

University of Nevada, Reno

Dynamic Assessment of Oral Reading Fluency for Second Graders

A thesis submitted in partial fulfillment of the requirements for the degree of
Bachelor of Science in Speech Pathology and Audiology

By

Shiyuan “Annie” Zhu

Dr. Abbie Olszewski, Thesis Advisor

May 2016

**UNIVERSITY
OF NEVADA
RENO**

THE HONORS PROGRAM

We recommend that the thesis
prepared under our supervision by

SHIYUAN "ANNIE" ZHU

entitled

Dynamic Assessment of Oral Reading Fluency for Second Graders

be accepted in partial fulfillment of the
requirements for the degree of

**BACHELOR OF SCIENCE, SPEECH-LANGUAGE PATHOLOGY AND
AUDIOLOGY**

Abbie Olszewski, Ph.D., CCC-SLP, Thesis Advisor

Tamara Valentine, Ph. D., Director, **Honors Program**

May, 2016

ABSTRACT

Purpose: The primary objective of this study was to examine the feasibility of using dynamic assessment to distinguish struggling readers from non-struggling readers during an oral reading fluency task with monolingual English-speaking second graders.

Method: Six children (two with high reading level and four with low reading level) participated in the study. Children participated in two sessions of dynamic assessment, which were each thirty minutes in length and separated by two days. A timed one-minute cold oral reading served as pretest 1 and another timed one-minute cold oral reading of a different story served as pretest 2. Children participated in a 25 minute mediated learning experience, which the children reviewed their decoding errors in a systematic fashion and reread the passages from pretest 2 chorally and independently. Finally, the children were timed for a hot read using the pretest 2 passage and a transfer reading. The first dynamic assessment session consisted of all narrative passages and the second dynamic assessment session consisted of all expository passages. Words correct per minute and accuracy were scored for each reading. Overall children's responsivity was scored using a mediated learning observation form.

Results: The difference in words correct per minute in hot to transfer narrative reads as well as the modifiability of children after the mediated learning experience session and transfer stage were found to exhibit distinctions between the high reading level and low reading level groups.

Discussion: Results suggest that the difference in words correct per minute in hot to transfer narrative reads as well as the modifiability of children after the mediated learning experience session and transfer stage are indicators of children's reading ability. Clinical implications and future research are discussed for application of procedures to other populations of children.

ACKNOWLEDGMENTS

The primary investigator and co-investigator would like to give thanks and appreciation to the generous people for their support and involvement with this study. We would like to thank Our Lady of the Snows school for their support and collaboration – specifically, we would like to thank Principal Fuetsch, second grader teacher Mrs. Crouser, school staff, parents, and the student participants. Without Our Lady of the Snows’ support for joining this study, this study would not have been possible.

We would like to thank our remarkable CITI and IRB certified UNR research team for assisting in treatment fidelity and checking interrater reliability. Specifically, we would like to thank Ashley Izquierdo, Megan Johnson, and Margaret Wright, who were so dedicated to supporting this study.

We would like to thank IRB Coordinator, Mr. Ray Avansino, for answering our questions and concerns throughout the IRB approval process. We would like to thank Honors Director, Dr. Tamara Valentine, for reviewing and editing this manuscript before the final submission.

In addition, we would like to thank the Honors Undergraduate Research Award in helping fund this research, as well as the Nevada Undergraduate Research Symposium for giving us the opportunity to present our study on April 19, 2016.

The co-investigator would like to thank the family and friends for their limitless support and encouragement.

Lastly, the co-investigator would like to extend infinite thanks to the primary investigator, Dr. Abbie Olszewski, for guiding her on the taxing journey of completing a thesis. The co-investigator is forever grateful for the time, energy, and expertise the primary investigator afforded to this study.

TABLE OF CONTENTS

ABSTRACT.....	i
ACKNOWLEDGMENTS	iii
TABLE OF CONTENTS.....	v
LIST OF TABLES	xi
LIST OF FIGURES	xii
CHAPTER I.....	1
INTRODUCTION	1
CHAPTER II.....	8
LITERATURE REVIEW	8
ELL Demographics.....	8
ELL and Testing	9
Dynamic Assessment	10
Mediated Learning Experience.....	14
Number of Sessions	15
Spacing of Sessions.....	15
Tasks	15
Flexibility.....	17
Graduated Scaffold Prompting	18
Oral Reading Fluency for Dynamic Assessment.....	19
Repeated Reading for Mediated Learning Experience	21
Transfer vs. Non-Transfer Reading Passages	24

Narrative vs. Expository	24
Research Questions	25
CHAPTER III	27
METHODOLOGY	27
Institutional Review Board (IRB)	27
Participant Recruitment	27
Participants	28
Materials	29
General Procedures	30
Session One: Narrative	30
Pretest	30
Teach	30
Posttest	31
Transfer	31
Session Two: Expository	32
Pretest	32
Teach	32
Posttest	32
Transfer	33
Outcome Measures and Dependent Variables	33
Words per minute	33
Number of errors	33

Words correct per minute (WCPM).....	34
Accuracy	34
Child Modifiability	34
Treatment Fidelity.....	37
Interrater Reliability.....	37
CHAPTER IV	39
RESULTS	39
Words correct per minute (WCPM).....	39
Narrative pretest cold reads	39
Narrative posttest hot reads.....	39
Narrative transfer cold reads.....	40
Expository pretest cold reads	40
Expository posttest hot reads.....	40
Expository transfer cold reads	41
Accuracy	41
Narrative pretest cold reads	41
Narrative posttest hot reads.....	41
Narrative transfer cold reads.....	42
Expository pretest cold reads	42
Expository posttest hot reads	42
Expository transfer cold reads	43
Research Questions.....	43

Research Question One: Cold to Cold Difference	44
WCPM – Narrative	44
WCPM – Expository.....	44
Accuracy – Narrative	44
Accuracy – Expository.....	45
Research Question Two: Cold to Hot difference	48
WCPM – Narrative	48
WCPM – Expository.....	48
Accuracy – Narrative	48
Accuracy – Expository.....	48
Research Question Three: Hot to Transfer difference	52
WCPM – Narrative	52
WCPM – Expository.....	52
Accuracy – Narrative	52
Accuracy – Expository.....	52
Research Question Four: Modifiability	56
Modifiability – Narrative	56
Modifiability– Expository.....	56
Research Question Five: Application to DLL Children	59
Lexile levels	59
Topics of reading passages	59
Pretest-teach-posttest-transfer approach	60

Differences between narrative and expository passages...	60
CHAPTER V	61
DISCUSSION	61
Cold to Cold Difference	61
WCPM – Narrative	61
WCPM – Expository	62
Accuracy – Narrative	63
Accuracy – Expository	63
Cold to Hot Difference	64
WCPM – Narrative	65
WCPM – Expository	65
Accuracy – Narrative	66
Accuracy – Expository	67
Hot to Transfer Difference	68
WCPM – Narrative	68
WCPM – Expository	69
Accuracy – Narrative	70
Accuracy – Expository	70
Modifiability	71
Applicability to DLL Children	72
Lexile levels	72
Topics of reading passages	74

Pretest-teach-posttest-transfer approach	74
Differences between narrative and expository passages.....	74
CONCLUSION.....	76
Overall Summary	76
Limitations	76
Clinical Implications	76
Future Research	77
References.....	79
APPENDICES	86
Appendix A: Verbal Assent Script for Children.....	87
Appendix B: Teach Stage – Mediated Learning Experience Script	88
Appendix C: Treatment Fidelity	92
Appendix D: Data Collection Form – Narrative Example.....	94

LIST OF TABLES

Table	Page
1. Descriptive Results for Narrative WCPM, WPM, and Accuracy Cold to Cold.....	46
2. Descriptive Results for Expository WCPM, WPM, and Accuracy Cold to Cold	47
3. Descriptive Results for Narrative WCPM, WPM, and Accuracy Cold to Hot	50
4. Descriptive Results for Expository WCPM, WPM, and Accuracy Cold to Hot	51
5. Descriptive Results for Narrative WCPM, WPM, and Accuracy Hot to Transfer....	54
6. Descriptive Results for Expository WCPM, WPM, and Accuracy Hot to Transfer .	55
7. Descriptive Results for Mediated Learning Observation across Narrative to Expository Tasks	58

LIST OF FIGURES

Table	Page
1. Level of Challenge.....	23
2. Mediated Learning Observation	36

CHAPTER I

INTRODUCTION

There is an immense amount of cultural diversity in the United States. Cultural diversity includes, but is not limited to an individual's ethnicity, race, religion, gender, language, and socioeconomic status. This diversity is present in children who attend American public schools, where there is an increasing number of English language learners (ELL). In the 2012-2013 school year, the percentage of ELL children in public schools was 9.2 percent (approximately 4.4 million children), which was an increase from 8.7 percent (approximately 4.1 million children) in the 2002-2003 school year (U.S. Department of Education, 2015). In the 2012-2013 school year, the highest percentages of ELL children in public schools were found in five states in the West (U.S. Department of Education, 2015). In California, ELL children represented 22.8 percent of public school enrollment while ELL children constituted 10.0 percent or more of public school enrollment in Alaska, Colorado, Nevada, New Mexico, and Texas (Department of Education, 2015).

In 2009, the Common Core State Standards (CCSS) was created to establish consistency in measuring academic standards in American schools. Standards were created in English Language Arts/Literacy and Mathematics for children, including ELL children, in grades K-12 (Common Core State Standards, n.d.). ELL children engage in academic programs such as English as a Second Language, High Intensity Language Training, and bilingual education to assist them in achieving English proficiency and meeting the national academic achievement standards (U.S. Department of Education,

2015). According to the CCSS, the National Governors Association Center for Best Practices and the Council of Chief State School Officers highly believe that all children, including ELL children, should be held to the same high expectations provided in the CCSS (CCSS, n.d.). The CCSS recognizes that ELL children may require additional time and instruction (CCSS, n.d.); however, the CCSS does not mention any specific type of additional instruction that is appropriate for better preparing ELL children to achieve the same standards as other monolingual English-speaking children.

To test for child achievement of CCSS, norm-referenced assessments are given in school. For example, in Nevada, Smarter Balanced assessments are used to measure if children meet academic standards. Norm-referenced assessments provide reliable test results for children with monolingual backgrounds; however, norm-referenced assessments may not be suitable for every child, especially ELL children, who are culturally and linguistically diverse (CLD). Performance on norm-referenced tests may not be representative of ELL children's content knowledge. For example, although the Smarter Balanced assessments were created using Universal Design, ELLs' language proficiency is compared to norms that may be inappropriate for ELLs – the norm group demography is not specified by Smarter Balanced Assessment Consortium. Norm-referenced assessments like the Smarter Balanced assessments examine the academic aspect of language skills. Such assessments may not be sensitive to the development of language acquisition for ELLs because even though Basic Interpersonal Communicative Skills (BICS) typically take two to five years to develop in a second language, Cognitive Academic Language Proficiency (CALP) can take five to seven years for proficiency in a

second language (Cummins, 1979). In other words, an ELL's CALP may not be fully developed at the time(s) of norm-referenced testing.

ELL children are often misdiagnosed as having learning difficulties based on their norm-referenced test performance (Peña, Gillam, Bedore, & 2014). For example, ELL children may be diagnosed with a language disorder when in fact they have a language difference. A language disorder exists when children have trouble with all the languages they use. In contrast, a language difference exists children have trouble with the newly acquired language(s) yet has no difficulty with their native language. It is possible that ELL children who test poorly have a language difference, in that English is not an appropriate language to accurately measure their academic skill. ELL children have a variety of language experiences, language proficiency, and language dominance, which may impact their academic performance (Kohnert & Bates, 2002). Norm-referenced testing, such as the tests that children take to demonstrate their progress toward the CCSS, is not always sensitive to incremental changes in development for ELL children.

Another reason ELL children may not meet CCSS may be due to a language disorder(s)/impairment(s). It is important when working with ELL children to determine if a language impairment exists. Kapantzoglou, Restrepo, and Thompson (2012) stated that norm-referenced testing, which is considered static in nature, may result in erroneous diagnoses of primary language impairment in ELL children. For example, immigrants were falsely labeled as having low intelligence due to the inappropriate use of norm-referenced static testing (Kapantzoglou et al., 2012). An example of the flaws of norm-referenced testing in the clinical setting is that although a norm-referenced language

screeners such as the Clinical Evaluation of Language Fundamentals-5 has 20% bilingual children in its norming sample, it may not be sensitive to foundational language skills that could affect literacy difficulties. Thus, alternative methods should be used to assess literacy abilities in ELL children.

One alternative method to norm-referenced testing for ELL children is dynamic assessment (Carlson, 1983; Hasson & Joffe, 2007; Laing & Kamhi, 2003). Dynamic assessment has been suggested as a feasible method for assessing language in children who come from populations that are culturally and linguistically diverse (Peña et al., 2014). Dynamic assessment is grounded in Vygotsky's sociocultural theory (Kapantzoglou et al., 2012). According to Vygotsky (1978), mental processes such as problem solving, attention, memory, and concept formation grow upon interaction with the environment through processes of socialization and daily activities (Kapantzoglou et al., 2012). Dynamic assessment, therefore, is similar to Vygotsky's zone of proximal development in which it assesses children's potential for independent self-learning while in a stimulating and engaging environment (Kapantzoglou et al., 2012).

Dynamic assessment focuses on the measuring of the learning process and learning potential and consists of three phases – test, teach, and retest. In dynamic assessment, a mediated learning experience is designed to reduce cultural and linguistic bias due to the children's differences in experience (Peña et al., 2014). Overall, this procedure provides a platform for assessing children's modifiability (Peña et al., 2014), which is children's responsivity to a mediated learning experience. In other words, modifiability refers to how children go about learning and applying the newly learned

skills. Modifiability encompasses elements of internal social-emotional (affect), cognitive arousal, cognitive elaboration, and external social-emotional (behavior) strategies (Peña, Reséndiz, & Gillam, 2007). Observation of modifiability has been shown to distinguish culturally and linguistically diverse (CLD) children with and without language impairment.

Dynamic assessment with a test-teach-retest approach has been employed in a number of studies in the assessment of such language tasks as word learning, narrative production, and categorization (Peña et al., 2014). In the majority of these studies, dynamic assessment has shown to distinguish between dual language learner (DLL) children who are typically developing (TD) or language impaired (LI), in that TD children improved more than did the LI children after instruction and intervention (Peña et al., 2014). DLL is an umbrella term that encompasses ELL (Paradis, Genesee, & Crago, 2011), and will be used throughout this study. Dynamic assessment has also been studied with monolingual-English speaking children to distinguish children's varying skills in morphological awareness (Wolter & Pike, 2015). In addition, dynamic assessment has been used with just typically developing children as well for the task of nonverbal phoneme deletion (Gillam, Fargo, Foley, & Olszewski, 2010).

To the best of our knowledge, dynamic assessment has not been used with the task of oral reading fluency or reading literacy. Oral reading fluency is a useful testing task because it is a quick assessment for teachers in the classroom. Decoding, or reading, quickly and accurately is a good indicator of academic achievement because academic achievement requires comprehension; when less attention is needed for decoding, more

attention is afforded to comprehension (Samuels, 1979). Decoding quickly and accurately is also a good indicator of reading level (Hasbrouck, 1998). Overall, oral reading fluency is an important ability to have for school-age children.

The procedures for dynamic assessment of oral reading fluency should be examined to see if they work for monolingual English (or other language) children as well as DLL children. This is particularly important as performance on dynamic assessment of oral reading fluency can be compared between monolingual English, monolingual Spanish, and Spanish-English bilingual speaking peers (Kohnert, Windsor, & Ebert, 2008). As this is the first study we know of that examines dynamic assessment of oral reading fluency, it is helpful to first examine the procedures with monolingual English speakers and then later apply these procedures to children who are DLL. Performance on dynamic assessment of oral reading fluency for monolingual English speakers can be more easily compared to norms. Hasbrouck and Tindal (2005) collected oral reading fluency norms for a variety of children with all levels of achievement. However, the number of children who were DLL is unknown. Therefore, it is more likely that procedures with monolingual English speakers can be more easily compared against norms without the likelihood of confounding factors such as language. These norms can provide confirmation to results of dynamic assessment of oral reading fluency for monolingual English speaking children.

This pilot study focused on three aims. The first aim was to determine if the procedures used for dynamic assessment of oral reading fluency are feasible. The second aim was to determine if dynamic assessment of oral reading fluency distinguished

children's reading levels in English. The third aim of this study was to determine if dynamic assessment of oral reading fluency procedures would be appropriate and applicable to children who are DLLs.

The researchers of this study hypothesized that if dynamic assessment of oral reading fluency is feasible, the procedures would distinguish between monolingual-English speaking children's various reading levels, and the procedures would be applicable to children who are DLLs.

CHAPTER II

LITERATURE REVIEW

ELL Demographics

As stated previously, the percent increase of ELL children in public schools from the 2002-2003 school year through the 2012-2013 school year was approximately 5.75%. In general, the prevalence of children in ELL programs – English as a Second Language, High Intensity Language Training, and bilingual education – was higher in school districts located in urbanized areas than in school districts in less urbanized locations (U.S. Department of Education, 2015). Currently, the majority of ELL children in public schools are Hispanic. From 1990 to 2006, the number of Hispanic children enrolled in public schools approximately doubled (Fry & Gonzales, 2008). In 2008, approximately 10 million Hispanic children were enrolled in the nation’s public schools, which translates to one Hispanic children in every five public school children (Fry & Gonzales, 2008). According to a recent U.S. Census Bureau, the Hispanic child population in the schools will grow by 166% by the year 2050, while the non-Hispanic child population in the schools will only increase by 4% (Fry & Gonzales, 2008). In addition to the projected growth of Hispanic children, 70% of Hispanic children speak a foreign language at home (Fry & Gonzales, 2008). Therefore, it is necessary to provide appropriate instruction and testing procedures that elicit actual knowledge of ELL children rather than instructions and procedures that elicit a label of a language disorder. Skills are a byproduct of learning a language(s) other than one’s native language.

ELL and Testing

The Common Core State Standards was designed to set academic standards for children to achieve in kindergarten through 12th grade. This means that both ELL/DLL and monolingual children are expected to meet the same standards. However, DLL children have difficulty meeting these standards due to a diversity of background experiences and may need different and/or more guidance to meet CCSS standards. However, it is unclear whether DLL children are not meeting standards due to less content knowledge or due to the method of norm-referenced testing. Currently, there is minimal research involving the gold standard in evaluating DLL children. Thus, more research is needed to understand the most appropriate method(s) for assessing the skills of DLL children.

Norm-referenced testing is often used to evaluate children for articulation and language disorders (Shipley & McAfee, 2015), but norm-referenced testing may not be the most appropriate method of testing for DLL children. Norm-referenced testing always employs standardized procedures, which consequently hinders testing from being individualized and flexible (Shipley & McAfee, 2015). Norm-referenced tests compare a children's data to a normative group (Shipley & McAfee, 2015), which is the average of a given test, but the normative group may not consist of CLD individuals. Norm-referenced tests are often static; they show what an individual knows, but not how the individual learns nor the amount of potential an individual has for learning (Shipley & McAfee, 2015). Due to non-representative testing results, DLL children may receive inappropriate services based on inaccurate testing results. For example, DLL children's

tests may indicate a language learning disorder and recommended services may involve pulling the children out of class to receive extra language and learning help when in fact they may simply be demonstrating a language difference and require other services such as ELL services.

Dynamic Assessment

One alternative assessment to norm-referenced testing for DLL children who come from culturally and linguistically diverse populations is dynamic assessment (Carlson, 1983; Hasson & Joffe, 2007; Laing & Kamhi, 2003). Dynamic assessment is predicated on Vygotsky's (1978) sociocultural theory, which argues that learning is a social process (Kapantzoglou et al., 2012). In other words, cognitive development occurs when interaction with the environment occurs. In Vygotsky's sociocultural theory, learning is a gradual process where it begins being mainly regulated by the environment to eventually being regulated by the self, which is also termed internalization (Kapantzoglou et al., 2012). An individual is more capable of independently learning when the individual's learning processes are more internalized (Kapantzoglou et al., 2012). Vygotsky is credited with the zone of proximal development, which is the concept of the distance between the actual development level under independent problem solving versus the potential development level under guided problem solving (Kapantzoglou et al., 2012). Therefore, dynamic assessment is analogous to Vygotsky's zone of proximal development in that it gauges children's potential for independent self-learning while in a stimulating environment (Kapantzoglou et al., 2012) that involves mediated learning experiences (MLE).

Overall, dynamic assessment consists of three phases – test, teach, and retest. In the first phase, test, the researcher tests children in a specific aspect of language and collects the data of the children’s performance (Peña et al., 2014). In the second phase, teach, the researcher, according to Kozulin (2002), Lidz (2002), and Tzuriel (2000), implements an MLE with teaching strategies that aim to improve the task performance and then rates the responsiveness of the children after instruction (Peña et al., 2014). The researcher rates the children’s abilities to learn based on observations of the children’s uses of cognitive and affective strategies during the MLE (Peña et al., 2014). In the third phase, retest, the researcher retests the children in the original aspect of language and collects the new data of the children’s performances (Peña et al., 2014). After the three phases of dynamic assessment, the researcher then measures the children’s modifiability by comparing the children’s behavioral measures of their pretest and posttest performances and/or evaluating the qualitative ratings of the children’s responsiveness to instruction in the MLE (Peña et al., 2014). Burton and Watkins (2007), and Camilleri and Law (2007) stated that both monolingual and DLL children who improve largely in behavior gains and/or efficiently approach the task through cognitive strategies (e.g., problem solving, attention, task orientation, and flexibility) are thought to have typical or normal language learning abilities (Peña et al., 2014). In this case, children who improve minimally in behavior gains and/or inefficiently approach the task during the teach phase are then thought to have language impairment (Peña et al., 2014).

Dynamic assessment has been used in various studies and many of these studies have been successful in distinguishing between TD and LI children who are monolingual

and DLL. These studies include dynamic assessment in language tasks of word learning (Kapantzoglou et al., 2012; Peña, Iglesias, Lidz, 2001), narrative production (Peña et al., 2014), and categorization (Peña et al., 2014). Kapantzoglou et al. (2012) conducted a study using dynamic assessment of word learning skills to identify language impairment in Spanish-English bilingual (SEB) children and evaluated if dynamic assessment was successful in differentiating between SEB children with and without primary language impairment (Kapantzoglou et al., 2012). The researchers tested twenty-eight SEB children in a dynamic assessment of a word learning task (Kapantzoglou et al., 2012). The dynamic assessment followed the test-teach-retest procedure and the researchers taught the SEB children three nonwords and three unfamiliar items through nine, eighteen, and twenty-seven exposures to the novel words according to phases 1, 2, and 3 (Kapantzoglou et al., 2012). Results showed that TD children showed greater modifiability than did the primary LI children (Kapantzoglou et al., 2012). Thus, dynamic assessment was found to be accurate and successful for determining children with primary LI from children who were TD (Kapantzoglou et al., 2012).

Another study where dynamic assessment proved to be successful for distinguishing ELL children who had LI versus ELL children who were TD was a study done by Peña et al. (2014). This study used dynamic assessment to assess narrative ability in English for bilingual ELL children. A total of 54 children participated in this study; 18 were Spanish-English speaking LI children, 18 were age/sex/IQ/language experience-matched TD control children, and 18 were age/language experience-matched TD comparison children (Peña et al., 2014). The study followed a test-teach-retest approach

where the teach phase involved two 30-minute scripted MLE sessions. These MLEs focused on modeling and exercising the formation of complete and complex episodes in narratives (Peña et al., 2014). Child modifiability was then measured in response to MLE sessions on narrative ability in English for the ELL children (Peña et al., 2014).

Child modifiability was measured using a mediated learning observation (MLO) form which included 12 items; the 12 items involved four primary areas: 1) affect (anxiety, motivation, persistence), 2) behavior (responsiveness to feedback, attention, compliance), 3) arousal (task orientation, metacognition, nonverbal self-reward), and 4) elaboration (problem solving, flexibility, verbal mediations) (Peña et al., 2014). The rating scale ranged from 1 to 5, where 1 indicated that the child required minimum examiner guidance, and 5 indicated that the child required maximum examiner guidance (Peña et al., 2014). Ultimately, children with lower scores exhibited better modifiability and responsiveness to MLEs, which indicated that they children were more probable to be TD.

With the combination of examiner ratings of child modifiability, dynamic assessment story scores, and ungrammaticality, the classification of whether children were TD or LI fell between 80.6% to 97.2% accuracy of identification (Peña et al., 2014). Peña et al. (2014) concluded that dynamic assessment performed in English provides a methodical and effective approach to assess learning processes and outcomes. Overall, dynamic assessment holds clinical value for accurate identification of TD versus LI in the bilingual ELL children population (Peña et al., 2014).

Another study that should be discussed is Wolter and Pike's (2015) study where

they used a different dynamic assessment approach. Whereas other dynamic assessment studies have included bilingual children as participants, Wolter and Pike's (2015) study included only monolingual children – specifically, 54 TD monolingual children. Instead of MLEs, the examiners employed graduated prompting – a form of scaffolded instruction – in determining the effectiveness of dynamic assessment in evaluating morphological awareness and analyzing the possibility of this task being connected to literacy success for third graders (Wolter & Pike, 2015).

Wolter and Pike's (2015) results suggested that morphological awareness is potentially a significant factor when involving literacy in children in early elementary grades. Wolter and Pike (2015) concluded that prompting by itself is not optimal; rather, employing a series of dynamic graduated prompts – prompts ordered in a hierarchy – provided more value in determining possibilities for literacy intervention and instruction (Wolter & Pike, 2015). In other words, to assess the starting point and focus of intervention for each child, it was most favorable to provide scaffold prompting in a graduated, or hierarchal, manner that was tailored and individualized for the child. This hierarchical system was able to distinguish monolingual English-speaking children's morphological skills. The success of dynamic assessment – which is typically ideal for bilingual speakers (Peña et al., 2001) – for monolingual English-speaking children paves the way for more dynamic assessment studies involving monolingual children.

Mediated Learning Experience

The mediated learning experience (MLE) is the core element of dynamic assessment. As described previously, the MLE serves to create an even-leveled playing

field when assessing language ability of children by reducing cultural and linguistic bias from children's differences in experience (Peña et al., 2014). There is a variety of factors that comprise the MLE and these factors differed across the literature. Currently, there is no gold standard for creating a MLE. MLE can vary in number of sessions, spacing of sessions, task, flexibility, prompting, and outcome measures.

Number of Sessions. A majority of dynamic assessment studies (Gillam & Peña, 2004; Gutierrez-Clellen & Peña, 2001; Peña et al., 2001; Peña et al., 2007; Peña et al., 2014) have implemented MLE in two 30-minute sessions, while Wolter and Pike (2015) implemented two 45-minute sessions.

Spacing of Sessions. The time between each MLE session has varied. The dynamic assessment studies in the literature (Gillam & Peña, 2004; Gutierrez-Clellen & Peña, 2001; Peña et al., 2001; Peña et al., 2007; Peña et al., 2014; Wolter & Pike, 2015) have spaced sessions over a range of two days to four weeks. Relevance of spacing was not stated in the literature.

Tasks. Research done on dynamic assessment has involved a variety of different tasks such as naming, narratives, and morphological awareness.

Peña et al. (2001) conducted a study where they measured child modifiability and the effectiveness of dynamic assessment in distinguishing 79 TD and low language ability CLD children. For each child in the mediation group, researchers performed two 30-minute MLE sessions over one to two weeks that focused on naming strategies, and then compared the mediation group children's pretest-teach-posttest data with the no-mediation group children's pretest-teach-posttest data (Peña et al., 2001). MLE sessions

were conducted in the child's language(s) and involved four tasks (Peña et al., 2001). The examiners discussed with children in the mediated group about single-word labels versus other modes of referring to objects, as well as discussed the importance of labels (Peña et al., 2001). The first MLE session involved transportation and food themes, while the second MLE session involved animals and community workers themes (Peña et al., 2001). Materials used in the MLE sessions consisted of toys, books, puzzles, and cards (Peña et al., 2001). Besides direct instruction, examiners also brought in strategies for planning and self-regulation in labeling tasks to fulfill an important goal of dynamic assessment – to promote self-directed learning (Peña et al., 2001), which Vygotsky would have labeled as internalization. Dynamic assessment of labeling was able to distinguish TD and low language ability children based on pretest to posttest change.

Peña et al. (2014) conducted a study where they also measured child modifiability and the effectiveness of dynamic assessment in distinguishing between TD and LI Spanish-English bilingual (SEB) children, but used narrative ability as the task. The study involved a total of 54 children: 18 LI SEB children, 18 TD control children, and 18 age- and language experience-matched comparison children (Peña et al., 2014). Dynamic assessment was conducted over three sessions, where the first session consisted of the pretest and first MLE instruction, the second session consisted of the second MLE instruction, and the third session consisted of the posttest (Peña et al., 2014). For the pretest and posttest, children told two different wordless picture books in English (Peña et al., 2014). During the two 30-minute MLE sessions, examiners used scripted interventions that aimed to improve the children's narratives – specifically, the MLE

sessions were designed to increase the length and complexity of the narratives (Peña et al., 2014). Examiners focused on modeling and practicing creating complete and complex episodes in narratives (Peña et al., 2014). Dynamic assessment of narratives was able to distinguish SEB children who were TD and LI.

Wolter and Pike's (2015) dynamic assessment involving the task of morphological awareness was able to distinguish monolingual English-speaking children's morphological awareness skills, which suggests dynamic assessment of morphological awareness may provide a clear focus for intervention for children who require assistance in the said task.

Dynamic assessment has been performed in the previously described tasks. Dynamic assessment has yet to be studied for the task of oral reading fluency.

Flexibility. A primary element of MLE is that the mediator uses each individual child's responses and strategies for the given tasks to respond and cater to the child in order to modify and guide the child's learning (Peña et al., 2001). Due to the flexibility needed to cater each MLE session to each particular child, as seen in such studies as Peña et al. (2001), the sessions in the literature were not entirely scripted, but the materials and content of the sessions remained the same. A script was provided, however, in studies such as Peña et al. (2001), to maintain that examiners were consistent in conducting the activities in MLE sessions. In each MLE session, the examiner began the activity by stating the goal (mediation of intentionality) and purpose (mediation of meaning) (Peña et al., 2001). The examiner then related the particular activity to home and school activities (mediation of transcendence), followed by developing a plan (mediation of competence)

for the activity at hand (Peña et al., 2001). The examiner aided the child in performing the planned activity, and ended the activity by reviewing with the child the principles of labeling as well as discussing observations of modification in the child's ability to label, plan, and self-regulate (Peña et al., 2001).

Graduated Scaffold Prompting. Wolter and Pike (2015) prominently used graduated scaffold prompting during the intervention stage of dynamic assessment. The researchers gathered 54 TD third-grade children to determine if dynamic assessment with graduated prompts held value for assessing morphological awareness and to determine the possible connection of such a task with third-grade literacy success. The researchers employed the Dynamic Assessment of Primary Morphological Awareness (DAPMA) as a means to have children define sixteen derived morphologically complex words (Wolter & Pike, 2015). If the child was successful in providing an appropriate definition of the word, the examiner asked questions to ascertain if the children's knowledge of the word's definition was dependent on morphological cues (Wolter & Pike, 2015). If the child was unsuccessful in providing an appropriate definition of the word, the examiner presented scaffold prompts until the child gave the correct definition or when the scaffold prompts were all used up (Wolter & Pike, 2015).

The scaffold prompts were presented in a systematic manner that provided the examiner with information regarding how much assistance the child needed to reach the correct definition (Wolter & Pike, 2015). The scaffold prompts were organized in a hierarchy; the researchers conjectured that the scaffold prompts were progressively more helpful for the child in detecting the definitions of the words (Wolter & Pike, 2015).

After presenting each scaffold prompt, the examiner paused for five seconds to give the child enough time to respond. If the child gave an incorrect response or produced no response, the examiner presented the child with the next prompt. If examiners were uncertain about the accuracy of the child's answer, they moved on to subsequent scaffold prompts in the hierarchy (Wolter & Pike, 2015).

Oral Reading Fluency for Dynamic Assessment

One area that has not been researched yet in dynamic assessment is oral reading fluency. Oral reading fluency is a vital element for successful reading comprehension. Adams (1990) defines oral reading fluency as “the oral translation of text with speed and accuracy”. Oral reading fluency involves a complex multifaceted process that includes: a reader's perceptual skill at decoding and automatically translating graphemes into articulate sound representations; connecting those sound representations into coherent wholes and automatically producing lexical representations; processing meaningful relations throughout individual and surrounding sentences; relating text meaning to prior held knowledge; and making appropriate inferences to fill in missing gaps within the text (Fuchs et al., 2001); altogether, this series of actions allow for reading comprehension. Albeit the taxing description, an individual who exhibits oral reading fluency executes the process described above in a smooth and effortless manner. Due to the intricate process, oral reading fluency can be used to measure reading proficiency (Fuchs et al., 2001), which is a key component of literacy.

Although there are many norms (Hasbrouck & Tindal, 2005) or criterion benchmarks (DIBELS) for oral reading literacy, these are mainly helpful when examining

oral reading fluency of monolingual English speakers. If a DLL is in the BICS or early CALP stages, their oral reading fluency skills may be lower than their monolingual English-speaking peers. These children may be following the typical progression of bilingual development. However, some of these children may in fact have bilingual language impairment. It is difficult to determine which the child may present with if using monolingual English norms or benchmarks.

Using the task of oral reading fluency in a dynamic assessment could help differentiate DLL children between those who have TD reading and those who struggle with reading. Furthermore, since oral reading fluency is a language-based skills, it has the potential to be able to differentiate between DLL children who are TD and those who have LI. Oral reading fluency is a task that teachers typically use in the classroom and could be easily implemented in a school setting.

There is not a gold standard, however, on how to use dynamic assessment to assess oral reading fluency of DLL children. If an examiner looks just at the number of words correct per minute and accuracy, the examiner may think that DLL children has a specific learning disability with reading impairment. DLL children could have a smaller amount of words correct per minute and lesser accuracy simply due to less familiarity with vocabulary – due to a CLD background – rather than decoding and comprehension abilities. Therefore, simply looking at the numbers may not be valid or ethical because it is not a true measure of how the child learns. Thus, dynamic assessment of oral reading fluency skills would provide insight to how DLL children learn because unlike norm-referenced tests, dynamic assessment measures the learning potential of the child.

Repeated Reading for Mediated Learning Experience

Repeated reading is an empirically supported strategy for improving oral reading fluency and was therefore used as the teaching strategy in the MLE. Repeated reading has been studied and shown to be effective in increasing reading fluency and comprehension for nondisabled children as well as children with learning disabilities (Therrien, 2004). Repeated reading has two primary components: 1) the instructor has the child read and re-read the same text, and 2) the instructor allows the child to exercise their reading orally as well as provides the child with guidance along the way (Hasbrouck, 2010; Samuels, 1979).

Oral reading fluency involves speed, accuracy, and prosody, which repeated reading aims to achieve. Although reading is an important skill valued in school, there is a lack of research on when teachers should push children to increase their reading speed, but most teachers wait until the halfway through first grade to push for increased speeds (Hasbrouck, 2010). For children in second grade and higher, there are three common techniques that are employed to develop and maintain reading fluency; the techniques are choral reading, cloze reading, and partner reading (Hasbrouck, 2010). These techniques are versatile for any grade level, group size, and classification of text.

Choral reading involves the teacher and children reading aloud together (Hasbrouck, 2010). The teacher acts as a model and the children follow the teacher's appropriate pacing and phrasing (Hasbrouck, 2010). The teacher may stop reading intermittently to ask questions, make comments about the text, and discuss vocabulary words (Hasbrouck, 2010). Choral reading is most effective when the teacher instructs all

children to use a marker of any sort to follow along in the text while they read (Hasbrouck, 2010).

Cloze reading shares qualities with choral reading, but a main difference in cloze reading is that the teacher performs most of the oral reading while the children follow and read along silently (Hasbrouck, 2010). The teacher sporadically leaves out important vocabulary words and the children are required to read the words aloud as a class (Hasbrouck, 2010). Cloze reading allows children to be comfortable while reading and provides them with examples of appropriate and skillful reading (Hasbrouck, 2010).

Partner reading involves children reading aloud to a partner. This technique is most effective when children are taught and are knowledgeable of methods for giving feedback and managing time (Hasbrouck, 2010). Partners usually consist of a stronger reader and a weaker reader; the stronger reader may read first and provide a model for the weaker reader (Hasbrouck, 2010).

To perform repeated reading intervention, the teacher must first determine the child's fluency levels, which is measured by words correct per minute (WCPM) (Hasbrouck, 2010). Once the child's WCPM is known, the teacher can place the child at an appropriate instructional level and therefore set a reasonable goal – in the aspects of WCPM and accuracy – for fluency (Hasbrouck, 2010). An accuracy level of 90-95% can be considered adequate for reading fluency (Rasinski, 2004). Oral reading fluency can also be distinguished by level of challenge (see Figure 1) – frustration level indicates percent accuracy of 93% or lower, instructional level indicates percent accuracy of 94-97%, and independent reading level indicates percent accuracy of 97% or greater

(Hasbrouck, 1998).

Level of Challenge	Percent Accuracy
Independent Reading Level	97% or greater
Instructional Level	94-97%
Frustration Level	93% or lower

Figure 1. Percent accuracy indicates child's level of reading challenge (Hasbrouck, 1998).

The process of repeated reading begins with a cold read, which is an unpracticed first-time read of the text; the text should be a child-selected story and be from the targeted goal level (Hasbrouck, 2010). While reading, the children set a timer for one minute and make note of words they skip or produce incorrectly (Hasbrouck, 2010). They then calculate their WCPM.

The children then practice reading the same text for approximately three times along with a model – either a recording or a person – to learn accurate pronunciations of all words in the passage (Hasbrouck, 2010). In contrast to the timed cold read, this phase of repeated reading is not timed and children read the whole passage (Hasbrouck, 2010). Children are encouraged to read softly along with the model to ensure reading practice (Hasbrouck, 2010).

The child then performs several timed warm reads, where they read the text independently in a soft voice until they feel comfortable in reaching their WCPM goal (Hasbrouck, 2010). Once the child feels ready in reaching the WCPM goal, they perform

a hot read for the teacher, who then calculates the WCPM. The child passes the repeated reading procedure if four criteria are achieved: the WCPM score achieves or exceeds the initial goal; the child commits three or fewer errors; the child reads the story with appropriate phrasing and pays attention to punctuation; and the child can appropriately answer the comprehension questions (Hasbrouck, 2010). If the child does not pass, they continue practicing the repeated reading process.

Transfer vs. Non-Transfer Reading Passages

Children read non-transfer reading passages and transfer reading passages when practicing and assessing oral reading fluency. Non-transfer reading passages are when the children's reading fluency is measured using the same passage after reading it multiple times (Therrian, 2004). Non-transfer reading passages usually involve cued reading, corrective feedback, and performance criteria. On the other hand, transfer reading passages involve the child's reading fluency measured by reading different passages (Therrian, 2004). During oral reading practice, transfer reading passages usually include adult/peer interventions, modeling, corrective feedback, performance criteria, comprehension, and charting (Therrian, 2004). In other words, these transfer reading passages help the child transfer the set of new skills learned to new reading passages.

Narrative vs. Expository

During oral reading fluency practice and assessment, children may read either narrative or expository passages. The main difference between narrative and expository passages is that a narrative tells a story and an expository provides information.

Narratives include initiating events, actions, and conclusions, which make up to form

complex episodes. Using narratives as tasks is useful in assessing a child's language abilities and comprehension. In comparison, narrative passages tend to be easier for children to navigate whereas expository passages tend to be more difficult for children to navigate because they are more informational (Sáenz & Fuchs, 2002).

Research Questions

The purpose of this study was to examine the feasibility of dynamic assessment of oral reading fluency for monolingual English-speaking second graders with varying reading levels. Specifically, the research focused on the growth rates of oral reading fluency through the processes of dynamic assessment and repeated reading in narrative and expository passages suitable for second graders, as well as children's modifiability to intervention. If dynamic assessment of oral reading fluency was feasible, the following research questions were asked:

1. Does growth or difference of words correct per minute (WCPM) and accuracy of cold to cold readings distinguish between high reading level (HRL) versus low reading level (LRL) monolingual English-speaking second graders?
2. Does growth or difference of WCPM and accuracy of cold to hot readings distinguish between HRL versus LRL monolingual English-speaking second graders?
3. Does growth or difference of WCPM and accuracy of hot to transfer readings distinguish between HRL versus LRL monolingual English-speaking second graders?
4. Does modifiability to mediated learning experience sessions distinguish

between HRL versus LRL monolingual English-speaking second graders?

5. Do the procedures of dynamic assessment of oral reading fluency apply to DLL children?

CHAPTER III

METHODOLOGY

Institutional Review Board (IRB)

This study included human subjects as participants. A proposal was submitted to University of Nevada Reno's Institutional Review Board, which protects research participants' rights and holds standards for ethical research, for approval of this study. The proposal included submission of Part II Application – Social Behavioral/Education, Information Sheet (intended purpose of the study), Parent Consent/Permission Form, Youth Assent Script, Population: Children as Research Participants Form, Social/Educational Photo/Video Release Form, and Educational Records and Classroom Survey Research Form (Family Educational Rights and Privacy and Protection of Pupil Rights Amendment). See Appendix A for Youth Assent Script. This study obtained IRB approval on March 18, 2016. Amendments were later submitted to include research assistants in this study; the amendments were acknowledged on April 7, 2016.

Participant Recruitment

The primary investigator (PI) and co-investigator (Co-I) of this study initially worked with a school district in Northern Nevada to obtain participants who were SEB second graders. However, scheduling did not work out, so the PI and Co-I invited Our Lady of the Snows school to participate in the study. Most children at this school were monolingual English-speaking children. The principal agreed to support the research and provided a letter of support to conduct research at Our Lady of the Snows school.

The PI provided the following guidelines to the principal and second grade

teacher for participant recruitment: 1) target five children who struggle with reading and 2) target five children who do not struggle with reading. The second grade teacher was able to identify ten total children.

After identification of the participants, the Co-I provided ten IRB-approved consent packets – which included the Information Sheet, Parent Consent/Permission Form, and Social/Educational Photo/Video Release Form – to the second grade teacher. The Information Sheet and Parent Consent/Permission Form stated that the children would not be penalized if they chose to decline participation in the study. The children also had additional opportunities to opt out before and during the study. Both parents and children were given the PI, Co-I, and UNR IRB’s contact information in the case they had questions regarding the study. The parents and children were given one week to return the signed consent packets.

The Co-I picked up the consent packets on the one-week deadline. A total of six consent packets were returned. A sealed envelope (that was opened at the end of scoring) with the second grade teacher’s judgment of each child’s reading level was given to the Co-I as well. The Co-I created a coded master list of the six children and placed the consent packets and sealed envelope in the PI’s locked cabinet.

Participants

This study included a total of six monolingual English-speaking second graders – three females and three males. The second grade teacher separated the children into two groups based on her judgment of the children’s reading performance in class. The low reading level (LRL) group consisted of four children (3 females and 1 male) and the high

reading level (HRL) group consisted of two children (0 females, 2 males). The researchers (PI, Co-I, and research assistants) were blind to the participants' reading level until after data collection was completed.

Materials

The materials in this study included reading passages, audio and video equipment, iPad, data collection forms, prizes, and computers. The reading passages were chosen based on an appropriate second grade reading level range and were split into two groups – narrative and expository. The narrative reading passages involved similar themes of animals and consisted of: 1) “Moka the Little Golden Dog” (700L), 2) “Bobby Gets a Doggy” (760L), and 3) “Sarah the Seagull” (710L). The expository reading passages involved similar themes of the environment and animals and consisted of: 1) “Saving the Rain Forests” (780L), 2) “Protecting the Wetlands” (810L), and 3) “Insects on the Move” (800L). The audio equipment consisted of one Sony IC Recorder model ICD-PX333/PX333F. The video equipment consisted of four Sony Digital HD Video Camera Recorders model HDR-CX240. The video cameras were placed on a tripod. The iPad was used as a timer for timing the children's reading the passages. The data collection forms were used for recording data such as words correct per minute and accuracy. The prizes acted as reinforcement objects; the prizes consisted of Hershey's chocolates for the first session and new children's reading books for the second session. The computers were used for uploading and viewing the video and audio files to a password protected cloud server (i.e., NevadaBox), communicating through email with the school, communicating through email with researchers, and writing this manuscript.

General Procedures

Each child underwent dynamic assessment with a pretest-teach-posttest-transfer approach. Each child experienced two thirty-minute sessions that were two days apart. Both sessions resembled the same procedures, with the difference that the first session involved narrative passages and the second session involved expository passages.

Session One: Narrative

Pretest. (2-3 minutes) Each child performed two cold reads on two different narrative passages, for one minute each. For cold read #1, each child read “Moka the Little Golden Dog” (700L) for one minute. During this minute, the Co-I followed along on her own copy of the passage and marked words that were produced incorrectly by the child. If the child was stuck on a word for more than three seconds, the Co-I followed DIBELS oral reading fluency guidelines and produced the word for the child (Good & Kaminski, 2002). The Co-I stopped the child at the one minute mark and then asked the comprehension question of “What language does Moka speak?” The correct answer expected of each child was “English.” If the child answered with an incorrect answer, the Co-I gave them the correct answer. The comprehension question was asked as a strategy for building comprehension (Samuels, 1979). The same process followed for reading the second narrative passage, “Bobby Gets a Doggy” (760L), cold read #2; the exception to this passage was the comprehension question of “Does Bobby just like one dog or different kinds of dogs?” and the correct answer of “Different kinds of dogs.”

Teach. (25 minutes) Each child focused on the passage “Bobby Gets a Doggy” for the mediated learning experience (MLE), which consisted of a scripted process of

steps (see Appendix B) to help each child better decode words they had trouble with during the pretest. Key steps of this process included the Co-I teaching the child strategies on how to break down the sounds of erred words and how to practice connecting the sounds to produce the word. The Co-I also hypothesized if the child was HRL or LRL after the MLE, on the data collection form (see Appendix D).

Posttest. (1-2 minutes) Each child performed a hot read #1 of “Bobby Gets a Doggy” for one minute. The Co-I encouraged the child to apply the decoding strategies learned during the teach phase while performing this hot read. If the child was stuck on a word for more than three seconds, the Co-I followed DIBELS oral reading fluency guidelines and produced the word for the child (Good & Kaminski, 2002). During this minute, the Co-I followed along on her own copy of the passage and marked words that were produced incorrectly by the child. The Co-I stopped the child at the one minute mark and then asked the comprehension question of “What does Bobby think of when he lays in bed at night?” The correct answer expected of each child was anything similar to “How badly he wants a doggy.” If the child answered with an incorrect answer, the Co-I gave them the correct answer.

Transfer. (1 minute) Each child performed a transfer cold read #1 of “Sarah the Seagull”, for one minute. The Co-I encouraged the child to apply the decoding strategies learned during the teach phase while performing this cold read. If the child was stuck on a word for more than three seconds, the Co-I followed DIBELS oral reading fluency guidelines and produced the word for the child (Good & Kaminski, 2002). During this minute, the Co-I followed along on her own copy of the passage and marked words that

were produced incorrectly by the child. The Co-I stopped the child at the one minute mark and then asked the comprehension question of “What would people feed Sarah and her mother?” The correct answer expected of each child was “sandwich and potato chips.” If the child answered with an incorrect answer, the Co-I gave them the correct answer.

Session Two: Expository

Pretest. (2-3 minutes) The same steps from the narrative pretest stage were followed for the expository pretest stage, with the exception of different stories and different comprehension questions. Cold read #1 involved the passage “Saving the Rainforests” (780L). The comprehension question was “What happens when rainforests are cut down?” and the correct answer was “animals lose their homes.” Cold read #2 involved the passage “Protecting the Wetlands” (810L). The comprehension question was “What kinds of animals live in the Everglades?” and the correct answer was anything similar to “wood storks, mammals, and bobcats.”

Teach. (25 minutes) The same steps from the narrative teach stage were followed for the expository teach stage, with the exception of a different passage – “Protecting the Wetlands.” See Appendix B for the scripted process.

Posttest. (1-2 minutes) The same steps from the narrative posttest stage were followed for the expository posttest stage, with the exception of a different story and different comprehension question. Hot read #1 involved the passage “Protecting the Wetlands”. The comprehension question was “Do reptiles live in the Everglades?” and the correct answer was “yes.”

Transfer. (1 minute) The same steps from the narrative transfer stage were followed for the expository transfer stage, with the exception of a different story and different comprehension questions. Transfer cold read #1 involved the passage “Insects on the Move.” The comprehension question was either “What are some things a dragonfly can do?” or “Can some insects jump very far?”, depending on how far the child read in the passage. The correct answer was either “fly backward, turn around quickly, hover/hang in the air, reach up to 35 mph” or “yes”, respectively.

Outcome Measures and Dependent Variables

Oral reading fluency and effectiveness of dynamic assessment were measured using the data of words per minute, number of errors, words correct per minute (WCPM), accuracy, and child modifiability.

Words per minute. Words per minute represents the number of words (regardless of correct or incorrect) a child is able to read in one minute. In this study, words per minute was calculated by counting and adding up every word that was read by each child up to the one minute mark denoted by a bracket. Words per minute was calculated for the two cold reads in the pretest, one hot read in the posttest, and one cold read in the transfer.

Number of errors. In this study, any word that was not identical to the original word of the passage was marked as an error. Example of errored words included: the child only said part of the word, the child pronounced the word incorrectly, the child substituted a different word for the original word, the child skipped over the word, the child added in extra words, and/or the child was stuck on a word for more than three

seconds in which the Co-I had to give the word to the child. Number of errors was calculated for the two cold reads in the pretest, one hot read in the posttest, and one cold read in the transfer.

Words correct per minute (WCPM). WCPM represents the number of words a child is able to correctly read in one minute. In this study, WCPM was calculated using words per minute subtracted by number of errors. This was repeated for the two cold reads in the pretest, one hot read in the posttest, and one cold read in the transfer.

Accuracy. As stated previously in chapter II, oral reading fluency can be distinguished by level of challenge – frustration level indicates percent accuracy of 93% or lower, instructional level indicates percent accuracy of 94-97%, and independent reading level indicates percent accuracy of 97% or greater (Hasbrouck, 1998). In this study, independent reading level (97% or greater) was considered HRL and anything below independent reading level was considered LRL. Accuracy was calculated by dividing WCPM by words per minute.

Child Modifiability. Child modifiability, or a child's response to intervention, was calculated using Peña et al.'s (2007) Mediated Learning Observation chart (see Figure 2). A mean composite score was comprised of four categories of Internal Social-Emotional Affect, Cognitive Arousal, Cognitive Elaboration, and External Social-Emotional Behavior. Each category was rated on a 5-point Likert scale. The Internal Social-Emotional Affect category primarily examined the amount of anxiety, motivation, and non-verbal persistence present in the child. The Cognitive Arousal category primarily examined the amount of task orientation, meta-cognition, and non-verbal self-reward

present. The Cognitive Elaboration primarily measured the amount of problem-solving, verbal mediation, and flexibility present. The External Social-Emotional Behavior category primarily measured responsiveness to feedback, attention, and compliance present.

In this study, scores of 1 were given if the child exhibited characteristics such as calmness, understanding of tasks, awareness of errors, systematic and efficient problem-solving, positivity, and attentiveness. Scores of greater than 1 were given if the child exhibited characteristics such as fidgetiness, somewhat understanding of tasks, somewhat awareness of errors, somewhat inefficient problem-solving, hesitance, and distractibility. Children with a mean score of 1 were hypothesized to be HRL and children with a mean score of greater than 1 were hypothesized to be LRL. In depth description of each sub-category is provided in Figure 2.

	1	2	3	4	5
Internal Social-Emotional (Affect)					
<i>Anxiety</i>	Calm, little to no soothing required	Fidgety, but can be soothed	Uncomfortable, breaks needed to sooth	Distressed, much soothing required	Distraught, crying, cannot be soothed
<i>Motivation</i>	Enthusiastic, engages in tasks readily	Curious, shows interest	Ambivalent, unsure about tasks	Guarded, seems fearful of tasks	Avoidant, does not want to engage
<i>Non-verbal persistence</i>	Persistent, wants to continue despite difficulty	Indicates difficulty non-verbally, but continues	Tentative, appears unsure about continuing	Demonstrates non-verbal frustration, continues under protest	Non-verbal rejecting, cannot continue
Cognitive Arousal					
<i>Task orientation</i>	Completely understands tasks	Mostly understands tasks (75%)	Understands tasks some of the time (50%)	Often does not understand tasks (25% of the time)	Doesn't understand tasks
<i>Meta-cognition</i>	Aware of all errors	Aware of most errors (75%)	Aware of some errors (50%)	Unaware of most errors (25%)	Unaware of any errors
<i>Non-verbal self reward</i>	Positive response to task regardless of difficulty	Positive response related to task difficulty	Demonstrates insecurity, positive & negative responses related to difficulty	Negative response related to task difficulty	Negative response regardless of task difficulty
Cognitive Elaboration					
<i>Problem-solving</i>	Systematic and efficient, used forethought, reflection	Organized, but somewhat inefficient, (less than 25% off task)	Sketchy plan, trial & error	Disorganized, haphazard plan	No plan; unsystematic guessing
<i>Verbal mediation</i>	Elaborates plan clearly	Talks through problem	Talks occasionally	1-2 word utterances only	No verbal mediation
<i>Flexibility</i>	Uses multiple strategies readily	Has preferred strategies, but can change when necessary	Some evidence of more than one strategy and occasionally utilizes them	Recognizes limitations of strategy, but cannot see alternatives	Persists with one strategy, regardless of outcome
External Social-Emotional (Behavior)					
<i>Responsiveness to feedback</i>	Very positive, maintains enthusiasm	Positive, but hesitant; requires some feedback	No response to feedback	Negative, disheartened; requires much feedback	Very negative, rejects feedback
<i>Attention</i>	Attentive and focuses	Focused, but distractible at times	Distractible, but can be refocused, needs prompting	Distracted, and difficult to refocus	Distracted and off task
<i>Compliance</i>	Cooperative	Insecure	Hesitant	Uncooperative	Refusing

Figure 2. Mediated Learning Observation used to score child modifiability from pretest to transfer readings. Scored using a 5-point Likert scale. Scores of "1" are typically indicative of children who are typically developing. Scores of "2" or higher are typically indicative of children who have a language impairment (Peña et al., 2007).

Treatment Fidelity

Three research assistants who were blind to the purpose of the study viewed the data collection videos for treatment fidelity. Each research assistant was assigned two participants, and was required to check off ten observation points per participant. The ten observation points involved the key steps the Co-I was supposed to implement throughout the dynamic assessment procedures, and are provided in Appendix C. Treatment was implemented with 97.5% fidelity across all six study participants. The fidelity percentage was calculated by dividing the total number of observation points performed over the total number of possible observation points.

Interrater Reliability

The same three research assistants who were blind to the purpose of this study viewed the data collection videos for interrater reliability on WCPM, accuracy, and hypothesis. All three research assistants were undergraduate students in Speech Pathology and Audiology, and were all experienced with checking reliability from previous participation in research studies. For this study, the Co-I trained the research assistants on treatment fidelity, scoring WCPM, and making a hypothesis. The Co-I provided step-by-step written instructions on how to check for treatment fidelity and interrater reliability. The research assistants were encouraged to reach out to the Co-I in the case of questions or concerns.

Each research assistant was assigned two participants, and was required to independently score 100% of the cold, hot, and transfer reads for words per minute, number of errors, WCPM, and accuracy per participant. Each research assistant was also

required to hypothesize after viewing the completion of the MLE if the child was HRL or LRL. Interrater reliability for all measures were 93% and above.

CHAPTER IV

RESULTS

Descriptive Results

Words correct per minute (WCPM)

Words correct per minute (WCPM) was calculated for each cold, hot, and transfer read.

Narrative pretest cold reads. The mean WCPM between the six participants on the narrative pretest cold read #1 was 66.83 WCPM. The highest WCPM were achieved by the HRL group – P02 achieved 106 WCPM and P06 achieved 96 WCPM. The HRL group had a mean of 101.00 WCPM. The LRL group had a WCPM range from 41-60 WCPM and a mean of 49.75 WCPM. (See Table 1.) The mean WCPM between the six participants on the narrative pretest cold read #2 was slightly higher at 75 WCPM. The highest WCPM data points were again achieved by the HRL group – P02 achieved 118 WCPM and P06 achieved 112 WCPM. The HRL group had a mean of 115.00 WCPM. The LRL group had a WCPM range from 47-61 WCPM and a mean of 55.00 WCPM (See Table 1.)

Narrative posttest hot reads. The mean WCPM between the six participants on the narrative posttest hot read #1 was 104.17 WCPM. The highest WCPM data points were achieved by the HRL group – P02 achieved 154 WCPM and P06 achieved 125 WCPM. The HRL group had a mean of 139.50 WCPM. The LRL group had a WCPM range from 77-96 WCPM and a mean of 86.50 (See Table 3.)

Narrative transfer cold reads. The mean WCPM between the six participants on the narrative transfer cold read #1 was 82.50 WCPM. The highest WCPM data points were achieved by the HRL group – P02 achieved 140 WCPM and P06 achieved 122 WCPM. The HRL group had a mean of 131.00 WCPM. The LRL group had a WCPM range from 38-74 WCPM and a mean of 58.25 WCPM (See Table 5.)

Expository pretest cold reads. The mean WCPM between the six participants on the expository pretest cold read #1 was 63.83 WCPM. The highest WCPM data points were achieved by the HRL group – P02 achieved 93 WCPM and P06 achieved 87 WCPM. The HRL group had a mean of 90.00 WCPM. The LRL group had a WCPM range from 43-61 WCPM and a mean of 50.75 WCPM (See Table 2.) The mean WCPM between the six participants on the expository pretest cold read #2 was lower at 51.83 WCPM. The highest WCPM data points were achieved by the HRL group – P02 achieved 92 WCPM and P06 achieved 81 WCPM. The HRL group had a mean of 86.50 WCPM. The LRL group had a WCPM range from 20-52 WCPM and a mean of 34.50 WCPM (See Table 2.)

Expository posttest hot reads. The mean WCPM between the six participants on the expository posttest hot read #1 was 79.67 WCPM. The highest WCPM data points were achieved by the HRL group – P02 achieved 119 WCPM and P06 achieved 114 WCPM. The HRL group had a mean of 116.50 WCPM. The LRL group had a WCPM range from 49-84 WCPM and a mean of 61.25 WCPM (See Table 4.)

Expository transfer cold reads. The mean WCPM between the six participants on the expository transfer cold read #1 was 56.67 WCPM. The highest WCPM data points were achieved by the HRL group – P02 achieved 82 WCPM and P06 achieved 90 WCPM. The HRL group had a mean of 86.00 WCPM. The LRL group had a WCPM range from 24-51 WCPM and a mean of 42.00 WCPM (See Table 6.)

Accuracy

Accuracy was calculated for each cold, hot, and transfer read.

Narrative pretest cold reads. The mean accuracy between the six participants on the narrative pretest cold read #1 was 93.66%. The highest accuracy data points were achieved by the HRL group – P02 achieved 99.07% and P06 achieved 96.00%. The HRL group had a mean of 97.54%. The LRL group had an accuracy range from 88.14%-93.88% and a mean of 91.72% (See Table 1.) The mean accuracy between the six participants on the narrative pretest cold read #2 was 92.16%. The highest accuracy data points were not achieved by the full HRL group this time. The highest accuracy data points were achieved by P02 (from HRL group) with 97.52% and P04 (from LRL group) with 96.55%. P06, the other child in the HRL group, achieved an accuracy of 94.12%. Overall, the HRL group had a mean of 95.82% and the LRL group had a mean of 90.33% (See Table 1.)

Narrative posttest hot reads. The mean accuracy between the six participants on the narrative posttest hot read #1 was 95.04%. The highest accuracy data points were achieved by the HRL group – P02 achieved 98.72% and P06 achieved 98.43%. The

HRL group had a mean of 98.58%. The LRL group had an accuracy range from 90.00%-96.00% and a mean of 93.27% (See Table 3.)

Narrative transfer cold reads. The mean accuracy between the six participants on the narrative transfer cold read #1 was 91.93%. The highest accuracy data points were achieved by the HRL group – P02 achieved 99.29% and P06 achieved 100.00%. The HRL group had a mean of 99.65%. The LRL group had an accuracy range from 79.17%-95.16% and a mean of 88.07% (See Table 5.)

Expository pretest cold reads. The mean accuracy between the six participants on the expository pretest cold read #1 was 93.41%. The highest accuracy data points were achieved by the HRL group – P02 achieved 95.88% and P06 achieved 100.00%. The HRL group had a mean of 97.94%. The LRL group had an accuracy range from 85.71%-95.56% and a mean of 91.15% (See Table 2.) The mean accuracy between the six participants on the expository pretest cold read #2 was 89.79%. The highest accuracy data points were achieved by the HRL group – P02 achieved 98.92% and P06 achieved 98.78%. The HRL group had a mean of 98.85%. The LRL group had an accuracy range from 80.00%-88.89% and a mean of 85.26% (See Table 2.)

Expository posttest hot reads. The mean accuracy between the six participants on the expository posttest hot read #1 was 95.04%. The highest accuracy data points were achieved by the HRL group – P02 and P06 both achieved 100.00%. The HRL group had a mean of 100.00%. The LRL group had an accuracy range from 81.67%-96.61% WCPM and a mean of 92.58% (See Table 4.)

Expository transfer cold reads. The mean accuracy between the six participants on the expository transfer cold read #1 was 88.11%. The highest accuracy data points were achieved by the HRL group – P02 achieved 96.47% and P06 achieved 98.90%. The HRL group had a mean of 97.69%. The LRL group had an accuracy range from 75.00%-88.00% and a mean of 83.32% (See Table 6.)

Research Questions

Due to the small sample size and unequal distribution of participants between the HRL and LRL groups, nonparametric statistics were deemed to be nonsufficient to answer the research questions. Therefore, qualitative analyses were conducted using the raw scores and ranges to describe differences between the HRL and LRL groups.

Interpretation of “Distinguish”

Ideally, the means of the HRL and LRL groups would be examined to see if the group performance was statistically different than each other, indicating that they were distinguishable from one another. However, due to the small sample size of participants and unequal amounts of participants in each group, inferential statistics were not possible. Therefore, we examined means and the range of performance. A challenge to focusing on the mean with a small sample size is that the mean of the data points may not clearly represent the sample due to large variability between participants. To determine if performance on outcome measures distinguished between the HRL and LRL groups, the ranges of the data points between the HRL and LRL groups were examined to determine if overlap across ranges was present. The presence of overlap

across ranges between the HRL and LRL groups indicated the groups were not distinguishable. The absence of overlap across ranges between the HRL and LRL groups indicated the groups were distinguishable. The exception to using ranges was the analysis of modifiability ratings, where the means were compared for overlap. The means were used instead of individual ranges because no large variability was present between the individual ranges and the mean was a composite score.

Research Question One: Cold to Cold Difference

To answer the question whether the growth on WCPM between cold to cold reads could distinguish HRL from LRL, we examined the raw data for WCPM and accuracy on both narrative and expository tasks.

WCPM – Narrative. The mean WCPM difference between the six participants on the cold #1 to cold #2 narrative reads was an increase of 8.17 words. The HRL group had a range of 12-16 additional words and a mean of 14 additional words. The LRL group had a range of 4 lesser words to 15 additional words and a mean of 5.25 additional words (See Table 1.)

WCPM – Expository. The mean WCPM difference between the six participants on the cold #1 to cold #2 expository reads was a decrease of 12 words. The HRL group had a range of 1-6 lesser words and a mean of 3.50 lesser words. The LRL group had a range of 6-27 lesser words and a mean of 16.25 lesser words (See Table 2.)

Accuracy – Narrative. The mean accuracy difference between the six participants on the cold #1 to cold #2 narrative reads was a decrease of 1.50% in

accuracy. The HRL group had a range of 1.55%-1.88% decrease in accuracy and a mean of 1.72% decrease. The LRL group had a range of 11.40% decrease to 8.41% increase in accuracy and a mean of 1.39% decrease (See Table 1.)

Accuracy – Expository. The mean accuracy difference between the six participants on the cold #1 to cold #2 expository reads was a decrease of 3.62%. The HRL group had a range of 1.22% decrease to 3.04% increase in accuracy and a mean of 0.91% increase. The LRL group had a range of 0.58%-15.56% decrease in accuracy and a mean of 5.89% decrease. (See Table 2.)

In summary, when examining cold to cold reads for WCPM and accuracy, the HRL group performed slightly better than the LRL group on narrative WCPM, expository WCPM, and expository accuracy, and slightly worse than the LRL group on narrative accuracy. On the narrative task, the HRL group read more words but had a slightly larger decrease in accuracy when compared to the LRL group. On the expository task, both groups read lesser words but the HRL group decreased a smaller amount in WCPM; the HRL group also had a slight increase in accuracy while the LRL group decreased in accuracy. (See Tables 1 and 2.)

Table 1

Descriptive Results for Narrative WCPM, WPM, and Accuracy Cold to Cold

Participant	NARR WCPM/ WPM Pretest Cold Read #1	NARR WCPM/ WPM Pretest Cold Read #2	NARR WCPM Cold to Cold Difference	NARR ACC Pretest Cold Read #1	NARR ACC Pretest Cold Read #2	NARR ACC Cold to Cold Difference
LRL Group						
P01	46 / 49	61 / 69	15	93.88%	88.41%	- 5.47%
P03	60 / 64	56 / 68	- 4	93.75%	82.35%	- 11.40%
P04	52 / 59	56 / 58	4	88.14%	96.55%	8.41%
P05	41 / 45	47 / 50	6	91.11%	94.00%	2.89%
Mean (n = 4) (SD)	49.75 (.08)	55.00 (.06)	5.25 (7.80)	91.72% (.03)	90.33% (.06)	- 1.39% (.09)
HRL Group						
P02	106 / 107	118 / 121	12	99.07%	97.52%	- 1.55%
P06	96 / 100	112 / 119	16	96.00%	94.12%	- 1.88%
Mean (n = 2) (SD)	101.00 (7.07)	115.00 (4.24)	14 (2.83)	97.54% (.02)	95.82% (.02)	- 1.72% (.00)
Total Mean						
(N = 6) (SD)	66.83 (.52)	75.00 (31.37)	8.17 (7.65)	93.66% (.04)	92.16% (.06)	- 1.50% (.07)

Note: NARR = narrative reading passages; WCPM = words correct per minute; WPM = words per minute; WCPM/WPM is shown to demonstrate how accuracy was calculated; ACC = accuracy; LRL = low reading level; HRL = high reading level; n = number of participants in subgroups; SD = standard deviation; N = number of participants in total; P = participant; Pretest Cold Read #1 = “Moka the Little Golden Dog”; Pretest Cold Read #2 = “Bobby Gets a Doggy”.

Table 2

Descriptive Results for Expository WCPM, WPM, and Accuracy Cold to Cold

Participant	EXPO WCPM/ WPM Pretest Cold Read #1	EXPO WCPM/ WPM Pretest Cold Read #2	EXPO WCPM Cold to Cold Difference	EXPO ACC Pretest Cold Read #1	EXPO ACC Pretest Cold Read #2	EXPO ACC Cold to Cold Difference
LRL Group						
P01	48 / 56	42 / 50	- 6	85.71%	84.00%	- 1.71%
P03	61 / 65	52 / 59	- 9	93.85%	88.14%	- 5.71%
P04	51 / 57	24 / 27	- 27	89.47%	88.89%	- 0.58%
P05	43 / 45	20 / 25	- 23	95.56%	80.00%	- 15.56%
Mean (n = 4) (SD)	50.75 (7.59)	34.50 (15.09)	- 16.25 (10.31)	91.15% (.04)	85.26% (.04)	- 5.89% (.07)
HRL Group						
P02	93 / 97	92 / 93	- 1	95.88%	98.92%	3.04%
P06	87 / 87	81 / 82	- 6	100.00%	98.78%	- 1.22%
Mean (n = 2) (SD)	90.00 (4.24)	86.50 (7.78)	- 3.50 (3.54)	97.94% (.03)	98.85% (.00)	0.91% (.03)
Total Mean						
(N = 6) (SD)	63.83 (21.19)	51.83 (29.49)	- 12.00 (10.47)	93.41% (.05)	89.79% (.08)	- 3.62% (.06)

Note: EXPO = expository reading passages; WCPM = words correct per minute; WPM = words per minute; WCPM/WPM is shown to demonstrate how accuracy was calculated; ACC = accuracy; LRL = low reading level; HRL = high reading level; n = number of participants in subgroups; SD = standard deviation; N = number of participants in total; P = participant; Pretest Cold Read #1 = “Saving the Rain Forests”; Pretest Cold Read #2 = “Protecting the Wetlands”.

Research Question Two: Cold to Hot difference

To answer the question whether the growth on WCPM between cold to hot reads could distinguish HRL from LRL, we examined the raw data for WCPM and accuracy on both the narrative and expository tasks.

WCPM – Narrative. The mean WCPM difference between the six participants on the cold #2 to hot #1 narrative reads was an increase of 29.17 words. The HRL group had a range of 13-36 additional words and a mean of 24.50 additional words. The LRL group had a range of 21-36 additional words and a mean of 31.50 additional words (See Table 3.)

WCPM – Expository. The mean WCPM difference between the six participants on the cold #2 to hot #1 expository reads was an increase of 27.83 words. The HRL group had a range of 27-33 additional words and a mean of 30.00 additional words. The LRL group had a range of 7-37 additional words and a mean of 26.75 additional words (See Table 4.)

Accuracy – Narrative. The mean accuracy difference between the six participants on the cold #2 to hot #1 narrative reads was an increase of 2.88%. The HRL group had a range of 1.20%-4.31% increase in accuracy and a mean of 2.76% increase. The LRL group had a range of 3.78% decrease to 7.65% increase in accuracy and a range of 2.95% increase (See Table 3.)

Accuracy – Expository. The mean accuracy difference between the six participants on the cold #2 to hot #1 expository reads was an increase of 5.25%. The

HRL group had a range of 1.08%-1.22% increase in accuracy and a mean of 1.15% increase. The LRL group had a range of 2.33% decrease to 16.61% increase in accuracy and a mean of 7.30% increase (See Table 4.)

In summary, when examining cold to hot reads for WCPM and accuracy, the HRL and LRL groups demonstrated improvement on WCPM and accuracy during narrative and expository tasks. On the narrative task, the LRL group had slightly larger increases than the HRL group in WCPM and accuracy. On the expository task, the HRL group had a slightly larger increase than the LRL group in WCPM, while the LRL group demonstrated a larger increase in accuracy. (See Table 3 and 4.)

Table 3

Descriptive Results for Narrative WCPM, WPM, and Accuracy Cold to Hot

Participant	NARR WCPM/ WPM Pretest Cold Read #2	NARR WCPM/ WPM Posttest Hot Read #1	NARR WCPM Cold to Hot Difference	NARR ACC Pretest Cold Read #2	NARR ACC Posttest Hot Read #1	NARR ACC Cold to Hot Difference
LRL Group						
P01	61 / 69	96 / 100	35	88.41%	96.00%	7.59%
P03	56 / 68	90 / 100	34	82.35%	90.00%	7.65%
P04	56 / 58	77 / 83	21	96.55%	92.77%	- 3.78%
P05	47 / 50	83 / 88	36	94.00%	94.32%	0.32%
Mean (n = 4) (SD)	55.00 (.06)	86.50 (8.27)	31.50 (7.05)	90.33% (.06)	93.27% (.03)	2.95% (.06)
HRL Group						
P02	118 / 121	154 / 156	36	97.52%	98.72%	1.20%
P06	112 / 119	125 / 127	13	94.12%	98.43%	4.31%
Mean (n = 2) (SD)	115.00 (4.24)	139.50 (20.51)	24.50 (16.26)	95.82% (.02)	98.58% (.00)	2.76% (.02)
Total Mean						
(N = 6) (SD)	75.00 (31.37)	104.17 (29.57)	29.17 (9.79)	92.16% (.06)	95.04% (.03)	2.88% (.04)

Note: NARR = narrative reading passages; WCPM = words correct per minute; WPM = words per minute; WCPM/WPM is shown to demonstrate how accuracy was calculated; ACC = accuracy; LRL = low reading level; HRL = high reading level; n = number of participants in subgroups; SD = standard deviation; N = number of participants in total; P = participant; Pretest Cold Read #2 = “Bobby Gets a Doggy”; Posttest Hot Read #1 = “Bobby Gets a Doggy”.

Table 4

Descriptive Results for Expository WCPM, WPM, and Accuracy Cold to Hot

Participant	EXPO WCPM/ WPM Pretest Cold Read #2	EXPO WCPM/ WPM Posttest Hot Read #1	EXPO WCPM Cold to Hot Difference	EXPO ACC Pretest Cold Read #2	EXPO ACC Posttest Hot Read #1	EXPO ACC Cold to Hot Difference
LRL Group						
P01	42 / 50	49 / 60	7	84.00%	81.67%	-2.33%
P03	52 / 59	84 / 88	32	88.14%	95.54%	7.31%
P04	24 / 27	55 / 57	31	88.89%	96.49%	7.60%
P05	20 / 25	57 / 59	37	80.00%	96.61%	16.61%
Mean (n = 4) (SD)	34.50 (15.09)	61.25 (15.54)	26.75 (13.43)	85.26% (.04)	92.58% (.07)	7.30% (.08)
HRL Group						
P02	92 / 93	119 / 119	27	98.92%	100.00%	1.08%
P06	81 / 82	114 / 114	33	98.78%	100.00%	1.22%
Mean (n = 2) (SD)	86.50 (7.78)	116.50 (3.54)	30.00 (4.24)	98.85% (.00)	100.00% (.00)	1.15% (.00)
Total Mean						
(N = 6) (SD)	51.83 (29.49)	79.67 (31.01)	27.83 (10.70)	89.79% (.08)	95.05% (.07)	5.25% (.07)

Note: EXPO = expository reading passages; WCPM = words correct per minute; WPM = words per minute; WCPM/WPM is shown to demonstrate how accuracy was calculated; ACC = accuracy; LRL = low reading level; HRL = high reading level; n = number of participants in subgroups; SD = standard deviation; N = number of participants in total; P = participant; Pretest Cold Read #2 = “Protecting the Wetlands”; Posttest Hot Read #1 = “Protecting the Wetlands”.

Research Question Three: Hot to Transfer difference

To answer the question whether the growth on WCPM between hot to transfer reads could distinguish HRL from LRL, we examined the raw data for WCPM and accuracy on both narrative and expository tasks.

WCPM – Narrative. The mean WCPM difference between the six participants on the hot #1 to transfer cold #1 narrative reads was a decrease of 21.67 words. The HRL group had a range of 3-14 lesser words and a mean of 8.50 lesser words. The LRL group had a range of 15-45 lesser words and a mean of 28.25 lesser words (See Table 5.)

WCPM – Expository. The mean WCPM difference between the six participants on the hot #1 to transfer cold #1 expository reads was a decrease of 23 words. The HRL group had a range of 24-37 lesser words and a mean of 30.50 lesser words. The LRL group had a range of 4-35 lesser words and a mean of 19.25 lesser words (See Table 6.)

Accuracy – Narrative. The mean accuracy difference between the six participants on the hot #1 to transfer cold #1 narrative reads was a decrease of 3.11%. The HRL group had a range of 0.57%-1.57% increase in accuracy and a mean of 1.07% increase. The LRL group had a range of 15.15% decrease to 5.16% increase in accuracy and a mean of 5.20% decrease. (See Table 5.)

Accuracy – Expository. The mean accuracy difference between the six participants on the hot #1 to transfer cold #1 expository reads was a decrease of 6.87%. The HRL group had a range of 1.10%-3.53% decrease in accuracy and a mean of 2.32%

decrease. The LRL group had a range of 21.49% decrease to 6.33% increase in accuracy and a mean of 9.15% decrease (See Table 6.)

In summary, when examining hot to transfer reads for WCPM and accuracy, the HRL and LRL groups both demonstrated a decrease on WCPM and accuracy during all narrative and expository tasks, except the HRL group had a slight increase for narrative accuracy. The HRL group increased in accuracy for the narrative task by 1.07%. (See Tables 5 and 6.)

Table 5

Descriptive Results for Narrative WCPM, WPM, and Accuracy Hot to Transfer Cold

Participant	NARR WCPM/ WPM Posttest Hot Read #1	NARR WCPM/ WPM Transfer Cold Read #1	NARR WCPM Hot to Transfer (Cold) Difference	NARR ACC Posttest Hot Read #1	NARR ACC Transfer Cold Read #1	NARR ACC Hot to Transfer (Cold) Difference
LRL Group						
P01	96 / 100	74 / 84	- 22	96.00%	88.10%	- 7.90%
P03	90 / 100	59 / 62	- 31	90.00%	95.16%	5.16%
P04	77 / 83	62 / 69	- 15	92.77%	89.86%	- 2.91%
P05	83 / 88	38 / 48	- 45	94.32%	79.17%	- 15.15%
Mean (n = 4) (SD)	86.50 (8.27)	58.25 (14.97)	- 28.25 (12.95)	93.27% (.03)	88.07% (.07)	- 5.20% (.09)
HRL Group						
P02	154 / 156	140 / 141	- 14	98.72%	99.29%	0.57%
P06	125 / 127	122 / 122	- 3	98.43%	100.00%	1.57%
Mean (n = 2) (SD)	139.50 (20.51)	131.00 (12.73)	- 8.50 (7.78)	98.58% (.00)	99.65% (.01)	1.07% (.01)
Total Mean						
(N = 6) (SD)	104.17 (29.57)	82.50 (39.73)	- 21.67 (14.72)	95.04% (.03)	91.93% (.08)	- 3.11% (.07)

Note: NARR = narrative reading passages; WCPM = words correct per minute; WPM = words per minute; WCPM/WPM is shown to demonstrate how accuracy was calculated; ACC = accuracy; LRL = low reading level; HRL = high reading level; n = number of participants in subgroups; SD = standard deviation; N = number of participants in total; P = participant; Posttest Hot Read #1 = “Bobby Gets a Doggy”; Transfer Cold Read #1 = “Sarah the Seagull”.

Table 6

Descriptive Results for Expository WCPM, WPM, and Accuracy Hot to Transfer Cold

Participant	EXPO WCPM/ WPM Posttest Hot Read #1	EXPO WCPM/ WPM Transfer Cold Read #1	EXPO WCPM Hot to Transfer (Cold) Difference	EXPO ACC Posttest Hot Read #1	EXPO ACC Transfer Cold Read #1	EXPO ACC Hot to Transfer (Cold) Difference
LRL Group						
P01	49/60	44/50	- 5	81.67%	88.00%	6.33%
P03	84/88	49/56	- 35	95.54%	87.50%	- 7.59%
P04	55/57	51/68	- 4	96.49%	75.00%	- 21.49%
P05	57/59	24/29	- 33	96.61%	82.76%	- 13.85%
Mean (n = 4) (SD)	61.25 (15.54)	42.00 (12.36)	- 19.25 (17.06)	92.58% (.07)	83.32% (.06)	- 9.15% (.12)
HRL Group						
P02	119/119	82/85	- 37	100.00%	96.47%	- 3.53%
P06	114/114	90/91	- 24	100.00%	98.90%	- 1.10%
Mean (n = 2) (SD)	116.50 (3.54)	86.00 (5.66)	- 30.50 (9.19)	100.00% (.00)	97.69% (.02)	- 2.32% (.02)
Total Mean						
(N = 6) (SD)	79.67 (31.01)	56.67 (24.78)	- 23.00 (15.01)	95.05% (.07)	88.11% (.09)	- 6.87% (.10)

Note: EXPO = expository reading passages; WCPM = words correct per minute; WPM = words per minute; WCPM/WPM is shown to demonstrate how accuracy was calculated; ACC = accuracy; LRL = low reading level; HRL = high reading level; n = number of participants in subgroups; SD = standard deviation; N = number of participants in total; P = participant; Posttest Hot Read #1 = “Protecting the Wetlands”; Transfer Cold Read #1 = “Insects on the Move”.

Research Question Four: Modifiability

To answer the question whether scores on the modifiability ratings could distinguish HRL from LRL, we examined the raw data for the Mediated Learning Observation chart on both the narrative and expository tasks. As stated previously, modifiability refers to the child's response to intervention and was scored using the composite score from the four subtests on the Mediated Learning Observation chart.

Modifiability – Narrative. As mentioned in chapter III, children with a mean score of 1 were hypothesized to be HRL and children with a mean score of greater than 1 were hypothesized to be LRL. Both children in the HRL group had mean scores of 1 for modifiability and all four children in the LRL group had mean scores of greater than 1 after the MLE session for the narrative passages. (See Table 7.)

Modifiability– Expository. The same modifiability means were found for both groups during the expository session, which was three days after the first narrative session. Specifically, the children in the HRL group had mean scores of 1 for modifiability and the children in the LRL group had mean scores of greater than 1 after the MLE session for expository passages. (See Table 7.)

In summary, when examining modifiability across both narrative and expository sessions, the modifiability scores distinguished between the HRL group from the LRL group in that the HRL children achieved means of 1, while the LRL children achieved means greater than 1. The Co-I, who was blinded to the participant grouping, rated the children's modifiability with 100% accuracy. (See Table 7.) This accuracy was deemed

by comparing the modifiability ratings with the second grade teacher's grouping of the children. Prior to data collection, the second grade teacher grouped each participant as a member of the HRL or LRL group and put these groupings in a sealed envelope. After the Co-I scored all of the Mediated Learning Observation charts, she opened the sealed envelope to reveal the second grade teacher's assignment of group membership into the HRL or LRL group.

Table 7

*Descriptive Results for Mediated Learning Observation across Narrative and Expository**Tasks*

Participant	Internal Social-Emotional (Affect)	Cognitive Arousal	Cognitive Elaboration	External Social-Emotional	Individual Mean
LRL Group					
P01	1	2	2	2	1.75
P03	2	2	2	2	2
P04	2	2	2	2	2
P05	2	2	2	2	2
Mean (n = 4)	1.75	2	2	2	1.94
(SD)	(.50)	(.00)	(.00)	(.00)	(.13)
HRL Group					
P02	1	1	1	1	1
P06	1	1	1	1	1
Mean (n = 2)	1	1	1	1	1
(SD)	(.00)	(.00)	(.00)	(.00)	(.00)
Total Mean					
(N = 6)	1.50	1.67	1.67	1.67	1.63
(SD)	(.55)	(.52)	(.52)	(.52)	(.49)

Note: LRL = low reading level; HRL = high reading level; n = number of participants in subgroups; SD = standard deviation; N = number of participants in total.

Research Question Five: Application to DLL Children

To answer the question if the procedures of dynamic assessment for oral reading fluency is applicable to DLL children, we examined the lexile levels of the reading passages, the topics of the reading passages, the pretest-teach-posttest-transfer approach of the procedures, and the differences between narrative and expository passages.

Lexile levels. Lexile levels indicate the level of reading (Lexile, 2016). The appropriate lexile levels for second and third graders range from 420L-820L (Lexile, 2016). All passages selected for this study were appropriate for the reading levels of second graders. The lexile levels of the narrative passages ranged from 700L to 760L. Specifically, pretest cold #1 “Moka the Little Golden Dog” had a lexile of 700L, pretest cold #2 and posttest hot #1 “Bobby Gets a Doggy” had a lexile of 760L, and transfer cold #1 “Sarah the Seagull” had a lexile of 710L. The lexile levels of the expository passages ranged from 780L to 810L. Specifically, pretest cold #1 “Saving the Rain Forests” had a lexile of 780L, pretest cold #2 and posttest hot #1 “Protecting the Wetlands” had a lexile of 810L, and transfer cold #1 “Insects on the Move” had a lexile of 800L. The lexile levels seemed appropriate for second graders who may or may not struggle with reading regardless of the language spoken.

Topics of reading passages. The reading passages were retrieved from ReadWorks.org. The narrative passages involved topics of animals – both “Moka the Little Golden” and “Bobby Gets a Doggy” involved dogs, and “Sarah the Seagull” involved seagulls. The expository passages involved topics of nature and insects – both “Saving the Rain Forests” and “Protecting the Wetlands” involved saving nature, and

“Insects on the Move” involved insects. These topics appeared to be of interest to both monolingual English speakers and children who are DLL.

Pretest-teach-posttest-transfer approach. Every participant in this study underwent the same procedures. Every participant experienced two cold pretest reads, one hot posttest read, and one cold transfer read for both narrative and expository sessions. These procedures were deemed appropriate for any second grader including children who are DLL.

Differences between narrative and expository passages. Both HRL and LRL groups performed differently on narrative and expository passages. In general, both groups tended to perform better on narrative than expository passages, especially from cold read #1 to cold read #2. It is likely that administering both narrative and expository passages would be appropriate for children who are DLL.

CHAPTER V

DISCUSSION

The purpose of this study was to examine the feasibility of dynamic assessment of oral reading fluency for monolingual English-speaking second graders with varying reading levels, as well as the applicability of the procedures for DLL children. The research focused on the growth rates of oral reading fluency through the processes of dynamic assessment and repeated reading in narrative and expository passages suitable for second graders, as well as the children's modifiability to intervention. This study answered the following questions:

Cold to Cold Difference

The first research question focused on whether the growth or difference of WCPM and accuracy of cold to cold readings distinguishes between HRL versus LRL monolingual English-speaking second graders.

WCPM – Narrative – “Moka the Little Golden Dog” to “Bobby Gets a Doggy”. When examining cold to cold narrative reads for WCPM, both HRL and LRL groups had increases in word count; however, the HRL group had a larger increase by 8.75 WCPM. Overall, both HRL and LRL groups had increases over 1.2 WCPM, which is the weekly gain in WCPM that second graders typically make (Hasbrouck, 2010). Specifically, the HRL group's mean increase of 14 WCPM placed the HRL group at a mean of 115.00 WCPM, which is 2 WCPM short of the 75th percentile for a second grader in the spring of the school year (Hasbrouck & Tindal, 2005). The LRL group's

mean increase of 5.25 WCPM placed the LRL group at a mean of 55.00 WCPM, which is below the 25th percentile for a second grader in the spring (Hasbrouck & Tindal, 2005). Although the LRL group performed at a significantly lower WCPM than the HRL group, both groups gained over 1.2 WCPM.

Even though the difference in WCPM increase was larger for the HRL group, there was overlap in the differences between both the HRL and LRL groups. Therefore, we suggest that the growth of WCPM of cold to cold narrative readings does not distinguish between HRL versus LRL monolingual English-speaking second graders.

WCPM – Expository – “Saving the Rain Forests” to “Protecting the Wetlands”. When examining cold to cold expository reads for WCPM, both HRL and LRL groups had decreases in word count; however, the LRL group had a larger decrease by 12.75 WCPM. Overall, both HRL and LRL groups did not meet the expected 1.2 WCPM increase, which is the weekly gain in WCPM that second graders typically make (Hasbrouck, 2010). Specifically, the HRL group’s mean decrease of 3.5 WCPM placed the HRL group at a mean of 86.50 WCPM, which is 2.5 WCPM below the 50th percentile for a second grader in the spring of the school year (Hasbrouck & Tindal, 2005). The LRL group’s decrease of 16.25 WCPM placed the LRL group at a mean of 34.50 WCPM, which is below the 25th percentile for a second grader in the spring (Hasbrouck & Tindal, 2005). Although the HRL group had a smaller decrease in WCPM than the LRL group, both groups did not meet the expected 1.2 WCPM gain.

In contrast to the narrative samples, both groups decreased their WCPM on the expository sample. Even though the difference in WCPM decrease was larger for the LRL group, there was overlap in the differences between both the HRL and LRL groups. Therefore, we suggest that the growth or difference of WCPM of cold to cold expository readings does not distinguish between HRL versus LRL monolingual English-speaking second graders.

Accuracy – Narrative – “Moka the Little Golden Dog” to “Bobby Gets a Doggy”. When examining cold to cold narrative reads for accuracy, both HRL and LRL groups decreased in accuracy. The HRL group had a larger decrease in accuracy by 0.33%. Specifically, the HRL group’s mean decrease of 1.72% placed the HRL group at a mean of 95.82% accuracy, which is considered to be instructional level of reading (Hasbrouck, 1998). The LRL group’s mean decrease of 1.39% placed the LRL group at a mean of 90.33% accuracy, which is considered to be frustration level of reading (Hasbrouck, 1998). Although the two groups tested to be at different reading levels, both groups shared similarity in decreasing in accuracy.

Even though the difference in accuracy decrease was larger for the HRL group, there was overlap in the differences between the HRL and LRL groups. Therefore, we suggest that the growth or difference of accuracy of cold to cold narrative readings does not distinguish between HRL versus LRL monolingual English-speaking second graders.

Accuracy – Expository – “Saving the Rain Forests” to “Protecting the Wetlands”. When examining cold to cold expository reads for accuracy, the LRL group

decreased in accuracy while the HRL group increased in accuracy. Specifically, the HRL group's mean increase of 0.91% placed the HRL group at a mean of 98.85% accuracy, which is considered to be independent level of reading (Hasbrouck, 1998). The LRL group's mean decrease of 5.89% placed the LRL group at a mean of 85.26% accuracy, which is considered to be frustration level of reading (Hasbrouck, 1998). In other words, the LRL group's mean decrease caused the group a significantly lower accuracy than the HRL group's accuracy.

Although the HRL group demonstrated an increase in accuracy, there was overlap in the differences between the HRL and LRL groups. Therefore, we suggest that the growth or difference of accuracy of cold to cold expository readings does not distinguish between HRL versus LRL monolingual English-speaking second graders.

In summary, when examining cold to cold reads for WCPM and accuracy, the growths or differences in narrative WCPM, expository WCPM, narrative accuracy, and expository accuracy were not found to distinguish between HRL versus LRL monolingual English-speaking second graders.

Cold to Hot Difference

The second research question focused on whether the growth or difference of WCPM and accuracy of cold to hot readings distinguishes between HRL versus LRL monolingual English-speaking second graders. When examining cold to hot reads for WCPM and accuracy, the HRL and LRL groups both improved on WCPM and accuracy during narrative and expository tasks, which is to be expected since MLE sessions focus

on the child's individualized needs (Gillam & Peña, 2004; Gutierrez-Clellen & Peña, 2001; Peña et al., 2001; Peña et al., 2007; Peña et al., 2014; Wolter & Pike, 2015).

WCPM – Narrative – “Bobby Gets a Doggy” to “Bobby Gets a Doggy”.

When examining cold to hot narrative reads for WCPM, both HRL and LRL groups had increases in word count; however, the LRL group had a larger increase by 7.00 WCPM. Overall, both HRL and LRL groups had increases over 1.2 WCPM, which is the weekly gain in WCPM that second graders typically make (Hasbrouck, 2010). Specifically, the HRL group's mean increase of 24.50 WCPM placed the HRL group at a mean of 139.50 WCPM, which is 2.5 WCPM short of the 90th percentile for a second grader in the spring of the school year (Hasbrouck & Tindal, 2005). The LRL group's mean increase of 31.50 WCPM placed the LRL group at a mean of 86.50 WCPM, which is 2.5 WCPM below the 50th percentile for a second grader in the spring (Hasbrouck & Tindal, 2005). Although the LRL group performed at a lower WCPM than the HRL group, both groups gained over 1.2 WCPM.

Even though the difference in WCPM increase was larger for the LRL group, there was overlap in the differences between the two groups. Therefore, we suggest that the growth or difference of WCPM of cold to hot narrative readings does not distinguish between HRL versus LRL monolingual English-speaking second graders.

WCPM – Expository – “Protecting the Wetlands” to “Protecting the Wetlands”. When examining cold to hot expository reads for WCPM, both HRL and LRL groups had increases in word count; however, the HRL group had a larger increase

by 3.25 WCPM. Overall, both HRL and LRL groups had increases over 1.2 WCPM, which is the weekly gain in WCPM that second graders typically make (Hasbrouck, 2010). Specifically, the HRL group's mean increase of 30.00 WCPM placed the HRL group at a mean of 116.50 WCPM, which is 0.5 WCPM below the 75th percentile for a second grader in the spring of the school year (Hasbrouck & Tindal, 2005). The LRL group's mean increase of 26.75 WCPM placed the LRL group at a mean of 61.25 WCPM, which is 0.25 WCPM above the 25th percentile for a second grader in the spring (Hasbrouck & Tindal, 2005). Although the two groups exhibited different percentiles for the hot read #1, both groups met the expected 1.2 WCPM gain.

In contrast to the narrative samples, the HRL group gained the larger increase in WCPM in the expository samples. However, there was overlap in the differences between the HRL and LRL groups. Therefore, we suggest that the growth or difference of WCPM of cold to hot expository readings does not distinguish between HRL versus LRL monolingual English-speaking second graders.

Accuracy – Narrative – “Bobby Gets a Doggy” to “Bobby Gets a Doggy”.

When examining cold to hot narrative reads for accuracy, both HRL and LRL groups increased in accuracy. The LRL group had a larger increase in accuracy by 0.19%. Specifically, the HRL group's mean increase of 2.76% placed the HRL group at a mean of 98.58% accuracy, which is considered to be independent level of reading (Hasbrouck, 1998). The LRL group's mean increase of 2.95% placed the LRL group at a mean of 93.27% accuracy, which is considered to be frustration level of reading (Hasbrouck,

1998). Although the two groups tested to be at different reading levels, both groups shared similarity in increasing in accuracy.

Even though the difference in accuracy increase was larger for the LRL group, there was overlap in the differences between the HRL and LRL groups. Therefore, we suggest that the growth or difference of accuracy of cold to hot narrative readings does not distinguish between HRL versus LRL monolingual English-speaking second graders.

Accuracy – Expository – “Protecting the Wetlands” to “Protecting the Wetlands”. When examining cold to hot expository reads for accuracy, both HRL and LRL groups increased in accuracy. Specifically, the HRL group’s mean increase of 1.15% placed the HRL group at a mean of 100.00% accuracy, which is considered to be independent level of reading (Hasbrouck, 1998). The LRL group’s mean increase of 7.30% placed the LRL group at a mean of 92.58% accuracy, which is considered to be frustration level of reading (Hasbrouck, 1998). Although both groups tested to be at different reading levels, both groups shared similarity in increasing in accuracy.

Similarly to the narrative samples, the LRL achieved the larger increase in accuracy – albeit, the HRL group had less room for increase since their original pretest cold read #2 accuracies were already high. Nonetheless, there was overlap in the differences between the HRL and LRL groups. Therefore, we suggest that the growth or difference of accuracy of cold to hot expository readings does not distinguish between HRL versus LRL monolingual English-speaking second graders.

In summary, when examining cold to hot reads for WCPM and accuracy, the growths or differences in narrative WCPM, expository WCPM, narrative accuracy, and expository accuracy were not found to distinguish between HRL versus LRL monolingual English-speaking second graders.

Hot to Transfer Difference

The third research question focused on whether the growth or difference of WCPM and accuracy of hot to transfer readings distinguishes between HRL versus LRL monolingual English-speaking second graders.

WCPM – Narrative – “Bobby Gets a Doggy” to “Sarah the Seagull”. When examining hot to transfer narrative reads for WCPM, both HRL and LRL groups decreased in word count; however, the LRL group had a larger decrease by 19.75 WCPM. Overall, both HRL and LRL groups did not meet the expected 1.2 WCPM increase, which is the weekly gain in WCPM that second graders typically make (Hasbrouck, 2010). Specifically, the HRL group’s mean decrease of 8.50 WCPM placed the HRL group at a mean of 131.00 WCPM, which is above the 75th percentile for a second grader in the spring of the school year (Hasbrouck & Tindal, 2005). The LRL group’s mean decrease of 28.25 WCPM placed the LRL group at a mean of 58.25 WCPM, which is 2.75 WCPM below the 25th percentile for a second grader in the spring (Hasbrouck & Tindal, 2005). Although the two groups performed at different percentiles, the both groups failed to meet the 1.2 WCPM gain.

Even though both groups decreased, there was no overlap in the differences between the two groups. Therefore, we suggest that the growth or difference of WCPM of hot to transfer narrative readings does distinguish between HRL versus LRL monolingual English-speaking second graders.

WCPM – Expository – “Protecting the Wetlands” to “Insects on the Move”.

When examining hot to transfer expository reads for WCPM, both HRL and LRL groups had decreases in word count; however, the HRL group had a larger decrease by 11.25 WCPM. Overall, both HRL and LRL groups failed to meet the 1.2 WCPM increase, which is the weekly gain in WCPM that second graders typically make (Hasbrouck, 2010). Specifically, the HRL group’s mean decrease of 30.50 WCPM placed the HRL group at a mean of 86.00 WCPM, which is 3.00 WCPM below the 50th percentile for a second grader in the spring of the school year (Hasbrouck & Tindal, 2005). The LRL group’s mean decrease of 19.25 WCPM placed the LRL group at a mean of 42.00 WCPM, which is below the 25th percentile for a second grader in the spring (Hasbrouck & Tindal, 2005). Although the two groups achieved different percentiles for the transfer (cold) read #1, both groups failed to meet the expected 1.2 WCPM gain.

Even the difference in WCPM decrease was larger for the HRL group, there was overlap in the differences between the HRL and LRL groups. Therefore, we suggest that the growth or difference of WCPM of hot to transfer expository readings does not distinguish between HRL versus LRL monolingual English-speaking second graders.

Accuracy – Narrative – “Bobby Gets a Doggy” to “Sarah the Seagull”.

When examining hot to transfer narrative reads for accuracy, the HRL group increased in accuracy while the LRL group decreased. Specifically, the HRL group’s mean increase of 1.07% placed the HRL group at a mean of 99.65% accuracy, which is considered to be independent level of reading (Hasbrouck, 1998). The LRL group’s mean decrease of 5.20% placed the LRL group at a mean of 88.07% accuracy, which is considered to be frustration level of reading (Hasbrouck, 1998). In other words, the LRL group’s mean decrease caused the group a significantly lower accuracy than the HRL group’s accuracy. This distinction suggests the HRL children perhaps learned, retained, and applied the decoding strategies from the teach stage better to the transfer stage than did the LRL children.

Although the groups resulted in such distinction, there was overlap in the differences between the two groups. Therefore, we suggest that the growth or difference of accuracy of hot to transfer narrative readings does not distinguish between HRL versus LRL monolingual English-speaking second graders.

Accuracy – Expository – “Protecting the Wetlands” to “Insects on the Move”. When examining hot to transfer expository reads for accuracy, both HRL and LRL groups decreased in accuracy. The LRL group had a larger decrease in accuracy than the HRL group by 6.83%. Specifically, the HRL group’s mean decrease of 2.32% placed the HRL group at a mean of 97.69% accuracy, which is considered to be independent level of reading (Hasbrouck, 1998). The LRL group’s mean decrease of

9.15% placed the LRL group at a mean of 83.32% accuracy, which is considered to be frustration level of reading (Hasbrouck, 1998). Although both groups tested to be at different reading levels, both groups shared similarity in decreasing in accuracy.

Although the difference in accuracy decrease was larger for the LRL group, there was overlap in the differences between the two groups. Therefore, we suggest that the growth or difference of accuracy of hot to transfer expository readings does not distinguish between HRL versus LRL monolingual English-speaking second graders.

In summary, when examining hot to transfer reads for WCPM and accuracy, the growths or differences in expository WCPM, narrative accuracy, and expository accuracy were not found to distinguish between HRL versus LRL monolingual English-speaking second graders. However, the growth or difference in narrative WCPM was found to distinguish between HRL versus LRL monolingual English-speaking second graders.

Modifiability

The fourth research question focused on whether modifiability to MLE sessions distinguishes between HRL versus LRL monolingual English-speaking second graders. When examining modifiability across both narrative and expository MLE sessions, the HRL group clearly distinguished from the LRL group in that the HRL children achieved means of 1, while the LRL children achieved means greater than 1. In other words, the HRL children earned means of 1 because they exhibited qualities such as calmness, understanding of tasks, awareness of errors, systematic and efficient problem-solving,

positivity, and attentiveness. The LRL children earned means greater than 1 because they exhibited characteristics such as fidgetiness, somewhat understanding of tasks, somewhat awareness of errors, somewhat inefficient problem-solving, hesitance, and distractibility. The characteristics of each child were the same during both narrative and expository sessions. The children were also rated a second time after the transfer stage; the ratings remained the same as after the MLE session.

Since the HRL and LRL children were distinguished with 100% accuracy based on their modifiability ratings after MLE sessions, the modifiability to MLE sessions was found to distinguish between HRL and LRL monolingual English-speaking second graders. This outcome supports the findings of Peña et al. (2007) – that clinicians' modifiability ratings after MLE sessions are feasible in identifying typically developing versus language impaired children. In addition, a second modifiability rating after the transfer stage was found to be a good confirmation of the original modifiability rating in distinguishing between HRL and LRL monolingual English-speaking second graders. Because the modifiability ratings proved to be 100% accurate in distinguishing between the HRL and LRL groups, the researchers determined the procedures of this study to be effective.

Applicability to DLL Children

The fifth question focused on the applicability of the procedures for dynamic assessment of oral reading fluency for DLL children.

Lexile levels. The lexile levels for all passages were appropriately chosen for second grade reading level. Pretest cold read #1, “Moka the Little Golden Dog” (700L),

for the narrative tasks had the lowest lexile level out of all the narrative passages. Pretest cold read #1, “Saving the Rain Forests” (780L), for the expository tasks had the lowest lexile level out of all the expository passages. Both pretest cold reads #1 were chosen to have the lowest lexile levels because the pretest cold reads #1 were intended to be a warm-up for every child.

Pretest cold read #2 and posttest hold read #1, “Bobby Gets a Doggy” (760L), for the narrative tasks had the highest lexile level out of all the narrative passages. Pretest cold read #2 and posttest hold read #1, “Protecting the Wetlands” (810L), for the expository tasks had the highest level out of all the expository passages. Both pretest cold read #2 and posttest hold read #1 were chosen to have the highest lexile levels because these passages needed to have a large room for improvement since they were used in the mediated learning experiences. These passages indeed provided large room of improvement for both HRL and LRL groups.

Transfer cold read #1, “Sarah the Seagull” (710L), for the narrative tasks had the second highest lexile level out of all the narrative passages. Transfer cold read #1, “Insects on the Move” (800L), for the expository tasks had the second highest lexile level out of all the expository passages. Both transfer cold reads #1 were chosen to have the second highest lexile levels because the transfer passages acted as a test to see how the children retained and applied the newly learning skills from the teach stage. Using the second highest lexile levels seemed practical for providing passages that were not too easy yet not too difficult.

In summary, the lexile levels were appropriate for the monolingual-English

speaking second graders during all stages of the procedures. Since the chosen lexile levels are deemed to be appropriate for second graders, these lexile levels should be appropriate for DLL children as well.

Topics of reading passages. The narrative passages involved topics of animals and the expository passages involved topics of nature and insects. All passages included pictures as visual aids for the different topics. The topics were appropriate because they kindled interest and curiosity for the children of second grade age. For example, the narrative pretest cold read #2 and posttest hot read #1, “Bobby Gets a Doggy”, caused many children to connect the topic of dogs to their own lives. One child even told the Co-I an anecdote of her own dog before reading the passage. The children exhibited similar interests for other story topics as well. Because the monolingual-English speaking children were so interested and curious about the reading passages, these story topics should be interesting for DLL second graders as well.

Pretest-teach-posttest-transfer approach. Every monolingual-English speaking child in this study experienced two cold pretest reads, one hot posttest read, and one cold transfer read for both narrative and expository sessions. After testing and scoring, the researchers found that all stages and reads were necessary for the implementation of the procedures. Without any of the stages and reads, the comparisons from cold to cold, cold to hot, and hot to transfer would not have been possible. Because each stage and read provided valid comparisons for the monolingual-English speaking children, the same stages and reads should be implemented in the procedures for DLL children.

Differences between narrative and expository passages. All the monolingual-

English speaking children in both HRL and LRL groups performed differently on narrative and expository passages. The most prominent difference between narrative and expository passages was the differences in both groups from pretest cold read #1 to cold read #2, where the two groups tended to perform better on the narrative passages. Since there was a clear difference among the monolingual-English speaking children between the narrative and expository passages, both narrative and expository passages should be used for DLL children as well to examine if differences arise.

In summary, the lexile levels of the reading passages, topics of the reading passages, pretest-teach-retest-transfer approach, and differences between narrative and expository passages were shown to be adequate indicators for the application of this current study's procedures to DLL children.

CONCLUSION

Overall Summary

The growth or difference in hot to transfer narrative WCPM and the modifiability ratings of MLE sessions as well as the transfer stage were found to distinguish between HRL versus LRL monolingual English-speaking second graders. In addition, the procedures used in this current study were found to be applicable to DLL children.

Limitations

Due to time constraints and participant availability, this study had a small sample size of six participants. Hence, statistical analyses were not feasible due to the small sample. The small sample was comprised of an unbalanced amount of participants in the HRL and LRL groups.

Clinical Implications

Albeit the small sample size, the sample was a good indicator that this study's procedures for dynamic assessment of oral reading fluency are feasible for distinguishing children who are HRL versus LRL. Specifically, three main components of the procedures should be focused on when replicating these procedures in the clinic: 1) the growth or difference in hot to transfer narrative WCPM, 2) the modifiability ratings after the MLE session, and 3) the modifiability ratings after the transfer stage.

Although modifiability ratings after the MLE session has been found to distinguish children (Peña et al., 2007), the combination of modifiability ratings after both the MLE session and transfer stage, as well as the growths or differences of hot to

transfer narrative WCPM tasks may provide a strong and effective set of criteria in distinguishing a child.

Overall, teachers and/or speech-language pathologists could use this current study's procedures of dynamic assessment of oral reading fluency for monolingual-English speaking children to determine reading levels in the classroom and/or clinic. Performance on the Mediated Learning Observation form provides insight into content learned, content retained, and the ability to apply content. These procedures may also potentially be used for DLL children.

Future Research

Future research should include larger sample sizes of monolingual-English speaking children. Research with larger sample sizes could yield scores that might be more representative across the different outcome measures. Specifically, the WCPM and accuracy norms (Hasbrouck & Tindal, 2005) that are currently available may potentially be confirmed by larger sample sizes of monolingual-English speaking children.

Because dynamic assessment of oral reading fluency was shown to be feasible for monolingual English-speaking children with varying reading levels, this same approach should be experimented with DLL children. The procedures should be implemented in both the children's native language(s) as well as English to examine any differences among various languages. The DLL children should also be given assessments such as the Test of Nonverbal Intelligence to determine the children's nonlinguistic problem solving ability. The Test of Nonverbal Intelligence is appropriate for DLL children who may have limited English ability because the assessment is language-free. In other words,

the Test of Nonverbal Intelligence is useful in determining the intelligence of children while being bias-free from culturally and linguistically diverse factors.

Considering aspects of this study's procedures were successful in distinguishing monolingual English-speaking HRL and LRL children, it is possible that the same aspects may distinguish DLL children who are TD and LI. Since reading is a language-based skill, it is recommended that the dynamic assessment of oral reading fluency be paired with language testing to determine the reliability of using dynamic assessment of oral reading fluency to diagnose struggling readers and children who have a primary language impairment.

References

- Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge, MA: MIT Press.
- Bedore, L., & Leonard, L. (2001). Grammatical morphology deficits in Spanish-speaking children with specific language impairment. *Journal of Speech, Language, and Hearing Research, 44*, 905-924. doi: 10.1044/1092-4388(2001/072)
- Burton, V. J., & Watkins, R. V. (2007). Measuring word learning: Dynamic versus static assessment of kindergarten vocabulary. *Journal of Communication Disorders, 40*(5), 335-356. doi: 10.1016/j.jcomdis.2006.06.015
- Camilleri, B., & Law, J. (2007). Assessing children referred to speech and language therapy: Static and dynamic assessment of receptive vocabulary. *International Journal of Speech-Language Pathology, 9*(4), 312-322. doi: 10.1080/14417040701624474
- Carlson, J. S. (1983). *Applications of dynamic assessment to cognitive and perceptual functioning of three ethnic groups. Final report*. Retrieved from Educational Resources Information Center.
- Common Core State Standards Initiative. (2015). Retrieved from <http://www.corestandards.org/about-the-standards/>

- Cummins, J. (1979). Cognitive/academic language proficiency, linguistic interdependence, the optimum age question and some other matters. Working Papers on Bilingualism, No. 19, 121-129.
- Fry, R., & Gonzales, F. (2008). One-in-five and growing fast: A profile of Hispanic public school students. *Pew Hispanic Center*. Retrieved from <http://www.pewhispanic.org/files/reports/92.pdf>
- Fuchs, L., Fuchs, D., & Hosp, M. (2001). Oral reading fluency as an indicator of reading competence: A theoretical, empirical, and historical analysis. *Scientific Studies of Reading*, 5(3), 239-256. Retrieved from <http://www.specialistedpsy.com/fuchsetalreadfluency.pdf-link.pdf>
- Gillam, S., Fargo, J., Foley, B., & Olszewski, A. (2010). A nonverbal phoneme deletion task administered in a dynamic assessment format. *Journal of Communication Disorders*, 44(2), 236-245. doi: 10.1016/j.jcomdis.2010.11.003
- Gillam, R., & Peña, E. (2004). Dynamic assessment of children from culturally diverse backgrounds. *Communication Disorders and Sciences in Culturally and Linguistically Diverse Populations*, 11, 2-5. doi: 10.1044/cds11.2.2
- Good, R. H., & Kaminski, R. A. (2002). Dynamic Indicators of Basic Early Literacy Skills (6th ed.). Eugene, OR: Institute for the Development of Educational Achievement.
- Gutierrez-Clellen, V., & Peña, E. (2001). Dynamic assessment of diverse children: A tutorial. *Language, Speech, and Hearing Services in Schools*, 32, 212-224. doi: 10.1044/0161-1461(2001/019)

- Hasbrouck, J. (1998). *Reading fluency: Principles for instruction and progress monitoring*. Professional Development Guide. Austin, TX: Texas Center for Reading and Language Arts, University of Texas at Austin.
- Hasbrouck, J. (2010). Developing fluent readers. *Read Naturally*. Retrieved from <http://www.readnaturally.com/knowledgebase/documents-and-resources/31/29>
- Hasbrouck, J., & Tindal, G. (2005). 2005 Hasbrouck & Tindal Oral Reading Fluency Data. Retrieved from http://www.fehb.org/CSE/CCSEConference2011/Wright/wright_Pre_Conference%20Hasbrouck%20&%20Tindal%20oralreadingfluency%20norms.2005.pdf
- Hasson, N., & Joffe, V. (2007). The case for dynamic assessment in speech and language therapy. *Child Language Teaching and Therapy*, 23(1), 9-25. doi: 10.1177/0265659007072142
- Kapantzoglou, M., Restrepo, M. A., & Thompson, M. S. (2012). Dynamic assessment of word learning skills: Identifying language impairment in bilingual children. *Language, Speech, and Hearing Services in Schools*, 43(1), 81-96. doi: 10.1044/0161-1461(2011/10-0095)
- Kohnert, K. J., & Bates, E. (2002). Balancing bilinguals II: Lexical comprehension and cognitive processing in children learning Spanish and English. *Journal of Speech, Language, and Hearing Research: JSLHR*, 45(2), 347-359. Retrieved from http://0-wx2mz2qh4l.search.serialssolutions.com/innopac.library.unr.edu/OpenURL_loca1?sid=Entrez:PubMed&id=pmid:12003516

- Kohnert, K., Windsor, J., & Ebert, K. (2008). Primary or “specific” language impairment and children learning a second language. *Brain & Language, 109*(2-3), 101-111. doi: 10.1016/j.bandl.2008.01.009
- Kozulin, A. (2002). Sociocultural theory and the mediated learning experience. *School Psychology International, 23*(1), 7-35. doi: 10.1177/0143034302023001729
- Laing, S., & Kamhi, A. (2003). Alternative assessment of language and literacy in culturally and linguistically diverse populations. *Language, Speech, and Hearing Services in Schools, 34*, 44-55. doi: doi:10.1044/0161-1461(2003/005)
- Lexile: The Lexile Framework for Reading. (2016). Retrieved from <https://lexile.com/>
- Lidz, C. (2002). Mediated learning experience (MLE) as a basis for an alternative approach to assessment. *School Psychology International, 23*(1), 68-84. doi: 10.1177/0143034302023001731
- Paradis, J., Genesee, F., & Crago, M. B. (2011). *Dual language development & disorders*. Baltimore, Maryland: Paul H. Brookes Publishing Co.
- Peña, E. D., Gillam, R. B., & Bedore, L. M. (2014). Dynamic assessment of narrative ability in English accurately identifies language impairment in English language learners. *Journal of Speech, Language, and Hearing Research, 57*(6), 2208-2220. doi: 10.1044/2014_JSLHR-L-13-0151
- Peña, E. D., Iglesias, A., & Lidz, Carol, S. (2001). Reducing test bias through dynamic assessment of children’s word learning ability. *American Journal of Speech-Language Pathology, 10*, 138-154. doi: 10.1044/1058-0360(2001/014)

- Peña, E.D., Reséndiz, M., & Gillam, R. (2007). The role of clinical judgements of modifiability in the diagnosis of language impairment. *Advances in Speech-Language Pathology, 9*(4), 332-345. doi: 10.1080/14417040701413738
- Rasinski, T. (2004). Creating Fluent Readers. *What Research Says About Reading, 61*(6), 46-51. Retrieved from <http://www.ascd.org/publications/educational-leadership/mar04/vol61/num06/Creating-Fluent-Readers.aspx>
- ReadWorks.org. (2013). “Bobby Gets a Doggy”. Retrieved from <http://www.readworks.org/passages/bobby-gets-doggy>
- ReadWorks.org. (2012). “Insects on the Move”. Retrieved from <http://www.readworks.org/passages/insects-move>
- ReadWorks.org. (2014). “Moka the Little Golden Dog”. Retrieved from <http://www.readworks.org/passages/moka-little-golden-dog>
- ReadWorks.org. (2015). “Protecting the Wetlands”. Retrieved from <http://www.readworks.org/passages/protecting-wetlands>
- ReadWorks.org. (2013). “Sarah the Seagull”. Retrieved from <http://www.readworks.org/passages/sarah-seagull>
- ReadWorks.org. (2012). “Saving the Rain Forests”. Retrieved from <http://www.readworks.org/passages/saving-rain-forests>
- Restrepo, M., & Gutiérrez-Clellen, V. (2001). Article use in Spanish-speaking children with specific language impairment. *Journal of Child Language, 28*(2), 433-452. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/11449946>

- Sáenz, L., & Fuchs, L. (2002). Examining the reading difficulty of secondary students with learning disabilities: Expository versus narrative text. *Remedial and Special Education, 23*(1), 31-41. doi: 10.1177/074193250202300105
- Samson, J., & Collins, B. (2012). Preparing all teachers to meet the needs of English language learners: Applying research to policy and practice for teacher effectiveness. *Center for American Progress*. Retrieved from <https://www.americanprogress.org/issues/education/report/2012/04/30/11372/preparing-all-teachers-to-meet-the-needs-of-english-language-learners/>
- Samuels, S. J. (1979). The method of repeated readings. *The Reading Teacher, 32*(4), 403-408. Retrieved from [http://communityreading.org/documents/Samuels\(1979\)reprint_Repeated_Reading.pdf](http://communityreading.org/documents/Samuels(1979)reprint_Repeated_Reading.pdf)
- Shipley, K., & McAfee, J. (2015). *Assessment in speech-language pathology: A resource manual*. Boston, MA: Cengage Learning.
- Taylor, B. (2010). *Catching readers, grade 1: Day-by-day small-group reading interventions*. Heinemann.
- Therrien, W. (2004). Fluency and comprehension gains as a result of repeated reading: A meta-analysis. *Remedial and Special Education, 25*(4), 252-261. doi: 10.1177/07419325040250040801
- Thordardottir, E., & Namazi, M. (2007). Specific language impairment in French-speaking children: Beyond grammatical morphology. *Journal of Speech, Language, and Hearing Research, 50*(3), 698-715. Retrieved from

<http://www.ncbi.nlm.nih.gov/pubmed/17538110>

Tzuriel, D. (2000). Dynamic assessment of young children: Educational and intervention perspectives. *Educational Psychology Review*, *12*(4), 385-435. doi: 10.1023/A:1009032414088

U.S. Department of Education, National Center for Education Statistics. (2015). *The Condition of Education 2015* (NCES 2015-144), English Language Learners. Retrieved from <https://nces.ed.gov/fastfacts/display.asp?id=96>

Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Wolter, J., & Pike, K. (2015). Dynamic assessment of morphological awareness and third-grade literacy success. *Language, Speech, and Hearing Services in Schools*, *46*, 112-126. doi: 10.1044/2015_LSHSS-14-0037

APPENDICES

Appendix A

Verbal Assent Script for Children, 7-12 Years Old

Hi, my name is Annie.

I am asking you to take part in a research study. I am doing the study because I want to learn more about your reading skills and how much you can learn!

If you agree to be in this study you will be asked to read some fun stories! You will first read two stories, then I will help you on things you have trouble with, and then you will read one of the stories again! After everything is done, you'll get a prize!

We will do this today and then I'll come back in the next two weeks and we will read new stories. Each time I see you, it should take about 30 minutes.

If you say "yes" to being in this study, you might feel stressed during reading because sometimes reading can be hard. Or, you may also not always enjoy the story topic.

If you are in this study and feel any of the things I just talked about or feel bad in other ways, please tell you parents right away. It's important they call us about what you are feeling.

Before you decide if you do or do not want to be in this research study, we want you to talk to your parents. We will also ask your parents to give their permission for you to be in this study. Even if your parents say "yes" you can still decide not to be in the study.

Being in this study is up to you and no one will be upset if you don't want to participate or if you change your mind later and want to stop. You can stop at any time for any reason. Nothing bad will happen and no one will mind.

If you have any questions about the study, please ask me now. If you have questions later you or your parents may call me at any time. My name is Annie and my phone number is 702-292-5940. You may also ask me questions about this study any time we meet.

If you have a problem or complaint about the research or want to talk about your rights as a research participant, call the University of Nevada, Reno Research Integrity Office at 775.327.2368.

Appendix B

Teach Stage – Mediated Learning Experience Script

- 1) The Co-I discussed the first four key instructional elements of MLE (Peña et al., 2001):
 1. *Intention to teach* (“Today, we’re going to learn about correctly reading words with reasonable speed in stories.”); 2. *Mediation of meaning* (“It is important to be able to read words correctly and with speed.”); 3. *Transcendence* (“You use reading for all aspects of school.”); and 4. *Planning* (“Can you tell me why being able to read correctly and with speed is important?”)
- 2) The Co-I pointed to the erred word and asked the child, “Does X sound right in this sentence?” If the child said “yes”, the Co-I said, “Well actually, this word is ____.” If the child said “no”, the Co-I said, “Let’s see how we can sound this word out.”
- 3) The Co-I demonstrated how to pronounce the said word and asked the child to say the word with her.
- 4) The Co-I asked the child to say the sounds separately and asked the child how many sounds there were. If the child answered with an incorrect amount of sounds, the Co-I asked the child to recount the sounds and gave hints until the child answered the correct amount of sounds.
- 5) The Co-I introduced the concept of “sound boxes” (Taylor, 2010) to the child. The Co-I then asked the child to draw the same number of sound boxes in relation to the number of sounds present in the word.

- 6) The Co-I then asked the child, “What is the first sound?” If the child said the correct sound, the Co-I moved on to step 7. If the child said the incorrect sound, the Co-I corrected the child and told them the correct sound.
- 7) The Co-I asked the child, “What letter or letters make that sound?” If the child said the correct letter or letters, the Co-I moved on to step 7. If the child said the incorrect letter or letters, the Co-I corrected the child and told them the correct letter or letters. If the child did not understand why some sounds consisted of more than one letter, the Co-I explained to the child the English language sometimes combines different letters together to make certain sounds; in addition, the Co-I gave examples of other words with the sound and letter combinations.
- 8) The Co-I asked the child to write the letter or letters in the first sound box.
- 9) Steps 5-7 were repeated for each respective sound.
- 10) When every sound was completed, the Co-I asked the child to point to each sound box and say the sound. If the child said any sound incorrectly, the Co-I corrected the child and told them the right sound, and had them repeat this step.
- 11) The Co-I asked the child to glide their finger and smoothly connect the sounds to form the word. If the child said any sound incorrectly, the Co-I corrected the child and told them the right sound, and had them repeat this step.
- 12) The Co-I asked the child to say the word without pointing. If the child said the word incorrectly, the Co-I corrected the child and told them the right word, and had them repeat this step.
- 13) The Co-I asked the child to use the word in a sentence. If the child had trouble

- coming up with a sentence, the Co-I helped the child form a sentence. If the child had trouble with such aspects as the tenses of the word, the Co-I explained to the child the rules of the word.
- 14) The Co-I asked the child to read the sentence in the passage that contained the word.
 - 15) Steps 1-13 were repeated for every erred word.
 - 16) After word-decoding intervention was completed, the Co-I instructed the child they will practice rereading the passage.
 - 17) The Co-I instructed the child they will first read the passage (up to one more paragraph past the place the child had stopped reading during the pretest) together. If the child said any words incorrectly, the Co-I prompted the child on the spot asking questions such as, “You said X; does that sound right?”, until the child produced the correct word.
 - 18) The Co-I instructed the child they will reread the same passage but the Co-I faded in and out as the child continued reading. If the child said any words incorrectly, the Co-I prompted the child on the spot asking questions such as, “You said X; does that sound right?”, until the child produced the correct word.
 - 19) The Co-I instructed the child to reread the same passage independently. If the child said any words incorrectly, the Co-I prompted the child on the spot asking questions such as, “You said X; does that sound right?”, until the child produced the correct word.
 - 20) The Co-I asked the child if they had any questions regarding decoding or the reading passage. If the child had questions, the Co-I answered them. If the child did not have

questions, the Co-I moved on to step 21.

21) The Co-I issued the fifth and last key instructional element of MLE: 5. *Transfer*

(“How are you going to remember to use the tips you learned when reading in the future?”)

22) Based on the child’s responsivity and learning growth during the teach stage, the Co-I

hypothesized if the child was high reading level or low reading level.

Appendix C

Treatment Fidelity

PRETEST (2-5 minutes)

___ Cold read #1 was performed for one minute; “Moka the Little Golden Dog”

___ Comprehension question of “What language does Moka speak?” was asked.

Words per minute	
Number of errors	
Words correct per minute (WCPM)	
Accuracy	

___ Cold read #2 was performed for one minute; “Bobby Gets a Doggy”

___ Comprehension question of “Does Bobby just like one dog or different kinds of dogs?” was asked.

Words per minute	
Number of errors	
Words correct per minute (WCPM)	
Accuracy	

TEACH (25-30 minutes)

___ Prompts/teaching strategies were used for decoding words in “Bobby Gets a Doggy”

___ Warm reads (examiner and child reading together, child reading independently) were

conducted

High reading level or low reading level?	
--	--

POSTTEST (~2 minutes)

____ Hot read #1 was performed for one minute; “Bobby Gets a Doggy”

____ Comprehension question of “What does Bobby think of when he lays in bed at night?” was asked.

Words per minute	
Number of errors	
Words correct per minute (WCPM)	
Accuracy	

TRANSFER (1 minute)

____ Cold read (transfer) was performed for one minute; “Sarah the Seagull”

____ Comprehension question of “What would people feed Sarah and her mother?” was asked.

Words per minute	
Number of errors	
Words correct per minute (WCPM)	
Accuracy	

Appendix D

Data Collection Form: Narrative Example

Participant ID _____

Date _____

Pre-test

	Read #1 (cold read) “Moka the Little Golden Dog”	Read #2 (cold read) “Bobby Gets a Doggy”
Lexile level	700 L	760 L
Words per minute		
Number of errors		
Words correct per minute (WCPM)		
Accuracy		
Answered comprehension question correctly? (Y/N)		

Teach

	Session #1 (warm read) “Bobby Gets a Doggy”
Explain strategies used	

Child's modifiability	
HRL or LRL (hypothesis)?	

Post-test

	Read #1 (hot read) "Bobby Gets a Doggy"
Lexile level	760 L
Words per minute	
Number of errors	
Words correct per minute (WCPM)	
Accuracy	
Answered comprehension question correctly? (Y/N)	

Transfer

	Read #1 (cold) "Sarah the Seagull"
Lexile level	710 L
Words per minute	

Number of errors	
Words correct per minute (WCPM)	
Accuracy	
Answered comprehension question correctly? (Y/N)	