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Total Physical Response and the Natural Approach to teaching foreign language to students with disabilities

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TOTAL PHYSICAL RESPONSE AND THE NATURAL APPROACH TO TEACHING FOREIGN LANGUAGE TO STUDENTS WITH DISABILITIES

by

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Dedications

I would like to dedicate this thesis to my family: Mike, Annette, Michael, and Steve. This would not have been possible with out their unconditional love, support, and encouragement.

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Abstract

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The purpose of this study was to investigate the effect of using the instructional strategies of Total Physical Response (TPR) and Natural Approach (NA) on the foreign language acquisition of students with learning disabilities (LD) in an inclusion Spanish classroom. The study utilized an ABAB single subject design, and was designed to build on the research recommendation of Duran (1993) to examine the effect of a combined approach utilizing TPR and NA strategies to teach foreign language to students with LD. Results reveal that the daily language acquisition scores of two of the four students increased during both intervention phases, and that students were satisfied with the intervention. Findings suggest that TPR and NA are more effective for students with ADHD than students with communication impairments.

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Chapter 1

Introduction

Students with learning disabilities can benefit from numerous accommodations and teaching strategies that support their learning in every subject area, including the foreign language classroom (Arries, 1999; Duran, 1993; Kleinert, Cloyd, Rego, & Gibson, 2007; Skinner & Smith, 2011). Instructional strategies considered to be effective for teaching foreign language to students with learning disabilities include Total Physical Response (TPR) (Duran, 1993; Skinner & Smith, 2011), smaller class sizes (Skinner & Smith, 2011), and use of the Natural Approach (NA) (Duran, 1993). Experts believe that using all of these approaches will increase the likelihood of a student recalling the language.

James Asher's theory of TPR is based on the idea that we as humans are biologically programmed to learn language, including a second language (1966). In TPR, the teacher uses gestures, models, and commands to teach the second language (Skinner & Smith, 2011). The students are expected to imitate the teacher and thus learn the language. (Duran, 1993).

Steven Krashen's NA focuses on the use of a second language for meaningful communication (Duran, 1993). According to Duran, students are expected to learn to communicate orally and in writing when taught using NA. In this approach, students learn through role-play by having short conversations with peers (1993). When using this strategy, students are expected to be orally semi-fluent in the target language (John & Torrez, 2001).

Statement of the Problem

According to Danesi, "second language acquisition is defined as both foreign language learning in formal classroom environments and the natural acquisition of another language after the age of five" (1994, p. 209). Learning disabilities can be defined as neurological conditions that can affect a person's ability to process, store, or produce information (Burr, Haas, & Ferriere, 2015). According to Burr and colleagues, a learning disability can affect students' reading, writing, speaking, spelling, math computation, and reasoning skills. Learning disabilities can also affect the attention, coordination, social skills, memory, and emotions of students (2015). Students with learning disabilities are more likely than their peers without disabilities to struggle with second language acquisition (Arries, 1999). Arries concludes that students struggling with acquisition of their native language will struggle with mastering a second language due to language based learning problems (1999).

Furthermore, students with language-based learning disabilities often have trouble with orthographic coding, phonological coding, morphological coding, and syntax coding (Berninger & May, 2011). According to Berninger and May, orthographic coding is the ability to process and store written words; phonological coding is the ability to store and analyze written words, spoken words, and the letters and sounds that create them; morphological coding is the ability to store bases and affixes in spoken words and written words; and syntax coding is the ability to store, process, and accumulate spoken words and written words (2011). Foreign language students with learning disabilities often show difficulties with phonological coding, orthographic coding, and syntax coding in both their native language and the second language (Ganschow, & Sparks 1995).

Due to their struggles with language learning, many students with learning disabilities are exempt from studying a foreign language (Skinner & Smith, 2011). All students, including those with learning disabilities, should be included and exposed to a foreign language in high school (Kleinert et al., 2007). Kleinert and colleagues suggest learning a foreign language not only shows the students themselves that they can learn challenging material, but it shows their teachers and peers that they can learn (2007). In addition, including students with learning disabilities in foreign language classrooms has social benefits as general education students may become more accepting of them. (Kleinert et al., 2007).

Students with LD may benefit from a combined instructional approach to teaching a second language using both TPR and NA (Duran, 1993). Duran suggests students' with LD second language acquisition increases when they are taught familiar words using both TPR and NA (1993). This study builds on the implications of Duran's study regarding the second language acquisition of students with LD.

Significance of the Study

Students with learning disabilities struggle to learn a foreign language. TPR is a theory that can be used by teachers to help students learn a foreign language through repetition and actions. When implemented correctly, NA creates a meaningful instructional environment for students with disabilities. Currently there is a gap in published research measuring the effectiveness of TPR and NA on students with learning disabilities. This study will attempt to fill this gap by assessing the effectiveness of a combined TPR and NA approach, building on the recommendation of Duran (1993), on second language acquisition of students with learning disabilities and the students'

satisfaction with the two strategies. The combination of these two approaches may make second language learning more meaningful for students with learning disabilities, as it combines a communicative approach with a kinesthetic approach to teaching a second language.

Statement of Purpose

Students will be taught using a combination of NA and TPR, and the effect on student learning will be assessed. The purpose of this study is to investigate the effect of using the combined instructional strategies of TPR and NA on the foreign language acquisition of students with learning disabilities.

The goals of this study are to (a) identify the effect of the combined use of NA and TPR on the language acquisition of students with learning disabilities, and (b) identify the students' satisfaction with the instructional strategies.

Research Questions

1. Does the combined use of TPR and NA effect the foreign language acquisition of students with learning disabilities?

2. Are students satisfied with the instructional strategies of TPR and NA in the foreign language classroom?

Chapter 2

Review of Literature

Students with LD often have language-based needs that impact learning a second language. Teaching strategies found to be effective in teaching a foreign language have been found ineffective when teaching students with learning disabilities (LD) (Arries, 1999). Due to the increasing number of students with LD in the foreign language classroom, teachers must differentiate their instruction to include these students (Arries, 1999). There is evidence that TPR and the NA are useful strategies in teaching a second language. This literature review will discuss the use of these two approaches in the general education foreign language classroom and how these approaches may be useful in teaching students with LD.

Total Physical Response

James Asher's theory of TPR is based on the idea that we as humans are biologically programmed to learn language, including a second language. In TPR, the teacher uses gestures, models, and commands to teach the second language (Skinner & Smith, 2011). There are five steps to complete a successful TPR lesson (Conroy, 1999). According to Conroy, first, the teacher must give a command and act out the command while the students listen and watch them. Then, the teacher gives the command and acts out the command while the students copy the teacher's action (1999). In Conroy's third step, the teacher gives the command and the students act it out. In the fourth step, the teacher gives the command while the students act it out and repeat the verbal command. In the final step, one student gives the command while the teacher and students repeat it and act it out. This theory focuses on communication, not grammar (Conroy, 1999). If

the teacher is trying to teach body parts, they may say something like “tocate la cabeza,” while touching his or her head. At this point, the students should be listening and watching the teacher. Then, the teacher says, “tocate la cabeza,” and the students join her in the action and touch their heads. Next the teacher would say, “tocate la cabeza,” and the students should be doing the action on their own without mimicking the teacher. After this, the teacher will say, “tocate la cabeza” and the students would repeat the word while doing the action. Finally, the teacher will choose a student to give the command, “tocate la cabeza, and the rest of the class including the teacher will touch their head.

Research has suggested that TPR is an effective strategy for teaching a second language. Students taught using TPR significantly out-scored peers taught using traditional methods. (e.g. Asher, 1966; Hwang, Shih, Yeh, Chou, Ma, & Sommool, 2014; Kariuki & Bush; 2008; Elliot & Yountchi, 2009).

In Asher’s foundational study (1966), eighty-eight college students were broken into four groups. Asher randomly assigned the students to one experimental group and three control groups. The participants in the study had no previous exposure to the Japanese language. The experimental group was taught using TPR. The participants were taught to respond with an action each time they heard a tape-recorded Japanese command. They were taught to do exactly what the instructor did each time a command was given (Asher, 1966). According to Asher, the three control groups were taught using a variation of the strategy used by the experimental group. The first control group listened to the tape-recording and watched a model complete each command. They were not instructed to act out the command with the instructor. The second control group listened to the command in Japanese and then in English. They were not shown an action

for any of the commands. The final control group listened to the command in Japanese while reading an English translation of the command. This group was not shown an action for any commands either. Asher gave the students a test 24 hours after the initial instruction and then two weeks after the initial instruction. In this test, the students were instructed to act out each command to see if they retained the Japanese taught. The results of this test showed that the experimental group retained more of the target language than any of the three control groups that were not taught using TPR (Asher, 1966). Asher then conducted a similar study teaching Russian to see if TPR was successful when teaching a different language. The results were very similar to his first study showing that students taught using TPR performed significantly better than those taught without TPR on language retention tests (1966).

Similar results were found in Elliot and Yountchi's 2009 study, which used TPR to teach Russian verbs of motion. Subjects in this study were nine-second year Russian college students, all of which passed the required pre-requisite first year Russian course. The control group was taught using a traditional method including grammar and translation exercises, while the experimental group was taught using TPR. Elliot and Yountchi began by introducing TPR to the students using charades to show the students the movement for each given command. The students were also given a hand out explaining the directions to the activity, English meanings of unknown vocabulary, and verb conjugations that were necessary for the activity (2009). Individual students were then asked to act out commands. While these students acted out the commands, their peers guessed what they were doing by calling out the command (Elliot & Yountchi, 2009). The subjects were tested on their acquisition of Russian verbs of motion on two

sections of their final exam. In the first section of the exam, the control group out-scored the experimental group. However in the second portion of the exam, which was created specifically to test the hypothesis of this study, Elliot and Yountchi found that the experimental group outscored the control group (2009).

Similarly, Hwang, Shih, Yeh, Chou, Ma, and Sommool found that TPR was beneficial in teaching English as a second language in Taiwan to 39 tenth grade females (2014). The study paired TPR with an interactive computer program (Hwang et al., 2014). Hwang and colleagues divided the students into two groups. The experimental group consisted of 19 students while the control group consisted of 20 students; both groups were given a pre-test to assess their previous knowledge of English before the study began (2014). From this test, Hwang and colleagues found that the groups were equally prepared for the course (2014). At the end of the experiment, a post-test was given. There were no significant differences found between the students that used the program and the students that did not use TPR during instruction (Hwang et al., 2014). However, when Hwang and his colleagues gave a test 21 days after use of TPR and the interactive program, they found students that used the program scored significantly higher on the test (2014). The results of this study suggest that TPR and the interactive program help with the internalization of language learning (Hwang et al., 2014).

In addition, Kariuki and Bush (2008) found that students taught using Total Physical Response with Story Telling (TPRS) significantly outperformed students taught using a traditional approach on a unit test of foreign language acquisition. In this study, 30 high school students were broken into two groups of 15, a control group and an experimental group. The control group was taught using the traditional method to

teaching a foreign language, and the experimental group was taught using TPRS (Kariuki & Bush, 2008). The results show that the subjects exposed to TPRS significantly out-performed students that were not exposed to the TRPS teaching method on their unit test (Kariuki & Bush, 2008). According to Kariuki and Bush, TPRS was found to have a greater impact on the students' vocabulary and language acquisition. They observed students' engagement to be greater in the TPRS group because they did not know what was going to happen next in the lesson (2008).

The Natural Approach

NA, created by Steven Krashen, stresses the use of the second language for meaningful communication (Duran, 1993). According to Duran, the main goal of this approach is for the student to be able to communicate orally and in writing, therefore, the teacher should create activities in which the student is not consciously learning grammar. The NA activities should be interesting and meaningful to the students so they are unconsciously learning the grammar points through speaking and writing (1993). This approach requires role-play in which the students have short conversations pertaining to different topics with peers (Duran, 1993).

NA consists of four stages: the silent period, early production, speech emergence, and intermediate fluency (John & Torrez, 2001). John and Torrez explain that during the silent period TPR is used to give students vocabulary words and show them words that will be used daily in the classroom. During the early production stage, students begin to produce language much like that of a small child learning their first language (2001). They begin to utter words that they hear often such as "yes," "no," or "lunch." Since the students have heard these words numerous times, they are comfortable enough to use

them in front of teachers and peers (John & Torrez, 2001). In John and Torrez's speech emergence stage, children begin speaking in simple sentences. The children can respond to questions that include "how" or "why," because they can generate full sentence responses rather than just one word. In this stage, the learner's vocabulary increases, their pronunciation improves, and they begin to create longer sentences in the target language (2001). In the final stage of the NA, intermediate fluency, the student starts to think in the target language and no longer needs to translate from one language to another. This stage focuses on expanding vocabulary and syntactical patterns in both their first language and target language. The activities used in this stage must still focus on speaking the language. (John &Torrez, 2001)

Research suggests that NA is an effective strategy for teaching a second language. Students taught using NA significantly out-scored peers taught using traditional methods (e.g. Barati, Tehrani, & Youhanaee, 2013; Terrell, 1986). According to a study conducted by Barati, Tehrani, and Youhanaee, students scored higher in both communicative tests and vocabulary test after being taught using NA. The participants in this study were 40 randomly chosen Iranian girls that ranged in age from seven to nine, learning English as a foreign language in grades one to three (2013). Barati and colleagues worked with students in two different schools. One group was taught using an audio-lingual method and NA. They found that students taught using NA scored significantly higher on final exams than students taught using the Audio-lingual approach and students taught using NA communicated better in the target language (2013). This finding supports Krashin's theory that language is seen as a means of communicating and by teaching it that way students learn and communicate better in the target language (Barati et al., 2013).

According to a study by Terrell, students taught using NA were able to access and vocalize words quickly (1986). Terrell broke a college German class in two at the University of California. Half of the class was required to speak in German while the other half of the class was told to respond physically to spoken German. The students responding physically would act out what the teacher and other students were saying or shake their head yes or no (1986). Terrell tested his students individually; they were asked to respond to a speaking prompt using the vocabulary and grammar taught in his lesson. His study found that both groups were able to recall and vocalize the vocabulary but the group that was required to speak did so more quickly (Terrell, 1986). Terrell's study suggests that Krashin's NA, particularly the theory of comprehensible input is effective in foreign language acquisition (1986).

TPR and the NA for Students with LD

Although there is a gap in research studies using TPR and NA to teach a foreign language to students with LD, many researchers suggest that these strategies would be beneficial to students with LD (Arries, 1991; Duran, 1993; Gardner, 2011; Kleinert, Cloyd, Rego, & Gibson, 2007; Skinner & Smith, 2011; Skoning, 2010).

Arries has taught approximately 40 college students with LD, including students with numerous disabilities such as: phonological processing issues, dyslexia, attention deficit disorder, and traumatic brain injuries (1999). According to Arries, students with LD often have language learning disabilities therefore they encounter the same problems in learning a foreign language that they previously encountered learning English (1999). As reported in chapter one, the difficulties of students with language-based learning disabilities include orthographic coding, phonological coding, morphological coding, and

syntax coding (Berninger & May, 2011). According to Ganschow and Sparks, difficulties with phonological coding, orthographic coding, and syntax coding can be apparent in learning a first language as well as a second language (1995). Teachers should facilitate the memory of their students with LD, and TPR is a strategy that can be used to do this (Arries, 1999). Arries suggests the use of a written script with TPR activities to ensure students are following the lesson. He observed that his students learned grammar better when they were taught using a multisensory kinesthetic approach (1999).

According to Gardner, TPR was successfully used in the Maryland Correctional Institution-Jessup to teach English as a second language (ESL) to adult learners. The participants in TPR lessons were male inmates between the ages of 19 and 56 (2011). Gardner explains that the ESL teacher used football as the basis of the lesson for Hispanic students. The teacher taught basic football vocabulary by turning his classroom into a football field and having the students act out each vocabulary word. The teacher later taught a similar lesson on cooking in which the students cooked entire meals using English (2011). From these lessons, Gardner suggests TPR is a great tool to use for language practice, engagement, and conversations. He explains that TPR can be used to help students learn language in context and learn the meaning of the language and it emphasizes socialization of students that would not normally socialize (2011). TPR can be used with any topic and transferred to writing and reading materials regarding the specific topic being taught. TPR lessons can have several goals and objectives for students at different levels and can be used to differentiate instruction (Gardner, 2011). Kraiuki and Bush (2008) believe that students' engagement increased when using TPRS

as a teaching strategy; and similarly, Gardner suggests that students are completely engaged in the lesson when taught using TPR as a strategy (2011).

Kleinert, Cloyd, Rego, and Gibson also suggest the use of TPR and communicative methods will help students with LD learn a foreign language (2007). Kleinert and colleagues suggest that TPR's physical activity and everyday language makes the students language learning more meaningful (2007). The researchers propose the use of language at the students' current comprehension level in the foreign language. They suggest that teachers begin with sentences that the students understand and gradually add more complex grammar as part of NA (2007). Kleinert and colleagues observed the use of these two strategies in a 4th grade classroom and found a student with LD excelled when his teacher used TPR as a strategy to teach vocabulary. The same student also excelled when NA was used. The teacher used partner conversations to encourage the students to speak Spanish in the classroom (Kleinert et al., 2007).

In an article written by Duran in 1993, a teacher in California used NA along with TPR to teach two Asian students with autism English. The teacher taught the students food words they were familiar with based on their Asian background (Duran, 1993). According to Duran, the students became fluent in food words based on the use of NA in the classroom and their parents were pleased that they learned words that meant something to them. This also kept their interest because they could relate to the topic of food and enjoyed cooking (1993). Furthermore, Duran observed the use of TPR with a student with severe intellectual disabilities. The student learned six English commands within one month of TPR instruction (1993). From these findings, Duran suggests that

students with severe disabilities learn language better when taught using both TPR and NA. (1993).

In contrast, Pritikin suggests that a direct approach to teaching foreign languages is more beneficial to students with disabilities (1999). In a published curriculum for practitioners entitled, *A Policy of Inclusion: Alternative Foreign Language Curriculum for High-Risk and Learning Disabled Students* Pritikin recommends using audio cues, dialogues, tactical kinesthetic reinforcement, phonology and syntax, phonetic transcription, and repetition and review to teach foreign language to students with LD (1999). The curriculum recommends using drills to practice phonology, syntax, and repeat and review material (Pritikin, 1999). Pritikin also suggests allowing students with LD to write foreign language words phonetically to help them with pronunciation. In the curriculum, Pritikin suggests the use of drills in which the students write words on small white boards to include tactical kinesthetic reinforcement (1999).

Summary

The reviewed literature suggests that TPR and NA are both effective in teaching a foreign language. When TPR is used in the classroom, students respond to the teacher's commands by reproducing the commands and hand gestures or movements the teacher makes. From constantly repeating these motions, the students begin to learn the language (Duran, 1993). NA stresses the use of communication in a way that is meaningful and interesting to the students to enhance their speaking and writing abilities in the target language (Duran, 1993). From previous research, it seems that both TPR and NA are effective strategies in teaching general education high school students, college students, and elementary education students a foreign language. However, there is little research to

support both strategies effects on students with LD. Students with LD often struggle with learning a foreign language due to the nature of their disabilities. Studying a foreign language requires students to use language skills they may already lack in their native language (Arries, 1999). This study will build on the research of Duran (1993) and examine the effect of a combined approach utilizing both TPR and NA strategies to teach students with LD Spanish in an inclusion classroom.

Chapter 3

Method

Setting

School. The study was conducted in a regional public high school in suburban New Jersey. During the 2015-2016 school year, the school served 708 students in grades nine through twelve from three sending districts. Of the 716 students, 138 currently receive special education services. The school is considered a Title 1 high school. Four students participated in the study. All of these students receive special education services and have Individual Education Plans (IEPs).

Classroom. The study was conducted in one of the school's three Spanish classrooms. There are twenty desks in the room, which are arranged in rows. The desks face the Smart Board, which is in the front of the classroom. In the back corner of the room, there are three filing cabinets where the students store their binders that they use in class. In regards to technology, the Smart Board is used in the classroom on a daily basis. The students have access to Chrome Books, which the teacher must check out from the library.

The study took place during the students' first and second period Spanish classes. The classes are forty-two minutes long. The first period Spanish class consisted of seventeen students. Seven of these students had IEPs. The second period Spanish class consisted of sixteen students. Seven of the students in the second period Spanish class had IEPs as well.

Participants

Students. A total of four students with LD participated in this study. Of the four students two were male and two were female. The two females were Caucasian while one

of the males was African American and the other Caucasian. The students were classified as eligible for Special Education services under the following categories: Communication Impaired, Other Health Impaired (ADHD), and Auditorily Impaired. Table 1 shows general participant information.

Table 1

General Information on Students

Student	**Age**	**Grade**	**Classification**
A	16	10	Communication Impaired
B	15	10	Other Health Impaired (ADHD)
C	16	10	Other Health Impaired (ADHD)
D	16	10	Auditorily Impaired

Student A is a 16-year-old African American male classified as Communication Impaired. He is in 10th grade. According to his IEP, Student A demonstrates below average language abilities. According to his teachers, Student A is hard working and completes all his work when accommodations are present. Student A benefits from rewording and repeating of directions, refocusing and redirecting, and small group instruction. Student A generally comes to class in a good mood and is ready to work.

Student B is a 16-year-old Caucasian female classified as Other Health Impaired (ADHD). She is in 10th grade. Student B has trouble completing academic tasks on time

and focusing on her work. According to her teachers, she benefits from redirection and individual attention from an in class support teacher. She gets along well with peers and is generally in a good mood. She comes to class ready to work but needs constant redirection to complete tasks in the given amount of time.

Student C is a 16-year-old Caucasian female classified as Other Health Impaired (Inattentive-ADHD). She is in 10th grade. According to her IEP, Student C is in the below average range in reading comprehension, oral expression, and math problem solving. Reading has been a constant struggle for Student C as she has deficits in the areas of pseudoword decoding and word reading. According to her teachers, she is extremely hard working and completes all of her work. She is friendly and gets along well with both peers and teachers. She benefits from redirection and the use of graphic organizers to keep her organized.

Student D is a 16-year-old Caucasian male classified as Auditorily Impaired. He is in 10th grade. Student D has cochlear implants and reads lips. According to the speech pathologist, his language abilities are in the average to low average range and he has significant deficits in the area of articulation. Student D's mathematic and reading skills are in the average range. According to his teachers, Student D completes all of his work, but is very social and talkative. He is involved in football and is easily distracted by other members of the team in class. He benefits from constant redirection and must be reminded to look at the teacher so he can read his or her lips.

Teacher. A Spanish teacher instructed the class during this study. The teacher has eight years of experience teaching Spanish. She has been teaching at this school for three years. She has been teaching Spanish I to students with LD for 4 years. She is responsible

to create lessons that incorporate the New Jersey Core Curriculum Content Standards for World Languages.

Materials

Vocabulary picture flashcards. The teacher created vocabulary picture flash cards for each student using a Google Slides presentation. The teacher put the picture of each vocabulary word on a slide and printed six slides to a page. The students wrote the vocabulary word on the slide and cut it out to create a flash card. These flash cards were used later in the TPR section of the lesson. The teacher called out the vocabulary word and the students held up the picture of the said word.

Vocabulary actions. The teacher created actions for each vocabulary word. She said the vocabulary word while doing the action to teach the students each action. Then, the students did the action on their own while the teacher called out the word.

Guided speaking sheets. Guided speaking sheets were created by the teacher to help guide the students in conversational Spanish. The sheets consisted of a chart with questions and answer options on them. The first guided speaking sheet for each lesson included a one-word answer option and each question was asked in the tú form. For example, "Are you going to read a book?" with an answer option of either yes or no. The second guided speaking sheet for each lesson included a question in tú form and the students were guided to respond in a complete sentence. Using the same example question, "Are you going to read a book?" The students would then respond saying, "Yes, I am going to read a book." The third guided speaking sheet for each lesson included asking a question with different subjects and responding in a complete sentence. For example, the students would ask, "Are they going to read a book?" and respond in a

complete sentence, “Yes, they are going to read a book.” The students were guided to ask each other these questions orally and record each other’s responses on the chart. Figure 1 is an example of the guided speaking charts used in this study.

Pregunta	**Sí**	**No**
¿Tienes la clase de música?		
¿Tienes la clase de arte?		
¿Tienes la clase de química?		
¿Tienes papel?		
¿Tienes la clase de historia?		

Figure 1. Example of guided speaking chart

Measurement Materials

Daily warm-up sheet/learning log. A daily warm-up sheet and learning log were used to measure student’s written language acquisition. The daily sheet consisted of a space for a warm-up, the objective, the learning log, and homework. The teacher wrote a question on the Smart Board in the warm-up section of their sheet and the students were instructed to respond to the question in a complete sentence. At the end of the period, the teacher wrote a question on the board for the learning log and the students answered the second question in a complete sentence.

Weekly speaking assessment. During the weekly quiz, each student was called up to the teacher to complete a speaking assessment. The teacher asked each student three questions and the student had to respond in a complete sentence. The teacher then used a rubric to assess the students' oral language acquisition based on their answers to this section of the quiz. The students were assessed based on their use of a complete sentence, subject and verb usage, and word order.

Weekly written assessment. The students were given a weekly written assessment. The students were asked three questions and had to write their answers in a complete Spanish sentence. Each question was worth four points making the written assessment worth twelve points total. Once again, the students were assessed based on their use of a complete sentence, subject and verb usage, and word order. The students received one point for answering in a complete sentence, one point for using the correct subject, one point for using the correct verb form, and one point for correct word order.

Survey. The students participating in the study were given a Likert scale survey at the end of both phases of intervention. The purpose of this survey was to judge their satisfaction with the implementation of Total Physical Response and the Natural Approach. On this survey, 5 represented strongly agree, 4 represented agree, 3 represented neutral, 2 represented disagree, and 1 represented strongly disagree. The questions were designed to ask how they feel they learn language best and if the use of the two strategies positively or negatively influenced their learning.

Research Design

The study was conducted using a single subject design with ABAB phases. During Phase A, baseline data was collected for one week by the researcher using warm-

ups, learning logs, and speaking and writing assessments. During Phase B, the teacher implemented the use of TPR and NA strategies. The same assessments were used for two weeks. During the second Phase A which lasted one week, the teacher returned to baseline and did not use TPR and NA during instruction. During the second Phase B, which lasted one week, the teacher used TPR and NA again during instruction. The teacher used the same types of written and speaking assessments during all phases.

Procedures

Instructional design. Baseline data was collected by the researcher over a one week period. The students were instructed to respond in writing to the questions in their warm-up and learning logs in complete Spanish sentences. At the end of the one-week period, students took writing and speaking assessments. This data was collected, graded, and analyzed by the researcher using a rubric.

During Phase A, students were taught using notes sheets. They wrote their vocabulary down in a chart using the English word and the Spanish word. All grammar notes were presented in a chart form commonly used in foreign language instruction, which included all the subjects and different forms of the verb that match them. During the intervention, the first half of each class period was dedicated to using TPR to teach vocabulary and the second half of each class period was dedicated to using NA.

The teacher implemented TPR in two ways in her lessons. First, she said the vocabulary word and the students held up the picture of the word that matched the spoken word. After the teacher called out each word, she called on students to call out the words while the remainder of the class held up the flash cards. The flash card TPR method was used for five days in both Phases B. In the second implementation of TPR, the teacher

created a movement for each vocabulary word. The teacher would say the vocabulary word and do the action while the students mimicked her. Then, a student would call out each vocabulary word while the other students acted it out and repeated the word. This method was used for five days in both B Phases.

The teacher implemented NA in both B Phases by creating guided conversation worksheets. Four topics were taught using this method. The topics included tener used with class schedules, venir used with school locations, the use of cuánto, mucho, and poco, and –er/-ir verbs in the present tense. On day one of each topic, the guided conversation sheets consisted of questions in the tú form only and students answered with a one-word answer. On day two of each topic, the questions were still in the tú form but the students responded in a complete sentence. On day three of each topic, the questions were in the él, ella, and usted form and the students answered in complete sentences. On day four of each topic, the plural forms of each verb were introduced and students answered in complete sentences.

After two weeks using TPR and NA, the teacher went back to using note sheets as her main form of instruction for one week. For the last week of the study, the teacher implemented TPR and NA again as described above.

Measurement Procedures

Daily warm-up sheet/learning log. At the beginning and the end of class, the students wrote answers to questions in complete Spanish sentences. This happened every day during the study. The students' writing was graded daily using a rubric based off of subject usage, verb usage, complete sentence usage, and word order.

Weekly speaking assessment. Each week during the study, the students were asked three questions orally by the teacher. Their oral responses were graded using a ten-point rubric that included the topics of subject usage, verb usage, complete sentence usage, and word order.

Weekly written assessment. Each week during the study, the students were asked to respond in writing to three questions. Their written responses were graded using a ten-point rubric that included the topics of subject usage, verb usage, complete sentence usage, and word order. Table 2 represents the rubric used for all speaking and writing assessments.

Table 2

Rubric

	0	1	2	3	Student Score
Subject Usage	No Subject in Answer	Incorrect Subject in Answer	Correct Subject in Answer	N/A	
Verb Usage	No Verb in Answer	Infinitive of Verb in Answer	Incorrect Conjugated Verb in Answer	Correct Conjugated Verb in Answer	
Complete Sentence	One Word Answer	Attempts to Create Sentence: Answers in 2 + Words	Creates a Complete Sentence Response	N/A	
Word Order	Incorrect Word Order	Subject Verb Reversal/ Missing information	Subject Verb in Correct Order but Does not Add Information/ incorrect pronoun/ gender or number error	Subject Verb in Correct Order and All Information is in Sentence	
				Total Rubric Score	____/10

Survey. At the end of the first and second Phase B, students were given a Likert scale type survey. The students were directed to respond to each statement on the survey by rating it from one to five with one representing strongly disagree and five representing strongly agree.

Data Analysis

The data from the students' scores on each rubric was collected, calculated in percentages, and displayed on a visual graph. The written assessment, speaking assessment, and warm-up/learning log scores were each presented in percentages on a visual graph for each student.

Chapter 4

Results

Language Acquisition

Research question one asked, does the combined use of TPR and NA effect the foreign language acquisition of students with learning disabilities? Students' language acquisition scores were based off of daily writing assessments and weekly writing and speaking assessments. These assessments were graded using the rubric found in Table 2. Means and standard deviations of student's scores on daily writing assessments were calculated and are shown in Table 3.

Table 3

Language Acquisition: Mean and SD of Daily Writing Assessments across Phases

	Baseline 1		Intervention 1		Baseline 2		Intervention 2	
	Mean %	SD %	Mean %	SD %	Mean %	SD %	Mean %	SD %
Student A	60.0	23.5	11.7	20.5	22.5	22.8	0	0
Student B	0	0	66.7	25.8	26.3	34.9	25.0	25.0
Student C	81.3	18.5	67.8	22.5	73.8	42.6	100	0
Student D	81.3	21.0	50.0	33.3	50	35.4	68.8	20.7

Daily writing assessments. Individual student language acquisition writing scores were obtained by averaging daily entrance and exit tickets to assess written language ability.

Student A is a 16-year-old African American male. He is eligible for special education services due to his classification of Communication Impaired. During the first baseline, Student A's mean score was 60%. Student A's mean score during the first intervention phase decreased to 11.7%. Students A's mean score increased to 22.5% during the second baseline, then during the second intervention phase again decreased to 0%. Student A's daily data is shown in Figure 1. As seen in Figure 2, Student A's scores slightly decrease during both baseline phases. Student A's scores decrease significantly when TPR and NA were used as instructional strategies during both intervention phases.

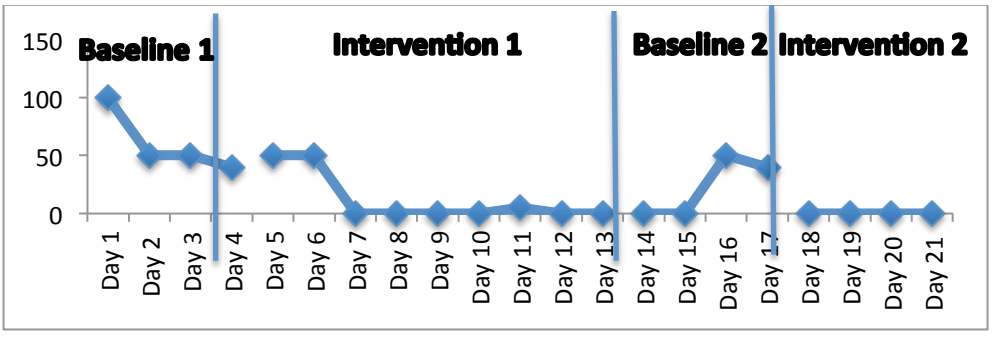

Figure 2. Daily language acquisition scores Student A

Student B is a 16-year-old Caucasian female. She is eligible for special education services due to her classification of Other Health Impaired (ADHD). Student B's first baseline mean score was 0%. During the first intervention phase, Student B's mean score increased to 66.7%. Student B's mean score decreased during the second baseline to 26.3%. When TPR and NA were implemented for a second time, Student B's mean score decreased slightly to 25%. Student B's daily data is shown in Figure 3. As seen in the figure, Student B's scores tended to increase during both intervention phases. Student B's scores tended to decrease during both baseline phases with a few scores as low as zero percent.

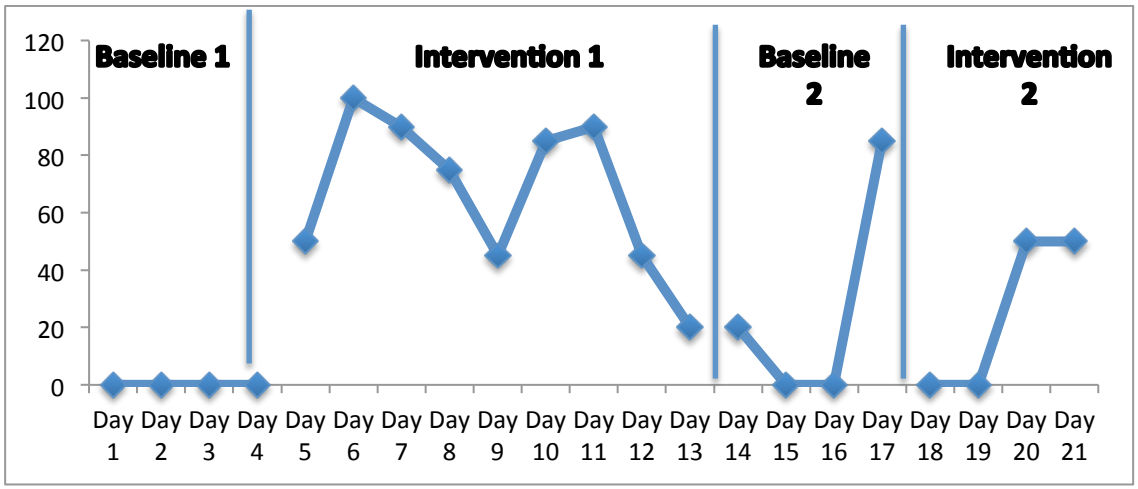

Figure 3. Daily language acquisition scores Student B

Student C is a 16-year-old Caucasian female. She is eligible for special education services due to her classification of Other Health Impaired (Inattentive-ADHD). Student C's first baseline mean score was 81.3%. During the first intervention phase, Student C's mean score decreased to 67.8%. During the second baseline, Student C's mean score increased to 73.8%. When TPR and NA were used as instructional strategies during the second intervention, Student C's mean score increased to100%. Student C's daily data is shown in Figure 4. During both intervention phases, Student C's scores tended to stay in the same range. A visual analysis shows Student C's scores as decreasing slightly once during each baseline phase.

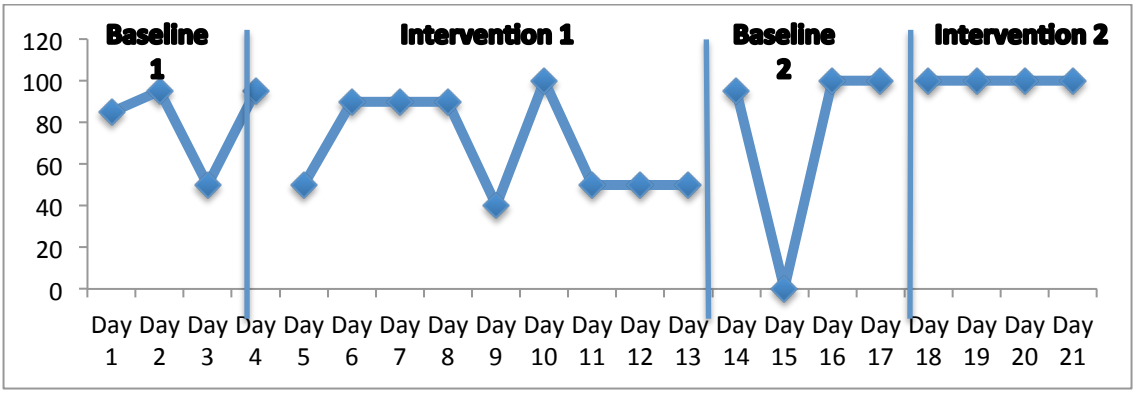

Figure 4. Daily language acquisition scores Student C

Student D is a 16-year-old Caucasian male. He is eligible for special education services due to his classification of Auditorily Impaired. During the first baseline,

Student D's mean language acquisition writing score was 81.3%. During the first intervention phase, Student D's mean score decreased to 50%. Student D's mean score remained consistent during the second baseline phase at 50%. During the second intervention phase, Student D's mean score increased to 68.8% on daily prompts. Student D's daily data is shown in Figure 5. This figure shows Student D's daily language acquisition score's initially increased during both intervention phases, when TPR and NA were implemented as instructional strategies.

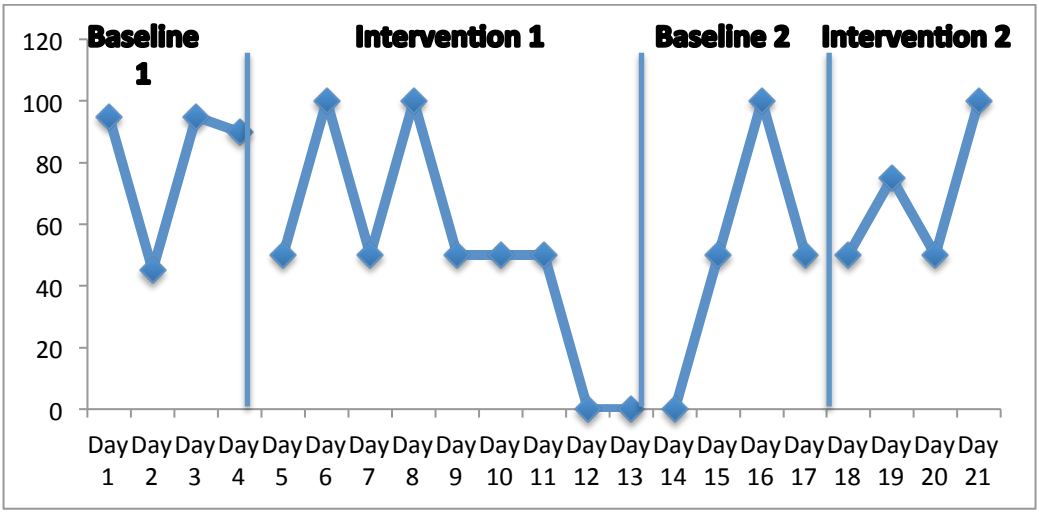

Figure 5. Daily language acquisition scores Student D

In addition to the daily assessments reported upon above, language acquisition was assessed weekly through writing and speaking tests. These tests were graded using

the rubric seen in Table 3. Student scores on weekly writing and speaking assessments were calculated and are shown in Table 4.

Table 4

Mean Weekly Language Acquisition Assessments Across Phases

	Weekly Writing Assessments (%)				Weekly Speaking Assessments (%)			
Phases	A	B	A	B	A	B	A	B
Student A	10.0	55.0	80.0	70.0	80.0	51.0	53.0	70.0
Student B	83.0	90.0	91.5	100.0	0.0	93.0	94.5	83.0
Student C	73.0	83.0	86.0	100.0	90.0	98.0	80.0	83.0
Student D	93.0	100.0	100.0	100.0	93.0	91.5	80.0	90.0

Weekly writing and speaking assessments. During the first baseline, Student A's mean score for the weekly language acquisition writing assessment was 10%. During the first intervention phase, when TPR and NA were used, Student A's mean score on the writing assessment increased by 45 points to 55%. During the second baseline, Student A's mean score on the writing assessment was 80.0%, and during the second intervention phase, Student A's mean score decreased by 10 points to 70%. During the first baseline, for the weekly language acquisition speaking assessment Student A's mean score was 80%. During the first intervention phase, Student A's mean score on the speaking assessment decreased to 51%. During the second baseline, Student A's mean score on the

speaking assessment was 53%, and during the second intervention phase, Student A's mean score increased to 70%.

Student B's mean score during the first baseline for the language acquisition writing assessment was 83%. When the interventions of TPR and NA were initially put into place, Student B's mean score increased to 90%. During the second baseline, Student B's mean score on the language acquisition writing assessment increased to 91.5%. Student B's mean score increased again during the second intervention phase to 100%. During the first baseline, for the weekly language acquisition speaking assessment Student B's mean score was 0%. During the first intervention phase, Student B's mean score on the speaking assessment increased to 93%. During the second baseline, Student B's mean score on the speaking assessment was 94.5%, and during the second intervention phase, Student B's mean score decreased to 83%.

During the first baseline, Student C's mean score on the language acquisition writing assessment was 73%. Student C's mean score increased to 83% in the first intervention phase when TPR and NA were used as instructional strategies. Student C's mean score increased during the second baseline to 86%. When the intervention was implemented again, Student C's mean score increased to 100% on the language acquisition writing assessment. During the first baseline, for the weekly language acquisition speaking assessment Student C's mean score was 90%. During the first intervention phase, Student C's mean score on the speaking assessment increased to 98%. During the second baseline, Student C's mean score on the speaking assessment was 80%, and during the second intervention phase, Student C's mean score increased to 83%.

Student D's initial baseline score was 93% on the weekly language acquisition writing assessment. During the first intervention phase, TPR and NA were used, and Student D's mean score increased to 100%. In the second baseline, Student D's mean on the weekly language acquisition writing assessment was 100%. Student D's mean score was constant at 100% during the second intervention phase. During the first baseline, for the weekly language acquisition speaking assessment Student D's mean score was 93%. During the first intervention phase, Student D's mean score on the speaking assessment decreased to 91.5%. During the second baseline, Student D's mean score on the speaking assessment was 80%, and during the second intervention phase, Student D's mean score increased to 90%.

Survey Results

Research question two asked, are students satisfied with the instructional strategies of TPR and NA in the foreign language classroom? All students completed a Likert scale satisfaction survey after the first intervention phase and at the end of the study. Results were tallied and calculated into percentages. Table 5 represents the percentage of students that responded in each category to each statement after the first intervention phase. Table 6 represents the percent of students that responded in each category to each statement at the end of the study.

Table 5

Student Satisfaction after First Intervention Phase

Statement	**5 Strongly Agree (%)**	**4 Agree (%)**	**3 Neutral (%)**	**2 Disagree (%)**	**1 Strongly Disagree (%)**
1. Acting out vocabulary words helped me to learn the word's meaning.	50	25	0	25	0
2. Repeating vocabulary words helped me to learn the word's meaning and pronunciation.	25	25	25	25	0
3. Speaking Spanish more often in the classroom helped me to learn Spanish	50	25	0	25	0
4. Asking a partner questions in Spanish and responding to their questions helped me to learn.	50	25	25	0	0
5. I prefer to learn by taking notes and writing rather than speaking and acting out words.	25	0	50	0	25

Table 6

Student Satisfaction at Study Conclusion

Statement	**5 Strongly Agree (%)**	**4 Agree (%)**	**3 Neutral (%)**	**2 Disagree (%)**	**1 Strongly Disagree (%)**
1. Acting out vocabulary words helped me to learn the word's meaning.	100	0	0	0	0
2. Repeating vocabulary words helped me to learn the word's meaning and pronunciation.	50	25	0	25	0
3. Speaking Spanish more often in the classroom helped me to learn Spanish	50	25	25	0	0
4. Asking a partner questions in Spanish and responding to their questions helped me to learn.	25	25	25	25	0
5. I prefer to learn by taking notes and writing rather than speaking and acting out words.	50	0	25	25	0

Throughout the study, students' responses increased in favor of the use of TPR and NA as teaching strategies. After the first intervention phase, 75% of the students involved in the study agreed with the statement, "Acting out vocabulary words helped me to learn the word's meaning," 50% of the students strongly agreed and 25% of the students agreed. The number of students that strongly agreed with this statement

increased to 100% by the end of the study. After the first intervention phase, 25% of the students strongly agreed with the statement, “Repeating vocabulary words helped me to learn the word’s meaning and pronunciation.” The number increased to 50% of the students by the end of the study. At the end of the first intervention phase, 50% of the students strongly agreed with the statement, “Speaking Spanish more often in the classroom helped me to learn Spanish.” The number of students that strongly agreed with this statement remained constant throughout the study but the number of students that disagreed with this statement decreased from 25% to 0%. As for the statement “Asking a partner questions in Spanish and responding to their questions helped me to learn,” 50% of the students strongly agreed during the first intervention phase. This number decreased to 25% of the students at the end of the study with 25% of the students involved in the study then disagreeing with the statement. In the final statement, “I prefer to learn by taking notes and writing rather than speaking and acting out words,” 25% of the students responded in strong agreement at the end of the first intervention phase. This number increased to 50% by the end of the study and students no longer strongly disagreed with this statement.

Chapter 5

Discussion

Findings

The purpose of this study was to determine if TPR and NA have an effect on the foreign language acquisition of students with learning disabilities and to investigate the students' opinion of the two teaching strategies.

The results of this study showed that the daily language acquisition scores of two of the four students increased during both intervention phases. When TPR and NA were implemented in the classroom, Student B and Student C's daily language acquisition scores both increased. In contrast, Student A and Student D's scores decreased during each intervention phase of the study. Student A's scores showed very little daily language acquisition when implementing TPR and NA as instructional strategies. Student D's scores showed a slight increase in daily language acquisition at the beginning of each intervention phase but ultimately the scores decreased at the end of each intervention phase.

In contrast to the inconsistent daily assessments results, results of weekly assessments showed an increase in the written language acquisition of all four students over the course of the study. Evidence of increased written language acquisition can be found in the students' weekly writing assessment scores. Student B, Student C, and Student D's mean scores demonstrate an increase in written language acquisition when TPR and NA were present as instructional strategies. Student A's mean scores demonstrate an increase in written language acquisition during the first intervention

phase. This suggests that the combined use of TPR and NA resulted in an increase in written language acquisition of students with LD. These findings corroborate with the findings of Duran (1993), as the students language acquisition increased when a TPR and NA were implemented as teaching strategies.

The inconsistency in daily data could be explained by the method of daily data collection. The students had been handing in warm-ups and exit tickets on a daily basis since September. Prior to the start of the study, the students received classwork points for solely handing in these assignments. They were not graded using the rubric used during the study. The strength of the students' weekly assessment data could be due to the method of collection as well. Students were given written quizzes or tests at least once a week beginning in September. They knew these tests were graded based on correctness and would have a larger impact on their grade than the warm-up and exit tickets.

The results of this study showed that student spoken language acquisition varied during each phase as evidenced by weekly speaking assessment scores. Students C's spoken language acquisition scores increased over the course of the study suggesting that TRP and NA had a positive effect on his spoken language acquisition. Student B's spoken language acquisition scores initially increased when TPR and NA were used as instructional strategies. This suggests that TPR and NA positively effected Student B's spoken language acquisition. In contrast, Student A and Student D's spoken language acquisition scores initially decreased when TPR and NA were implemented in the classroom, however, at the conclusion of the study both students' spoken language acquisition scores increased. Student B and Student C are both classified as other health impaired, ADHD. Both Student A and Student D are classified as having communication

impairments. Student A is classified as communication impaired and Student B is classified as auditorily impaired. It appears TPR and NA were more effective for students with ADHD than students with communication impairments.

The students involved in the study were surveyed at the end of both intervention phases to assess their satisfaction with the implementation of TPR and NA as instructional strategies. A majority of the students responded that acting out vocabulary words helped them to remember the meaning of the word and that repetition of the words helped them to learn the words meaning and pronunciation. These are the main concepts of TPR. When responding to the statement, "Speaking more Spanish in the classroom helped me to learn Spanish," 75% of the students involved in the study agreed. When students were asked about asking each other questions in Spanish, only 25% of the students involved in the study believed this helped them to learn. When responding to the statement, "I prefer to learn by taking notes and writing rather than speaking and acting out words," 50% of the students involved in the study agreed. These results show that students did favor the use of TPR and NA in the classroom as opposed to traditional instruction.

Limitations

The results of this study may have been different if more time was spent using both TPR and NA as instructional strategies. The data collected from this study may have been stronger if each phase had lasted several weeks rather than one to two weeks per phase. The trend in the data from Student A and Student D's spoken language acquisition scores and the similarity of their disabilities could imply that TPR and NA may have been more effective if used with these students over a longer period of time.

Due to limited time between study IRB approval and the end of school, this study took place in May and June of the school year. Due to time constraints, each A phase was shortened by one week, the first B phase was shortened by one week, and the second B phase was shortened by two weeks. If there was enough time to complete the study using the original AB phase plan, the study may have shown different results. The method of daily data collection may be the cause of inconsistency in daily language acquisition data, as the students completed warm-ups and exit tickets on a daily basis since the beginning of the school year and the rubric used in the study was not used over the course of the school year.

Due to the small number of participants in this study, the results cannot be generalized to the entire population of special education students. The combination of TPR and NA as suggested by Duran (1993) was effective for students as opposed to using TPR or NA in isolation, however it remains unclear which strategy actually impacted students' learning; the students' learning may have been affected by TPR, NA, or the combination of the two strategies.

Implications and Recommendations

Despite the limitations of this study, the data suggests that a combined approach using TPR and NA to teach foreign language to students with LD has a positive effect on students' written language acquisition. Due to the varied nature of the results of the weekly speaking assessments, the effectiveness of TPR and NA on spoken language acquisition remains unclear. The results of this study could suggest that students with ADHD may benefit from the use of TPR and NA in the foreign language classroom as both Student B and Student C benefitted from their use during this study. These results

could also suggest that the use of TPR and NA may not be effective when used with students with communicational disabilities, as Student A and Student D did not benefit from their use during this study. The results of the survey suggest that students enjoyed the implementation of TPR and NA as instructional strategies in their classroom.

Previous studies show that both TPR and NA have positive effects on language acquisition in general (Asher, 1966; Barati, Tehrani, & Youhanaee, 2013; Hwang, Shih, Yeh, Chou, Ma, & Sommool, 2014; Kariuki & Bush; 2008; Elliot & Yountchi, 2009; Terrell, 1986). Although this study attempts to bridge the gap in research regarding the effects of TPR and NA on students with LD, further research must be done in order to do so. Similar studies must be conducted with increased numbers of participants in furtherance of truly assessing the effectiveness of TPR and NA on second language acquisition of students with LD.

Conclusion

This study was encouraging as it shows the positive effect that TPR and NA had on the written language acquisition of students with LD, and shows student satisfaction with the use of the two strategies. The study demonstrates the positive effect that TPR and NA may have on spoken language acquisition of students with LD, if both strategies are implemented over a longer period of time. While this study attempts to demonstrate the positive effects of TPR and NA on the language acquisition of students with LD, further studies are recommended to be conducted with a larger number of participants, over a greater time period, in order to further bridge the gap in research on this topic.

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