Appendix C Research on TPR Storytelling

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In the last five years, there has been an explosion of research on Teaching Proficiency through Reading and Storytelling (TPRS), as a generation of teachers interested in using TPRS pursues master's and doctoral degrees. As a researcher studying second language acquisition and implicit and explicit learning, I have presented this research at the national TPRS conference (NTPRS), and maintain a collection of it at http://forlangs.niu.edu/~klichtman/tprs.html. This page serves as a resource as we continue working to increase the quantity and quality of research on TPRS. An additional online resource for accessing TPRS research is the Stichting TPRS Platform, maintained by Kirstin Plante in the Netherlands and accessible at http://tprsplatform.nl/wetenschapp elijk-onderzoek/.

The foundational ideas behind TPRS are supported by research. Total Physical Response (TPR), on which TPRS was originally based, was studied by Dr. James Asher (e.g. 1966, 2009), professor emeritus of psychology at San José State University. Terminology used to explain and support key ideas in TPRS — including the importance of comprehensible input, the distinction between natural language acquisition and traditional, effortful language learning, and the importance of lowering the affective filter — comes from the research of Stephen Krashen (1981; 1982), professor emeritus of education at the University of Southern California.

Because Blaine Ray, the founder of TPRS, is a teacher rather than an academic researcher, it took years for researchers to begin conducting direct studies of TPRS as compared to other teaching methods. The first publication on TPRS came out in 1998, but not until 2009 did empirical, quantitative studies with more rigorous research designs appear in peer-reviewed journals.

It is important to remember that TPRS is implemented in different ways by different teachers — in part because the method keeps evolving, and in part because each teaching situation is unique. Most of the research has taken place in high school and middle school classrooms. Researchers studying TPRS generally identify the method based on core concepts such as the co-construction of a story with students, using high frequency vocabulary, and providing lots of input in the target language with small amounts of translation for clarity. In contrast, most researchers identify "traditional" teaching as use of a grammarbased syllabus and textbook, exercises demanding student output and grammatical accuracy, and teaching a larger set of (often thematically organized) vocabulary.

Although there are, of course, gaps in the research and a need for replication of the results we already have, the overall picture is quite favorable toward TPRS — as you will read in the updated research summary below. The previous version of this research summary (Lichtman, 2012), in the 6th edition of *Fluency Through TPR Storytell-ing*, contained seven published articles and ten theses; this version includes fourteen published articles and twenty-one theses. The body of research continues to grow in size and sophistication.

I have organized the articles below into three categories: (1) empirical studies comparing TPRS to another teaching method, (2) empirical studies on TPRS without a control group, which can provide evidence that TPRS is effective but not that it is more effective than another method, and (3) descriptive pieces.

While each study may have individual limitations (as any research study must), the majority of the research to date has found that TPRS students outperform traditional students on some measures of language skills. The sixteen comparative studies reviewed here all support the use of TPRS: ten show advantages for TPRS over another teaching method, and six show mixed results (TPRS students equaled traditional students, or performed better in some areas and worse in others).

1. Empirical studies comparing TPRS to another teaching method

Published articles

In 2009, two research studies on TPRS came out in the International Journal of Foreign Language Teaching (IJFLT), a peer-reviewed journal. Watson (2009) compared two beginning high school Spanish classes taught with TPRS to one class taught with more traditional methods. The students took a written final exam with questions on listening comprehension, vocabulary and grammar, and reading comprehension, as well as a district-wide oral exam. TPRS students scored significantly better than traditional students on both tests, with large effect sizes. The distribution of scores was wider in the traditional classes: the top 95% of the TPRS students all got As or Bs on the exam, but the top 95% of the traditional students got As, Bs, Cs, and Ds.

Varguez (2009) compared four beginning high school Spanish classes: two receiving traditional instruction and two receiving TPRS instruction. One of the TPRS classrooms also happened to be socioeconomically disadvantaged and have a less experienced teacher. Students in the study took a standardized test: the University of the State of New York's standardized Second Language Proficiency Examination (SLPE) from June of 2006, which measured listening comprehension and reading comprehension. Varguez also included a longer reading passage adapted from the New York State Regents exam, since the SLPE only tested comprehension at the word and sentence level. The poorer TPRS class performed statistically the same as the richer traditional districts on all three tests, which is surprising since socioeconomic status is a strong predictor of academic success. But the TPRS class that matched the traditional classes on demographic variables significantly outperformed the traditional classes on all three tests.

Dziedzic (2012) compared four sections of Spanish 1: two that he taught traditionally, and two that he taught using TPRS. Both groups also participated in sustained silent reading. At the end of the year, 65 students with no previous exposure to Spanish took the Denver Public Schools Proficiency Assessment. The TPRS and traditional students did equally well on listening and reading. However, the TPRS students

significantly outperformed the traditional students on writing and speaking, with large effect sizes on these two production measures.

Oliver (2012) compared final exam scores of beginning college Spanish students in four traditional classes and two TPRS classes. The TPRS students significantly outperformed the traditional students on a traditional final exam testing reading, writing, and grammar. Additionally, Oliver describes positive effects on speaking, listening, and motivation that were not tested by the exam. This article was published in *The Language Educator*, which is distributed to all ACTFL members, reaching a very wide readership.

Roberts & Thomas (2014) detail testing results from two groups of adult students who learned Spanish using TPRS at the Center for Accelerated Language Acquisition (CALA), as compared to large groups of high school students who presumably would have experienced more traditional teaching methods. Three hundred twenty-five adult CALA students scored an average of 28.16 points on the National Spanish Exam after only 22.5 hours of instruction, whereas over 20,000 high school students scored an average of 35.61 on the exam, after around 180 hours of instruction. The CALA group, therefore, gained vastly more "points per hour" of instruction than the high school students. Sixteen CALA students in a different group, none of whom had prior knowledge of Spanish, took the computer-adaptive WebCAPE college placement exam after 35 hours of instruction. All CALA students tested out of 1-4 semesters of college Spanish. The CALA group significantly outperformed students with two years of high school Spanish, and equaled students with one or three years of high school Spanish, after just 35 hours of instruction.

Theses and dissertations

While theses and dissertations are less accessible to all than published articles, many contain studies as large and rigorous as the studies that do reach publication. Many theses and dissertations are also made publicly available either through universities, or more widely on the ProQuest Dissertations and Theses database.

Fluency Through TPR Storytelling

Garczynski (2003) taught two groups the same material using either TPRS or the Audiolingual Method during a short 6-week intervention. The two groups performed the same on tests of listening comprehension and reading comprehension, but the students significantly preferred TPRS.

Perna (2007) compared three methods: TPRS, traditional, and "instruction through primary-, reinforced by secondary-, perceptual strengths," a teaching method where students can choose to go to auditory, kinesthetic, tactual, or visual learning stations based on their individual learning styles. Perna taught five classes for five weeks, switching between teaching methods every four days. She found that all three methods worked equally well for grammar lessons, but that perceptual strengths was the most effective for vocabulary lessons, followed by TPRS, with traditional instruction being the least effective. Since TPRS does not typically break lessons into grammar lessons vs. vocabulary lessons, Perna's instruction may not have been typical of TPRS classrooms.

Jennings (2009) taught three groups of Spanish 2 students: two groups using TPRS, and one control group using typical teaching methods. Control students initially scored significantly better on a unit mid-test testing vocabulary, listening, and writing, but TPRS students scored significantly better on the final unit test, which measured vocabulary, listening, reading, writing, and speaking. TPRS students also scored significantly better on the final exam for the year.

Spangler's (2009) dissertation study tested a total of 162 participants from five high school and two middle school Spanish classes. Students took the standardized STAMP test (STAndards-based Measure of Proficiency; Avant Assessment, 2002), a computer-based test measuring reading, writing, and speaking. TPRS students equaled traditional students on the reading and writing sections and on a separate measure of anxiety. But on the speaking test, TPRS students significantly outperformed traditional students, with a large effect size.

Castro (2010) compared TPRS to grammar-translation for vocabulary learning in adult English as a Second Language. Students experienced each method for just three days, and learned statistically equal numbers of previously unknown words through both teaching methods, although they preferred the TPRS lessons.

Nijhuis and Vermaning (2010) studied French as a second language in the Netherlands, comparing a small sample of TPRS and traditional students' scores in French 1 and 2 on a conversation exam. The TPRS students scored significantly better than the traditional students— doubling the conversation exam scores of the traditional students in French 1.

Foster (2011) compared not just TPRS and traditional high school classes, but also processing instruction (VanPatten, 1996), a more explicit input-based teaching method. This study only looked at performance on one grammatical structure, Spanish constructions using *gustar*. TPRS students outperformed traditional classes on a grammaticality judgment task and on writing fluency, and equaled traditional classes on three other measures (speaking accuracy, writing accuracy, and reading). Processing instruction students and TPRS students performed equally on a grammaticality judgment task and a reading task. Processing instruction students performed significantly better than the other groups on speaking and writing accuracy for *gustar* constructions, although TPRS students had significantly higher writing fluency than the two other groups.

Beal's (2011) dissertation surveyed a very large sample of 821 middle and high school students within one school district whose teachers used TPRS regularly, occasionally, or not at all. He found that use of TPRS had no effect on anxiety or plans to continue with Spanish. Overall, the traditional group scored the highest on the district final exam, followed by the regular TPRS group, and the occasional TPRS group scored the lowest. This was mediated by grade level: in middle school, TPRS students did better on the final exam than traditional students, but in high school, TPRS students did worse than traditional students. Unfortunately, the study doesn't include any measures to establish whether the TPRS and non-TPRS groups were similar at the beginning of the school year, which is problematic because the students were also not randomly assigned to classes.

Fluency Through TPR Storytelling

Holleny (2012) compared TPRS to traditional instruction in four classes of high school students with learning disabilities. Each group received TPRS instruction for two units and traditional instruction for two units. Scores were compared on the unit tests, which included vo-cabulary, listening, sentence translation, and fill-in-the-blank questions. The groups receiving traditional and TPRS instruction performed equally well on the tests.

De Vlaming (2013) studied TPRS vs. deductive grammar teaching for German in the Netherlands. One TPRS class was compared to two deductive grammar classes, in a pretest-unannounced posttest design. Students from the two grammar classes declined or stayed the same on most of the structures tested, but the TPRS class improved on every structure.

Murray (2014) compared traditional to traditional plus TPRS instruction in two high school French 1 classes over a six-week period, measuring test scores, desire to continue studying French, and confidence in using French. The TPRS group's test scores increased significantly, driven by a significant increase in listening skills. In contrast, the control group's overall scores remained the same (increasing significantly in reading and listening, but decreasing significantly in speaking). The TPRS group also increased more in confidence in French and desire to take French 2 than the control group.

Table 1 summarizes the results of these sixteen studies. Each of these studies is limited by itself — some have small sample sizes; some had the same teachers teach both TPRS and traditional classes (which may be unfair if the teacher is biased toward a particular method), while others had different teachers teach the classes (which may be unfair if one teacher is better than another). But together, the pattern of results is quite clear. In the majority of studies, TPRS students outperform traditional students; in a minority of the studies, the results are mixed. Just these studies that have directly compared TPRS to other teaching methods comprise 2,250 students in 131 classes, taught by 54 different teachers in 25 different schools, so the results cannot be attributed to a particular class or teacher. Table 1 below includes each

measure in each study: for instance, in Varguez (2009) TPRS outperformed traditional instruction when socioeconomic status was held constant, but a poorer TPRS class equaled a richer traditional class, so both "TPRS equals another teaching method" and "TPRS outperforms another teaching method" are checked. Such a study nonetheless favors TPRS.

			1
	TPRS [®]	TPRS®	Another
	outperforms	equals	teaching method
	another	another	outperforms
	teaching method	teaching method	TPRS®
Garczynski (2003)	✓	1	
Perna (2007)	✓	1	1
Jennings (2009)	1	1	1
Spangler (2009)	1	1	
Varguez (2009)	1	1	
Watson (2009)	1		
Castro (2010)	1	1	
Nijhuis & Vermaning (2010)	1		
Beal (2011)	1	1	1
Foster (2011)	1	1	1
Oliver (2012)	1		
Dziedzic (2012)	1	1	
Holleny (2012)		1	
De Vlaming (2013)	1		
Murray (2014)	1	1	•
Roberts & Thomas (2014)	1	1	

Table 1: Empirical studies comparing TPRS to other teaching meth-
ods

2. Studies on TPRS without a control group

Published articles

While the studies above comparing TPRS to another teaching method address the question of which method is more effective, it is also

important to establish that TPRS is effective in and of itself — that is, that it significantly increases the language skills of its students and/or improves their attitudes toward studying the foreign language.

Braunstein (2006) researched student attitudes toward TPRS in a class of 15 adult ESL students. These students told Braunstein that what they expected from English class was traditional instruction including grammar, lecture, and written work. But after two lessons taught with TPRS, students responded that they felt "interest," "enthusiasm," and "happiness," and did *not* feel "embarrassed," "bored," or "stupid." They reported that TPRS helped them to remember vocabulary and understand English.

Armstrong (2008) conducted an action research project in elementary and middle school Spanish classes, collecting quantitative data on elementary students' liking of various aspects of language classes, and vocabulary retention for translation, picture, and gesture questions. While statistics were not reported, students reported greater liking of all aspects of the language class after a TPRS unit. The greatest increases were on the questions about knowing a lot of Spanish words, liking Spanish plays, and liking reading in Spanish. First and second graders were also able to translate 43% of the Spanish words learned out of context, rising to 75% of the words when TPR gestures were used.

Miller (2011) reports the percentile scores of eighth graders with a year and a half of German TPRS instruction on the AATG's level 2 national German exam. This exam includes listening, reading, and grammar, and is designed for tenth graders with a year and a half of German instruction. Over the course of 13 years of data, eighth graders scored in the 41st percentile on average, reaching the 54th percentile in the final year of the study, with a significant increase in scores over time. It is surprising that middle school TPRS students scored as well as high school students on this test, since older learners generally learn languages more quickly during the beginning stages of instruction.

Theses & dissertations

Webster's (2003) master's thesis reviews literature supporting TPRS and describes how to implement a TPRS curriculum. It also includes numbers on enrollment growth after the implementation of TPRS in Webster's school district, including doubling the number of students who continue to the AP level, as well as some information on other school districts that have seen increases in enrollment and retention.

Brune (2004) taught three weeks of German to sixth graders using TPRS. The students scored very well on an assessment of language and culture, and over half the class expressed interest in taking German in the future. Most students found the lessons fun and easy, and stories were generally ranked above average on a question about students' preferred class activities.

Beyer (2008) taught eighteen high school Spanish 2 students the story of The Three Little Pigs in the past tense. Students reported that the storytelling was enjoyable and preferable to the textbook, and averaged 90% on a test asking them to conjugate verbs in the preterit tense in order to complete sentences from the story.

Bustamante (2009) taught a college TPRS class for one semester, finding that TPRS significantly increased student skills on every measure used in the study: reading comprehension and fluency, writing fluency, vocabulary, and grammar. Students who had previously taken a non-TPRS Spanish class unanimously preferred TPRS to their previous class.

Wenck (2010) chronicles a year of teaching German to German 2 students. Over the course of the study, the number of students perceiving themselves as being "good at learning German" increased from 12% to 73%, and 80% of the students planned to continue studying German beyond the required 2 years.

Jakubowski (2013) studied the effect of using illustrations within a TPRS curriculum on students' short-term (four days) and long-term (four weeks) vocabulary retention. Three classes of middle school Spanish 1 students saw illustrations during one (or both) of two units

of instruction. The illustrations had a significant effect only on shortterm vocabulary retention during the first unit; otherwise, the groups with and without illustrations were able to correctly translate the same amount of vocabulary.

To summarize the results of studies on TPRS without a control group, we can say that every study found positive results of TPRS. Most of these studies focus on attitudes toward language class, but Bustamante (2009) is notable for showing not just positive attitudes, but also significant increases in actual language skills after a semester of TPRS.

3. Descriptive articles, chapters, and theses about TPRS

Published articles

The last category of writings on TPRS is those that do not include research questions and results, but may nonetheless be useful because they expose a wider audience to TPRS, describe adaptations to TPRS that may be used for specific contexts, and/or give narrative accounts of the authors' experiences with TPRS.

The very first publication on TPRS (after the original *Fluency Through TPR Storytelling*, Ray & Seely, 1997) was Marsh (1998). Directed at early language teachers, the article details five steps that were used at the time in TPRS: TPR, paired student TPR practice, teacher-led mini-story, teacher-led longer story, and original student stories. Marsh reports that her introductory (pre-Spanish 1) middle school Spanish students scored above the national average on the 1993 level 1 National Spanish Exam.

Cantoni (1999) is a book chapter promoting the use of TPRS to teach Native American languages, because it allows students to be active learners, produces quick results, and need not involve the use of textbooks or writing (given that there are many heritage speakers of the languages who may not know how to write it).

Davidheiser's (2001) "The ABCs of TPR Storytelling" is a report of the author's experiences using TPRS in college German classes. He finds that particularly in the first few years of language instruction, TPRS improves pronunciation and vocabulary memory, reduces anxiety, promotes active learning, and is good for different types of learners. Davidheiser also integrates grammar instruction with TPRS in upper levels.

Davidheiser (2002) soon published a second article on "Teaching German with TPRS." This article, written for an audience of German teachers, gives more practical information on using TPRS, including an appendix with vocabulary.

There is one published article that is critical of TPRS, but this article (Alley & Overfield, 2008) is not an empirical study—it compares TPRS to other historical language teaching methods based on the 2nd edition of *Fluency Through TPR Storytelling* (Ray & Seely, 1998) rather than on classroom observations. Alley & Overfield consider TPRS similar to the grammar-translation method and the audiolingual method, and criticize TPRS stories for having minimal cultural content. Alley subsequently recorded classroom discourse in high school TPRS classes over the course of a year (D. Alley, personal communication, July 24, 2011), but this study has not yet been published.

Bernal Numpaque and García Rojas (2010) is a descriptive article on the use of TPRS to teach English in Colombia. The authors characterize TPRS as a student-centered method that is advantageous for recall and developing oral fluency with accuracy. They propose a few changes for the Colombian learning context, including the use of sequential meaningful stories rather than bizarre stories.

Finally, I have an article in *The Language Educator* describing TPRS as a framework for creating comprehensible input and output (Lichtman, 2014). The article also addresses concerns that keep some teachers from using TPRS: translation, grammar, and culture. Culture is the most significant of these; teachers must take the initiative to infuse culture into stories.

Theses & dissertations

Last, we come to descriptive theses and dissertations about TPRS. Rapstine (2003) cites inclusion of all types of learners, use of the target

language, and a learner-centered classroom as advantages of TPRS, and lack of authentic cultural instruction, (oddly) lack of reading material, and possible teacher exhaustion as disadvantages of TPRS.

Taulbee (2008) cites plusses and minuses of TPRS that are very similar to Rapstine (2003). She also describes ways to integrate grammar instruction with TPRS.

Sievek (2009) details the author's modifications to TPRS for the purposes of aligning with the ACTFL standards (the "5 Cs": Communication, Culture, Connections, Comparisons, and Communities), and adding more focus on grammar. This thesis may be of interest to those who wish to adapt TPRS to departmental or district constraints, without losing the benefits of large amounts of comprehensible input and story-asking.

Oliver's (2013) dissertation chronicles her 50 years of foreign language teaching, and the use of seven teaching methods over time. Oliver concludes that TPRS is the best method for developing speaking ability.

4. Conclusion

Of course, there is much research still to be done: research on elementary school and college language learners; research on which elements of TPRS contribute the most to learner success; and research on fluency and retention of language knowledge over time, two areas in which the large amount of comprehensible input in TPRS should be advantageous. The studies above should also be replicated and extended in order to give us a fuller picture of the differences between TPRS and other teaching methods. But the results summarized here do show that TPRS is at least as effective as, and often more effective than, other second language teaching methods. In other words, teachers can count on TPRS to improve their students' skills in areas such as speaking, reading, and grammar, with the knowledge that TPRS students keep pace with (or outscore) traditionally taught students on a variety of assessments. The research is in: TPRS is effective.

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In a note to graduate students who contact him, James Asher says:

What remains to be explored are the parameters of TPR Storytelling. We need carefully designed research studies to answer fundamental questions such as [numbers added]:

1. Is there a significant difference in performance between students who experience stories that are exaggerated, bizarre, and surprising compared with stories that are mundane?

- 2. Is there a significant difference in performance for stories that are goal-directed (e.g., How to give directions to a taxi driver, How to buy a ticket on the train, How to find your way to the hotel, restaurant, police station, etc.) compared with stories that are not goal-directed?
- 3. Is there a significant difference in storytelling performance between students in elementary, high school and college?
- 4. Is there a significant difference in performance between students who experience mini-stories compared with a standard length story?
- 5. How many stories are optimal before adaptation sets in? (Adaptation may be measured by student resistance as indicated by remarks such as, "Please, not another story," "Can't we do something else today?," etc.)
- 6. What is the optimal mix between classical TPR, storytelling and other linguistic tools such as grammar explanations, patterned drills, etc.?
- 7. How do storytelling students perform on standardized proficiency tests? Do they outperform students in traditional classes? If so, by how much?
- 8. What are the correlations between predictors such as academic aptitude, school grades, age, socio-economic status, etc., and the criteria of performance as a result of storytelling?

I can see scores of exciting research projects for a master's thesis or a doctoral dissertation focused on developing scientific answers to these important questions about TPR Storytelling.

Note: Performance can be measured in short-term retention, long-term retention, and attitude ratings by students. Performance can also be assessed by ratings of proficiency in speaking, reading, and writing by teachers who do not know what kind of training each student has experienced. This is called a "double-blind" study.

(personal communication, August 18, 1998)