audio-Recorded Student Feedback Sessions, October 15th 2019). Another commented, “I prefer it when I get to invent gestures. I get to personalize it to how I would learn best,” (Student 8, Audio-Recorded Student Feedback Sessions, October 15th 2019). For different reasons, it’s just as important to include student-generated gestures as it is to include teacher-generated gestures in an L2 learning environment.
Research Question 2

Various qualitative and quantitative tools were used in order to address the second question, which asked what differences are there between student- and teacher-generated gestures in regards to student L2 performance and assessments? Weekly quizzes and a final vocabulary test was given to students to quantitatively measure the students’ growth.

Weekly Translation Quizzes. In order to determine the amount of Spanish vocabulary words obtained during each of the week-long lessons, I administered a pre-quiz prior to the first lesson, and a post-quiz that took place approximately one week after the pre-quiz. Figure 1 depicts the results of each of the four weekly quizzes, depicted in the four graphs. Each of the four bar graphs are labeled with the name of the lesson, and whether it was a student- (St-gen) or teacher- generated (T-gen) lesson. Each bar represents a student that took both the pre- and post-quizzes of each lesson. The dark gray section of the bar represents the words known prior to the lessons; the gray represents words learned, as indicated by the number of correct words on the post-test; and the light gray represents the number of words that students did not acquire. The figures on the x-axis represent each student, with a number assigned to each, while S stands for student. The numbers on the y-axis indicate the total amount of vocabulary words that were taught in teach lesson. The cooking lesson had eight words, the directions lesson had nine words, the move lesson had nine words, and the doctor visit lesson had a total of ten words.

Students generally showed significant growth as result as the gesture-based lessons, with no clear distinctions between student- or teacher-generated gesture lessons. The most growth occurred during the cooking lesson, where only one student did not know one word,
therefore indicates that 99% of the words were learned. Students learned 93% of the vocabulary words in the directions lesson, and 93% in the doctor visit lesson. The least growth occurred in the move lesson, where 84% of vocabulary words were learned. Overall, students seemed to benefit from the use of both student- and teacher-generated gestures and activities.

**Figure 1.**

*Results of the four weekly translation quizzes.*

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**Final Vocabulary Test.** The results of the final vocabulary test are demonstrated in Table C which indicates strong growth and Spanish vocabulary learning. The final Spanish test was given to students on the sixth week, one week after the final weekly quiz to determine students’ ability to retain the vocabulary words from the four topics. The test,
which is provided in Appendix F, consisted of four sections representing each of the four lessons, and the results can be seen in Table C. Each test required students to apply the appropriate Spanish word into context, which included either a dialogue or list of directions. The test for the cooking lesson involved a recipe, and the move involved giving directions on a map (both are listed in Appendix F). Both of the student-generated gesture topics, directions and the doctor’s visit, involved a dialogue. During this test, the teacher used gestures and encouraged students to use gestures to help them remember, which a few students performed.

Table C is a representation of the results of the final vocabulary test. “N” refers to the number of students included in the data for each vocabulary topic. The total number of words was calculated by multiplying the amount of students who took each pre and post-test by the number of target vocabulary words taught per topic (which ranged from 8 - 10, depending on the lesson). The percentage of words learned per lesson is demonstrated by dividing the total number of words learned by the total number of words on the test.

Table C

Results of the Final Vocabulary Test

<table>
<thead>
<tr>
<th>Topic, Total Vocabulary Words</th>
<th>Range</th>
<th>Mean</th>
<th>Words Learned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooking, 8 (n=14)</td>
<td>7-8</td>
<td>7.93</td>
<td>111/112 (99%)</td>
</tr>
<tr>
<td>Directions, 9 (n=14)</td>
<td>3-9</td>
<td>7.64</td>
<td>107/126 (85%)</td>
</tr>
<tr>
<td>The Move, 9 (n=15)</td>
<td>2-9</td>
<td>7.87</td>
<td>118/135 (87%)</td>
</tr>
<tr>
<td>The Doctor’s Visit, 10 (n=14)</td>
<td>2-10</td>
<td>8.5</td>
<td>119/140 (85%)</td>
</tr>
</tbody>
</table>
The final test indicates that both of the teacher-generated gesture lessons, *cooking* and *the move*, seemed to be the topics in which students learned the most vocabulary words, with 99% of the words on Spanish test being used correctly in the *cooking* lesson and 87% in the *move*. According to the results, students learned the least amount of words (85%) in both of the lessons *directions* and *the doctor visit*. This may have to do with issues regarding the gestures in each lesson. Multiple gestures in *the doctor visit* lesson, as indicated in the report of the audio-recorded student feedback sessions, were similar and caused confusion, and students reported that they did not understand the gestures that students used during *the direction* lesson. Despite the amount of cognates in the doctor visit lesson, students reported confusion with the gestures. It was noted that students did not relate to the direction lesson, so there is a chance that the interest level might have had something to do with the results.

The qualitative measures I used to answer the second question included the documented information in the teacher’s journal, as noted above; an audio recording of the audio-recorded student feedback sessions; and a video recording for the observation checklist, demonstrated in Table B2. The results of the qualitative tools were compiled, analyzed, coded for main themes, and either demonstrated visually in a table, graph, or in the list of Appendices.

**Classroom Observation Checklist.** I used a classroom observation checklist to measure the number of target vocabulary words correctly spoken by the students and compared this to the number of gestures that the students enacted during a vocabulary activity during each of the lessons. This I deemed important because much of the learning associated in an L2 is practicing it. Also, tests alone do not always accurately portray
knowledge of an L2, as there can be some limitations that affect test scores, such as test anxiety. I video-recorded students performing the activities so that I could be available for students during the lesson and to accurately measure students using the observational checklist.

The activities that students participated in during the observation checklist are as follows: (1) for the *cooking* lesson, students presented a skit enacting the directions of a recipe of their choosing; (2) for the *directions* lesson, with the help of a map students articulated directions on how to get from one point to another using target vocabulary words in combination with gestures; (3) for the *move* lesson, in groups of two, students presented a skit presenting a dialogue between an apartment owner and a tenant; (4) for the *doctor visit*, students played a guessing game where one student would provide gestures and the others would guess the gesture-based-lesson vocabulary. In all activities students were advised to use the target vocabulary words and gestures associated with each. The amount of observational opportunities was significantly lower than others for *the doctor visit* lesson, hence there are only 4 words and gestures represented.

Words were considered correct if they used the correct word regardless of the pronunciation, or incorrect if they did not provide a word, used an English word, or used the wrong word. Gestures were categorized in the yes column if they were given and the correct gesture was used, and no if there was no gesture or an incorrect gesture was used. The fractions are composed of the total number of gestures and/or words that were produced or attempted by the participants during the allotted time of each activity.
According to the summary of classroom observation checklist depicted in Table B2, students used the highest number of correct target vocabulary words (97%) during the cooking lesson, and the lowest number of target vocabulary words (75%) during the final lesson, the doctor visit. There was not a correlation between target vocabulary words spoken during student-generated activities and the target vocabulary words spoken during the teacher-generated activities; however, students used the most correct words during the cooking lesson, this may be because students most related to this lesson.

The observation checklist also measured the frequency that gestures were used during the activities. According to the observation checklist, students were more likely to reproduce the gestures while practicing and presenting the student-generated gesture activities versus while presenting the teacher-generated gesture activities. During both the teacher-generated gesture activities, students used gestures 87% of the time during the cooking lesson and 86% of the time during the move lesson. Students used gestures 100% of the time for both of the student-generated gesture activities, directions and the doctor visit. Although students expressed concern on the day of the student-generated gesture lesson, according to the
observation checklist, they flourished by creating their own gestures. Because they were able to personalize their own learning, students remembered the gestures and used them more often during the student-generated gesture lessons and activities.

**Teacher’s Journal.** Gesture-based activities facilitated an environment of student participation and action, where everyone had an opportunity to interact with their new vocabulary in an embodied way. This is all important in any learning environment, especially when the context is so new, like in a beginning level Spanish class. In all activities students were engaged throughout the lessons. At times, specifically when there was confusion, students needed redirection, and then they could be engaged with the material again. Specifically in the doctor visit lesson, once redirected, students seemed engaged. Students read their dialogue in pairs, presenting to another set of partners. This type of interaction was new, but once students got the hang of it, they looked as though they were enjoying the lesson.

Some of the listening pairs even conveyed understanding by repeating the gestures of the words that were provided, along with the gestures performed by the reading pair. While listening to Student 1 and Student 2, Student 3 copied the gestures that they stated and acted out (Teacher’s Journal, October 3rd 2019). When Student 1 mentioned “tengo un dolor de cabeza...,” (I have a headache), and put one hand up to his head, Student 3 also held her hand to her head. When Student 2 indicated “tiene migraña,” Student 3 then put two hands up to her head, motioning with the gesture indicating migraine.

The gestures helped with test-taking. Specifically during the final vocabulary test, I encouraged students to repeat gestures in order to help them with the test. In one instance
when a student reproduced a gesture during the final test, “you could see an ah-ha moment on their face,” as noted in the teacher’s journal (October 15th 2019).

Research Question 3

The final question asked how do students perceive gesture-based vocabulary activities? In order to gain insight into students’ attitudes, perceptions, and feelings, students were given a student perception questionnaire, listed in Appendix A, to fill out. They were also given a list of questions, which are listed in Appendix B, that each student answered during an audio-recorded student feedback session. After having analyzed, compared, and organized student’s notes, I then coded the data for main themes. The themes are outlined in a visual representation, presented in Table B. The notes in my teacher’s journal, a means of reinforcing the student’s feedback, will also be used to answer this question. The journal serves as a way to triangulate the qualitative data and interpret the data with the teacher’s perspective. The journal includes important aspects related to students’ behavior, moods, and attitudes about learning.

Student Perception Questionnaire. The questionnaire was conducted the fourth week after the final gesture-based lesson to determine student's perception of the gesture-based activities. After their final post-test, students filled out the questionnaire. The results of the questionnaire are located in Appendix D. Many of the answers received a vague score and the average score for all questions but two was 3.4 or 3.6. One of these two questions received a mean score of 4. It asked “how difficult was it to invent gestures for words?” Despite having previously expressed anxiety around creating their own gestures, once performed, they seemed to perceive that it was not difficult to create gestures. On a
scale of 1 to 5, with 5 being the easiest, students ultimately reported that gestures were moderately easy to create (M=4). This contrasted with what students reported prior to conducting the student-generated gesture lessons. For example, student 2 asked “Can’t you just make the gestures?” (Teacher’s Journal, September 17th 2019).

Perhaps students aren’t used to being able to express their opinion and doing so is a new practice for them. It seems as though they are more than likely to answers questions that have a right and wrong answer. Because many of the answers received a score of 3.4 or 3.6, I have chosen to rely more on the results and analysis of the audio-recorded student feedback sessions, as this served as a fitting platform for students to explore their opinion.

**Audio-Recorded Student Feedback Sessions.** Following the student perception questionnaire, students audio-recorded themselves conversing with a partner to document their answers to the list of student feedback questions listed in Appendix B. The discussion consisted of questions soliciting their opinions, perceptions, likes, and dislikes of the student- and teacher-generated gesture lessons with targeted vocabulary. After transcribing the answers to all of the students who submitted the audio file, I coded for themes using a color-code system.

There are three main themes that emerged as a result of the audio-recorded student feedback sessions and they are presented in Table D. The table also includes example student responses pertaining to each of those themes, as was stated by multiple students. Ultimately, students answered that gestures were helpful, increased engagement, but some of them cause confusion. According to students’ answers, gestures caused confusion in some of the student-generated gestures, particularly because students had different gestures and when
they would use them, others would not understand them “when students made their own
gestures, everyone was on a different page so it made it hard to understand everything,”
claimed Student 14 (Audio-Recorded Student Feedback Sessions, October 15th 2019). They
also noted that the teacher-generated gestures caused confusion when multiple gestures
looked similar or if they involved similar movements. “There were many gestures that were
involved around the head,” stated Student 8 (Audio-Recorded Student Feedback Sessions,
October 15th 2019), reffering to the gestures that were used for migraña (migraine), dolor de
cabeza (headache), and estrés (stress). “They look exactly the same,” (Student 3,
Audio-Recorded Student Feedback Sessions, October 15th 2019).

Table D

Taxonomy of Audio-Recorded Student Feedback.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Example Student Responses From Recordings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gestures were helpful</td>
<td>“Helped me learn.”</td>
</tr>
<tr>
<td></td>
<td>“Helped me remember.”</td>
</tr>
<tr>
<td></td>
<td>“They helped me in high pressure times.”</td>
</tr>
<tr>
<td>2. Gestures increased engagement</td>
<td>“They were a fun way to move and not just sit at the table.”</td>
</tr>
<tr>
<td></td>
<td>“You were involved in doing it.”</td>
</tr>
<tr>
<td></td>
<td>“I got to move around.”</td>
</tr>
<tr>
<td>3. Some gestures caused confusion</td>
<td>“When students made the gestures everyone had different gestures.”</td>
</tr>
<tr>
<td>Student-generated gestures</td>
<td>“Some looked similar.”</td>
</tr>
<tr>
<td>Teacher-generated gestures</td>
<td>“Some didn’t make sense.”</td>
</tr>
</tbody>
</table>
Students generally found the gesture-based activities to be helpful, and this is apparent in the answers to many of the questions, specifically to those of the final discussion question, which asked if gestures helped students learn vocabulary. 17 out of 22 total comments indicated that “yes,” gestures were helpful, while three indicated “kind of,” and two indicated “not really.”

The students who answered “yes,” indicated that the gestures were “helpful” in many ways: they “helped me remember vocabulary,” they helped to “have something to relate it with,” and “they made sure you really knew what you were talking about.” They stated that gestures help them memorize words. “It helps me remember in high-pressure [situations],” (Student 14, Audio-Recorded Student Feedback Sessions, October 15th 2019).

The two students who answered “not really” both indicated their preferred learning styles. One indicated that they preferred either a logical or alternative kinesthetic mode of learning- with flashcards. The other student reported that they were indeed a visual learner: “I don’t like moving my hands around, I typically learn better when I study or by looking at images,” (Student 18, Audio-Recorded Student Feedback Sessions, October 15th 2019).

Students enjoyed the level of their engagement and involvement in their learning. “I got to move around,” (Student 2, Audio-Recorded Student Feedback Sessions, October 15th 2019). “It’s a fun way to move and not just sit at the table,” (Student 4, Audio-Recorded Student Feedback Sessions, October 15th 2019) they reported. As Schmidt et. al. indicate, in general, movement is more conducive to L2 vocabulary learning than when students learn in a seated position (2019). Many reported that the gesture-based activities were fun and a
different way to learn. One student reported that “it can give you a whole new perspective of the world,” (Student 12, Audio-Recorded Student Feedback Sessions, October 15th 2019).

There were times when students did not particularly get the most out of the gesture-based activities. The most commonly reported response to the questions asking what they didn’t like about the gesture-based activities was that they were “repetitive.” One student even started to list some ideas for other activities that they would have enjoyed, but unfortunately they were cut off by their classmate who insistently commented, “that is not what the question is asking.” Also, when lessons proved to be difficult or “not too easy to relate to” is when the enjoyment levels decreased during the gesture-based activities. According to students, the disadvantages of student-generated gesture activities were that they were confusing. “When students made gestures, everyone was on a different page so it made it hard to understand everything,” (Student 5, Audio-Recorded Student Feedback Sessions, October 15th 2019). Students reported that the disadvantages of teacher-generated gesture activities were that many “look exactly the same.”

When students answered the discussion question that asked “Did you prefer when the teacher invents the gestures or when you get to invent it?” at first sight, there seems to be no strong preference as to whether students preferred gesture-based activities that were student- or teacher-led. In fact, according to the number of responses regarding those in favor of student-generated gestures versus those in favor of teacher-generated gestures, there is a tie between the two methods. There were 18 comments regarding the advantages of teacher-invented gestures, but 10 comments regarding the disadvantages. 15 comments were noted regarding the advantages of student-invented gestures, while 7 comments explained the
disadvantages. However, it was the way in which they articulated such positive responses regarding student-generated gesture activities where I realized the desire that students have to be able to create and communicate using their own gestures.

Students commented on the many benefits of teacher-generated gestures and activities, but they also commented on the disadvantages. They noted that when a teacher invents a gesture there is “less work,” and everyone has a “common gesture,” which makes it “easier to conduct and play activities,” (Student 7, Audio-Recorded Student Feedback Sessions, October 15th 2019). On the other hand it’s “not as fun,” “harder to memorize,” or “takes more time to remember,” when a teacher invents the gestures (Student 11, Audio-Recorded Student Feedback Sessions, October 15th 2019).

Students also indicated the advantages and disadvantages of student-generated gestures and activities. They commented that when a student invented gestures they “learn them more easily and they make sense,” (Student 14, Audio-Recorded Student Feedback Sessions, October 15th 2019). In their own words, students explained the benefits of their own creative process involved in their learning experiences. “I get to personalize it to how I learn the best,” (Student 1, Audio-Recorded Student Feedback Sessions, October 15th 2019), one student commented. Another indicated, “I know how I think so they work for me,” (Student 3, Audio-Recorded Student Feedback Sessions, October 15th 2019). On the other hand, students reported that it can be confusing or “hard to understand,” because “not everyone has the same gesture,” (Student 1, Audio-Recorded Student Feedback Sessions, October 15th 2019). In essence, students felt a stronger connection to their L2 vocabulary
learning and communicative activities when they were able to create their own gestures. It seems to give the students a sense of agency or ownership of their learning.

Summary

Chapter four detailed the results, analysis, and interpretation of the data collected in an attempt to answer the research questions associated with the main question: In what ways do language lessons that incorporate student-and teacher-generated gestures support language learning in an eighth-grade beginning level Spanish classroom?

Upon analyzing the documented observations of the pre-quizzes, post-quizzes, and final vocabulary tests, it was determined that the general theme indicated a positive role that gestures had on the student’s ability to remember and apply the Spanish vocabulary words during the tests. Based on the feedback on students’ perceived experiences, it was revealed that in general students had a stronger connection to L2 vocabulary learning when they created their own gestures and used them during communicative activities.

Chapter five will conclude the classroom based action research study, which will include an explanation of all that was learned during the study in relation to previous studies, while including new connections and understandings to the previous research. Also included will be the implications that this study has in regards to L2 learning environments. The limitations that affected the classroom-based action research study will then be discussed, and, finally, the proposal of ideas for future research and recommendations will be included.
CHAPTER FIVE

Discussion

The previous chapter presented the results of the data collected in an action research study which sought to answer the following research question: In what way do language lessons that incorporate student- and teacher-generated gestures support language learning in an eighth-grade beginning-level Spanish classroom? This question was broken into three questions, adapted from Clark (2016):

1. What are the most important considerations to prepare for when designing gesture-based vocabulary lessons?
2. What differences are there between student- and teacher-generated gestures in regards to student L2 performance and assessments?
3. How do students perceive gesture-based vocabulary activities?

This chapter will explain all that I have learned as a researcher and teacher during the classroom-based action research study I conducted in my Spanish classroom. I will tie my findings to those of previous studies and also include new connections and understandings to the previous research. I will then address the implications that this study has in regards to L2 learning environments, specifically my classroom, and potentially all learning environments. I will discuss the limitations that affected my classroom-based action research study, and will propose ideas for future research and list recommendations. Finally, I will discuss how I will report my findings and conclusions on my action research study.
Results

Utilizing gestures in an L2 classroom has proven to assist with learning in many ways. Gestures have assisted in vocabulary acquisition (Clark & Trofimovich, 2016, Macedonia, 2013), while allowing learners to practice using expressions (Angelova & Lekova, 1995), conveying meaning (Eskildsen & Wagner, 2015), and practicing communication (Eskildsen & Wagner, 2015), all aspects that are essential in L2 classroom.

The results of my action research study, which sought to find the ways in which student- and teacher-generated gestures support Spanish language learning, differed from those found in the Clark’s action research study (2016). Clark found that there is no significant difference between student- and teacher-generated gesture based activities. While I found that there is a difference between the two.

According to the quantitative results such as the quizzes and tests, both the student- and teacher-generated gestures help to create high test scores. However, when taking a closer examination of the Observation Checklists, it is apparent that during student-generated gesture activities students used their gestures 100% of the time. Also, when reflecting upon the qualitative data in the audio-recorded student feedback sessions, it was found that, in general, students felt a stronger sense of connection to their learning when they created their own gestures, which fostered a sense of student agency.

Both student- and teacher-generated gestures helped students learn on many levels, but it was the student-generated gestures that allowed for students to feel a sense of ownership or agency towards their learning. Gestures help increase the level of engagement
and interaction with their learning; they helped students remember and learn the vocabulary words.

All in all, both teacher- and student-generated gesture lessons help to provide a classroom where students get to participate actively in a multimodal and embodied way. However, it is through the student-generated gesture lessons that students felt a connection to their learning in a way where they could apply their own embodied experiences into their learning. This, in effect is meeting the goal of a culturally responsive classroom, which is not only to provide multimodal and embodied ways of learning, but also to allow space for student agency. The fact that students were able to connect their own meaning to the vocabulary words, applying their own embodied experiences into the learning environment is one way to allow for student agency, or giving students the position to be able to create and make choices in their learning environment (Vaughn, M., 2018). Student agency is a “critically important goal for all students,” (Vaughn, M., 2018, p.63), which in turn, is culturally responsive, as it addresses the needs of all learners.

Incorporating gestures into a Spanish language curriculum and allowing students to create their own gestures is an effective method for creating a culturally responsive curriculum and allows for them to learn in an embodied way. Student-generated gestures has shown to increase students’ level of enjoyment, participation, engagement level, and their ability to obtain and remember Spanish vocabulary words. These are all essential components in an L2 environment. Yet, allowing for students to use their creative processes allows for them to connect to their learning on a personal level and establish their own agency, which is critical to all culturally responsive pedagogy.
Implications

Upon determining the results and seeing the effects that gestures have on Spanish acquisition, student perception, and engagement levels, I will include this gesture-based curriculum into my Spanish classroom in upcoming years. Ultimately, I've realized that I don’t necessarily have to convince others in order to implement multimodal, culturally responsive teaching techniques such as gesture-based lessons into my classroom. I now have the experience and proof that I needed to be confident that student- and teacher-generated gestures support learning in many ways. There is no doubt that I will incorporate gestures into my current Spanish language curriculum.

No words can express the energy that one feels in a classroom where there is movement-based learning taking place. It positively affects students and their learning. Witnessing this and comparing this feeling to the way that my classroom feels without the gesture-based lessons makes me realize even more the awesome potential that embodied learning has not only on learning, but also students’ sense of independence and ability to be co-creators in their learning experience, all a part of student agency. I advise that movement be incorporated in all learning environments. The knowledge and considerations revealed during this study, which includes the planning and implementation of gesture-based lessons, can be applied in any teaching experience. Embodiment can be incorporated in any lesson, or curriculum and can be utilized across contents. Specifically, it is important to be responsive to the needs of the students and their learning and create an environment of student agency.
Limitations

In part, the length of the study posed limitations during my action research study. The classroom-based action research study was conducted for a total of six weeks, which is a significant amount of time, but there were some limitations in the measurements that could be taken and the accuracy of those measurements. A long-term study for an academic year would be ideal.

One limitation in the study is the ability to report a phenomenon that I have been observing since having completed the study. Also, as it involves students who were not participants in the study, I cannot officially report all information. It should be noted that since returning to the regular curriculum there has been a shift in behavior. Student engagement and participation levels were very high during the gesture-based lessons. Now that the study has ended, some students have had a shift in attitude, behavior, and most importantly participation during Spanish class. During the study I noticed that I had virtually no behaviors worth disciplining. Now that we’ve completed the study and are moving on to the normal curriculum, there have been more behaviors that have needed intervention. This is worth noting because those students tend to be students who have diverse learning needs. This further supports the fact that utilizing student- and teacher-generated gesture lessons in the classroom is a culturally responsive way of teaching. I look forward to implementing gesture-based activities in combination with the traditional curriculum.

Future Research/Discussion

I encourage teachers of all disciplines to incorporate gesture-based lessons or activities and study the results that they have on learning in their classroom, as it has shown
positive results on L2 vocabulary learning according to my study. A similar study can easily be replicated and conducted in any language for L2 or English language learners.

More specific investigations could be made from a lens of increasing student agency. Specifically, a study that compares student- and teacher-generated gestures could be conducted with the goal of increasing student agency in L2 learning. It should be noted that any future research regarding this topic can take into consideration the my study’s results. Based students’ apprehensions in regard to creating their own gestures, it would be recommended to spend time teaching lessons and practicing utilizing student agency in the classroom. This could be done by having students practice providing their own voice, allowing for students to answer questions that do not have a right or wrong question, such as soliciting their feedback and their opinions. Another way for students to have a voice in the classroom is to allow for students to vote on items such as lessons, learning tools, activities, etc. and to be able to decide on what they do and how they learn.

Also, as a reflection of students’ feedback, it would be ideal to include lessons on how to create gestures that convey meaning so that students can understand each other’s gestures. One idea would be for students to have a list of words in their L1, and come up with a gesture for each word, then spend some time in a game determining which of their gestures make the most sense. Then students could reflect on their learning process in regards to this activity. A few questions that could be asked are: what gestures made the most sense to you, and why? and allow for students to recreate their gestures and try it again.

**Recommendations.** It would be naive of me to say that I believe that all teachers should use gestures in their classroom due to the positive role that they had on students and
their learning based on my study. This is because the main driving force behind this action-based research study was not purely the gestures themselves, but the passion that motivated me to incorporate them into my lesson. This passion motivates me to teach students and specifically reach those who tend to be underrepresented in the educational system.

Although gestures are one way to teach students in a culturally responsive and multimodal way, they are not the only solution. It was not only the gestures that had a significant effect on students’ language learning but, during the study, the motivating force, care, and the rapport that was established that encouraged students to learn. Incorporating student- and teacher-generated gestures was merely the tool that I used in order to convey that I cared about students’ learning. And they felt that. Educators should use tools within their classroom that allow students to learn in a natural way and demonstrate that they care about their students’ learning.

I do recommend that educators find a way to incorporate movement into their learning environment, no matter what this may look like, as movement has proven countless times to be such a powerful tool for delivering knowledge. The truth is that a teacher has to be willing to trust this information and be willing to take risks in their classroom. They have to let go of their preconceived notions of what constitutes a positive learning environment and understand that it is in fact okay when the classroom gets noisy and that students get up, move around and are the busybodies that they are meant to be.

I also recommend that teachers show that they care and respond to students’ experiences, learning, and their needs. I recommend that teachers find a way to teach that
connects to their students’ innate abilities and experiences in a way that they are truly passionate about. I believe that much of the success of this project had to do with the passion that I share with my students - an innate yearning to connect our minds to our bodies, and the world around us.

It also should be noted that teacher education programs should train educators in dance and the arts or other types of embodied ways of learning. A lot of what motivated me to conduct this study was my special connection that I have with dance, which is something that has been instilled within me. I find value in dance and the arts, therefore it is a core passion and motivating force of mine that I believe all students should be able to connect to their world in an embodied way. This is not true for everyone, especially those involved in education. Therefore some sort of arts and dance training in the teacher and administration process is mandatory for more studies like these to occur and for others to value embodied learning and student agency, all forms of culturally responsive teaching.

**Demonstrating Study Results**

This study and its findings will be available online through Hamline’s digital commons resource. I will present the data and the pertinent information that I have determined as a result of this action-research study in an afterschool presentation during the Spring of 2020. I will invite district staff, administration, students, and parents of the students in the participating school to attend. There I will present a summary of my findings, including the data displayed in tables and figures, and include a sample lesson to not only teach a bit of Spanish, but also to provide a demonstration of how gestures can be incorporated into a classroom.
Summary

The fifth and final chapter of this thesis summarized all that I learned as a researcher, teacher, and writer during the classroom-based action research study I conducted in my Spanish classroom. The research question the study hoped to address asked: In what way do language lessons that incorporate student- and teacher-generated gestures support language learning in an eighth-grade beginning-level Spanish classroom?

I correlated the findings of this study to those of previous studies and included new connections and understandings to the previous research. I also addressed the implications that this study has in regards to L2 learning environments, specifically my classroom, and potentially all learning environments. I then discussed the limitations that affected my classroom-based action research study, but proposed ideas for future research and listed recommendations. Finally, I discussed how the project of my action research study will be presented.
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Fearson.


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Appendix A

Student Perception Questionnaire

1. Did gesture-based activities seem very different or similar to other language learning activities?  
   (1 = very similar; 5 = very different)
2. How well did you understand the teacher’s explanations during the gesture-based activities? 
   (1 = not well; 5 = very well)
3. How difficult was it to invent gestures for words (for Directions and the Doctor Visit topics)? 
   (1 = difficult; 5 = easy)
4. How difficult was it to perform the gestures during the activities? 
   (1 = difficult; 5 = easy)
5. In general, how well did you learn the new words in the gesture activities? 
   (1 = not well; 5 = very well)
6. Compared to using images to learn words, how well did you learn using gestures? 
   (1 = not well; 5 = very well)
7. Compared to using verbal explanations (in English) to learn words, how well did you learn using gestures? 
   (1 = not well; 5 = very well)
8. Did you prefer when the teacher showed you a gesture for a word, or when the students got to 
   invent the gesture? 
   (1 = teacher; 5 = students)
9. How well did you learn the words where you invented the gesture (for Directions and your 
   dialogue in today’s Santé class)? 
   (1 = not well; 5 = very well)
10. How well did you learn the words where other students invented the gesture and taught you the 
    gesture (for your second partner’s dialogue in today’s The Doctor Visit lesson)? 
    (1 = not well; 5 = very well)
11. How much did you enjoy using gestures in learning activities? 
    (1 = did not enjoy; 5 = enjoyed very much)
12. Would you like to continue using gestures in the classroom to learn vocabulary?
   (1 = no; 5 = yes)
13. What words were especially good to learn with gestures?

Appendix B

Audio-Recorded Student Feedback Session Questions

1. In general, what did you like about gesture-based activities?
2. In general, what did you not like about gesture-based activities?
3. Did you prefer when the teacher invents the gesture, or when you get to invent it? What are the advantages and disadvantages of each?
4. What vocabulary topics were the best to learn with gestures (cooking, directions, the move, the doctor visit)? Why?
5. What vocabulary topics were the worst to learn with gestures (cooking, directions, the move, the doctor visit)? Why?
6. Do you think that gestures helped you learn vocabulary? Why or why not?

Appendix C

Picture Glossary of Words in Cooking Lesson

1. **Escribe** cada verbo al lado de la imagen correspondiente:
   Write each verb next to the corresponding image:

   mezcla   añade   sirve   pela   prueba
   cocina   corta   pica

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>añade</td>
<td>añade</td>
<td>añade</td>
</tr>
<tr>
<td>mezcla</td>
<td>sirve</td>
<td>prueba</td>
</tr>
<tr>
<td>cocina</td>
<td>corta</td>
<td>pica</td>
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</tbody>
</table>

### Appendix D

#### Student Perception Questionnaire Questions and Results

<table>
<thead>
<tr>
<th>Question</th>
<th>Range</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did gesture-based activities seem very different or similar to other language learning activities?</td>
<td>1-5</td>
<td>3.4</td>
</tr>
<tr>
<td>How well did you understand the teacher’s explanations during the gesture-based activities?</td>
<td>2-5</td>
<td>3.8</td>
</tr>
<tr>
<td>How difficult was it to invent gestures for words (for Directions and Health topics)?</td>
<td>2-5</td>
<td>4</td>
</tr>
<tr>
<td>How difficult was it to perform the gestures during the activities?</td>
<td>3-5</td>
<td>3.6</td>
</tr>
<tr>
<td>In general, how well did you learn the new words in the gesture activities?</td>
<td>2-5</td>
<td>3.6</td>
</tr>
<tr>
<td>Compared to using images to learn words, how well did you learn using gestures?</td>
<td>1-5</td>
<td>3.6</td>
</tr>
<tr>
<td>Compared to using verbal explanations (in Spanish) to learn words, how well did you learn using gestures?</td>
<td>1-5</td>
<td>3.4</td>
</tr>
<tr>
<td>Did you prefer when the teacher showed you a gesture for a word, or when the students got to invent the gesture?</td>
<td>1-5</td>
<td>3.4</td>
</tr>
<tr>
<td>How well did you learn the words where you invented the gesture (for Directions and your dialogue in today’s Health class)?</td>
<td>1-5</td>
<td>3.6</td>
</tr>
<tr>
<td>How well did you learn the words where other students invented the gesture and taught you the gesture (for your second partner’s dialogue in today’s Health class)?</td>
<td>1-5</td>
<td>3.6</td>
</tr>
<tr>
<td>How much did you enjoy using gestures in learning activities?</td>
<td>1-5</td>
<td>3.6</td>
</tr>
<tr>
<td>Would you like to continue using gestures in the classroom to learn vocabulary?</td>
<td>2-5</td>
<td>3.6</td>
</tr>
</tbody>
</table>
Appendix E

Glossary of All Words and Description of Gestures for All Teacher-Generated Gestures

**Cooking**

<table>
<thead>
<tr>
<th>Word</th>
<th>Gesture</th>
</tr>
</thead>
<tbody>
<tr>
<td>añade (add)</td>
<td>Simulate “pouring” (C-shaped hand, tilt downwards) or “sliding off cutting board” (one hand palm-upwards, other hand palm-downwards and sliding across).</td>
</tr>
<tr>
<td>mezcla (mix)</td>
<td>Simulate “stirring a pot” (one hand cupped, palm-upwards, other hand closed, circling first hand).</td>
</tr>
<tr>
<td>corta (cut)</td>
<td>Simulate “cutting a cucumber” (one C-shaped hand is palm-downward as if holding a vegetable on a cutting board, other hand performs a slicing motion beside left hand).</td>
</tr>
<tr>
<td>pela (peel)</td>
<td>Simulate “peeling” an orange” (hold the first three fingers of both hands together and both hands move away from each other while together making a circular M-shape.</td>
</tr>
<tr>
<td>pica (dice)</td>
<td>Simulate “dicing a clove of garlic” (left hand hand is palm-downward as if holding a small garlic clove on a cutting board, right hand performs a quick, small chopping motion beside left hand).</td>
</tr>
<tr>
<td>cocina (cook or bake)</td>
<td>Cup right hand, facing upwards (symbolizing a bowl). Left hand faces the chest, and fingers undulate, simulating a flame.</td>
</tr>
<tr>
<td>prueba (taste)</td>
<td>Bring closed hand (palm-downwards as if holding a spoon) to mouth, and open and close mouth.</td>
</tr>
<tr>
<td>sirve (serve)</td>
<td>Simulate serving a plate with one hand (hand, palm-upwards as if holding a plate, is brought down and forwards).</td>
</tr>
</tbody>
</table>
### Directions

<table>
<thead>
<tr>
<th>Word</th>
<th>Describe the gesture that you invent here.</th>
</tr>
</thead>
<tbody>
<tr>
<td>intersección (intersection)</td>
<td></td>
</tr>
<tr>
<td>la esquina (corner)</td>
<td></td>
</tr>
<tr>
<td>sigue (to continue)</td>
<td></td>
</tr>
<tr>
<td>marcha (to walk)</td>
<td></td>
</tr>
<tr>
<td>gira (to turn)</td>
<td></td>
</tr>
<tr>
<td>cruza (to cross)</td>
<td></td>
</tr>
<tr>
<td>en frente de (in front of)</td>
<td></td>
</tr>
<tr>
<td>al lado de (next to)</td>
<td></td>
</tr>
<tr>
<td>cerca de (near)</td>
<td></td>
</tr>
<tr>
<td>lejos de (far)</td>
<td></td>
</tr>
</tbody>
</table>
### The Dialogue

<table>
<thead>
<tr>
<th>Word</th>
<th>Gesture</th>
</tr>
</thead>
<tbody>
<tr>
<td>disponible (available)</td>
<td>Raise and repeatedly curl one forefinger (this is a common Mexican gesture meaning &quot;yes&quot;).</td>
</tr>
<tr>
<td>buscar (to look for)</td>
<td>Bring hand to forehead (as if to shield eyes from the sun), and swivel head from side to side.</td>
</tr>
<tr>
<td>visitar (to visit)</td>
<td>Point forefinger and ring finger, forming a V, alternately towards eyes and then away (common North American gesture for —I'm watching you).</td>
</tr>
<tr>
<td>barrio (neighbourhood)</td>
<td>Extend forefinger and describe circles above head.</td>
</tr>
<tr>
<td>piso (floor: 1st, 2nd, 3rd)</td>
<td>Holding your hand palm face down swipe it in the air back and forth as if you're smoothing out a wide piece of fabric.</td>
</tr>
<tr>
<td>planta baja (ground floor)</td>
<td>With one hand, palm downwards, do three horizontal strokes, each at waist (or table) height (one stroke for each pronounced syllable).</td>
</tr>
<tr>
<td>electrodomésticos (home appliances)</td>
<td>With one hand make a &quot;plugging in&quot; motion. Then with two hands, do a motion as if you are picking up a toaster &amp; setting it on the counter (seeing that a toaster is an electrical appliance).</td>
</tr>
<tr>
<td>cambiar de casa (to move out)</td>
<td>Using two hands, first do two strokes (one at a time) as if packing a box, then two strokes (one at a time) pointing thumbs over shoulders (signifying —get out of here</td>
</tr>
<tr>
<td>habitación (room)</td>
<td>Put both hands in front of you, facing each other, as if they're touching the sides of a box. Then place them opposite each other as if you're touching the other sides of a box.</td>
</tr>
</tbody>
</table>
## Going to the Doctor

<table>
<thead>
<tr>
<th>Word</th>
<th>Describe the gesture that you invent here.</th>
</tr>
</thead>
<tbody>
<tr>
<td>dolor de garganta (sore throat)</td>
<td></td>
</tr>
<tr>
<td>fiebre (fever)</td>
<td></td>
</tr>
<tr>
<td>congestionado (congested)</td>
<td></td>
</tr>
<tr>
<td>tos (to cough)</td>
<td></td>
</tr>
<tr>
<td>resfriado (common cold)</td>
<td></td>
</tr>
<tr>
<td>dolor de cabeza (headache)</td>
<td></td>
</tr>
<tr>
<td>tengo sueño (tired)</td>
<td></td>
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<tr>
<td>náusea (nausea)</td>
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<tr>
<td>estrés (stress)</td>
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<tr>
<td>migraña (migraine)</td>
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</tbody>
</table>
1. **Vocabulario from Week 1: Cooking**

*Listen* to your teacher and *watch* her gestures. *Fill in* the recipe with the missing *Spanish* verbs.

**Guacamole Mexicano**

**Instrucciones:**

1. ______________ la cebolla y lava el tomate. Los 2. ______________ muy finos, lo más posible.
2. ______________ los aguacates y pone en un bol de plástico.
3. ________________ el aguacate con un tenedor.
4. ________________ el jugo de la lima directamente sobre el aguacate y mezcla.
5. ________________ dos cucharadas de hojas de cilantro, el tomate, la cebolla y una pizca de sal.
6. ________________ y junta todo con una cuchara (con movimientos envolventes para no variar la textura irregular de nuestra salsa).
7. ________________ un poco del guacamole.
8. No es necesario ________________ el guacamole.
9. ________________ a tus amigos.
2. Vocabulary from Week 2: Directions

Listen to your teacher and watch her gestures. Fill in the blanks with the missing Spanish vocabulary.

Estás en el metro, en la 1. ______________ suroeste de las avenidas Castellano y Santa Teresa. Empieza y 2. ______________ al sur. 3. ______________ la avenida Don Julio y ves el restaurante que está 4. ______________ la estación de policía. 5. ______________ al este en la calle Picasso, cruza la 6. ______________ de la Calle Dominique y la Avenida Dalí. Ves el parque que está 7. ______________ la Calle Picasso. El parque está 8. ______________ la farmacia. 9. ______________ en el parque y estás en tu destinación.
3. Vocabulary from Week 3: The move

Listen to your teacher and watch her gestures. Fill in the dialogue with the missing words.

Dueño: Hola?
Inquilino: Hola, estoy llamando sobre el apartamento en la Avenida La Paz Ignacio. Siempre está 1. __________________? 
P: Sí, por supuesto.
L: Perfecto. Tengo algunas preguntas ¿Cuántas 2. ______________ hay en el apartamento?
P: Hay dos habitaciones. Usted 3. __________________ un apartamento para cuántas personas?
L: Es para dos personas: mi hermano y yo.
P: De acuerdo.
L: ¿El apartamento está en qué 4. _______________

P: Está en la 5. ________________.
L: ¿Y están incluidos los 6. ________________? Yo quiero una refrigerador.
P: Sí, el apartamento viene con todo: estufa, refrigerador, lavadora y secadora.
L: Muy bien ¿Y el apartamento estará libre un poco antes del primero de julio?
P: Sí, los inquilinos actuales van a 7. ________________ el 25 de junio.
L: Es perfecto. ¿Sería posible 8. ________________ mañana a las 6 pm?
L: Perfecto. Hasta mañana entonces.
P: Gracias, hasta mañana.
4. Part 1. Vocabulary from Week 4: The Doctor Visit

**Directions:** Listen to your teacher and watch her gestures. Fill in the dialogs with the missing words.

<table>
<thead>
<tr>
<th>Dialogue 1</th>
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</thead>
<tbody>
<tr>
<td><strong>Con el doctor Dupont</strong></td>
</tr>
<tr>
<td><strong>Doctor:</strong> Hola, soy el Dr. Dupont. ¿Cómo está usted?</td>
</tr>
<tr>
<td><strong>Paciente:</strong> No me siento bien en absoluto. Tengo ___________________ (1) y ___________________ (2) mucho.</td>
</tr>
<tr>
<td><strong>M:</strong> ¿Desde cuándo estás enfermo?</td>
</tr>
<tr>
<td><strong>P:</strong> Por tres días.</td>
</tr>
<tr>
<td><strong>M:</strong> ¿Eres ___________________ (3)?</td>
</tr>
<tr>
<td><strong>P:</strong> Sí, estoy mayormente congestionado en la mañana.</td>
</tr>
<tr>
<td><strong>M:</strong> ¿Tienes otros síntomas?</td>
</tr>
<tr>
<td><strong>P:</strong> No, no lo creo.</td>
</tr>
<tr>
<td><strong>M:</strong> ¿No tienes ___________________ (4)?</td>
</tr>
<tr>
<td><strong>P:</strong> No, para nada.</td>
</tr>
<tr>
<td><strong>M:</strong> Bueno, creo que tienes el ___________________ (5). Beba mucha agua y descanse.</td>
</tr>
<tr>
<td><strong>P:</strong> Está bien. Gracias doctor!</td>
</tr>
<tr>
<td><strong>M:</strong> De nada ¡Que tenga un buen día!</td>
</tr>
</tbody>
</table>
### 4. Part 2. Vocabulary from Week 4: The Doctor Visit

#### Dialogue 2

**Médico:** Hola, soy el Dr. Caron. ¿Cómo está usted hoy?

**Paciente:** Estoy muy mal. Tengo un ________________ (6) muy intenso.

Tengo ________________ (7), pero no puedo dormir.

M: ¿Tiene el ________________ (8)?

P: Sí, y no puedo comer.

M: ¿Toma mucho café?

P: Sí, bebo cinco tazas de café al día.

M: ¿Y tienes mucho ________________ (9)?

P: Sí, trabajo mucho y mi trabajo es muy estresante.

M: OK, creo que tienes ________________ (10). Le sugiero que tome menos café, trabaje menos y salga a la naturaleza con más frecuencia.

P: Perfecto, intentaré hacer eso. Gracias doctor!

M: De nada ¡Espero que estés mejor!

| (6) | (7) | (8) | (9) | (10) |