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English Language Learners and Reading Comprehension: Exploring the Role of Vygotsky’s Sociocultural Theory of Mind (SCT)

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English Language Learners and Reading Comprehension: Exploring the Role of Vygotsky’s Sociocultural Theory of Mind (SCT)

Brad Bauer

Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Education

California State University, Monterey Bay

May 2018

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English Language Learners and Reading Comprehension: Exploring the Role of Vygotsky’s Sociocultural Theory of Mind (SCT)

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Abstract

Research shows middle school students to be lagging in reading comprehension proficiency and the problem is worse for English Language Learners (ELLs). Weak literacy development among ELLs may lead to higher dropout rates, poor job prospects, and high poverty rates. There is a need for evidence-based reading interventions for ELLs to help close the achievement gap. Theoretically framed within the sociocultural theory of Vygotsky (SCT), the present study investigated how a SCT-based intervention might improve ELLs reading comprehension. Five, grade seven ELL students were selected to participate in a single-case A-B design. Results indicated reading comprehension improved for three of the five participants, but the intervention had little or no impact on the other two participants. The findings suggest a possible functional relationship between the SCT-based intervention and improved reading comprehension, and that this intervention might have the greatest effect on those who struggle with oral reading fluency.

Keywords: reading comprehension, English Language Learners, Sociocultural Theory, literacy
# Table of Contents

Abstract ........................................................................................................................................ iii

Literature Review .......................................................................................................................... 1

Methods ....................................................................................................................................... 10

Research Design .......................................................................................................................... 10

Setting and Participants .............................................................................................................. 11

Measure ....................................................................................................................................... 13

Procedure ..................................................................................................................................... 16

Interobserver Agreement and Procedural Fidelity ........................................................................ 17

Results ......................................................................................................................................... 19

Discussion .................................................................................................................................... 24

References ..................................................................................................................................... 27

Appendix A ..................................................................................................................................... 31

Appendix B ..................................................................................................................................... 33

Appendix C ..................................................................................................................................... 34

Appendix D ..................................................................................................................................... 35

Appendix E ..................................................................................................................................... 36
English Language Learners and Reading Comprehension: Exploring the Role of Vygotsky’s Sociocultural Theory of Mind (SCT)

Literature Review

Both research and statistics have raised alarm regarding the reading comprehension proficiency of American middle school-aged students (Cisco & Pedrón, 2012). The literature indicates the problem is even worse for English Language Learners (ELLs) because they often struggle with English, and therefore have compromised access to other various content areas and success on high-stakes exams (Cisco & Pedrón, 2012). Moreover, ELLs are the fastest growing segment of the student population (e.g., between 2004 and 2014, the population in public schools grew by 32%) in the United States and thus their achievement, or lack thereof, is paramount.

Furthermore, every public school teacher in the United States can expect to have ELLs in their classroom at some time in their careers (August, McCardle, & Shanahan, 2014). As teachers and school administrators have greater demands placed on them to accommodate and help meet the needs of ELLs, the students suffer because of the lack of appropriate resources and assistance. Despite the increased attention to the support of ELLs’ needs, adolescent ELLs continue to underachieve in English literacy (Klinger, Boardman, Eppolito, & Schonewise, 2012).

The 2009 National Assessment of Educational Progress (NAEP) indicated 97% of eighth grade ELLs scored below proficient in reading comprehension, and 85% of former ELL eighth graders also scored below proficient (Cisco & Pedrón, 2012). These statistics indicate that limited reading comprehension proficiency is an immediate area of concern. Furthermore, if reading comprehension does not improve, this large population of students may not be college ready, and therefore be consigned to low-paying jobs and few options for any real career advancement.
One key to ELLs empowerment to rise above these challenges is adequate reading comprehension. Agreement, however, on a universally accepted definition for reading comprehension is debated in the literature. From 1944 to the present day, the accepted practical definition of reading comprehension underwent significant transformations, beginning with a skills checklist approach, which then evolved into a more integrated perspective between the author’s meaning of the text and the sociocultural understandings of the reader (Cisco & Pedrón, 2012). Most contemporary definitions of reading comprehension include various combinations of the ideas of complexity, involvement of text, and acquisition of understanding (Grasparil & Hernandez, 2015). However, as many contemporary researchers worked to address the issue of ELLs’ inadequate reading comprehension, a more refined list of criteria has emerged showing agreement with the key elements of text, complexity, prior knowledge, and meaning. One example of this more recent approach—which shall serve as the definition of reading comprehension for this study—was developed at the University of Oregon: “Reading Comprehension: The cognitive process during which a reader integrates multiple complex skills (e.g., language, prior knowledge, code, context, etc.) to understand and gain meaning from text” (Dynamic Indicators of Basic Early Literacy Skills DIBELS® Next Technical Manual, 2003). Meaning is what ultimately provides the ELL with access not only to the text being read, but the ability to act on it, or accomplish any task derived from it. The fact that this definition describes reading comprehension as a cognitive process (as opposed to an innate capacity) suggests it can be learned.

The effects of deficient English reading comprehension are felt long before students enter the work force. Lack of reading comprehension denies access to valuable English texts necessary for ELLs to succeed in school. At the high school level, students are expected to read, analyze,
and discuss challenging material in textbooks of a variety of subjects (Nippold, 2017). Not only will deficient reading comprehension lead to grave academic consequences, but also bar the way to joining a competitive workforce that requires individuals to apply levels of academic literacy that are well beyond basic (Klinger et al., 2012). Furthermore, weak literacy development among ELLs leads to high dropout rates, poor job prospects, and high poverty rates (Howard, Páez, August, Barr, Kenyon, & Malabonga, 2014). Research shows that children who are at risk for reading problems in their early elementary school years often continue to have difficulty reading into adulthood, entailing adverse academic and vocational consequences (Petersen & Gillam, 2013). This discovery is important because it demonstrates how the lack of literacy skills can exclude large segments of American populations from success—academically, vocationally, and financially.

Many studies describe the situation of the ELL population, and how important it is for these students to be able to gain meaning from complex English texts—not only to navigate the schooling years, but also to earn a living in an increasingly competitive working environment (Petersen & Gillam, 2013). Deficient reading comprehension is a specific issue that bars ELLs from success (Quirk & Beem, 2012). Research has attempted to decrease this achievement gap by studying classroom techniques that effectively assist ELLs (August et al., 2014), correct wrong assumptions and faulty assessments of ELLs’ reading comprehension status (Grasparil & Hernandez, 2015), and understand the sociocultural contexts of ELLs and how that can aide their learning (Cisco & Padrón, 2012). These aforementioned issues and approaches frequent the literature, and thus can be crucial to the effort to narrow the achievement gap for ELLs. The following highlights key techniques for educators that empower them to address and focus on ELLs’ needs.
Discovering Connections to Reading Comprehension

Researchers and educators are taking strides toward addressing issues relating to reading comprehension (August et al., 2014). The results of these studies are important because the conclusions continue to provide educators with key understandings that comprise the backbone of reading comprehension instruction. However, recent studies indicate the need still persists for many educators to make themselves aware of these findings and to implement them in their classrooms (Cisco & Pedrón, 2012).

Several of these crucial contributions to the ELL classroom practices are highlighted in the overview of optimal approaches to reading instruction for ELLs by August and colleagues (2014). These researchers emphasized the effectiveness of scaffolding—the gradual removing of language supports by the teacher (August et al., 2014). Two examples of classroom scaffolding include the opportunity for the ELL to act out or illustrate meanings of words and the use of graphic organizers (Gheisari, 2017). Within the last decade, these practices have become commonplace, especially in classrooms having large numbers of ELLs.

Another common strategy is the role of explicit vocabulary instruction (August et al., 2014; Cisco & Pedrón, 2012; Grasparil & Hernandez, 2015; Howard et al., 2014; Klinger et al., 2012; van Steensel, Oostdam, van Gelderen, & van Schooten, 2016). The studies cited here are in agreement that vocabulary instruction is an essential component to reading comprehension. Furthermore, vocabulary instruction plays an even more significant role for ELLs than native speakers of English (Cisco & Pedrón, 2012). In fact, Howard and colleagues (2014) concluded vocabulary knowledge was the best predictor for both reading accuracy and reading comprehension after other factors were considered. Despite the proven importance of vocabulary instruction, recent studies continue to indicate that ELLs require more devoted instructional time.
to this crucial element if they are to receive the help they need to succeed (Cisco & Pedrón, 2012).

Other kinds of predictors for reading comprehension proficiency have been employed by educators. For example, strategies for reading comprehension are frequently implemented (Cisco & Pedrón, 2012; Klinger et al., 2012; Nippold, 2016). These strategies include previewing the assigned passage, asking oneself questions about the passage, finding the main idea, and summarizing (Nippold, 2016). Knowledge of reading comprehension strategies become the more crucial predictor of reading comprehension as students make the transition between grade four and grade six, replacing phonemic awareness and background knowledge which normally possess this role in earlier grades (van Steensel et al., 2016).

Although none of these findings produce any surprises, these studies are noteworthy because of their contribution to informing the practice of educators who have large numbers of ELL students. They confirm what has been believed (that these practices are helpful to reading comprehension), and continue to function as the foundation for the practice of addressing reading comprehension. Nevertheless, recent studies show that many teachers still do not devote adequate time to these techniques, especially vocabulary instruction (Howard et al., 2014), and some of this body of research still remains unnoticed by some educators (Cisco & Pedrón, 2012). Also, undermining the success of teachers’ efforts to help ELLs improve reading comprehension were certain misunderstandings on how to measure reading comprehension.

**Faulty Measures**

The educator’s power to help ELLs achieve the breakthroughs they need are thwarted if their assessment measures are inappropriate. Some educators had been guilty of false assumptions about assessing reading comprehension, and proposed appropriate corrections
(Grasparil & Hernandez, 2015; Quirk & Beem, 2012). For example, the findings by Grasparil and Hernandez (2015) demonstrated how the long-held view that advanced decoding skills necessarily freed up cognitive resources for extracting meaning from a text only applied to native speakers; yet, this was not the case with ELLs (2012). Quirk and Beem (2012) replicated these findings, and further challenged the wide practice of using oral reading as a measure for students’ overall reading achievement. Additionally, Petersen and Gillam (2013) conducted a study that attempted to accurately predict future reading difficulty for bilingual Latino children. Findings highlighted the unilaterally dependent relationship between decoding and reading comprehension. That is, decoding can take place without reading comprehension, but reading comprehension does not occur without proper decoding (Petersen & Gillam, 2013). Understanding this unilateral relationship between decoding and reading comprehension places the practice and teaching of decoding in its proper perspective—a tool for reading comprehension, not a measure of it (Petersen & Gillam, 2013).

Word Count Per Minute (WCPM) scores had become an accepted assessment for ELLs’ reading comprehension proficiency, despite the lack of research supporting any connection between WCPM and reading comprehension (Grasparil & Hernandez, 2015). Additionally, Quirk and Beem (2012) demonstrated that the implementation of WCPM for Latino students should be replaced with explicit study of vocabulary—concluding that the believed relationship between fluency and comprehension in ELLs was in fact overstated. Other studies further challenged the notion that fluency in ELLs is an adequate proxy of overall reading achievement, and further stated that fluency should not be used as a measure for reading comprehension (Grasparil & Hernandez, 2015; Klinger et al., 2012; Quirk & Beem, 2012). Using correct
assessment methods will empower educators to better recognize the reading comprehension needs of their ELL students—and thus work toward closing the achievement gap.

**Nonacademic Aspects**

The research reflects that current dominant theories tend to treat reading comprehension for ELLs in isolation. That is, without the wider context of the many factors outside the classroom that inhibit or enhance the growth of ELLs’ reading comprehension (Tahmasebi & Yamini, 2011). Nevertheless, a few examples have emerged from this literature that begin to recognize this important aspect of reading comprehension. First and foremost is the human aspect of these factors.

Naturally, the most human of these factors is the teacher. It is not surprising that studies have shown the teacher to be a profoundly influential force in the classroom (Cisco & Padrón, 2012). However, little is still known about how teacher instruction can influence ELLs’ ability to comprehend English text (Cisco & Padrón, 2012). Further research in this area would not only shed light on instruction for ELL’s reading comprehension, but also on how teachers can best be supported in this endeavor (Cisco & Padrón, 2012). This is important because ELLs cannot hope to achieve what they need without teachers who are equipped with a nuanced understanding of the process of reading comprehension (Cisco & Padrón, 2012).

Another human element that can help place the issue of ELLs’ reading comprehension into a wider, social context is the school psychologist. These professionals are often the first to be consulted when parents and teachers become concerned if their ELL student’s performance is lagging. The psychologist plays a key role in assessing or diagnosing learning or behavior problems. They can be valuable contributors to recommending intervention or instruction techniques that help ELLs become successful (August et al., 2014).
Besides individual professionals, a few studies have shown how the communal aspect of nonacademic factors affect reading comprehension in ELLs (Klinger et al., 2012). As ELLs can thrive and succeed in a school where the culture and environment are positive and supportive (Klinger et al., 2012), poor socioeconomic status has been shown to adversely affect the reading comprehension of ELLs (Howard et al., 2014). This research illustrates how the issues facing ELLs and their ability to succeed are very complex and not confined to the classroom. Despite this complexity, the research also demonstrates how a simple adjustment can make a significant difference. For example, when the assigned text of a middle school class is culturally relevant, has some connection with the ELL, she is not only more motivated to read but also scores higher on reading comprehension assessments than students who had unfamiliar texts (Klinger et al., 2012). This portion of the literature touches on how the reading comprehension of ELLs is greatly affected by many complex factors, several of which are within the control of educators, and others which are not confined to the classroom.

**The Role of Sociocultural Theory**

The literature shows some attempt at addressing the less academic, more human aspects of learning, but for the most part remains focused on well-studied solutions that tend to view reading comprehension in isolation. A few cases even acknowledge the surprising lack of studies exploring the integration of these social contexts into the realities concerned with improving reading comprehension for ELLs (Howard et al., 2014). However, the ground-breaking work of Vygotsky gave much attention to the human aspect of learning—particularly the social aspect. Vygotsky’s theory, which opened a new paradigm in language learning (Tahmasebi & Yamini, 2011), placed all learning into a very human, social context (Vygotsky, 1978). Researchers refer to Vygotsky’s theory as sociocultural theory of mind (SCT). Since Vygotsky insisted that all
forms of learning take place due to human interaction, language learning cannot be an exception (Tahmasebi & Yamini, 2011). Within language learning, SCT can be implemented through social interactions and culturally organized activities (Gheisari, 2017). As language in particular takes place first between people, and then inside the student (Gheisari, 2017; Tahmasebi & Yamini, 2011), SCT argues that interaction with people is not only necessary for learning to take place, but also facilitates the need for learning to be internalized, and ultimately to become part of the student’s independent developmental achievement (Vygotsky, 1978). Likewise, Rogoff (2003) stressed the importance of human interaction in the learning process. She specifically described how interaction between student peers (as opposed to interaction with adults) can lead to higher levels of thinking. Additionally, Cisco and Padrón (2012) suggest ELLs benefit from the opportunity to model their strategies by thinking aloud with partners. These works are important because they add the crucial element of peer interaction to the Vygotsky paradigm. Tahmasebi and Yamini (2011) concluded that language learning is not a matter of taking in some knowledge but of taking part in social activities.

Model for this Research

As researchers and educators attempted to bolster support for ELLs to increase reading comprehension to help them succeed, the studies by Tahmasebi and Yamini (2011) and by Gheisari (2017) agree that Vygotsky’s theory of SCT has not been fully explored and has much to offer the progress of language study. Therefore, the present study pursued a course of action to further explore how SCT might affect reading comprehension of ELLs. This more student-led approach was designed to equip the ELL student with tools to implement in a context that fosters peer interaction (Rogoff, 2003) and internalizing of the language experience, thus improving reading comprehension (Cisco & Padrón, 2012; Vygotsky, 1978).
Methods

Research Question

Advances have been made to address the needs of ELL students, but the potential of SCT to improve reading comprehension has not been fully explored (Tahmasebi & Yamini, 2011). Based on these findings, the literature has led to the following research question: Can an intervention, based on the ideas of Vygotsky’s SCT, improve Latino ELL grade seven students’ reading comprehension, as measured by Dynamic Indicators of Basic Literacy Skills (DIBELS®) assessments?

Hypothesis

It is hypothesized that the reading comprehension of five selected grade seven ELL students will show improvement by the implementation of a sociocultural-based intervention derived from Vygotsky’s SCT (Gheisari, 2017; Tahmasebi & Yamini, 2011; Vygotsky, 1978), as measured by a well-established reading comprehension assessment (Dynamic Indicators of Basic Early Literacy Skills DIBELS® Next Technical Manual, 2003).

Research Design

This study implemented a single case A-B design with five participants. After a baseline of five stable data points for each participant was determined from a well-established reading comprehension assessment tool, they transitioned together from baseline (i.e., phase A) to intervention (i.e., phase B). Stability was achieved at +/- 15 points of the measure score. The intervention consisted of a daily, 20-minute English exercise, implementing the use of Vygotsky’s SCT, and continued until a therapeutic trend could be observed in the intervention (i.e., B) phase.
Independent variable. Vygotsky’s SCT (1978) provided the basis of an intervention to serve as the independent variable. The intervention maximized opportunities for ELLs to exercise the target language as an expression of their own volition in an academic setting (Tahmasebi & Yamini, 2011); reaching higher orders of thinking by interaction with peers (Rogoff, 2003). This was achieved by requiring the prescribed activities of the intervention to be performed in pairs of peers. Learning from, receiving feedback from, and voicing opinion with the peer partner facilitated the use of Vygotsky’s SCT (see Appendix A).

Dependent variable. The dependent variable in this study was reading comprehension as described by the aforementioned definition: “Reading Comprehension: The cognitive process during which a reader integrates multiple complex skills (e.g., language, prior knowledge, code, context, etc.) to understand and gain meaning from text” (Dynamic Indicators of Basic Early Literacy Skills DIBELS® Next Technical Manual, 2003). The assessment tool used to measure reading comprehension was the Dynamic Indicators of Basic Early Literacy Skills (DIBELS®), produced by the University of Oregon (Dynamic Indicators of Basic Early Literacy Skills DIBELS® Next Technical Manual, 2003).

Setting & Participants

The study took place at a middle school in Central California in a primarily suburban environment, serving only grades seven and eight, with a student population of 1,056 (California Department of Education, 2013). Approximately 97% of these students were Latino. Demographics of this school’s student population are Latino, and most of the parents of these students are working class, some of whom are immigrants (California Department of Education, 2013).
The five participants were all Latino, grade seven, ELL students. They were chosen from one period of English particularly conducive to conducting a study. The period chosen demonstrated a history of students taking their studies seriously, despite however varied their scores and grades are. Regardless of performance, it is crucial that the subjects take the activities of the study seriously and attempt to do their best work. Several criteria were set for selecting the five participants, pertaining mainly to maximizing the effectiveness of the intervention and the students who benefit most from being a part of the study. As the literature on reading comprehension consistently raised concerns for ELLs, all five students were drawn from this segment of the class. Each of the chosen ELLs had expressed a desire for better reading comprehension in an informal class discussion. Selections were narrowed to those achieving a low to mid-range grade in the class (60 percent to 80 percent at the time of selection). Each participant was assigned a pseudonym. As the participants were selected based on their status as ELL students within the researcher’s class, the sampling was convenient.

**Athena.** Athena is female, 12 years of age. Her grade in the English class was 60% at the time of selection. Athena reported that she does not enjoy reading in either her native Spanish or in English, and that general comprehension is an issue for her reading. Athena tries to avoid reading aloud in class, and lacks confidence when she does.

**Diana.** Diana is female, 12 years of age. Her English class grade at the time of selection was 77%. She reported wishing she could improve her reading comprehension, and that comprehension is increased for her when she reads a subject she enjoys. When reading academic material in class, Diana lacks confidence and fluency.

**Minerva.** Minerva is female, 12 years of age. Her grade in the class at the time of selection was 71%. She reported that she enjoys reading even though it is sometimes labored.
Minerva’s reading aloud in class is halting, and she sometimes loses her place. Minerva also reported difficulty understanding sentences where she must employ a great deal of decoding, particularly for longer words unfamiliar to her.

**Cupid.** Cupid is male, 12 years of age. At the time of the selection his grade in the English class was 72%. Cupid reads aloud in class quite fluently, but reported having trouble understanding long sentences even when knowing all the vocabulary in the sentence.

**Apollo.** Apollo is male, 13 years of age. At the time of selection, he had earned a 71% in the English class. Apollo reads fluently aloud in class, but reports large gaps in understanding. He described knowing all or most of the words in class reading material, but somehow not always being able to understand the meaning of the sentences.

**Measure**

To examine the students’ reading comprehension progress, the researcher measured their performance using the reading comprehension portion of DIBELS®, a well-established standard for measuring literacy, developed by the University of Oregon, implemented nation-wide (Dynamic Indicators of Basic Early Literacy Skills DIBELS® Next Technical Manual, 2003). The specific brand of DIBELS®, called Daze, served as the appropriate reading comprehension assessment for the study.

Students were given a passage of 500-550 words where approximately every seventh word had been replaced by a box containing the correct word and two distractor words. Using standardized directions, students were asked to read the passage silently and circle their word choices (see Appendix B). The student received credit for selecting the word that best fit the omitted words in the reading passage. The recorded scores were the number of correct and incorrect responses (Dynamic Indicators of Basic Early Literacy Skills DIBELS® Next
Technical Manual, 2003). This assessment is a timed procedure of three minutes to complete. All students participated simultaneously and were instructed to cease the assessment when the timer finished three minutes (according to the Technical Manual).

**Validity.** Evidence for the validity of DIBELS® Daze is made available in a study implementing the external criterion Group Reading Assessment and Diagnostic Evaluation (GRADE). The results (Predictive Validity Coefficient: Beginning = 0.61, Middle = 0.58. Concurrent Validity Coefficient, End = 0.64.) show that predictive and concurrent validity coefficients for Daze adjusted score with GRADE Total Test fall in the moderate to strong range; suggesting the Daze measures reading comprehension well (Dynamic Indicators of Basic Early Literacy Skills DIBELS® Next Technical Manual, 2003)

**Reliability.** The DIBELS® Technical Manual draws its evidence for reliability from a study particular to the Daze brand of relevant grade six materials. This study, identified as Study C, assessed the predictive validity from beginning of year to end of year. The coefficient data points are categorized as Alternate Form, single-form = 0.61, three-form = 0.64; and the Inter-Rater, single-form = 0.99, three-form = 1.00. This data, collected from the study Study C, show DIBELS® as a highly reliable assessment tool for reading comprehension; thus, it could be used without issue in this study (Dynamic Indicators of Basic Early Literacy Skills DIBELS® Next Technical Manual, 2003)

**Intervention**

The design of the intervention maximized opportunities for the participants to engage in Vygotsky’s SCT (Vygotsky, 1978) and Rogoff’s (2003) description of how higher order of thinking can take place between children and their peers as opposed to children with adults. As discussed above, the intervention sought to capitalize on participation as opposed to acquisition
(Tahmasebi & Yamini, 2011), student-guided transactional approach (Cisco & Pedrón, 2012), and to discover how these approaches might improve reading comprehension in the target language. The premise for this approach was that language learning is not achieved by taking in knowledge, but by taking part in social activities (Tahmasebi & Yamini, 2011). This kind of activity is vital to internalize the target language, something traditional “parroting” of a teacher’s sounds cannot achieve. Dialogic construction in peer interaction has been shown to provide far more opportunities for learners to learn new words than did lecture-style or translations-based formats (Tahmasebi & Yamini, 2011). SCT proposes that all forms of learning take place due to interaction, and that language-learning should not be an exception (Tahmasebi & Yamini, 2011; Vygotsky, 1978). As grade seven ELLs pursue English in the similar ways they acquired their first language, the use of this intervention seeks to discover if this approach can improve reading comprehension.

The intervention was a 20-minute activity occurring at the start of each day of the intervention phase. It was broken down into three segments, most of which involved work with a partner. The first five minutes were designated to silently read a three-paragraph text, and to circle unknown words. The pairs of students were then instructed to exchange papers with their partner, and to provide each other with any insights to any indicated unknown words. The second segment was 10 minutes devoted to one of three rotating activities. A different activity cycled through each day and repeated. One activity was to create two multiple-choice questions regarding the passage to be solved by the other partner. Another activity was to read a discussion prompt regarding the passage and discuss with the partner using the provided sentence frames (to help keep the discussion academic and on topic). The pairs of students needed to provide written evidence of their discussion. The last item to cycle through the process was to collaborate with
the partner to answer the “fiveWs” in order to arrive at a summary of the passage: what, where, when, who, and why. Written evidence of the process was required. The assignment for the last five minutes of the intervention was a metacognitive activity to answer three prompts, first through discussion with the partner, and then in writing. What new knowledge or ideas did the passage bring to you? If the passage was a narrative, briefly describe any characters you could identify with, found interest in, or is similar to someone you know. List any difficulties this passage may have presented (not all questions were relevant to all reading passages).

**Fidelity.** For 50% of the sessions, another site staff member counted the number of times the researcher correctly implemented the procedure described above. Procedural fidelity was calculated by dividing the total number of correct implementations by the number of opportunities to implement the procedure and multiplied by 100 to determine a percentage. These percentages were recorded on a fidelity checklist (see Appendix C).

**Procedure**

The five participants described above were selected from the ELLs population of one particular period of grade seven English. The students in this class were all seated strategically in pairs, as the intervention requires pair-work. The students were informed that for a duration English class would begin with a 20-minute reading comprehension initiative.

After reading silently for 15 minutes, two minutes were allotted for instructions of implementing the measure, DIBELS® Daze reading comprehension assessment, and five minutes were given to provide instruction on and to execute the actual assessment according to the DIBELS® technical manual (Dynamic Indicators of Basic Early Literacy Skills DIBELS® Next Technical Manual, 2003). Regular class curriculum resumed after the 20 minutes. This procedure was repeated each day until a stable baseline, derived from the daily DIBELS® score,
was established for all five of the participants. This daily procedure describes the baseline period. This procedure was repeated each day until a stable baseline of five data points could be achieved for all five participants. Stability was reached at +/- 15% of the assessment scores. Once a stable baseline was achieved, the intervention period began for all five students and continued until a therapeutic trend was observed.

For the intervention period, the prescribed intervention activity replaced the daily silent reading of the baseline period. The intervention consisted of a short passage to read with related exercises to complete with a partner, designed to maximize self-generated interaction with the peers using the target language (Rogoff, 2003; Vygotsky, 1978). Each activity was timed so that the entire duration of the intervention totaled 20 minutes. The DIBELS® assessment continued on a daily basis immediately after the intervention activity. Daily scores from the DIBELS® measure were kept on a score card (see Appendix E) to establish baseline and intervention phase data points (Dynamic Indicators of Basic Early Literacy Skills DIBELS® Next Technical Manual, 2003). Throughout the process, the researcher administered the daily reading comprehension assessment according to its technical instruction manual, as well as the intervention activities, using a timer to help keep all the students on task. No other data was collected during the study.

**Interrater Agreement.** A staff member from the English Department of the school graded 25% of the reading comprehension assessments to help ensure the accuracy of the grading process. Both individuals responsible for grading interpreted the instructions (Dynamic Indicators of Basic Early Literacy Skills DIBELS® Next Technical Manual, 2003) for grading and executed the procedure for grading identically. The periodic auditing by the two graders indicated no errors were being made as 100% agreement was noted.
Social Validity

At the completion of the study, three members of the English Department staff on site completed a four-point Likert scale (i.e., $1 = strongly disagree$ to $4 = strongly agree$) social validity questionnaire (see Appendix D). The questionnaire, adapted from Berger, Manston and Ingersoll (2016), consists of eight questions designed to understand the perceived usefulness, significance and satisfaction with the implemented intervention (Kennedy, 2005). Participant responses were kept confidential and descriptive statistics were conducted to gain insights regarding the intervention. Overall responses from all three staff members were positive, as the responses were nearly always either 3 or 4 on the Likert scale ($Agree$ and $Strongly Agree$ respectively).

Ethical Considerations

To protect each participant’s confidentiality, a pseudonym was assigned to identify each participant. The use of the DIBELS® (Dynamic Indicators of Basic Early Literacy Skills DIBELS® Next Technical Manual, 2003) assessment and the intervention in the classroom presented no risk to any of the participants. All the proceedings were conducted within the framework of an English class and was facilitated without change to the daily student routine. Participants spent no additional time in the study outside of the school day. As the five participants received the benefit of a reading comprehension enhancement, the other students in the class were included in the process and also received any benefits from the intervention.

Validity Threats

Inherent in the single case design, the small sample size can threaten validity by minimizing the capability to generalize. To mitigate this possible threat, five participants were chosen to conduct this study. Another inherent threat to single case studies is the comparison of
the participants to only themselves. No external standard or benchmark is in place. Testing is another potential threat to the validity of this study. It is possible that without the aid of an intervention, the participants could naturally improve after repeated exposure to the measuring device or dependent variable. To mitigate this, a highly reliable, well established assessment tool (DIBELS®) was chosen to serve as the measure in this study (Dynamic Indicators of Basic Early Literacy Skills DIBELS® Next Technical Manual, 2003). Lastly, as previous stated, researcher bias was minimized by utilizing another independent observer, and the use of a precise criteria for the selection of the five participants.

**Proposed Data Analyses**

To assess the effects within AB single case studies, data from each individual participant was graphed for visual analysis to observe overlapping data points, and determine if there was any therapeutic trend. Data points are determined by the scores of the DIBELS® reading comprehension assessment (Dynamic Indicators of Basic Early Literacy Skills DIBELS® Next Technical Manual, 2003).

**Results**

Figures 1, 2, 3, 4, and 5 display the results of reading comprehension measured by correct responses in three minutes as measured by the DIBELS® (Dynamic Indicators of Basic Early Literacy Skills DIBELS® Next Technical Manual, 2003). The x-axis displays the number of sessions and the y-axis the number of correct responses in three minutes for the baseline and intervention phases.

**Athena.** During the initial baseline phase, Athena’s average reading comprehension scores was 23.4, with a highest score of 31 and lowest of 19. Stability during baseline phase was determined by five data points displaying the timed correct responses scores occurring within a
range of +/- 15 points. Athena had 100% nonoverlapping data in the intervention phase (see Figure 1). Her data trend from baseline to intervention was positive, her timed correct responses scores averaging 42.8, with a highest score at 49 and lowest at 36.

![Athena's DIBELS® scores of reading comprehension, Baseline and Intervention phases.](image)

**Figure 1.** Athena’s DIBELS® scores of reading comprehension, Baseline and Intervention phases.

**Diana.** During the initial baseline phase, Diana’s average of reading comprehension scores was 26.2, with a highest score of 30 and lowest of 22. Stability during baseline phase was determined by five data points displaying the timed correct responses scores occurring within a range of +/- 15 points. Diana had 100% nonoverlapping data in the intervention phase (see Figure 2). Her data trend from baseline to intervention was positive, her timed correct responses averaging 34.2, with a highest score at 39 and lowest at 32.
Minerva. During the initial baseline phase, Minerva’s average of reading comprehension scores was 23.2, with a highest score of 28 and lowest of 21. Stability during baseline phase was determined by five data points displaying the timed correct responses scores occurring within a range of +/- 15 points. Minerva had 80% nonoverlapping data in the intervention phase (see Figure 3). Her data trend from baseline to intervention was positive, her timed correct responses averaging 29.8, with a highest score at 39 and lowest at 19.

Figure 2. Diana’s DIBELS® scores of reading comprehension, Baseline and Intervention phases.
**Figure 3.** Minerva’s DIBELS® scores of reading comprehension, Baseline and Intervention phases.

**Cupid.** During the initial baseline phase, Cupid’s average of reading comprehension scores was 22.8, with a highest score of 27 and lowest of 18. Stability during baseline phase was determined by five data points displaying the timed correct responses scores occurring within a range of +/- 15 points. Cupid had 60% nonoverlapping data in the intervention phase (see Figure 4). His data trend from baseline to intervention was positive, his timed correct responses scores averaging 27.2, with a highest score at 31 and lowest at 21.
Apollo. During the initial baseline phase, Apollo’s average of reading comprehension scores was 27.2, with a highest score of 35 and lowest of 19. Stability during baseline phase was determined by five data points displaying the timed correct responses scores occurring within a range of +/- 15 points. Apollo had 20% nonoverlapping data in the intervention phase (see Figure 5). His data trend from baseline to intervention was sporadic, his timed correct responses averaging 31.6, with a highest score at 43 and lowest at 21.
The purpose of this study was to improve reading comprehension skills for ELLs through the use of a sociocultural intervention (August et al., 2014; Cisco & Pedrón, 2012). Although research often cites and describes classroom techniques for improving reading comprehension (August et al., 2014; Cisco & Pedrón, 2012; Grasparil & Hernandez, 2015; Howard et al., 2014; Klinger et al., 2012; van Steensel et al., 2016), these techniques tend to treat reading comprehension in isolation without a meaningful social context. Two studies (Gheisari, 2017; Tahmasebi & Yamini, 2011) explored the possible role Vygotsky’s SCT might play in second language learning. Therefore, the current study was designed to expand this work with the use of an intervention based on Vygotsky’s SCT to improve reading comprehension for ELLs. The hypothesis stated that a group of five ELL participants from a grade seven English class would

![Figure 5. Apollo’s DIBELS® scores of reading comprehension, Baseline and Intervention phases.](image)

**Discussion**

The purpose of this study was to improve reading comprehension skills for ELLs through the use of a sociocultural intervention (August et al., 2014; Cisco & Pedrón, 2012). Although research often cites and describes classroom techniques for improving reading comprehension (August et al., 2014; Cisco & Pedrón, 2012; Grasparil & Hernandez, 2015; Howard et al., 2014; Klinger et al., 2012; van Steensel et al., 2016), these techniques tend to treat reading comprehension in isolation without a meaningful social context. Two studies (Gheisari, 2017; Tahmasebi & Yamini, 2011) explored the possible role Vygotsky’s SCT might play in second language learning. Therefore, the current study was designed to expand this work with the use of an intervention based on Vygotsky’s SCT to improve reading comprehension for ELLs. The hypothesis stated that a group of five ELL participants from a grade seven English class would
show improved reading comprehension as a result of an intervention facilitating activity based on Vygotsky’s SCT.

The percentages of non-overlapping data showed moderate support of the hypothesis, as three of the five participants’ non-overlapping data points indicated the intervention was highly to moderately effective (100% - 80% non-overlapping), minimally effective for one participant (60% non-overlapping), and not effective for the last participant (20% non-overlapping). Additionally, the data suggest a functional relationship between the SCT intervention and reading comprehension for three of the five participants. The strongest responders were Athena, Diana, and Minerva. Additionally, Athena and Minerva showed immediate change at the onset of the intervention phase. All three girls reported a dislike for reading in general, or a dislike for reading academic material. All three girls’ reading aloud in class demonstrated either difficulty or a lack of confidence, yet, the intervention had the greatest impact for them.

The least responsive were Cupid (60% non-overlapping data) and Apollo (20% non-overlapping data). Like the three girls, both of these boys reported gaps in understanding what they read in the target language. They differed from the other three in their demonstration of greater fluency when they read aloud in class, yet the intervention had little or no impact for these two. This disparity between a demonstration of oral reading fluency and lack of response to the intervention might be explained by the finding of Klinger et al. (2012) and Grasparil and Hernandez (2015) along with Quirk & Beem (2012), who all agreed that oral reading fluency is not a reliable indicator of reading comprehension. Alternatively, the disparity in responses to the intervention may have been caused by varying quality of focus and care by the participants. In this case, a qualitative study might have illuminated this aspect of the procedure.
One interesting observation was that the two members who demonstrated the most confidence and fluency in English oral reading benefited the least from the intervention. This arrangement might suggest that while reading fluency is not an indicator of reading comprehension (Grasparil & Hernandez, 2015; Klinger et al., 2012; Quirk & Beem, 2012), the presence of reading fluency might minimize the impact of internalizing language learning through social use of the target language. Likewise, for the three participants who were both the strongest responders to the intervention and the ones with the least oral reading fluency, the opportunity to internalize language learning through social use of the target language might have been meeting a particular learning need.

**Limitations and Further Research**

While the findings might demonstrate a functional relationship between the intervention and reading comprehension for three of the five students, these findings should not be construed as a definite conclusion. Limitations included the size of the sample and the short timeframe. The data of this study suggests Vygotsky’s theory could find greater substantiation in a future study using a larger sampling size along with a longer timeframe to implement the intervention, as was demonstrated by Tahmasebi and Yamini (2011). Their task-based learning based on Vygotsky’s SCT did show superior results to traditional, translation-based techniques (Tahmasebi & Yamini, 2011). In the present study, this limited sampling showed the greatest responders were all female while the lower responders were all male. A further study could consider differentiation by sex—as was addressed briefly by Tahmasebi and Yamini, (2011)—to explore the possibility that male and female adolescents might respond better or worse to a sociocultural intervention.

The findings of the present study suggest that further research might support the possibility that Vygotsky’s SCT (1978) and the importance of peer interaction by Rogoff (2003)
may have a part of play in improving reading comprehension for ELLs. Furthermore, the findings of the present study suggest that if a functional relationship does exist between improved reading comprehension and the social aspects of learning supported by Vygotsky’s SCT (1978) and Rogoff (2003), this relationship might have its greatest effect on ELLs who require the greatest support for oral reading fluency. Likewise, those ELLs who need improved reading comprehension may not benefit as much from this specific kind of intervention if they already demonstrate some proficient oral fluency at their reading level in the target language.
References


Appendix A

Intervention Sample

NAME: ____________________________
DATE: ______________
PERIOD: __________

5 min Please read the passage below and circle unknown words. Then exchange papers with your partner and share insights you might have on circled words.

Are Americans Ready for Self-Driving Cars

Yes, and they have been for more than a century. The horses that pulled buggies did not need anyone to drive them. They were capable of finding their way home with little or no help from humans. Traveling without a driver is not a new idea — it’s just a better way to travel.

Self-driving cars can also make the streets safer. In the U.S. alone, vehicular accidents have killed more than 32,000 people each year for the past five years in which accidents were tracked. Between 93 percent and 95 percent of these fatal accidents are caused by human error. That figure comes from the National Highway Traffic Safety Administration, the government agency that works to make America's roads safe.

Self-driving vehicles deliver even greater utility by freeing driving time for other things. Instead of driving, people could be texting, working or just relaxing.

The self-driving cars that are now being developed use many forms of technology to drive themselves. Radar, cameras and other devices are used to "see" the world around the car. Advanced computer systems drive the car from one destination to another without any help from humans. These cars should soon be ready for mass production.

Self-driving cars remove many of the human mistakes that cause injuries and deaths. Self-driving cars can also help disabled and elderly people get from place to place on their own.

10 min Create 2 multiple choice questions regarding the passage you just read. Then swap papers with your partner to make a response, then discuss outcome.
□ A) ________________________.
□ B) ________________________.
□ C) ________________________.
□ D) ________________________.

5 min  Metacognition: Briefly answer these questions in writing, then share verbally with your partner.

- What new knowledge or ideas did the passage bring to you?


- If the passage was a narrative, briefly describe any characters you could identify with, found interesting, or is similar to someone you know?


- List any particular difficulties this passage may have presented.


Alicia and the Science Fair

The bell rang, and everyone in the classroom began to gather books, zip up backpacks, and don jackets. As Alicia slung her backpack over her shoulder, her teacher, Mr. Odin, called out, "Okay, everybody, the science fair is next month, so start thinking of a project, this weekend, fun though!"

Alicia joined her friend Tomiko, and the two made their way to the bus and rang down. Alicia asked, "Tomiko, how exactly does the science fair work? My old school didn't have them."

Tomiko looked excited, and eagerly responded, "I know you'll really love the science fair, Alicia! Everyone creates a project, and after we set them up in the cafeteria, the teachers decide which projects will be awarded prizes. The competition isn't really as important as refining the initial research and creating the projects. I've never won a ribbon, but I always enjoy coming last year, when I examined my presentation. I had a lot of fun."

work school
Appendix C

Intervention Fidelity Checklist

Place a checkmark as items are observed.

1. Every student has a book to read. ___

2. Teacher begins timer for twenty minutes and commences the silent reading initiative. ___ OR when the intervention phase began, the teacher began the intervention with the appropriate time started on the timer.

3. With appropriate time remaining, the teacher instructs the class on taking the assessment. ___

4. The assessment is performed by the students in the three-minute allotted time. ___

5. Teacher circulates the room to ensure honest execution of the tasks by the students. ___

6. Teacher collects assessments and intervention (when begun) work sheets to store in an organized fashion. ___

DATE: ____________________

SIGNATURE: ____________________
### Social Validity Questionnaire

<table>
<thead>
<tr>
<th>Questions</th>
<th>1 Strongly disagree</th>
<th>2 Disagree</th>
<th>3 Agree</th>
<th>4 Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 This treatment was effective</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 I found this treatment acceptable for increasing the student’s skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Using the treatment improved skills across multiple contexts (home,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>classroom, community)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 I think the student’s skills would remain at an improved level even</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>after the treatment ends</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 This treatment improved family functioning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 This treatment quickly improved the student’s skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 I would be willing to carry out this treatment myself if I wanted to</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>increase the student’s skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 I would suggest the use of this treatment to other individuals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 This treatment decreased the level of stress experienced by the student’s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>family</td>
<td></td>
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Appendix E

Data Gathering Card

<table>
<thead>
<tr>
<th>Session</th>
<th>Participants:</th>
<th>Cupid</th>
<th>Minerva</th>
<th>Diana</th>
<th>Apollo</th>
<th>Athena</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1</td>
<td>Date: Mar. 12</td>
<td>21</td>
<td>20</td>
<td>22</td>
<td>19</td>
<td>22</td>
</tr>
<tr>
<td>Session 2</td>
<td>Date: Mar. 13</td>
<td>18</td>
<td>25</td>
<td>20</td>
<td>29</td>
<td>19</td>
</tr>
<tr>
<td>Session 3</td>
<td>Date: Mar. 14</td>
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<td>21</td>
<td>29</td>
<td>26</td>
<td>31</td>
</tr>
<tr>
<td>Session 4</td>
<td>Date: Mar. 15</td>
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<td>28</td>
<td>30</td>
<td>35</td>
<td>21</td>
</tr>
<tr>
<td>Session 5</td>
<td>Date: Mar. 16</td>
<td>27</td>
<td>22</td>
<td>30</td>
<td>27</td>
<td>24</td>
</tr>
<tr>
<td>Session 6</td>
<td>Date: Mar. 19</td>
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<td>31</td>
<td>32</td>
<td>34</td>
<td>42</td>
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<td>Session 7</td>
<td>Date: Mar. 20</td>
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<td>36</td>
<td>27</td>
<td>49</td>
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<td>Session 8</td>
<td>Date: Mar. 21</td>
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<td>43</td>
<td>42</td>
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<td>45</td>
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<td>33</td>
<td>36</td>
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