USING A DIRECT INSTRUCTION INTERVENTION TO INCREASE ADJECTIVE USE AND GENERALIZATION

By

DERRICK MEYERS

Bachelor of Arts in Psychology
University of Central Oklahoma
Edmond, OK
2013

Master of Arts in Psychology
University of Central Oklahoma
Edmond, OK
2015

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
July, 2021

USING A DIRECT INSTRUCTION INTERVENTION
TO INCREASE ADJECTIVE USE AND
GENERALIZATION

Dissertation Approved:

Dissertation Adviser

Brian Poncy, PhD

Committee Member

Gary Duhon, PhD

Committee Member

Terry Stinnett, PhD

Committee Member

Candace Lane, PhD

Outside Committee Member

Name: DERRICK MEYERS

Date of Degree: July, 2021

Title of Study: USING A DIRECT INSTRUCTION INTERVENTION TO INCREASE ADJECTIVE USE AND GENERALIZATION

Major Field: SCHOOL PSYCHOLOGY

Abstract: Direct instruction principles were used to construct and evaluate an intervention designed to increase students' use of adjectives. It was hypothesized that participants who received the intervention would be able to identify, generate, create sentences using adjectives, and use more adjectives when compared to baseline. A multiple baseline design was used across skill to evaluate the effect of the intervention on adjective use. Analysis of the results indicated a functional relationship between the intervention and adjective use. Each participant increased correct responses on the four assessment probes. Effect size metrics evaluating the frequency and rate of adjective use corroborate visual analysis and suggests a moderate intervention effect. Discussion focuses on these findings and describes both limitations and future directions for research.

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER I

INTRODUCTION

According to the National Center for Education Statistics (2012), only 24% of 8th and 12th graders scored proficient on a computer based writing assessment that measures students' ability to write for different audiences and settings. Fourth grade students' written achievement was also problematic with two out of three 4th grade students not being able to keep pace with classroom demands (Persky, Daane, & Jin, 2003). Cutler and Graham (2008) found that insufficient time is being spent on writing instruction, and only 25% of teachers reported that they teach sentence construction skills daily. One of the recommendations to remediate this problem is to increase the instructional time spent on writing in the classroom (Cutler & Graham, 2008; National Commission on Writing, 2013; "The Neglected "R.", 2003).

Additional recommendations in the areas of curriculum, assessment, parent engagement, technology, and professional development for teachers were also made ("The Neglected "R.", 2003). Suggestions to improve writing instruction included incorporating assigned writing across curricula and aligning district writing curricula with state assessment and standards. Parent involvement was also emphasized where they encouraged writing by reviewing and editing their children's writing. Technology is an important consideration since writing skills are used across a variety of modalities (e.g., paper, phones, computers). To address these technological concerns, it has been

recommended that computer hardware, software, as well as training for students and teachers receive targeted funding. Additional recommendations to support this initiative is to identify and apply new technologies in the areas of error correction in grammar, written assessment, and the encouragement of students sharing their writing with others. Recommendations for teacher professional development included curriculum guidelines to ensure that writing is required in every curriculum area and grade level, common expectations across disciplines for writing, teachers taking college courses in written expression instruction, and university and school partnerships to create additional programs and research to improve written expression instruction for English language learners.

One model that could be used to guide written expression instruction is direct instruction. Direct instruction is a model of instruction that aims to establish new behavior and maintain it over time (Engelmann, 1980). Direct instruction is also not limited by the type of instructional problem or area of instruction with research showing achievement gains in the areas of reading, math, language, science, and writing (Marchand-Martella, Slocum, & Martella, 2004).

The purpose of this study is to determine if an instructional package using principles of direct instruction will increase students' use of adjectives.

1. To what extent will the paced problems task (participants are asked to circle the adjective in each sentence) increase participants' rate of correct responding?
2. To what extent will the fill in the blank task (participants are asked to write an adjective in a blank space in a sentence) increase participants' rate of correct responding?
3. To what extent will the explicit timing with sentences task (participants are asked to write a sentence containing an adjective when provided with a word bank) increase participants' rate of correct responding?
4. To what extent will the explicit timing with free writing task (participants are asked to write a story given a prompt) increase participants' rate of adjective use?

It is hypothesized that participants who receive the intervention procedures will be able to identify, create, generate sentences using adjectives, and use more adjectives when compared with baseline.

CHAPTER II

REVIEW OF LITERATURE

Direction instruction is a scientifically based method of instruction that uses common techniques of behavioral education including positive reinforcement, frequent assessment, task analysis, and prerequisite skills mastery (Kinder & Carnine,1991). What differentiates direct instruction from other instructional models is how materials are presented. Instruction is comparable to experimental control in direct instruction, variables are controlled through the use of faultless communication, and in order for faultless communication to be evident instructional materials and teacher delivery is univocal (Engelmann & Carnine, 1982; Kinder & Carnine,1991). Principals for developing faultless communication include explicit teaching of rules and strategies, example selection, example sequencing, covertization, brisk pacing, and corrective procedures. Explicit teaching of rules and strategies involves every step in problem solving, is taught by demonstrating with explanation, examples are sequenced, and instruction is provided to guide application of the rule. The example selection and sequencing is predetermined and used to demonstrate a variety of instances that vary on irrelevant attributes but still apply the common principal or theme of the rule or strategy. This aids in generalization as well as discrimination. Coveritization is used to reduce student reliance on explicit teaching of a particular skills and the frequency of leading questions is minimized. Brisk pacing is used for three reasons. The first is to maintain the focus or attention of students, the second is to allow more instructional

material to be covered in less time, and the third is to allow more opportunities to respond for students. It is important to note that choral responding, responding in unison, can also increase students' opportunities to respond. Various corrective procedures are used in direct instruction depending upon students' errors. A strategy error can be remedied through the use of prompted the steps of a particular strategy and by using leading questions that were used when the strategy was taught.

Theoretical assumptions of direct instruction include all children can be taught, children who are not performing at predetermined academic levels should receive more instruction in the academic area of need, and that additional instruction requires conscientious use of educational materials and time (Becker, 1978). One of the first experimental articles published regarding direct instruction, or the Bereiter-Engelmann program, was by Siegfried Engelmann in 1968 (Engelmann, 1968). The results provided evidence of the theoretical assumption that any children can be taught regardless of social economic status if provided with adequate instruction.

Project Follow Through

Project Follow Through began in the 1960's as the largest federally funded experiment in education in terms of breadth and content (Becker, 1978). The goal was to compare different educational approaches to the education of children in grades kindergarten through third grade who were economically disadvantaged. Partial funding was provided by the Office of Economic Opportunity (OEO), who also nominated school districts to participate. The idea of sponsorship, educational programs that were

implemented by differing institutions, was central to Project Follow Through. Sponsors served six functions including providing the community with well-defined and theoretically consistent approach that could be adapted to the local conditions of the school district, provide any training or guidance as needed for implementation, perform quality control by monitoring implementation, serve as an agent for change by helping the community in remembering the broad focus of the objectives and requirements of the program, supervise implementation of the program in all aspects, and assist in comprehending and describing the results of any evaluation efforts.

Nine sponsors with control group comparisons included the Open Education Model (OEM), the Tucson Early Education Model (TEEM), the Cognitively Oriented Curriculum (COC), the Responsive Education Model (REM), the Bank Street College Model (BSCM), the Behavior Analysis Model (BAM), the Direct Instruction Model (DIM), the Florida Parent Education Model (FPEM), and the Language Development Model (LDM) (Becker, 1978). The primary objective of the OEM was to foster a child's individual responsibility for their own learning. The academic areas of reading and writing are not explicitly taught, and instead emphasis was placed upon the stimulation of a desire to communicate. Components included flexible schedules, child directed choices, and a focus on intense personal involvement. The TEEM used a language experience approach, and instruction was designed to embellish children's current experience and interest. The TEEM model also placed an emphasis on teaching abstract concepts including comparing, recalling, looking and relationships. The TEEM model

did not place an emphasis in academic content, but instead considered the individual learning styles of children that needed to be catered to. The COC model was an expansion of Piaget's cognitive theories, and children are supported by the instructor to foster their own learning by scheduling their own activities, developing plans, and choosing who and what to work with. The instructor's role in this model is to support students' development of a positive self-concept via providing choices, demonstrating language and its use in labeling what is going on in the environment, to make interpretations, and explain causes. The REM used learning centers, which varied by academic content, in order to create an environment that was responsive to children's interest. The REM also placed an emphasis on self-esteem due to the creators' belief that self-esteem is an important aspect in acquiring academic skill. The BSCM objectives included the development of children to be confident, inventive, responsive, and productive. The BCSM used a language experience approach to reading, and instruction included blocks, games, counting, painting, quiet areas, and chairs comfortable for reading. The teacher is responsible for implementation and was required to structure the classroom to increase opportunities for learning experiences. The BEM relied upon the use of positive reinforcement in order to increase rates of learning in reading, mathematics, handwriting, and spelling to mastery levels. Examples of this included social praise and a token economy system. Academic content was taught in a sequence of small steps and correct responses were reinforced. The DIM used small group and whole group instruction in the academic areas of reading, mathematics, and language

with predetermined sequenced lessons. Implementation was carefully model using observation, child assessment procedures, training manuals, and procedural manuals. The FPEM relied upon the children's parents to instruct their children. Parents were instructed to teach emphasizing language development, cognitive, affective, and psychomotor skill instruction. The LDM emphasized language development and is unique to the other model presented as instructional materials used were in both English and Spanish. Specifically, if needed the instructional material was presented orally in Spanish then presented in printed form for reading instruction. Afterwards the instruction was presented in English.

The data used in the results were from 9,225 children across the school sites that implemented an educational model provided by a sponsor. The comparison group data were from 6,485 children from schools who did not implement an educational model provided by a sponsor (Becker, 1978). Each child was assessed when they entered kindergarten, during the spring of their kindergarten, 1st grade, 2nd grade, and 3rd grade year. Three domains were assessed including academic skills, cognitive abilities, and affective. Academic skills were measured using the Metropolitan Achievement Test, cognitive abilities were measured using the Raven's Colored Progressive Matrices, and affective abilities were measured using the Coopersmith Self-Esteem Inventory and the Intellectual Achievement Responsibility Scale. The results showed that direct instruction outperformed all other models in academic skills (word knowledge, spelling, language, and math computation), cognitive measures (reading comprehension, math concepts, and

math problem solving), and affective measures. A notable limitation of the results was that treatment integrity was not measured and controlled for all programs and sites.

Meyer (1984) compared the performance of former students who received direct instruction versus those who did not using two sites in Brooklyn, New York. The first site participated in Project Follow Through and received direct instruction. The second site did not participate in Project Follow Through and did not receive direct instruction. Both sites had similar racial demographics, social economic status, and reading achievement before Project Follow Through. Results indicated that a greater percentage of former students from the first site graduated from high school when compared with the second site, fewer students from site one dropped out of high school then site two, a greater percentage of students from site 1 applied to college and were accepted compared to site two, and students from site two had greater 9th grade reading and mathematics achievement when compared with site two. Overall the results suggest that direct instruction provided long term positive outcomes to those who received it.

Direct Instruction Writing Curriculum

Basic Writing Skills. Two programs exist under the Basic Writing Skills curriculum, which are Sentence Development and Capitalization and Punctuation (Marchand-Martella, Slocum, & Martella, 2004). The Sentence Development program was developed to teach students how to create different types of sentences. Instructors provide scaffolding of recently presented rules, sentence manipulation procedures, and editing procedures. Students are taught to learn writing rules and procedures, edit

inaccurate sentences, create their own sentences, and edit their own sentences for accuracy. The Sentence Development program contains 31 lessons and is designed to be used for students in the 6th through 12th grade who have 3rd grade reading and spelling skills.

Capitalization and Punctuation is a 40 lesson program for students in 6th through 12th grade who have 3rd grade reading and spelling skills (Marchand-Martella, Slocum, & Martella, 2004). The program is primarily designed to teach students capitalization and punctuation rules. A total of 19 capitalization rules are taught, students are given inaccurate models to check and edit, and students are given teacher dictated sentences to write and edit for application of the rules that are taught.

Expressive Writing I and II. Expressive Writing I contains 50 lessons, and was designed to be used for students who are in 4th through 8th grade who have not mastered or been taught basic expressive writing skills and have at least 3rd grade reading skills (Marchand-Martella, Slocum, & Martella, 2004). Expressive Writing 1 teaches four major tracks including writing mechanics, sentence writing, paragraph writing, and editing. The mechanics track includes the use of capitalized letters at the start of sentences, placing periods at the end of sentences, paragraph indentation, accurate copying, and reading passages in cursive. The sentence writing track teaches sentence structure, word order manipulation, grammar, and additional punctuation rules. The paragraph writing track is designed for the application of previously learned skills. The use of picture prompts is present as well as strategies for creating main ideas and

supporting details in a paragraph format. The last track, editing, teaches students to edit previously written work for mistakes. Students reread their written paragraphs 4 times, edit their own writing, and edit their peers' writing as well.

Expressive Writing II contains 10 preprogram lessons and 45 regular lessons, and can be used for students in 4th through 8th grade students who have completed Expressive Writing I, have beginning 4th grade reading skills, read and write in cursive, copy simple sentences at 15 words per minute, and possess basic language patterns (Marchand-Martella, Slocum, & Martella, 2004). Expressive Writing II is a continuation of Expressive Writing I and the previously taught skills and procedures are expanded upon. Students are taught additional punctuation rules, sentence types, editing, and paragraph composition. The writing process of planning drafting, editing, revising, and publishing is emphasized.

Reasoning and Writing. The Reasoning and Writing curriculum can be used throughout elementary and middle school grades and contains 6 levels (Marchand-Martella, Slocum, & Martella, 2004). What differentiates Reasoning and Writing from other direct instruction curricula is that it can be used for students at or near grade level. Skills taught include grammar, mechanics, sentence analysis, editing, parts of speech, sentence type, passage writing, temporal sequencing, and grammar.

Curricula versus Intervention

The term Direct Instruction (DI) can vary in terminology. The differences between Direct Instruction (big DI) and direct instruction (little di) refer to specific

curricula versus principles of instruction. Big DI refers to specific programs or curricula based upon research conducted by Engelmann and his colleagues. Little di refers to a set of principles that are not specific to a certain program or curricula, but are consistent to DI and have been shown to increase student achievement (National Institute for Direct Instruction, 2015). These principles include engaged time, small group instruction, specific and immediate feedback, demonstration, guided practice, and independent practice (Mcmullen & Madelaine, 2014).

Given the effectiveness of DI, the question remains why it is not implemented in all schools? Areas of resistance to the implementation of DI still remain. One reason may be the philosophical divide between DI and student directed or inquiry led instruction (Mcmullen & Madelaine, 2014). Other reasons cited by educators include that DI is only suitable for certain children, DI is rote learning, DI is too teacher directed, DI discourages teacher creativity, DI diminishes teachers' professional value, students do not like DI lessons, and there are more effective methods of instruction than DI.

A potential solution to help remedy the resistance to DI is to provide students with academic interventions that are designed using principles of direct instruction. These academic interventions can be brief, target specific academic skills, and their effects can be measurable. Although DI curricula or programs exist in the area of written expression, the need for interventions targeting specific writing skills and mechanics using principles of direct instruction are needed.

Parts of Speech

Parts of speech is the term used to describe the major classes of words that are grammatically distinguished in a language (Shopen, 2007). Two distinct classes are present in every language. These include the open and closed class of speech. The open class of speech contains words that may be unlimited in number, and vary from time to time and between one speaker and another. The closed class of speech contains a fixed and usually small number of words, which are the same for all the speakers of the language, or the dialect. The open class contains parts of speech such as nouns, adjectives, verbs, and adverbs. The closed class contains parts of speech such as conjunctions and pronouns.

Open Class. The open class of speech contains nouns, adjectives, verbs, and adverbs (Shopen, 2007). These four categories may also be split into additional categories. Nouns refer to a group of words that contain the names of most persons, places, and things. Nouns can also be split into common nouns and proper nouns. Common nouns are nouns that identify or refer to any member of a class of persons (tree, cat, girl, boy, coffee). Proper nouns are used to specify specific persons, places, or things (Maine, Mary, Megalo Mart). Verbs are used to express actions and processes. Adjectives are used in oral or written language to modify or describe a noun. Adverbs are used to modify verbs and are split into three different types. An interrogative adverb will be used to ask a question. A simple adverb is used to tell the manner, time, place,

degree, or number. A conjunctive adverb is used to connect two independent clauses in a sentence.

Closed Class. The closed class contains pronouns and conjunctions (Shopen, 2007). Pronouns are words that can be used in the place of a noun in written or oral language. Examples include he, she, me, you, this, ours, mine, and you (Center for Writing Studies, 2013). Conjunctions are used to conjoin words, phrases, or clauses. The three types of conjunctions are coordinating conjunctions, correlative conjunctions, and subordinating conjunctions. Coordinating conjunctions are used to join words, phrases, or clauses that have an equivocal grammatical function. They include the words and, but, or, yet, nor, for, and so. Correlative conjunctions are a coordinating conjunction that is used in a pair in order to connect elements in a sentence. Subordinating conjunctions are used to join elements with different grammatical functions. They include the words after, in case, unless, although, in that, until, as, now that, when, as if, once, whenever, as though, since, where, because, so, whereas, before, so that, whether, even though, than, which, except that, that, while, however, though, who/whom, and if.

Writing Instruction and Interventions

The literature base for written expression can be divided into four broad categories including handwriting, sentence construction, grammar/usage, and paragraph construction (Datchuk & Kubina, 2013). Components of effective interventions for handwriting focus on demonstrating and modeling letter formation, using visual and memory cues, using alphabet or copy tasks to monitor student progress, and include

activities that reinforce letter names and shapes (Datchuk, 2015; Hooper et al., 2013). These components have been show to increase accuracy and speed of letter formation.

Interventions targeting grammar in the literature have been few and far between. Saddler and Graham (2005) investigated whether grammar instruction or sentence combining instruction would increase sentence combining. Participants in the grammar instruction group were taught to identify parts of speech in sentences including nouns, verbs, adverbs, and adjectives. Then participants would complete incomplete sentences by inserting the correct part of speech into the incomplete sentence to make it complete. Participants in the grammar instruction group did worse than participants in the sentence combining instruction group on a standardized measure of sentence combining. A multicomponent intervention that consisted of instruction in the targeted writing skill, choice of story starter, increased writing practice, class wide interdependent group contingencies with public posting of class wide performance, and individual feedback was used in order to increase middle school students who qualified for special education under the eligibility category of learning disabled or intellectual disability. Results of the multicomponent intervention indicated that students' use and accuracy of adjectives, complete sentences, and compound sentences increased (McCurdy, Skinner, Watson, & Shriver, 2008).

Hier & Eckert (2014) found that using performance feedback and repeated practice was able to increase sentence construction in elementary students, and their writing ability also generalized to other standardized measures of written expression. It is also

important to mention the uniqueness of this particular study due to the large sample size, the use of children who were not eligible for special education, and the use of multilevel linear modeling. Using a combination of feedback, error correction, and picture word prompts has been demonstrated to be effective at increasing sentence composition for elementary students who have been identified as having behavioral difficulties (Datchuk, Kubina, & Mason, 2015; Hough, Hixson, Decker, & Bradley-Johnson, 2012; Troia, 2007)

Direct Instruction, which includes scripted lessons and choral responding, was demonstrated to be effective in increasing sentence composition, grammar, syntax, and written composition length for six high school students who were identified as having a SLD in written expression (Viel-Ruma, Houchins, Jolivette, Fredrick, & Gama, 2010). Konrad, Clark, & Test (2017) found that using an intervention package called GO 4 IT . . . NOW! was able to increase the quality of expository paragraph writing skills for five high school students with disabilities as measured by a 10 point (1-10) rubric. The quality of expository paragraph writing skills was measured with a scoring guide, and the authors used a multiple probe design across participants.

Notable limitations of the current literature for effective writing interventions include limited generalizability due to the use of single subject designs, and the small number of studies that have investigated under each category of written expression. It is important to note that only one study mentioned above did not use students who have a learning disability or behavior difficulty. It is also important to note the lack of research directed

to increasing specific writing skills, mechanics, and parts of speech in elementary school children.

CHAPTER III

METHODOLOGY

Participants and Setting

Three participants were included in the study. The participants who were selected are in 2nd grade at a rural elementary school in the rural Midwest. Demographic information was collected from a teacher questionnaire completed upon signing consent for participation (see Appendix A). Each participant was 8 years old, Caucasian, participant 1 was male and participant 2 and 3 were female. None of the participants were currently or previously in special education, or had ever been retained. Participant 1 and 2's teacher reported that she did not use a published curriculum for reading or written expression instruction. Participant 3's teacher reported that she used *Houghton Mifflin Harcourt Into Reading* for both reading and written expression instruction (Eddy, Galport, & Koletar, 2020).

Inclusion Criteria. To be included in the study, potential participants were screened and needed word per minute reading scores at or above the 25th percentile, write 40 Correct Letters per minute on, and obtain Correct Writing Sequences (CWS) and Total Words Written (TWW) scores at or above the 25th percentile. (see Appendix B). Correct writing sequences measures a combination of capitalization, punctuation, syntax, grammar, and spelling. Total words written measures the number of words written in response to a writing probe. Correct writing sequences and TWW have been shown to

produce moderate to strong correlations in regards to validity and reliability (Costa, Hooper, Mcbee, Anderson, & Yerby, 2012; Keller-Margulis, Mercer, & Thomas, 2016; McMaster et al., 2011).

Materials

Assessment Materials. Second grade AIMSweb R-CBM, handwriting fluency probes, and written expression probes were used for screening purposes. Written expression probes were also created for use during baseline and each intervention phase. Thirty assessment probes were constructed for the study with 10 probes for each intervention task (i.e., identification, fill in the blank, explicit timing with sentences) of the study (see Appendix C). The explicit timing with sentences probes were constructed by modifying existing probes used in previous research by Datchuk & Rodgers (2018). During baseline, and all intervention phases, the administration of the assessment probes were counterbalanced and did not exceed 1 min in duration.

Intervention Materials. Thirty intervention probes were constructed for the study with 10 probes for each intervention task (i.e., paced problems, fill in the blank, explicit timing with sentences) of the study (see Appendix D). The explicit timing with sentences probes were constructed by modifying existing probes used in previous research by Datchuk & Rodgers (2018). During each task the time spent completing the intervention probes did not exceed 10 min. The paced problems intervention probes contained verbal directions for the definition of an adjective (words that describe nouns), the three potential questions they could answer (what kind, which one, and how many), that they

were usually before the noun they described in the sentence, six sentences that were read to the participant that contained an adjective, the adjective in each sentence was provided verbally, the participant was instructed to circle the correct answer for each of the six sentences individually after each sentence was read, to circle the adjective in each of the 10 sentences that were provided, if the participant was unable to circle the adjective for any of the 10 sentences that were provided within 5 s then the adjective was provided, and feedback was provided on their responses to the 10 sentences. The fill in the blank intervention probes contained verbal directions for the definition of an adjective (words that describe nouns), the three potential questions they could answer (what kind, which one, and how many), that it was possible for more than one adjective to be correct in any given example, that they were usually before the noun they described in the sentence, six examples were read verbally, after each example was read the participant was provided with the correct response and potential other correct responses, asked to read a list of adjectives aloud for one minute, then the participant was instructed to complete 10 additional problems and to write an adjective in each blank space for each individual problem, and feedback was provided on their written responses to the ten problems. The explicit timing with sentences intervention probes contained verbal directions for the definition of an adjective (words that describe nouns), the three potential questions they could answer (what kind, which one, and how many), that they were usually before the noun they described in the sentence, two examples were provided to the participant on how to create a sentence using the list of words, and the participant was asked to copy the

answer after each example was given. The explicit timing with free writing intervention probes consisted of the participant being given a story starter, the story starter contained a written prompt, the participant was asked to think about their story for 1 min, asked to write their story for 6 min, instructed to put a square around each noun in their story, asked to put a circle around each adjective in their story, instructed to count the number of adjectives and nouns in their story, and instructed that if they were not the same number or if each noun did not have an adjective that preceded it to correct it.

Experimental Design and Analysis

A multiple baseline design across skills was used in order to evaluate the effect of the intervention on the rate of correct responses and rate of adjective use.

Dependent Measures and Scoring Procedures

The independent variables in this study are the four interventions designed to increase the frequency and rate of student use of adjectives. These interventions include paced problems, fill in the blank, explicit timing with sentences, and explicit timing with free writing intervention materials.

The dependent variables in this study are the rate of correct responses and rate of adjective use. Rate of correct responses were calculated by dividing the number of correct responses by the number of minutes it took the participant to complete the assessment probe and was calculated for the paced problems, fill in the blank, and explicit timing with sentences assessment probes. Rate of adjective use was calculated by counting the number of adjectives that were used on an AIMSweb WE-CBM probe

that was administered throughout baseline and all subsequent phases of the study and dividing by three.

Procedures

Screening. Each participant was administered three screening instruments (See Appendix B). The first was three AIMSweb R-CBM probes that were scored for reading fluency according to the AIMSweb *Reading Curriculum-Based Measurement Administration and Scoring Guide* (Pearson, 2012). The second was the Alphabet Writing Fluency Assessment, where students were asked to write the alphabet as many times as they could in 1 min. The number of correct letters were scored. The third was the AIMSweb WE-CBM and it was scored for TWW and CWS according to the *AIMSweb Administration and Scoring of Written Expression Curriculum-Based Measurement (WE-CBM) for Use in General Outcome Measurement* manual (Powell-Smith, & Shinn, 2004).

Baseline. During baseline each participant was administered identification, fill in the blank, and explicit timing with sentences assessment probes across five consecutive days. Rate of correct responses were calculated for each probe. Each participant was also administered AIMSweb WE-CBM probes across five consecutive days, and each probe was scored for rate of adjectives. These procedures were implemented across the entirety of the study and the assessments were administered in a counterbalanced order prior to daily intervention.

Intervention Procedures

Paced Problems Phase. A paced problems intervention probe consists of participants being provided with six different examples of adjectives, and asked to circle the adjective in the sentence when provided with instruction and modeling. After the examples are completed, the participants are asked to circle the adjective in each sentence for 10 sentences when given five seconds to do so for each problem. If the participant was unable to identify the correct adjective within five seconds, they were given the answer, and asked to circle it.

Fill in the Blank Phase. A fill in the blank intervention probe consists of participants being asked to write an adjective in the blank space for each example or problem. At first the participants were given six examples to complete with instruction and modeling. Then they are asked to complete the 10 additional problems independently. After 10 min had lapsed, the participants are provided with feedback and asked to fix any errors.

Explicit Timing with Sentences Phase. During the administration of an explicit timing with sentences intervention probe, participants were asked to generate a sentence when given a group of words that contain an adjective. Participants were first provided with two examples to complete with instruction and modeling. The participants were then asked to complete the 10 additional problems independently. After 10 min has lapsed, the participants were provided with feedback and asked to fix any errors.

Explicit Timing with Free Writing Phase. Each participant was asked to write a story using a story starter, which contain a written prompt. After six minutes had passed, participants were asked to put a square around each noun and a circle around each adjective. They were instructed that each noun should contain at least one adjective, to count the number of adjectives and nouns, and if any noun was not preceded by an adjective to correct it.

Procedural Integrity

Treatment fidelity, correct adherence to intervention and administration procedures, was collected during the administration of screening procedures, during baseline, during the administration of assessment probes, during the administration of intervention probes, and during the administration of written expression probes (see Appendix E). During the screening procedures, treatment fidelity data was collected 66.67% of the time and was 100%. During baseline and the subsequent intervention phases treatment integrity was collected for 24% of the total sessions, mean treatment integrity was 98.15%, and ranged from 88.89% to 100%.

CHAPTER IV

RESULTS

Table 1 displays mean correct rate of responses by participant and intervention. Figures 1 through 3 display each participant's rate of correct responding across the intervention phases. Overall each participant increased their rate of correct responding when baseline and intervention phases were compared across intervention tasks with no substantial decrease in rate of correct responses during maintenance. These results suggest experimental control between the four intervention tasks and rate of correct responses. Specific information regarding the results for each participant are included below.

Participant 1. Figure 1 displays rate of correct responses by intervention task and phase for participant 1. Visual analysis between baseline, intervention, and maintenance of the paced problems intervention task show a relatively stable baseline, an increasing trend during intervention with two data points overlapping, and no decay during maintenance. Percent of non-overlapping data between baseline and intervention of the paced problems intervention task was 60%. Visual analysis between baseline, intervention, and maintenance of the fill in the blank intervention task show a baseline with an increasing trend, an increasing trend during intervention with two data points overlapping, and no decay during maintenance. Percent of non-overlapping data between baseline and intervention of the fill in the blank intervention task was 60%. Visual

analysis between baseline, intervention, and maintenance of the explicit timing with sentences intervention task indicate a relatively stable baseline, an increase in level of rate of correct responses during intervention with three overlapping data points, and no decay during maintenance. Percent of non-overlapping data between baseline and intervention of the explicit timing with sentences intervention was 40%. Visual analysis between baseline and intervention of the explicit timing with free writing intervention task indicate an overall stable baseline, and an increase in level of rate of correct responses during intervention with three overlapping data points. Percent of non-overlapping data between baseline and intervention of the explicit timing with free writing intervention was 40%.

Participant 2. Figure 2 displays rate of correct responses by intervention and phase for participant 2. Visual analysis between baseline, intervention, and maintenance of the paced problems intervention task show a relatively stable baseline, an increasing trend during intervention with no data points overlapping, and no decay during maintenance. Percent of non-overlapping data between baseline and intervention of the paced problems intervention task was 100%. Visual analysis between baseline, intervention, and maintenance of the fill in the blank intervention task show a relatively stable baseline, an increasing trend during intervention with no data points overlapping, and no decay during maintenance. Percent of non-overlapping data between baseline and intervention of the fill in the blank intervention task was 100%. Visual analysis between baseline, intervention, and maintenance of the explicit timing with sentences intervention

task show a stable baseline, an increasing trend in rate of correct responses during intervention with one datum point overlapping between baseline and intervention, and no decay during maintenance. Percent of non-overlapping data between baseline and intervention of the explicit timing with sentences intervention was 80%. Visual analysis between baseline and intervention of the explicit timing with free writing intervention task indicate an overall stable baseline, and an increase in level of rate of correct responses during intervention with no overlapping data points between baseline and intervention. Percent of non-overlapping data between baseline and intervention of the explicit timing with free writing intervention task was 100%.

Participant 3. Figure 3 displays rate of correct responses by intervention task and phase for participant 3. Visual analysis between baseline, intervention, and maintenance of the paced problems intervention task show a variable rate of correct responding during baseline, an increasing trend during intervention with one datum point overlapping, and no decay during maintenance. Percent of non-overlapping data between baseline and intervention of the paced problems intervention task was 80%. Visual analysis between baseline, intervention, and maintenance of the fill in the blank intervention task show a variable baseline with an increasing trend, an increasing trend during intervention with three data points overlapping, and no decay during maintenance. Percent of non-overlapping data between baseline and intervention of the fill in the blank intervention task was 40%. Visual analysis between baseline, intervention, and maintenance of the explicit timing with sentences intervention task show small variation during baseline, an

increase in level of rate of correct responses during intervention with one overlapping datum point, and no decay during maintenance. Percent of non-overlapping data between baseline and intervention of the explicit timing with sentences intervention task was 80%. Visual analysis between baseline and intervention of the explicit timing with free writing intervention task indicate an overall stable baseline, and an increase in level of rate of correct responses during intervention with an increasing trend with two overlapping data points. Percent of non-overlapping data between baseline and intervention of the explicit timing with free writing intervention task was 60%.

Participant	*Baseline*	*Intervention*	*Maintenance*
Participant 1			
Paced Problems	1.35	6.28	11.76
Fill in the Blank	2.20	5.30	9.10
ET: Sentences	0.60	2.24	3.20
ET: Free Writing	0.05	0.80	
Participant 2			
Paced Problems	0.20	6.57	14.06
Fill in the Blank	0.90	5.52	9.77
ET: Sentences	0.33	1.80	3.20
ET: Free Writing	0.17	0.87	
Participant 3			
Paced Problems	3.17	10.46	12.98
Fill in the Blank	3.10	6.73	9.81
ET: Sentences	1.07	2.52	3.00
ET: Free Writing	0.18	0.83	

Table 1. Mean correct responses per minute by assessment probe and intervention phase

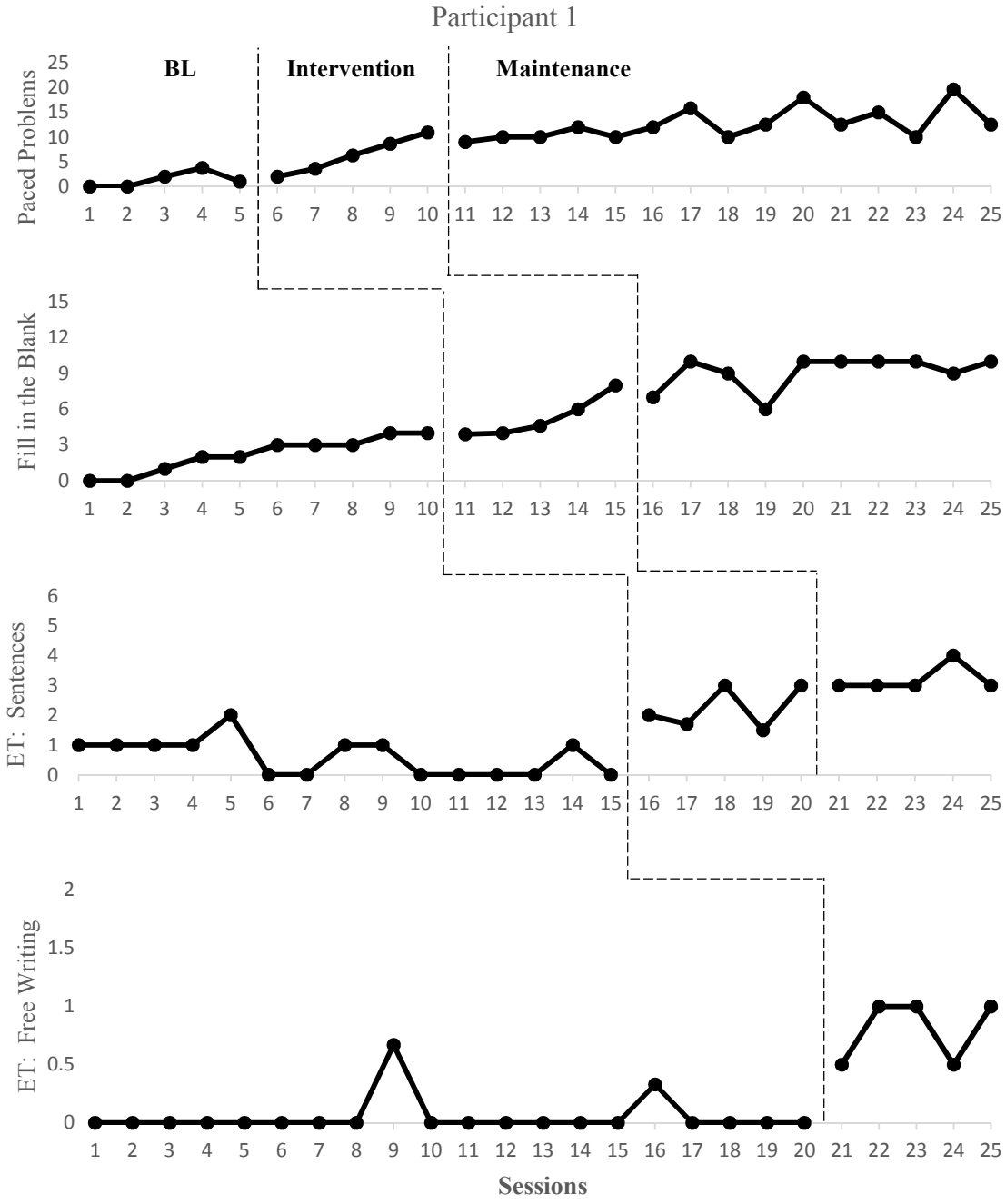

Figure 1. Correct responses per minute across intervention tasks

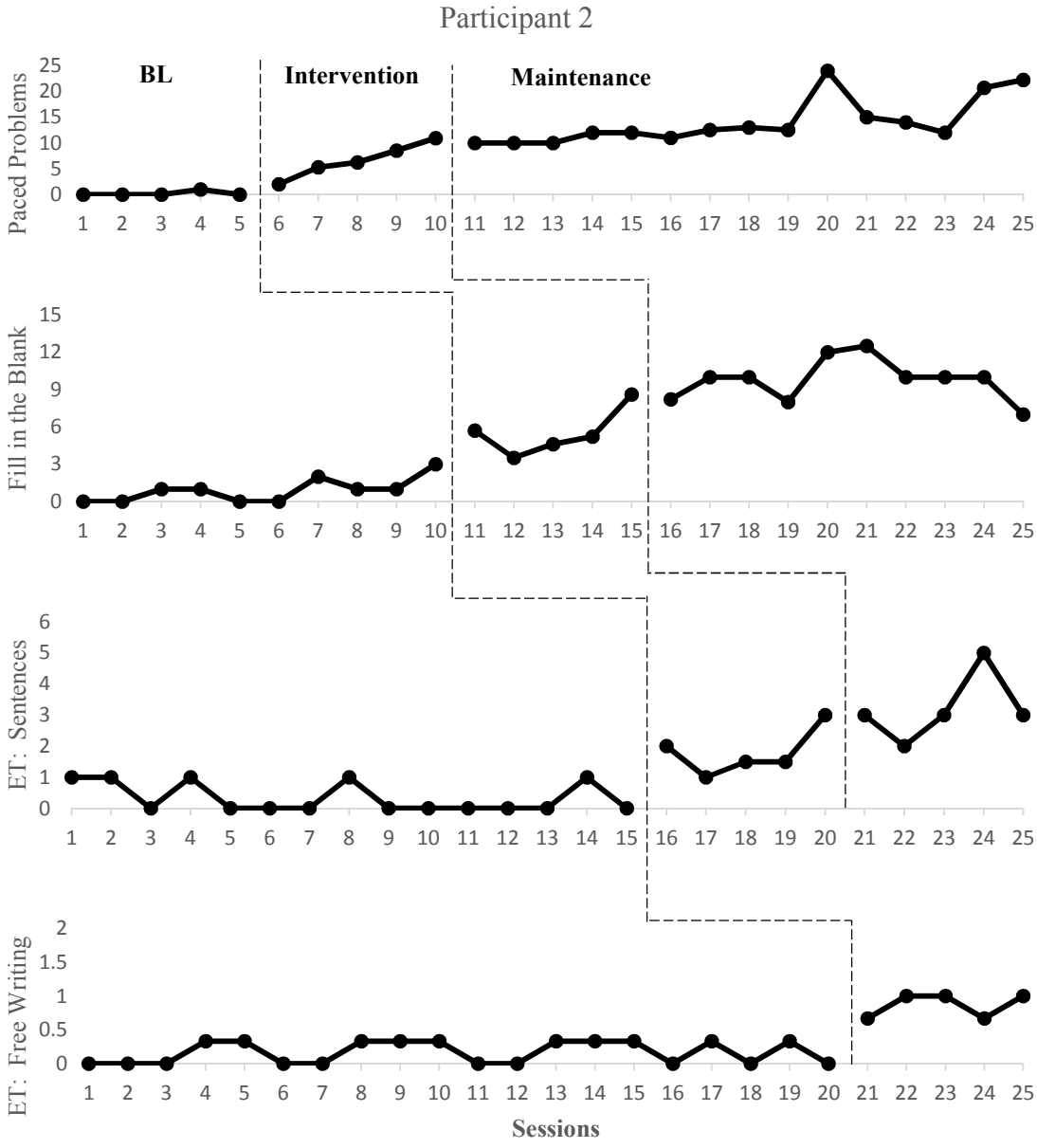

Figure 2. Correct responses per minute across intervention tasks

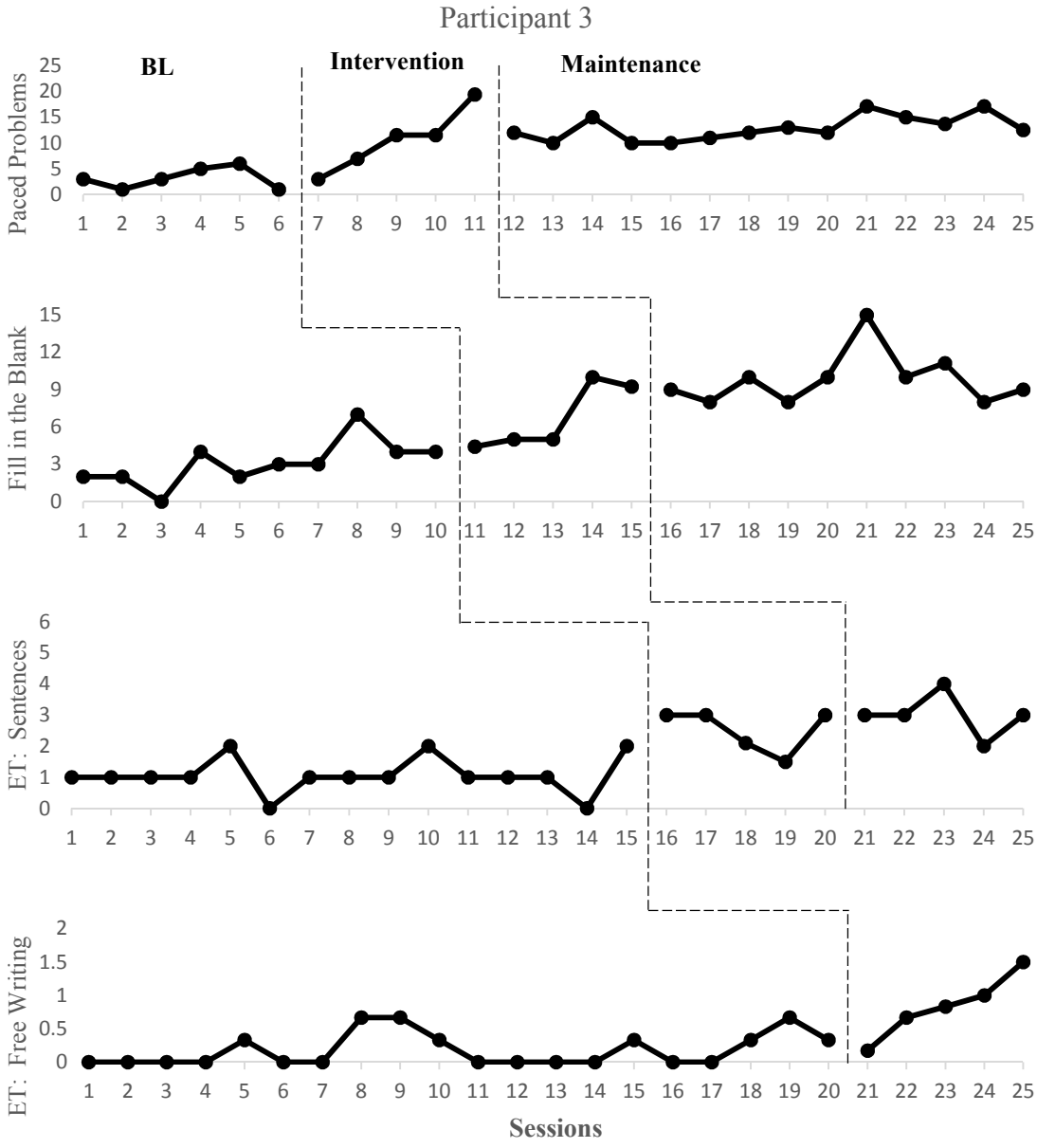

Figure 3. Correct responses per minute across intervention task

CHAPTER V

DISCUSSION

The goal of this study is to determine if an instructional package or intervention using principles of direct instruction will increase participants' use of adjectives. Specifically, the objective was to determine if the four tasks of intervention (paced problems, fill in the blank, explicit timing with sentences, and explicit timing with free writing) would increase participants' rate of correct responding and rate of adjective use. Common principals of direct instruction include modeling, cueing, providing feedback, frequent assessment, task analysis, and prerequisite skills mastery. A current need exists for intervention to address written expression difficulties in students, and interventions for addressing specific parts of speech is lacking in the literature base. Providing students with academic interventions that are designed using principles of direct instruction were used during the course of this study. During the course of the study participants were asked to identify an adjective in a written sentence, create an adjective when provided with a blank space in a sentence, generate sentences when provided with a list of words containing an adjective, and to increase their adjective use through an instructional procedure. Participants were assessed during each session through the use of assessment probes and WE-CBM probes. Participants were able to increase their rate of correct responding and increased their overall rate of adjective use due to the direction instruction principals being embedded within the intervention. The specific direct

instruction principals used were modeling, cueing, prompting, performance feedback, and scripted instruction. Although results indicate that the intervention was able to increase participants rate of correct responding and rate of adjective use, further replication studies are needed. This study broadened the literature based regarding written expression interventions specifically targeting parts of speech, and possibly has the potential for similar interventions to be developed to target other parts of speech including nouns, verbs, adverbs, prepositions, and conjunctions. Although future research is needed. It also provided students in the rural Midwest access to written expression intervention, and teachers access to common curriculum based measures that can be used for screening students to determine academic need in a particular subject.

Results of the study demonstrated that the intervention was effective at increasing participants' rate of correct responding when presented with adjective identification, creation, generation, and generalization tasks. After visual analysis, analysis of means during phases, the use of percent of non-overlapping data in comparison of intervention to baseline, and all three participants showed increases in rate of correct responding across the four intervention tasks and these increases were maintained throughout the course of the study. Questions addressed by this study were: (a) to what extent will the paced problems task (participants are asked to circle the adjective in each sentence) increase participants' rate of correct responding, (b) to what extent will the fill in the blank task (participants are asked to write an adjective in a blank space in a sentence) increase participants' rate of correct responding, (c) to what extent will the explicit timing

with sentences task (participants are asked to write a sentence containing an adjective when provided with a word bank) increase participants' rate of correct responding, and (d) to what extent will the explicit timing with free writing task (participants are asked to write a story given a prompt) increase participants' rate of adjective use? Results of the paced problems task across the three participants indicated that the task was effective at increasing participants' rate of correct responding when compared with baseline and the results were maintained after intervention was withdrawn. Results of the fill in the blank task across the three participants indicated that the task was effective at increasing participants' rate of correct responding when compared with baseline and the results were maintained after intervention was withdrawn. Results of the explicit timing with sentences task across the three participants indicated that the task was effective at increasing participants' rate of correct responding when compared with baseline and the results were maintained after intervention was withdrawn. Results of the explicit timing with free writing task across the three participants indicated that the task was effective at increasing participants' rate of adjective use when compared with baseline. The effectiveness of the four intervention tasks was due to the specific direct instruction principals of modeling, cueing, prompting, performance feedback, and scripted instruction being used throughout the intervention tasks.

CHAPTER VI

LIMITATIONS AND FUTURE RESEARCH

The first limitation of the study is that intervention sessions during the paced problems, fill in the blank, explicit timing with sentences, and explicit timing with free writing tasks were not conducted sequentially and varied by week. This was due to time limitations, other activities that prevented the researcher from working with the participants each day, participant absences, and COVID-19 closures. It is possible that the four task of the intervention could have shown greater effectiveness if all intervention sessions were conducted sequentially, although future research is needed. The second limitation is that only three participants were used in the study, which limits the generalizability of the results. The third limitation is that due to the COVID-19 pandemic roughly two months of in person instruction was lost in the spring of 2020. The fourth limitation is that the curriculum used across the three participants were not consistent for reading or written expression, although this may be debatable due to all participants having an increased rate of correct responding across the four tasks of the intervention when compared with baseline. The fifth limitation is that interscorer agreement data was not collected for the assessment probes or WE-CBM probes, which could indicate potential reliability difficulties with the dependent variables used in the study. Interscorer agreement data was not collected for the assessment probes or WE-CBM probes due to both time and logistical issues.

Although the four tasks of the intervention were successful, future research is needed to determine if the results are generalizable to other students who come from different geographical locations, are in urban versus rural population centers, are of different socioeconomic status, and are of different racial or ethnic identities. Future research should also determine if the results of the present study are generalizable to students with learning disabilities in the areas of reading or written expression. Future research should also determine if this study could be delivered in a virtual format. Future research should also determine if this study could be conducted by teachers or parents. Another area for future research is if the instructional procedures used in the current study could be applied to other parts of speech or other aspects of written instruction.

The current study did have several limitations, additional research is needed to provide replication, generalization to other students, generalization to other intervention providers, and generalization to other aspects of written expression. Although the limitations of the study are present, this does not diminish the effectiveness of direct instruction principals, and provides further evidence of their effectiveness in the area of written expression.

CHAPTER VII

CONCLUSION

Results of the study demonstrated that the intervention was effective at increasing participants' rate of correct responding when presented with adjective identification, creation, generation, and generalization tasks. Results also demonstrate that the participants' increases in correct responding were maintained throughout the course of the study.

Evidence in the form of treatment integrity data, suggests that the study was internally valid. Also the three participants all demonstrated increases in rate of correct responding and rate of adjective use once intervention was implemented. External validity is limited due to the small sample, but the results did generalize among the three participants. Results also demonstrated that the effectiveness of the intervention were due to the use of direct instruction principals that were embedded within the four tasks of the intervention.

Based on the limitations of the study, future research should be directed towards replication across more culturally diverse students, generalization among intervention providers, and generalization amongst other skills of written expression. A potential study could implement the intervention in an urban elementary school. Another potential study could take the specific direct instruction principals used to increase other parts of speech including adverbs. Even though the intervention was implemented by a single

researcher, it is possible the intervention could be used by both parents and classroom teachers. The intervention is effective, is relatively brief in duration, is specifically designed to target adjective use, and has the potential of creating more descriptive writing amongst students.

REFERENCES

Becker, W. (1978). The National Evaluation of Follow Through: Behavior-Theory-Based Programs Come out on Top. *Education and Urban Society, 10*(4), 431-458.

Center for Writing Studies. (2013). Grammar Handbook. Retrieved from http://www.cws.illinois.edu/workshop/writers/#partsofspeech

Costa, Lara-Jeane C., Hooper, S. R., McBee, M., Anderson, K. L., & Yerby, D. C. (2012). The use of curriculum-based measures in young at-risk writers: Measuring change over time and potential moderators of change. *Exceptionality, 20*(4), 199-217.

Cutler, L., & Graham, S. (2008). Primary Grade Writing Instruction: A National Survey. *Journal of Educational Psychology, 100*(4), 907-919.

Datchuk, S. (2015). Teaching handwriting to elementary students with learning disabilities: A problem-solving approach. *TEACHING Exceptional Children, 48*(1), 19-27. doi: 10.1177/0040059915594782

Datchuk, S., & Kubina, R. (2013). A review of teaching sentence-level writing skills to students with writing difficulties and learning disabilities. *Remedial and Special Education*, *34*(3), 180-192. doi: 10.1177/0741932512448254

Datchuk, S. M., Kubina, R. M., & Mason, L. H. (2015). Effects of sentence instruction and frequency building to a performance criterion on elementary-aged students with behavioral concerns and EBD. *Exceptionality*, *23*(1), 34-53. doi: 10.1080/09362835.2014.986604

Datchuk, S. M., Rodgers, D. B. (2018). Text Writing within Simple Sentences: A Writing Fluency Intervention for Students with High-Incidence Disabilities. *Learning Disabilities Research & Practice*, *Advance online publication*. DOI: 10.1111/ldrp.12185.

Eddy, R. M., Galport, N., & Koletar, C. (2020). Houghton Mifflin Harcourt Into Reading implementation study report. Cobblestone Applied Research & Evaluation, Inc.

Engelmann, S. (1980). *Direct instruction* (Instructional design library ; v. 22). Englewood Cliffs, N.J.: Educational Technology Publications.

Engelmann, S. (1968). "The Effectiveness of direct instruction on IQ performance and achievement in reading and arithmetic," pp.339-361 in J. Hellmuth (ed.) Disadvantage Child (Vol. 3). New York: Brunner/Mazel.

Engelmann, S., & Carnine, D. (1982). *Theory of instruction*. New York: Irvington.

Furey, W. M., Marcotte, A. M., Hintze, J. M., & Shackett, C. M. (2016). Concurrent validity and classification accuracy of curriculum-based measurement for written expression. *School Psychology Quarterly*, *31*(3), 369-382. doi: 10.1037/spq0000138

Gansle, K., Noell, G., Vanderheyden, A., Slider, N., Hoffpauir, L., Whitmarsh, E., & Naquin, G. (2004). An examination of the criterion validity and sensitivity to brief intervention of alternate curriculum□based measures of writing skill. *Psychology in the Schools*, *41*(3), 291-300. DOI: 10.1002/pits.10166

Haring, N. (1978). *The fourth R : Research in the classroom* (The Merrill series on Systematic instruction in special education). Columbus, Ohio: C. E. Merrill.

Hier, B. O., & Eckert, T. L. (2014). Evaluating elementary-aged students' abilities to generalize and maintain fluency gains of a performance feedback writing intervention. *School Psychology Quarterly, 29*(4), 488-502. doi: 10.1037/spq0000040

Hough, T. M., Hixson, M. D., Decker, D., & Bradley-Johnson, S. (2012). The Effectiveness of an explicit instruction writing program for second graders. *Journal of Behavioral Education, 21*(2), 163-174. DOI: 10.1007/s10864-012-9146-0

Hooper, S., Costa, R., McBee, L., Anderson, C., Yerby, M., Childress, K., & Knuth, L. (2013). A written language intervention for at-risk second grade students: A randomized controlled trial of the process assessment of the learner lesson plans in a tier 2 response-to-intervention (RtI) model. *Annals of Dyslexia*, *63*(1), 44-64. doi: 10.1007/s11881-011-0056-y

Keller-Margulis, M. A., Mercer, S. H., & Thomas, E. L. (2016). Generalizability theory reliability of written expression curriculum-based measurement in universal screening. *School Psychology Quarterly, 31*(3), 383-392. DOI: 10.1037/spq0000126

Kinder, D., & Carnine, D. (1991). Direct instruction: What it is and what it is becoming. *Journal of Behavioral Education, 1*(2), 193-213.

Konrad, M., Clark, K. A., & Test, D. W. (2017). Effects of GO 4 IT . . . NOW! strategy instruction on expository writing skills for students with disabilities. *Career Development and Transition for Exceptional Individuals*, *40*(1), 45-55. doi: 10.1177/2165143416680884

Marchand-Martella, N., Slocum, T., & Martella, R. (2004). *Introduction to direct instruction*. Boston: Pearson.

Martens, B. K., & Eckert, T. L. (2007). The instructional hierarchy as a model of stimulus control over student and teacher behavior: We're close but are we close enough?. *Journal of Behavioral Education*, *16*(1), 83-91. doi:10.1007/s10864-006-9026-6

McCurdy, M., Skinner, C., Watson, S., & Shriver, M. (2008). Examining the Effects of a Comprehensive Writing Program on the Writing Performance of Middle School Students With Learning Disabilities in Written Expression. *School Psychology Quarterly, 23*(4), 571-586.

McMaster, K. L., Du, X., Yeo, S., Deno, S. L., Parker, D., & Ellis, T. (2011). Curriculum-based measures of beginning writing: Technical features of the slope. *Exceptional Children, 77*(2), 185-206.

Mcmullen, F., & Madelaine, A. (2014). Why is there so much resistance to Direct Instruction? *Australian Journal of Learning Difficulties, 19*(2), 137-151.

Meyer, L. (1984). Long-Term Academic Effects of the Direct Instruction Project Follow Through. *The Elementary School Journal, 84*(4), 380-394.

National Center for Education Statistics (2012). The Nation's Report Card: Writing 2011. Retrieved from https://nces.ed.gov/nationsreportcard/pubs/main2011/2012470.asp

National Institute for Direct Instruction (2015). *DI vs. di: The Term "Direct Instruction.* Retrieved from https://www.nifdi.org/what-is-di/di-vs-di

Pearson. (2011). *AIMSweb default cut scores explained*. Bloomington, MN: NCS Pearson, Inc.

Pearson. (2012). *Reading curriculum-based measurement administration and scoring guide*. Bloomington, MN: NCS Pearson, Inc.

Persky, H. R., Daane, M. C., & Jin, Y. (2003). *The nation's report card: Writing 2002*. (NCES 2003–529). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics.

Powell-Smith, K.A., & Shinn, M.R. (2004). *Administration and scoring of written expression curriculum-based measurement (WE-CBM) for use in general outcome measurement.* Bloomington, MN: NCS Pearson, Inc.

Rogers, L. A., & Graham, S. (2008). A meta-analysis of single subject design writing intervention research. *Journal of Educational Psychology*, *100*(4), 879-906.

Saddler, B., & Graham, S. (2005). The effects of peer-assisted sentence-combining instruction on the writing performance of more and less skilled young writers. *Journal of Educational Psychology, 97*, 43–54. doi:10.1037/0022-0663.97.1.43

Shopen, T. (2007). *Language typology and syntactic description* (2nd ed.). Cambridge, UK ; New York: Cambridge University Press.

Stockard, J., Wood, T., Coughlin, C., & Rasplica Khoury, C. (2018). The Effectiveness of Direct Instruction Curricula: A Meta-Analysis of a Half Century of Research. *Review of Educational Research, 88*(4), 479-507.

The Neglected "R." (2003). *Peer Review*, *6*(1), 24–27. Retrieved from https://search-ebscohost-com.argo.library.okstate.edu/login.aspx?direct=true&db=aph&AN=11795268&site=ehost-live

Troia, G. (2007). Introduction: research on writing—knowledge development, effective interventions, and assessment. *Reading & Writing Quarterly, 23*(3), 203-205. doi: 10.1080/10573560701277518

Viel□Ruma, K., Houchins, D., Jolivette, K., Fredrick, L., & Gama, R. (2010). Direct instruction in written expression: The effects on English speakers and English language learners with disabilities. *Learning Disabilities Research & Practice, 25*(2), 97-108.

APPENDICES

Appendix A

Teacher Questionnaire

Directions: Please answer the following questions about your student.

Name:

Age:

Grade:

Race:

Sex:

Has your student been retained or held back a grade in school?

Is your student currently in special education?

Has your student ever been in special education?

Appendix B

Dad and Rob went fishing. 5
"We will catch fish to eat for lunch," said Dad. 15
They loaded their fishing things into the boat: poles, bait, 25
life jackets, and a net. 30
"Let's catch a fish!" said Rob. 36
Dad made the boat go fast over the water. Rob liked 47
feeling the wind in his hair. He liked feeling the cold water 59
splash his face. 62
Soon they arrived at Dad's secret fishing spot. Dad took a 73
minnow to put it on the hook. 80
"The big fish will try to eat this little fish. Then we will catch 94
him," Dad told Rob. 98
Rob said, "What! We will let a big fish eat this little fish?" 111
Rob looked at Dad with sad eyes. 118
He took the minnow from Dad. He held the little minnow in 130
his hands. 132
"Dad, this little minnow has a family in our bait bucket! He 144
has a mom who will miss him! He has a dad who will be mad 159
at you for taking his baby! All the brother and sister fish will 172
cry!" said Rob. 175
Dad shook his head. He started the motor and steered the 186
boat toward home. Rob smiled. He was happy now because 196
he had saved the little minnow. 202
Dad frowned and said, "I guess we will just have to eat hot 215
dogs for lunch." 218

Dad and Rob
Grade 2, Passage 1

Peg watched her mom get ready for work. 8

"Mom, you have an important bag. You have important 17
papers and important cards. I want important things too," said 27
Peg. 28

Mom smiled and said, "My bag holds everything I need to do 40
my job. My papers tell me what I need to know to do my job. 55
My cards help me get things I need for my job." 66

All afternoon at daycare Peg pretended that she was at 76
work. She put on a blue dress. She carried a suitcase. 87

Mom returned from work. 91

"Peg, now we can get important things for you," said Mom. 102

Together they drove downtown. They stopped at a huge 111
brick building. The building looked very important. 118

"The library is where you will find important things," said 128
Mom. 129

Peg walked with Mom into the library. There were so many 140
books! There were magazines, computers, and even an area 149
for children. Peg chose some picture books about animals. 158

Peg and Mom stood in line to check out their books. 169
Soon they met the library worker. 175

He said, "Here is your library card and a library book bag. 187
Here is the paper that tells you when to return the books." 199

Peg walked out of the library proudly. Now she had an 210
important bag, important papers, and an important card—just 219
like Mom. 221

Meg, Anna, and Kate were best friends. They always ate lunch together, and they always played at recess. They always called each other on the phone.

One day Anna came to school with very sad news. She was moving far, far away.

Kate and Meg felt very bad. The three girls had been friends forever. They had gone to the same church, daycare, and preschool.

Anna told her friends that her dad had a new job. He said it was a step up in the company he worked for. Anna didn't care about all of that. She only knew that she was going to a new town. She wouldn't know anyone. She was scared, but no one seemed to care what Anna thought. At least no one except Meg and Kate.

The girls had only three weeks to prepare for Anna's move. They spent every free minute with each other. The girls made plans to be friends forever. They traded addresses and agreed to write every week.

The girls cried the morning Anna left. As she pulled out of her driveway, she saw tears running down their faces.

Meg and Kate were sad, but they knew they still had each other. They decided to send a letter to Anna that very day. They knew she would smile when she received the first piece of mail at her new house.

Alphabet Writing Fluency Assessment

Directions: **I want you to write the alphabet as many times as you can. You will have 1 minute. Any questions? Ready, begin.** Start timing**.** If the student(s) pauses say, **keep writing the alphabet as many times as you can.** After one minute say**, stop, please put your pencil(s) down.**

Student Worksheet

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Scoring

Number of Correct Letters:

Accuracy (number of correct letters/total number of correct and incorrect letters):

Probe 4

Student Name:_____ Classroom:_____ Date:_____

Maybe animals aren't supposed to talk, but ...

Total Words: ____ Correctly Spelled Words: ____ Correct Writing Sequence: ___

Student	*MWRCPM*	*PR*	*NCL*	*TWW*	*PR*	*CWS*	*PR*
Participant 1	51	25th – 50th	54	12	25th – 50th	9	50th
Participant 2	70	50th – 75th	46	17	50th – 75th	11	50th – 75th
Participant 3	77	50th – 75th	64	25	75th – 90th	8	50th – 75th

Note. MWRCPM = Median Words Read Correct Per Minute, PR = Percentile Rank, NCL = Number of Correct Letters, TWW = Total Words Written, and CWS = Correct Writing Sequences.

Appendix C

Paced Problems and Identification Assessment Probe: Examiner Directions

Directions: Read the following sentences out loud. **I want you to read each sentence and circle the adjective in each one. You will have one minute. Are there any questions? Begin.** After one minute say, **"stop put your pencils down."** Collect probe

Directions: Circle the adjective in each sentence

1. She made a funny face.
2. I don't like the sour candy.
3. Five people live in my house.
4. We learned a funny dance today.
5. The young child frowned.
6. He tried to use the broken computer
7. There are three shovels in the garage.
8. They picked out the red jellybeans.
9. She made a white cake.
10. The man spoke in a loud voice.

Answer Key

1. She made a **funny** face.
2. I don't like the **sour** candy.
3. **Five** people live in my house.
4. We learned a **funny** dance today.
5. The **young** child frowned.
6. He tried to use the **broken** computer
7. There are **three** shovels in the garage.
8. They picked out the **red** jellybeans.
9. She made a **white** cake.
10. The man spoke in a **loud** voice.

Number of Correct Responses:

Time of Completion (Minutes):

Percent of Correct Responses:

Rate (Number Correct / Number of Minutes):

Fill in the Blank Assessment Probe: Examiner Directions

Directions: Read the following sentences out loud. **I want you to read each sentence and write an adjective in each blank. You will have one minute. Are there any questions? Begin.** After one minute say, **"stop put your pencils down."** Collect probe

Directions: Write an adjective in each blank below

1. There are _____ roads on the way to school.
2. This candy tastes _____.
3. My friend has a _____ house.
4. There is a _____ playground at the park.
5. The box has _____ pencils.
6. My mom drives a _____ car.
7. The juice on the floor is _____.
8. The _____ horse is in the pasture.
9. The _____ cup is on the table.
10. The _____ kite is flying through the air.

Answer Key

Directions: Score each correct if there is an adjective in the blank.

Number of Correct Responses:

Time of Completion (Minutes):

Percent of Correct Responses:

Rate (Number Correct / Number of Minutes):

Explicit Timing Assessment Probe: Examiner Directions

Directions: Read the following sentences out loud. **I want you to write a complete sentence for each problem using all the words given. You may add words to your sentences. You will have one minute. Are there any questions? Begin.** After one minute say, **"stop put your pencils down."** Collect probe

Name: _____ Date: _____

Directions: Write a complete sentence for each problem using all the words given. **1**

1 the waitress carried hot

_____
_____
_____

2 my aunt diaper smelly

_____
_____
_____

3 Roger van fast

_____
_____
_____

4 Susan dried brown

_____
_____
_____

5 Melinda cake sweet

_____
_____
_____

Name: _____ Date: _____

1

6 Rachel wood table

_____
_____
_____

7 Laura smashed round bug

_____
_____
_____

8 Ms. Fields got big

_____
_____
_____

9 Pete watched fast truck

_____
_____
_____

10 Vince sandbox square

_____
_____
_____

Answer Key

Directions: Score each correct if there is an adjective in the sentence and all words in the group were used.

Time of Completion (Minutes):

Percent of Correct Responses:

Rate (Number Correct / Number of Minutes):

Appendix D

Paced Problems: Adjectives

Directions: **Hello everyone, today we are going to be talking about adjectives. Adjectives are words that describe nouns or pronouns. Adjectives can answer three questions: What kind? Which one? How many? They are also usually before the noun that they describe.**

Let's try one together. Read sentence below aloud**.**

He jumped into the freezing lake.

What kind? Freezing lake. The adjective in the sentence is freezing, circle freezing.

Let's try another one. Read sentence below aloud.

The orange tiger was sleeping in a tree.

Which tiger? Orange tiger. The adjective in the sentence is orange, circle orange.

Let's try another one. Read sentence below aloud.

I read twenty pages in this book.

How many? The adjective in the sentence is twenty, circle twenty.

Let's try this one. Read sentence below aloud.

I sat by the peach tree yesterday morning.

What kind? Peach tree. The adjective in the sentence is peach, circle peach.

Let's try this one. Read sentence below aloud.

The gray monkey raced up the tree.

Which monkey? Gray monkey. The adjective in the sentence is gray, circle gray.

Let's try this one. Read sentence below aloud.

I saw fifty ants on the ground by the table.

How many? The adjective in the sentence is fifty circle fifty.

Now I want you to do some more examples. If the student is unable, or does not provide the correct response for each problem within 5 seconds, tell them the correct answer and ask them to circle it.

Student Worksheet

Example 1: He jumped into the freezing lake.

Example 2: The orange tiger was sleeping in a tree.

Example 3: I read twenty pages in this book.

Example 4: I sat by the peach tree yesterday morning.

Example 5: The gray monkey raced up the tree.

Example 6: I saw fifty ants on the ground by the table.

Student Worksheet

Directions: Circle the adjective in each sentence

1. I used three eggs to make the brownies.
2. I stepped across the soft carpet.
3. He is holding a crying baby.
4. They carried the red bucket.
5. The smart boy answered the teacher's question.
6. The loud airplane took off.
7. I saw a green grasshopper.
8. She collected eight seashells.
9. The shiny teaspoon is in the drawer.
10. The calm students raised their hands.

Student Worksheet Answer Key

1. I used **three** eggs to make the brownies.
2. I stepped across the **soft** carpet.
3. He is holding a **crying** baby.
4. They carried the **red** bucket.
5. The **smart** boy answered the teacher's question.
6. The **loud** airplane took off.
7. I saw a **green** grasshopper.
8. She collected **eight** seashells.
9. The **shiny** teaspoon is in the drawer.
10. The **calm** students raised their hands.

Adjective Identification: What kind? Which one? How many?

Directions: **Hello everyone, today we are going to be talking about adjectives. Adjectives are words that describe nouns or pronouns. Adjectives can answer three questions: What kind? Which one? How many? They are also usually before the noun that they describe.**

Let's try one together. Read sentence below aloud**.**

They ate the sweet snack.

What kind? Sweet snack. The adjective in the sentence is sweet, circle sweet.

Let's try another one. Read sentence below aloud.

The red bird chirped by the window.

Which bird? Red bird. The adjective in the sentence is red, circle red.

Let's try another one. Read sentence below aloud.

They brought twelve cupcakes to the party.

How many? The adjective in the sentence is twelve, circle twelve.

Let's try another one. Read sentence below aloud.

She sat on the wooden table at lunch today.

What kind? Wooden table. The adjective in the sentence is wooden, circle wooden.

Let's try another one. Read sentence below aloud.

The blue ambulance raced by us on the way home.

Which ambulance? Blue ambulance. The adjective in the sentence is blue, circle blue.

Let's try one more. Read sentence below aloud.

I watched eleven geese flying in formation.

How many? The adjective in the sentence is eleven, circle eleven.

Now I want you to do some examples by yourself.

Student Worksheet

Example 1: They ate the sweet snack.

Example 2: The red bird chirped by the window.

Example 3: They brought twelve cupcakes to the party.

Example 4: She sat on the wooden table at lunch today.

Example 5: The blue ambulance raced by us on the way home.

Example 6: I watched eleven geese flying in formation.

Student Worksheet

Directions: Circle the adjective in each sentence

1. They are reading a thick book.
2. The curved moon is in the sky.
3. The zebra has twenty stripes.
4. Seven fish are in the fish tank.
5. He looked at the bright garden.
6. The firemen rushed to the blazing fire.
7. The evil villain revealed their plan.
8. The zoo has three giraffes.
9. The boy slept on a soft pillow.
10. The purple coat is on the coat rack.

Student Worksheet Answer Key

1. They are reading a **thick** book.
2. The **curved** moon is in the sky.
3. The zebra has **twenty** stripes.
4. **Seven** fish are in the fish tank.
5. He looked at the **bright** garden.
6. The firemen rushed to the **blazing** fire.
7. The **evil** villain revealed their plan.
8. The zoo has **three** giraffes.
9. The boy slept on a **soft** pillow.
10. The **purple** coat is on the coat rack.

Fill in the Blank

Directions: **Hello everyone, today we are going to be talking about adjectives. Adjectives are words that describe nouns or pronouns. Adjectives can answer three questions: What kind? Which one? How many? They are also usually before the noun that they describe. There can be more than one adjective that can be used in each blank.**

Let's try one together. Read the sentence below aloud**.**

I watched a _____ movie yesterday.

What kind of movie? Great movie. Write great in the blank.

You could also write scary, bad, or long in the blank.

Let's try another one. Read sentence below aloud.

The _____ duck waddled down the road.

Which duck? Blue duck. Write blue in the blank.

You could also write big, small, or grey in the blank

Let's try another one. Read sentence below aloud.

_____ chickens flew out of the coup last night.

How many chickens? Seven chickens. Write seven in the blank below.

You could also write one, eight, or a thousand in the blank.

Let's try another one. Read sentence below aloud.

The _____ slug crawled by me on the bench.

What kind? Slimy. Write slimy in the blank.

You could also write gross, disgusting, or repulsive in the blank.

Let's try another one. Read sentence below aloud.

The _____ sign fell down by the car.

Which sign? Metal sign. Write metal in the blank.

You could also write large, heavy, or wooden in the blank.

Let's try one more. Read sentence below aloud.

He shopped at _____grocery stores for vegetables.

How many grocery stores? Four grocery stores. Write four in the blank below.

You could also write fifteen, one, or twenty seven in the blank.

Now I want you to read each adjective in the table below for one minute. Start a timer for one minute.

Now I want you to do some examples by yourself.

Student Worksheet

Example 1: I watched a _____ movie yesterday.

Example 2: The _____ duck waddled down the road.

Example 3: _____ chickens flew out of the coup last night.

Example 4: The _____ slug crawled by me on the bench.

Example 5: The _____ sign fell down by the car.

Example 6: He shopped at _____grocery stores for vegetables.

Directions: Review the following list of adjectives below. You will have 1 minute to do so.

green	warm
bad	right
best	small
better	yellow
big	wooden
black	strong
seven	false
clear	true
clean	white
cold	whole
early	young
easy	under
hot	little
metal	ten
free	long
full	low
good	six
great	sad
hard	happy
high	new
five	old
square	only
large	other
late	boring
little	gray
ten	nine
long	real

Student Worksheet

Directions: Write an adjective in each blank below

1. The man was wearing a _____ shirt.
2. The _____ picnic bench was comfortable to sit on.
3. The _____ beam was very heavy.
4. The boy brought his _____ bike to school on Monday.
5. The women were wearing _____ shirts.
6. The bus is _____ today.
7. This pen is _____.
8. I have _____ M&M's.
9. The dog in the park was _____.
10. It is a _____ day, so I will wear a jacket.

Student Worksheet Answer Key

1. The man was wearing a silk shirt.
2. The wooden picnic bench was comfortable to sit on.
3. The metal beam was very heavy.
4. The boy brought his plastic black bike to school on Monday.
5. The women were wearing cotton shirts.
6. The bus is slow today.
7. This pen is blue.
8. I have four M&M's.
9. The dog in the park was soft.
10. It is a cold day, so I will wear a jacket.

Explicit Timing with Sentences (Adjectives)

Directions: **Hello everyone, today we are going to be talking about adjectives. Adjectives are words that describe nouns or pronouns. Adjectives can answer three questions: What kind? Which one? How many? They are also usually before the noun that they describe.**

Let's try one together. Read the words below aloud**.**

The brave men fighting

We are going to create a sentence using the words the brave men fighting. A sentence that uses the words the brave men fighting is The brave men were fighting against the monsters. Copy the sentence on your worksheet under example 1.

Let's try another one. Read the words below aloud.

The blue sky week

We are going to create a sentence using the words the blue sky week. A sentence that uses the words the blue sky week is The sky was blue every day last week. Copy the sentence on your worksheet under example 2.

Now I want you to do some examples by yourself. Any Questions?

Student Worksheet

Example 1

_____

_____

_____

Example 2

_____

_____

_____

Name: _____ Date: _____

Directions: Write a complete sentence for each problem using all the words given. **1**

1 Wanda pan hot

2 little girl cookies

3 Dan fish slimy

4 beautiful bird singing

5 Jill cold ice cream

Name: _____ Date: _____

1

6 Brandon dug large

_____
_____
_____

7 Nick finger little

_____
_____
_____

8 the cowboy gun loud

_____
_____
_____

9 the cat food cold

_____
_____
_____

10 the black bear stood

Explicit Timing with Free Writing (Adjectives)

Directions: **Hello everyone, today you are going to write a story.** Pass out WE-CBM probe. **You will have one minute to think about your story and six minutes to write it. Any question? For the next minute, think about (insert story starter).** Start timer for 1 minute. After 1 minute has passed say, **"Stop." Now I want you to write your story, begin.** Start timer for six minutes. After six minutes have passed say**, "Stop." I want you to put a square around each noun in your story then I want you to put a circle around each adjective in your story. Count the number of adjectives and nouns that you have, if they aren't the same, or each noun does not have an adjective then fix it.**

Appendix E

R-CBM Integrity Checklist

Directions: Check yes, no, or NA under each step during observation. Calculate treatment integrity by dividing correct steps completed by total steps and then multiple by 100.

1. Did the examiner say the following word for word? When I say "Begin," start reading aloud at the top of this page. Read across the page (demonstrate by pointing across page). Try to read each word. If you come to a word you don't know, I'll tell it to you. Be sure to do your best reading. Are there any questions? Begin ____ Yes ____ No
2. Did the examiner start timing when the student says the first word? ____ Yes ____ No
3. If the student does not say a word after 3 seconds, say the first word. Mark the word that you provided as incorrect. When the student says the next word, start timing. ____ Yes ____ No ____ NA
4. As the student reads, mark any errors (words read incorrectly, skipped, or out of order) By Drawing a slash (/) through the incorrect word. Record any insertions by writing them above the line of text where the insertion was made. If the student self-corrects within 3 seconds, mark the self-correction with "SC." ____ Yes ____ No ____ NA

5. If a student stops or struggles with a word for 3 seconds, give the student the word, mark it as incorrect, and move on. ____ Yes ____ No ____ NA
6. At the end of 1 minute, place a bracket ( ]) after the last word the student attempted. Let the student finish reading the sentence and then say; Stop. ____ Yes ____ No
7. When I say "Begin," start reading aloud at the top of this page. ____ Yes ____ No
8. Did the examiner start timing when the student says the first word? ____ Yes ____ No
9. If the student does not say a word after 3 seconds, say the first word. Mark the word that you provided as incorrect. When the student says the next word, start timing. ____ Yes ____ No ____ NA
10. As the student reads, mark any errors (words read incorrectly, skipped, or out of order) By Drawing a slash (/) through the incorrect word. Record any insertions by writing them above the line of text where the insertion was made. If the student self-corrects within 3 seconds, mark the self-correction with "SC." ____ Yes ____ No ____ NA
11. If a student stops or struggles with a word for 3 seconds, give the student the word, mark it as incorrect, and move on. ____ Yes ____ No ____ NA

12. At the end of 1 minute, place a bracket ( ]) after the last word the student attempted. Let the student finish reading the sentence and then say; Stop. ____ Yes ____ No
13. When I say "Begin," start reading aloud at the top of this page. ____ Yes ____ No
14. Did the examiner start timing when the student says the first word? ____ Yes ____ No
15. If the student does not say a word after 3 seconds, say the first word. Mark the word that you provided as incorrect. When the student says the next word, start timing. ____ Yes ____ No ____ NA
16. As the student reads, mark any errors (words read incorrectly, skipped, or out of order) By Drawing a slash (/) through the incorrect word. Record any insertions by writing them above the line of text where the insertion was made. If the student self-corrects within 3 seconds, mark the self-correction with "SC." ____ Yes ____ No ____ NA
17. If a student stops or struggles with a word for 3 seconds, give the student the word, mark it as incorrect, and move on. ____ Yes ____ No ____ NA
18. At the end of 1 minute, place a bracket ( ]) after the last word the student attempted. Let the student finish reading the sentence and then say; Stop. ____ Yes ____ No

Date: Name of Observer:

Number of steps correctly completed _____ ÷ total number of steps ____ = _____ % of steps completed correctly

Alphabet Writing Fluency Assessment Treatment Integrity Checklist

Directions: Check yes, no, or NA under each step during observation. Calculate treatment integrity by dividing correct steps completed by total steps and then multiple by 100.

1. Did the examiner say: I want you to write the alphabet as many times as you can. You will have 1 minute. Any questions? Ready, begin. ____ Yes ____ No
2. Did the examiner start a timer for 1 minute? ____ Yes ____ No
3. If a student(s) pauses during administration did the examiner say: keep writing the alphabet as many times as you can. ____ Yes ____ No ____ NA
4. After one minute did the examiner say: stop, please put your pencil(s) down. ____ Yes ____ No

Date: Name of Observer:

Number of steps correctly completed _____ ÷ total number of steps ____ = _____ % of steps completed correctly

WE-CBM Treatment Fidelity Checklist

Directions: Check yes, no, or NA under each step during observation. Calculate treatment integrity by dividing correct steps completed by total steps and then multiple by 100.

1. Did the examiner pass out the writing probes? ____ Yes ____ No
2. Did the examiner say, **You are going to write a story. First, I will read a sentence, and then you will write a story about what happens next. You will have 1 minute to think about what you will write, and 3 minutes to write your story. Remember to do your best writing. If you don't know how to spell a word, you should guess. Are there any questions? Remember to do your best work.** (Pause) **Put your pencils down and listen. For the next minute, think about** (insert story starter). ____ Yes ____ No
3. Did the examiner read the story starter verbatim? ____ Yes ____ No
4. Did the examiner start a stopwatch? ____ Yes ____ No
5. After 30 seconds say: **You should be thinking about** (insert story starter). ____ Yes ____ No
6. At the end of 1 minute did the examiner say, "Start writing?" ____ Yes ____ No
7. Did the examiner start a stopwatch? ____ Yes ____ No
8. After 90 seconds say: **You should be writing about** (insert story starter). ____ Yes ____ No

9. Did the examiner walk around the room during the 3 minute period? ____ Yes ____ No
10. During the 3 minute period, if a student stopped writing for about 10 seconds did the examiner say, “Keep writing?” ____ Yes ____ No ____ NA
11. After 3 minutes have passed did the examiner say, “Stop writing and put your pencil down?” ____ Yes ____ No
12. Did the examiner collect the probes? ____ Yes ____ No

Date: Name of Observer:

Number of steps correctly completed _____ ÷ total number of steps ____ = _____ % of steps completed correctly

Paced Problems, Identification, Fill in the Blank, and Explicit Timing Assessment

Treatment Integrity Checklist

Directions: Check yes or no under each step during observation. Calculate treatment integrity by dividing correct steps completed by total steps and then multiple by 100.

1. Did the interventionist pass out the worksheets? ____ Yes ____ No
2. Were the directions read verbatim? ____ Yes ____ No
3. Did the interventionist start a timer for one minute? ____ Yes ____ No
4. Did the interventionist collect the assessment probes after 1 minute? ____ Yes ____ No

Date: Name of Observer:

Number of steps correctly completed _____ ÷ total number of steps ____ = _____ % of steps completed correctly

Paced Problems, Identification, Fill in the Blank, and Explicit Timing with Sentences Intervention Probe Treatment Integrity Checklist

Directions: Check yes, no, or NA under each step during observation. Calculate treatment integrity by dividing correct steps completed by total steps and then multiple by 100.

1. Did the interventionist pass out the intervention probes? ____ Yes ____ No
2. Did the interventionist start a timer for 10 minutes? ____ Yes ____ No
3. Were the directions read verbatim? ____ Yes ____ No
4. Did the interventionist model each example verbatim? ____ Yes ____ No
5. Were the students directed to complete the examples on their paper? ____ Yes ____ No
6. Did the examiner direct the students to complete the additional problems? ____ Yes ____ No
7. During the paced problems task, did the interventionist provided the correct response and ask the student to circle it if they were unable or completed the problem incorrectly after 5 seconds for each problem? ____ Yes ____ No ____ NA
8. Did the interventionist end the intervention after 10 minutes? ____ Yes ____ No
9. Was feedback provided for incorrect responses, and was the student directed to fix any mistakes? ____ Yes ____ No

Date: Name of Observer:

Number of steps correctly completed _____ ÷ total number of steps ____ = _____ % of steps completed correctly

Explicit Timing with Free Writing Intervention Probe Treatment Integrity Checklist

Directions: Check yes, no, or NA under each step during observation. Calculate treatment integrity by dividing correct steps completed by total steps and then multiple by 100.

1. Did the interventionist pass out the WE-CBM probes? ____ Yes ____ No
2. Did the interventionist read the directions verbatim? ____ Yes ____ No
3. Did the interventionist start a timer for 1 minute? ____ Yes ____ No
4. Did the interventions read the directions verbatim? ____ Yes ____ No
5. Did the interventions start a timer for 6 minutes? ____ Yes ____ No
6. Did the interventionist read the directions verbatim? ____ Yes ____ No

Date: Name of Observer:

Number of steps correctly completed _____ ÷ total number of steps ____ = _____ % of steps completed correctly

VITA

Derrick Meyers

Candidate for the Degree of

Doctor of Philosophy

Thesis: USING A DIRECT INSTRUCTION INTERVENTION TO INCREASE ADJECTIVE USE AND GENERALIZATION

Major Field: School Psychology

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in School Psychology at Oklahoma State University, Stillwater, Oklahoma in July, 2021.

Completed the requirements for the Master of Arts in Psychology at the University of Central Oklahoma, Edmond, Oklahoma in 2015.

Completed the requirements for the Bachelor of Arts in Psychology at the University of Central Oklahoma, Edmond, Oklahoma in 2013.

Experience:

2020-Present-Compass Health Network, Psychology Intern
2018-2020-Oklahoma State University, OTISS External Coach
2017-2018-Oklahoma State University, Graduate Teaching Assistant
2016-2017-Putnam City Schools, School Psychologist
2015-2016-Edmond Public Schools, School Psychologist

Professional Memberships:
NASP