THE USEFULNESS OF TOTAL PHYSICAL RESPONSE IN A LANGUAGE LEARNING ENVIRONMENT

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Abstract

The purpose of this study looks at the usage of the Total Physical Response teaching methodology within a language learning environment. The study was done within a Spanish learning environment with high school, Spanish I students. The control group was taught utilizing the traditional style of teaching through drill and practice. The experimental group utilized the methodology of TPR within the target language, Spanish. At the conclusion of the instructional period, all students were given a posttest within the 4 language domains: reading, writing, speaking, and listening. The study suggested evidence that TPR did show a significant difference in language acquisition between using Total Physical Response teaching methodology compared to not using Total Physical Response teaching methodology within the domains of speaking and reading. But, the study did not provide evidence to suggest that that TPR did show a significant difference in language acquisition between using Total Physical Response teaching methodology compared to not using Total Physical Response teaching methodology within the domains of writing and listening.
Introduction

Background Issues and Concerns

The ability to communicate through speech is not an innate ability, but rather, an ability that is acquired later in life. James Asher (2009) noted that young children learn language through commands and instructions given by the caregiver. Asher applied this philosophy to learning a second language (L2). During such practice, the teachers use language-body conversations, through which, the students will participate and become intrinsically motivate. He termed the language-body practice, Total Physical Response (TPR).

Practice under Investigation

Currently, the language learning curriculum is outlines by a private organizations. American Council for Teachers of Foreign Languages (ACTFL) outlines the standards for teaching a foreign language to native English speakers within the United States, and World-Class Instructional Design and Assessment (WIDA) sets the standards for teaching non-native speaker (NNS) within the state of Missouri. The standards offer goals of proficiency within the target language, or the language striving to be acquired. There is no overall assessment tool that is used to measure the proficiency in the target language. Therefore, teachers use a variety of tools and resources to teach the target language. Many of these tools are focused on translation and repetition. Many school teachers do not see the usefulness of differentiated education to motivate students.

Conceptual Underpinning

In 1931, Dewey challenged the traditional education system. He focused on a more student-centered education that tailored to students’ interest and social experiences.
His thoughts reformed the educational system. John Asher’s TPR fits the student-centered model of thinking that Dewey advocated in support of. Within the high school setting, teachers find themselves teaching to meet the expectations of the standardized test, and therefore, focusing on the content over the student’s experiences. TPR lends itself to creating student experiences that shape their learning and motivate intrinsically with the main focus being on the curriculum (Noll, 2014).

School Policy to be informed by Study

The set-up of many high school classrooms looks too much like the traditional model that Dewey argued against. He stated that within this set-up society is passing along mature thoughts and finds to the immature learners. Then, society expects the students to take the knowledge and expound upon it. Dewey suggests society should present the findings in a way that leads students to inquiry and involvement, thus allowing them to expound on the ideas from the beginning. High school classrooms are specialized in content, therefore, the content does not have to be delivered and drilled and practices, as in the traditional model. Rather, the content should be given in student-centered classroom, which lends itself to growth of the specialized content idea and the students’ interest.

Statement of the Problem

Too many high schools build from the ideology of passing along mature thoughts and having the future generation build upon these thought. With this ideology, teachers in core content classes and language classes do not see the need for differentiated instruction at the secondary level. The lecture-note taking classroom model is frequently utilized to deliver ideas, and drills are used to convert the knowledge into rote memory.
But, there are a variety of evidence based practices to reach and engage a variety of students outside of the traditionalist point of view.

**Purpose of Study**

One of these practices is John Asher’s Total Physical Response. The acquisition of a second language is a constant interaction with comprehensible input to produce meaningful output. Therefore, a variety of instructional practices is best input in order to produce meaningful output. Within the following study, the overall goal is to show educators within a language learning environment that other evidence based practices can be more effective than utilizing direct teaching with note taking when striving for student proficiency.

**Research Questions**

Based off of Asher and Dewey’s hypothesis the teacher should utilize methodologies that enhance student experience. But, a multitude of teacher still utilize the traditional methodologies. These two mindsets beg the question is there a significant difference in language acquisition between using total physical response teaching methodology compared to not using total physical response teaching methodology?

**Null Hypothesis**

Driven by the research question, the following study will attempt to show teachers the advantages to utilizing TPR as a teaching tool. While doing this, the study will attempt to disprove the null hypothesis. The null hypothesis states, there is not a significant difference in language acquisition between using total physical response teaching methodology compared to not using total physical response teaching methodology.
Anticipated Outcomes

The outcomes of this study will illustrate the usefulness in finding motivating ways to teach a different language. The test scores of the experimental group will yield the validity of implementing the teaching practice TPR in secondary, language classrooms. From the findings, all secondary teachers can utilize the data to back up the claim that differentiate instruction will motivate students and yield higher test scores for students. Thus the study will motivate teachers to go away from the traditional structure of high school classrooms in order reap the benefits that coincide with the TPR instructional method.

Definition of Terms

Through language learning there is a variety of terminology that is foreign to those outside of the language learning realm. First, target language is the language the students is hoping to acquire based off input the student receives. In addition, the L2 is the acronym for the second language or the target language. The L1 is the native language the learner speaks. While learning the language the learner must master the syntax, or the grammatical structure of the language. In order to do so, the teacher utilizes a variety of best practices. Best practices simply means instructional input that has consistently yielded more advanced results than other practices.

Summary

Within the following study, the research of John Asher and John Dewey will guide a Spanish language learning classroom. Through the usage of TPR, the students will become intrinsically motivated and gain knowledge of the target language. The study aims to disprove the thoughts of the traditionalist in that there is not a significant
difference in language acquisition between using total physical response teaching methodology compared to not using total physical response teaching methodology. The study should show the validity of implementing student-centered teaching practices, in particular TPR, within secondary, language classrooms. In addition, the study aims to motivate teachers to supplement traditional styles of teaching using drill and practices, with student experiences within a student-centered classroom. The process will strengthen the oral language proficiency, syntax of the language, while maintaining the overall semantics of the discourse.

John Dewey change the ideology of education with his student-centered classroom. John Asher expounded upon the idea, and involved whole-body instruction and practice in a way for learners to succeed. Though the methodology and ideology dates back to 1931, many teachers and school personnel have not bought into the experience based learning styles. Rather, the classroom format is very tradition with the teacher delivering the curriculum through direct teaching, and the students do drills and practice to acquire the knowledge. TPR is an evidence based practice that has support from a number of researcher within the field of education. This in support with the following study should show the validity of the practice in question.
Review of Literature

There are two different outlooks on second language acquisition (SLA). As stated in the book *Second Language Acquisition* by Rod Ellis (1997), there are two facets of language acquisition. The first type of language learning is the mentalist theory of acquisition. This states that the learners have the innate ability to learn the language. This theory is best defined by the linguist Noam Chomsky. He claimed that language acquisition was an innate ability, but there was a critical period to learning the language. Children ages 3 to 10 learn languages without any cues or formal instruction. He also claims that all children learn a language the same way. They will pick up on the language and self-correct errors without any redirections (Crabtree, 1999).

In contrast to the mentalist theory is the behaviorist theory, also described by Rod Ellis (1999). Within this theory the learner can acquire a language at any age with outside input. The focus is on the external factors rather than the internal factors. This theory is best defined by the behaviorists John B. Watson, B.F. Skinner, and Ivan Pavlov. Watson held that a behavior resulted from a stimuli. Ivan Pavlov helped to provide proof for Watson’s theory through his test with the dog. He provided a stimuli of ringing a bell every time his dog ate. Then, he removed the food, but kept the bell as the stimuli and noted that the dog still salivated without the food present. He was conditioned to produce a behavior based off a stimuli. B.F. Skinner expanded on this view and termed his theory operant conditioning. Within this he noted, a desired reaction will become a behavior, while an unsatisfying response will not lead to a behavior. In order to apply this to a linguistic aspect, one would assume the learner desires to learn the L2. Therefore, the learner is able to use external stimuli to produce a desired behavior (Standridge, 2002).
When teaching a language it is important to use the L2 as much as possible. When the teacher uses on the L2 the student must assimilate to the language and learn the language within context. The L1 is best used to describe in-depth concepts. When the teacher is introducing new lexicon it is important for the lexicon to be meaningful and not too overwhelming. This is a key to language acquisition. In addition, it is important to know that most language learners will go through communicative anxiety. This is the state when low self-efficacy and self-perception of proficiency will make the student refuse to use the language (Ellis, 1997).

Total Physical Response is instituted in a way to decrease frustration and keep the students motivated. First, the students will not see any of the commands. They will only listen to the commands and act out the teachers directions. Then, as the students’ progress, the teacher will write the given command and point to the command as the students listen to the command. During the delivery of the command, the teacher will use a variety of props to assimilate to the vocabulary. The students are not informed they are reading, writing, and speaking for comprehension. Rather, the students learn within context without apprehension of gaining proficiency (Cabello, 2005).

Valeri Marsh (1998) noted there were limitations to the strategy of TPR. She suggested the strategy be expanded through the use of storytelling. TRPS (Total Physical Response Storytelling), created by Blaine Ray, gives a distinct list to follow when implementing the strategy in the classroom. First, the teacher teaches the vocabulary through the usage of TPR as outlined by Asher. Then, in pairs, one student assumes the role of the teacher and the other assume the role of a student invoking in TPR strategy. When the paired cooperative learned has ceased, the teacher presents a mini-story with
the vocabulary that was utilized within the TPR lesson. The students will retell the story to their partner while using visual aids to accompany the story. Then, the teacher will present a longer story with the vocabulary words. The students will retell the story and to the partners. During this longer story, the students can summarize the story, expound on the story, and modify the story. Finally, the students will make an original story with the vocabulary.

With both, TPR and TPRS, students look at the language as the whole and in context, rather than studying parts of a language (vocabulary, grammar, etc.) and building from part to whole. Thus, the teacher takes on a variety of roles. The traditional teacher approach has students memorize words and word tenses, and many vocabulary words before they practice the actual language. In the traditional model the student must do much studying on their own, in the TPR model the student and the teacher function as the same person. They are engage and participate in the same way as the instructor (Kariuki, 2008).

A study by Patricia N. K Kariuki supports this claim. The small sample size of 30 students were split into 2 sub-groupings. Fifteen students were instructed using the traditional model, while fifteen were instructed using the TPR model. The study supported Asher’s findings that the test group showed significant difference between the test scores of those taught using TPR and those taught using the traditional model. The student’s vocabulary was significantly impacted through the instruction. The students’ affective results were much higher, as they charted more time on-task with a good attitude (Kariuki, 2008).

Farther evidence to support the usage of TPR comes from a study conducted by
the National Federation of Modern Language Teachers (1966). The study looked at the usage of the instructional practice of Total Physical Response (TPR) in the acquisition of the Russian language and Japanese language in children and adults. Through the five different studies it was seen that adults benefited the most from the usage of TPR. They outperformed the control groups that used only English translation. The students, grades 2, 4, and 8, did not show the large gap between the control group and the experimental group. There were formulated hypothesis for this pheromone, but none were tested. This study showed support for TPR only in the language domains of learners’ achievement in the listening and speaking domains. There was no significant progression in the writing domain.

A study done within the Maryland Correctional Institution in Jessup (MCI-J) with the participants were adult (19+) men that were convicted of a crime and from a Hispanic background farther showed support for the usage of TPR with adults. TPR was initially used during a unit on football and due to the high engagement and level of empathy for all of those in the classroom the ESL teacher continued to use TPR in the other units that were taught. This study shows that in addition to getting students engage in the content, TPR encourages collaborative groupings and collaborative cooperation. The groupings can facilitate new acquaintances and strength social skills (Gardner, 2011).

The previous study shows students learning English as a second language past the ‘critical period’ Chomsky mentioned. Another study done by Satoko Watkins’ (2012) within the TESL Reporter discussed a student whom was, also, studying the target language, English, and was outside of the crucial period. The student had made notable gains, but was within the silent period. The silent period is a time within language
learning the speaker does not talk due to lack of confidence with the language. To combat this, the teacher progressively added more syntactical structure each week until the commands were complex in nature by the twelfth week. In addition to the TPR training, the instructor used picture books without words to aid in comprehension. She had the student “read” the story through the pictures. With the picture books she invoked the usage of the Language Experience Approach (LEA). In this approach, the student tells the story and the teacher scribes the student’s story. Then, the student reads their story aloud. To invoke fluency and inflection of voice the student will shadow their reading via audio tape. The teacher will record themselves reading the story and the student will mimic the recording to gain fluency. The study showed significant gains and the student quickly moved outside of the ‘silent period’.

A final study looks at the effects of English Language Learners (ELLs) and native speakers. This study focused on the retention of vocabulary by non-native speakers in two 7th grade social studies classrooms in Texas. Each of the teachers taught the vocabulary through a distinct series of instruction. First, the teachers taught the vocabulary in the research-based instructional practice of TPR, and then they used media to reinforce the vocabulary. Next, they used graphic organizers to work with the vocabulary. Finally, they used peer-pairings to work with the vocabulary. This instructional practice lasted for 9 to 12 weeks. After the period, the students were post-tested. The pre and posttest were comprised of a vocabulary recall section and comprehension questions over the targeted vocabulary unit. When comparing the pretest and posttests, the students that were native speakers outperformed the non-native speakers; but, on the posttest, they both made significant gains. The instructional
practice, made native and non-native speakers comprehend the vocabulary better and show major growth from the pretest to the posttest (Vaughn, 2010).
Research Methods

Research Design

The study utilized the methodology of TPR within the usage of prepositions within the target language. Both, the experimental and control groups, received the same visual notes page over key prepositional phrases within the target language on the opening day of the unit. The control group used a dictionary to find the English translations, while the experimental group were taught only in the target language through a PowerPoint with many visual cues. Then, the control group practiced the prepositions through paper and pencil drill. The experimental group used to manipulatives to illustrate the commands given to them by the teacher. They constructed commands utilizing prepositions within the target language, and gave the commands to each other. Next, they illustrated a story as the teacher told it, and finally, they rehearsed the story to a partner.

Study Group Description

The study looks at a Spanish language learning environment of Odessa High School. The high school is comprised of 655 students. Of those students 98% are white, non-Latinos. Within the school there are two Spanish classrooms. One teacher teaches five sections of Spanish I and one section of Spanish II, while the other teacher has three sections of Spanish II, two sections of Spanish III, and one section of Spanish IV. The study focused on the first-year Spanish students.

The population was comprised of 100 first year Spanish students. Of the 100 students, 25 of the students made up the control group. The control group were instructed through notes, drill and practice, repetition, and translations from Spanish to
English. This group illustrated the traditional style of teaching. The other 75 made up the experimental group. The experimental group was split into 3 groups of 25 students. This provided more individualized instruction with a small group setting. They were instructed using the TPRS method.

*Data Collection and Instrumentation*

After the week of instruction, the both sets of students were given a teacher made posttest. The posttest looked at the gains within the four domains of language learning. These domains being: speaking, listening, writing and reading the language. The students were given 20 questions; five questions to test each of the four domains of language. The posttest was used to perform a t-test on the two sets of data in order to determine if there was a difference in the traditional teaching practices compared with the teaching methodology of TPR.

*Statistical Analysis Method*

In order to determine if there was a significant difference between utilizing TPR as a teaching method and not utilizing TPR as a teaching method, a t-test was used. The t-test looks at the difference of the means or averages of the experimental group and the control group. Then, the t-test evaluates the means by the range of variability of the data received from the posttest. This evaluation yields the standard error of difference. The formula for a t-test divides the difference of means by the standard error difference to yield the t-test score. The method is best used when looking solely at a posttest between two variables without the pretest scores.
Findings

After the tests were scored they were input into the Statistical Analysis program. The program broke down the tests by the reading, speaking, listening, and writing domains, and then compared the traditional methodology to the TRP methodology. The traditional methodology was utilized with a sample size of 25 and the TPR methodology was utilized with a sample size of 75 for each of the four domains. The degree of freedom (df) was 98 for all four of the domains tested.

Table 1

<table>
<thead>
<tr>
<th>Source</th>
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<th>Mean D</th>
<th>t-test</th>
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<tr>
<td>TPR (n=75)</td>
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<td>-1.55</td>
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<td>0.12</td>
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Note: Significant when p<=0.20

When using TPR to attain reading comprehension within the L2 it was suggested that the TPR methodology does, in fact, yield higher reading comprehension scores. As shown in Table 1, a significant difference (t-test= -1.55; p=0.12) between utilizing the TPR methodology to teach a second language and the traditional methodology when compared to the alpha level of .20. The null hypothesis stated: There is not a significant difference in language acquisition between using total physical response teaching methodology compared to not using total physical response teaching methodology. The null hypothesis can be rejected with an 80% confidence level. This shows the significant difference of utilizing TPR as a teaching methodology. The mean of the students using the traditional methodology was 3.88, while the mean for students instructed utilizing TPR methodology was 4.22. Thus, the difference of the means (Mean D) was -0.35, and there were 98 data points that were free to vary. The data supports the claim that students
perform better utilizing TPR rather than utilizing the traditional methodology. The social experiences the students received yield higher test scores.

Table 2

<table>
<thead>
<tr>
<th>Source</th>
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<td>TPR (n=75)</td>
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<td>.82</td>
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Note: Significant when p<=0.20

As shown in Table 2, the study suggested there is not a significant difference between using the TPR methodology and utilizing the traditional methodology. The t-test was -0.23 and p-value was .82. When the p-value was compared to the alpha level of .20, the null hypothesis was not rejected. The mean of the traditional methodology was slightly lower than the mean of the TPR methodology (4.02). Thus yielding the mean D of -.07. Therefore, it cannot be confidently stated that the usage of TPR effects the test scores of second language learners within the domain of listening.

Table 3

<table>
<thead>
<tr>
<th>Source</th>
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<tbody>
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<tr>
<td>TPR (n=75)</td>
<td>3.34</td>
<td>-0.19</td>
<td>-0.62</td>
<td>98</td>
<td>.54</td>
</tr>
</tbody>
</table>

Note: Significant when p<=0.20

As shown in Table 3, the study suggested there is not a significant difference when utilizing TPR practices in comparison to the traditional practices. The study corresponds closely with the listening domain (Table 2), in the fact that the mean of the traditional methodology was 3.16, again lower, than the mean of the TPR writing scores
of 3.34. The mean differences was -1.19. The t-test was -0.62. The p-value was 0.54, and when compared to alpha value of .20, the null hypothesis was not rejected.

Table 4

<table>
<thead>
<tr>
<th>Source</th>
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<td>TPR (n=75)</td>
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Note: Significant when p<=0.20

As shown in in Table 4, the study suggests there is a significant difference between utilizing the TPR methodology to teach a second language and the traditional methodology. The t-test value of -2.43 and the p-value of .017 supports this when compared to the alpha level of .20. The null hypothesis, which stated: There is not a significant difference in language acquisition between using total physical response teaching methodology compared to not using total physical response teaching methodology, can be rejected with an 80% confidence level. The mean of the students using the traditional methodology was 4.44, while the mean for students instructed utilizing TPR methodology was 4.81. Thus, the difference of the means (Mean D) was -0.37, and there were 98 data points that were free to vary. Just as in the reading domain, the significant difference illustrated by the data shows the positive effects of TPR when speaking within the target language. The students who utilized TPR had significantly higher scores, thus supporting the claim that social experience trump the need for rote, mindless repetition.
Conclusions and Recommendations

Total Physical Response allows the learner to engage in experiences that shape the learning. The findings supported that the means of students who were instructed with TPR yielded higher test scores than those who learned through the traditional methodology. Though the means were higher within all domains of language learning, the study only suggested a significant difference within the domains of speaking and reading. The p-value was too high within the two other domains of listening and writing, when compared with the alpha level of .20, to yield a confidence level. Therefore, the null hypothesis which stated: There is not a significant difference in language acquisition between using total physical response teaching methodology compared to not using total physical response teaching methodology, can be rejected within the speaking and reading domains, while it is not rejected within the domains of listening and writing.

The study calls to the light the validity of the test. The test was given with serious time constraints on the students and teachers. Therefore, a study with a larger sampling of questions for each of the four domains of language learning would yield a more valid number to base the statistics on. The test was made up of 5 questions for each of the 4 domains. A test with 25 questions with each of the 4 domains for an overall score of 100 would yield a better foundation to base the study.

In addition, the sample size and make up of each of the two groupings lacked diversity. The control group was relatively small when compared to the group utilizing TPR. A larger sample size within this would yield numbers that were more realistic. In addition, each of the groupings were made up of students from the same school that predominantly come from the same social class, ethnic group, and family structure.
Therefore, the study is limited to rural, white, non-Latino students from low-socioeconomic class levels.
References


