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Addressing Adolescents' Syntactic Complexity and Overall Writing Skills through an Online Writing Workshop: A Pilot Study with the Homeschool Population

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Addressing Adolescents' Syntactic Complexity and Overall Writing Skills through an Online Writing Workshop: A Pilot Study with the Homeschool Population

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THESIS ACCEPTANCE

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ABSTRACT

Writing development is an area of concern in adolescents across education platforms, including parents who homeschool their children. The current study evaluated the effect of providing an online writing workshop for adolescents who are homeschooled. The participants of the study were students who were homeschooled and their parent(s) who were recruited via social media. After receiving child assent and parental consent, nine adolescents (5 females; 4 males), ages ten to twelve years old, participated in a five-week online writing workshop. The workshop consisted of one pre-test week, three weeks of treatment, and one post-test week. At pre- and post-test, the participants were evaluated through modified use of the Test of Written Language-4th Edition (TOWLS-4) subtests, an expository writing sample, and the Writing Self-Efficacy Survey (adapted from Eggleston, 2017). During the treatment phase of the study, the clinicians implemented the Self-Regulated Strategy Development (Harris et al., 1996) approach to assist students in developing knowledge about writing, while promoting positive self-efficacy of themselves as writers. This approach consisted of six stages that aimed to gradually increase participants' independence in producing more syntactically complex sentences in their writing. To analyze the results of the study, t-test analyses were conducted to compare the means of the participants' pre- and post-test measures. In addition, the responses given from the self-efficacy survey were compared and ranked across each writing skill. The results indicated a significant difference from participants' pre- to post-test measures in the areas of sentence combining, vocabulary, logical sentences, and expository writing conventions. The findings demonstrated that the online writing

workshop improved adolescents' syntactic complexity, self-efficacy, independence, and overall writing abilities.

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CHAPTER I

Introduction

Purpose of the Study

Adequate writing skills have been noted as a concern for students across grade levels. According to the U.S. Department of Education, only 24% of eighth graders and 24% of twelfth graders reached proficient achievement levels within academic writing (National Center for Education Statistic, 2012). In a pilot study conducted in 2011, a six-point scale was developed to evaluate student's academic writing performance in the areas of idea development, organization of ideas, language facility, and conventions. The ratings included: (1) little to no skill, (2) marginal skill, (3) developing skill, (4) adequate skill, (5) competent skill, (6) effective skill. Two-thirds of fourth-graders received scores in the bottom half of the six-point scale indicating minimal skill in writing performance (U.S. Department of Education, 2012).

The need to provide support for academic writing has been recognized among all scopes of education, including homeschool education. For example, the author previously surveyed 139 parents nationwide to evaluate their concerns regarding the accessibility of speech, language, and hearing services to children who were homeschooled as well as their children's overall speech and language development. The results indicated that the majority of parents had concerns with their child's written language development (Hinrichs & Schneider-Cline, 2019). Therefore, the primary goal of the current study was to establish an additional service to families who homeschool related to written language to provide support and extend services to the population who homeschool.

Written language development is difficult to address as many components are required and interconnected to establish efficient writing skills. Written language is a modality of communication that evolves around all foundational language domains: phonology, morphology, syntax, semantics, and pragmatics (Nelson, 2014; Nelson et al., 2015). However, as writing development has gained more publicity through research, one area in particular, syntactic complexity, has continued to be supported as a primary indicator of writing success (McNamara et al., 2010). According to McNamara (2010), the most critical linguistic features for writing development consist of syntactic complexity, lexical diversity, and word frequency. These skills determine the continuous success and growth of writing development and overall communication throughout adolescence (McNamara et al., 2010). As research continues in this area, it is important that studies are dedicated to determining the most efficient practices to increase syntactic complexity and independence in written language development.

One approach that may be well suited to target both syntactic complexity and independence is the Self-Regulated Strategy Development (SRSD). This model strives to achieve three goals: (a) assisting students in developing knowledge about writing skills and strategies, (b) supporting students on their ongoing writing development, and (c) encouraging positive attitudes and self-efficacy about writing (Graham et al., 2005). According to Graham and Harris (2005), research has continued to support improved self-efficacy through SRSD, as the approach is individualized and tailored to each student's needs. Therefore, another goal of this study is to analyze the impact SRSD had on adolescents' self-efficacy and written language skills. In addition to providing this

service through the SRSD approach, the researcher hoped to improve participants' self-efficacy towards academic writing.

CHAPTER II

Review of Literature

Homeschool Education

A variety of education establishments exist; many researchers have focused on the comparison between forms of education. One platform that has recently seen additional publicity and popularity within the last decade is homeschool education. According to the U.S. National Home Education Research Institute (2018), the homeschool population drastically increased from the years 2019-2021 as an estimated increase of 2% to 8% was identified. This indicated the approximate enrollment in the United States for homeschool education ranging from four to five million students (National Home Education Research Institute, 2021). The Department of Education and National Center for Education (2018) conducted a survey to determine parent and family involvement in household education. From data collected in 1999, it was reported that 817,000 students were homeschooled at the time. However, this longitudinal survey analyzed the expansion of homeschool curriculum as 1,729,000 students completed their education through homeschool curriculum in 2016.

Homeschool education has become a widely-used form of education for a variety of reasons. Many parents turned to homeschool education due to beliefs regarding their child's safety, academic development, mental wellness, and spiritual affiliations. This form of education is used across diverse ethnicities and geographic areas (U.S. Department of Education, 2021). However, among the existing research regarding homeschool education, one area remains limited. While studies have documented the

impact local programs for art, library, and physical education have had on students who homeschool, no studies regarding speech, language, and hearing services for this population have been reported. Therefore, the author explored the possible speech, language, and hearing service options available to students who homeschool. A national survey was developed and distributed among organizations in correspondence with the National Home Education Research Institute (NHERI). This survey discovered the awareness and availability of resources accessible to families who homeschool (Hinrichs & Schneider-Cline, 2019).

According to Hinrichs and Schneider-Cline (2019), 59 of 139 parents reported they were unsure of the speech and language services and resources available to them and their child in their state as families who homeschool. Within this survey, parents were asked to rate each of their child's development in regards to writing, reading comprehension, reading decoding, language, and speech. The results indicated writing development was the parents' greatest concern. Parents' reported interest in receiving additional information regarding speech and language resources and services. The majority of parents (n = 20 out of 53; 86 participants did not answer) who answered this question reported interest in receiving additional information, specifically about writing development (n = 15 out of 53; Hinrichs & Schneider-Cline, 2019). Results from this previous study conducted by the researcher led to the creation of the current study, an online writing workshop for children who are homeschooled.

Writing Development

While some services (e.g., library, art, physical education) may be more accessible to families who homeschool, speech and language resources continue to be unknown. The current study focused on developing an online writing workshop for children ages ten to twelve years old. This study targeted children's syntactic complexity and overall writing skills. The need for this study was apparent, as, according to the U.S. Department of Education Report Card (2012), only 24% of eighth graders and 24% of twelfth graders achieved proficient level within academic writing (National Center for Education Statistic, 2012). In a pilot study conducted in 2011, a six-point scale was developed to evaluate student's academic writing performance in the areas of idea development, organization of ideas, language facility, and conventions. The ratings included: (1) little to no skill, (2) marginal skill, (3) developing skill, (4) adequate skill, (5) competent skill, (6) effective skill. Two-thirds of fourth graders received scores in the bottom half of the six-point scale indicating minimal skill in writing performance (U.S. Department of Education, 2012). These alarming statistics represent the attention needed towards students' written language development (U.S. Department of Education, 2003).

Written language continues to be an essential tool for individuals to communicate ideas, feelings, demonstrating comprehension, learning, and critical thinking (Graham et. al., 2010). Written language development is the form of communication that heavily relies on reading (comprehension) and writing (expression). Written language requires foundational language skills (Hooper, 2009). This includes the five language domains: phonology, morphology, syntax, semantics, and pragmatics (Nelson, 2014; Nelson et al.,

2015). Written language is targeted and processed through the frontal and parietal lobes of the brain. These regions of the brain also play a vital role in auditory processing skills, movement, reasoning, judgement, planning, and problem solving. All of these important components help process the information received by the brain, in order to modify and apply the information in the communicator's own words. The development of adequate written language skills helps guide and support the development of other communication skills as well, allowing young students to be effective and efficient communicators not only verbally but also through written language too (Leisman et al., 2016).

Many studies have shown the academic success that follows those who possess stronger writing abilities. For example, Pajares (2003) explored the relationship between writing and self-efficacy through a synthesis of research findings. Pajares examined the literature, as well as conducted his own studies to discover different ways to measure self-efficacy and the factors influencing self-efficacy. Pajares' findings suggested that students' self-efficacy in their writing capabilities influenced their writing motivation for creative writing, and their writing skills and motivation among all academic areas (Pajares, 2003). These findings were applicable as self-efficacy in adolescents' writing will motivate them to put their best effort in all academic areas instead of being discouraged. This is further supported by another study completed in Thailand, as researchers investigated the relationship among writing self-efficacy and writing performance (Hetthong et al, 2013). The researchers surveyed 51 third-year English Majors who completed a self-efficacy survey and a paragraph writing test. Their results indicated self-efficacy impacted writing performance (Chen, 2007; Hetthong et al., 2013).

Furthermore, previous research indicated the relationship among writing and overall academic success compared to reading decoding and reading comprehension. To illustrate, Molitor et al. (2016) sampled 104 middle school students from nine different Midwest middle schools, who were diagnosed with ADHD. The study administered measures including the Wechsler Individual Achievement Test, Third Edition (WIAT-III) to determine writing and reading ability in comparison of grade point averages among academic core subjects. The study determined that basic writing skills were more strongly correlated with academic grades than reading skills (Molitor et al., 2016). As such, it is critical that educators continue to support writing development across age/grade levels as successful written skills continue to be a key component to efficient academic communication.

Syntax Development

One of the most important factors to consider when addressing writing skills is syntactic complexity. Syntactic complexity is composed of constituents at word, phrase, and clause levels, indicating higher level of writing skills. When these components (at word, phrase, and clause levels) are arranged in grammatically correct ways, it establishes more complex sentences (Chomsky, 1957; Givon, 2009). Syntactic complexity, also known as syntactic maturity, has also been identified as the cognitive, clause, linguistic, and grammatical structure in written language (Arnold et. al., 2000; Beers et. al., 2009). Syntax development begins during the preschool years as children learn to expand their utterances (e.g., the progression from “want cookie,” to “me want

cookie," and, finally, "I want two cookies;" Weiler et al., 2014), demonstrating increasing syntactic complexity over time.

Syntactic complexity can be measured in multiple ways, as discovered in a systematic review where 52 measurements were identified to examine overall syntactic complexity of written language (Jagaiah, 2017). It was determined that measurements of syntactic complexity are influenced by the genre of writing and grade level of the writer (Jagaiah, 2017). Some syntactic complexity measurements include: sentence length, clause length, ratio of subordinate clauses to all clauses, and the measurement of t-units (Hunt, 1970). T-units are a widely-utilized measure of syntactic complexity. A t-unit is defined as, "one main clause plus any subordinate clause or any non-clausal structure that is attached to or embedded in it" (Hunt, 1970). For example, the statement, "There was a little girl," represents one t-unit with one independent clause as it has a subject and a verb. In addition, "She thought it was a ghost," would also be one t-unit, but with two clauses as "She thought" (subordinate clause), and "it was a ghost" (main clauses) both contain a subject and a verb (Ukrainetz, 2015). The mean length of t-units expressed within a written language sample can be used to represent a student's syntactic complexity.

Syntactic complexity can also be determined through sentence structure. One way to increase the complexity of sentence structure is through combining sentences, which includes the implementation of three types of conjunctions to develop compound sentences. These three types vary in complexity and proficiency in written language. They include: coordinating conjunctions (e.g., for, and, but), subordinating conjunctions

(e.g., because, when, whereas), and correlative conjunctions (e.g., both/and, neither/nor). The most commonly used conjunctions in written language include coordinating and subordinating. Coordinating conjunctions are used when the writer combines two simple sentences or two independent clauses with one of the following: and, for, and, nor, but, or, yet, and so. Subordinating conjunctions join two clauses; they can combine one independent and one dependent clause which exemplifies a relationship among the clauses unlike coordinating sentences (Domsch et al., 2018). The importance of subordinating conjunctions is that as communicators we use them verbally, however it is much more difficult to implement them in written language and requires higher cognitive demand. The more subordinate clauses used within written language, the more mature and complex ideas expressed in written samples (Beers, 2009).

To further demonstrate the importance of syntactic complexity, a longitudinal study of fourth-to-sixth grade writers revealed that syntactic complexity was the most prominent factor in written language samples among the participants as compared to text length and story content (Drijbooms et al., 2017). The findings indicated that syntactic complexity improved significantly with age. The researchers also identified the importance of syntactic complexity in relation to executive function for later writing development as it plays a role in composing and translating ideas into language through word, phrase, and sentence structure in written samples (Drijbooms et al., 2017). Therefore, it is critical that educators continue to find ways to foster syntactic complexity growth in both oral and written language.

Expository Writing

In writing, there are a variety of discourse types, each one offering slightly different organizational structures and lexical challenges. Successful writing within the different discourse types is dependent on the development and ability of the writer. Some of these discourse types include: narrative, persuasive, and expository writing. Expository, informational writing is a key component of academic success and is broken down into many different types, including procedural, cause-effect, and problem-solution (Nippold et al., 2010).

Commonly, students ages eleven to twelve years old, display the ability to compose more complex expository texts by demonstrating increased written syntactic complexity through the number of clauses used per sentence (Verhoeven et al., 2002). Expository writing discourse is more dependent on higher cognitive skills versus narrative discourse, as expository passages focus on ideas and concepts in an effort to share information with the reader (Scott et al., 2010). In addition, expository writing follows more of a logical hierarchy rather than a more simplistic approach of the linear chronological fashion that is facilitated in narrative writing (Scott et al., 2010). Expository writing also tends to include greater lexical and syntactic complexity than narratives (Berman et al., 2007). Studies have shown that expository writing tasks encourage the development of writing skills not only for typically developing students but also those with language impairments as such tasks encourage writers to use higher-order cognitive processes (Scott et al., 2000). Expository writing naturally leads to writers using great syntactic complexity, and more technical vocabulary through more

advanced academic words (Tier 2 Vocabulary; e.g., discuss, analyze) and specific vocabulary that describes more complex content, objects, and interactions (Tier 3 vocabulary; e.g., antique, ancient). Dockrell (2007) and colleagues assessed the writing performance of sixty-four elementary students in London who had a language impairment. The students were assessed at age eight and re-assessed at age ten. After the conclusion of the study, it was supported that using and understanding sophisticated vocabulary is essential for sufficient writing abilities for students as a strong relationship between receptive language, expressive language, and word recognition (Dockrell et al., 2007). Furthermore, studies continue to show the need for expository writing to be targeted among young writers' curriculum. In a study led by Nippold (2008), 444 Kindergarten students were assessed to determine their language abilities. Based on the results, participants were divided into two groups: those who displayed characteristics of a language impairment and those who were typically developing. Then the groups were reassessed during the participants' eighth grade year. The researchers used the CELF-3 and a language sample that included both expository and conversational discourse. The researchers compared the growth of the participants' language across age level and discourse genre. The results indicated that those with higher level skills in expository writing discourse increased their skills in other areas too, including long-term memory, strengthening attention shifting, working memory, and inhibition (Nippold et al., 2008).

In addition, for the current study the researcher chose to implement expository discourse as studies supported the relationship between expository writing and the development of syntactic structures (Brimo et al., 2019). This writing style was expected

to offer a better opportunity to reach the current study's primary goal of improving participant's syntactic complexity.

Self-Regulated Strategy Development (SRSD)

Due to the complexity of writing, it is not surprising that only 24% of eighth graders and 24% of twelfth graders reached proficient achievement levels within academic writing. Proficient achievement level indicated that students in these grades nationwide represented solid academic performance, demonstrating competency over challenging subject manner (National Center for Education Statistic, 2012). Therefore, it is critical that educators employ a variety of strategies to help support struggling writers. One of the more widely supported of these strategies is the Self-Regulated Strategy Development (SRSD; Harris et al., 2008). SRSD was developed nearly forty years ago by Harris & Graham (Harris et al., 2008). SRSD is a model that helps students learn, manage, and become independent in the writing process (Santangelo et al., 2007). The SRSD approach is based on the evidence-based practices of goal setting, progress monitoring, self-instructions, and self-statements (Graham et al., 2005). This model strives to achieve three goals: (a) assisting students in developing knowledge about writing skills and strategies, (b) supporting students on their ongoing writing development, and (c) encouraging positive attitudes and self-efficacy about writing.

The SRSD approach is broken into six stages. These include: (a) developing background knowledge, (b) discussing the purpose, steps, and benefits of the strategy, (c) modeling the techniques, (d) students memorizing the steps of the strategy, (e) students practicing independence with support when needed, (f) students using the strategy with

little to no support (Harris, 2005; Harris et al., 1996). There are eight different characteristics that influence the success of SRSD implementation (Graham et al., 2005): (a) enthusiasm, (b) active collaboration, (c) individualization, (d) criterion-based instruction, (e) authentic writing tasks, (f) a supportive environment, (g) constructive feedback, and (h) predictability. Enthusiasm and active collaboration are key factors to success when using the approach. SRSD continues to display how versatile it is, as it can be integrated into existing writing curriculum and used in all types of discourse (e.g., narrative, expository, persuasive; Miller et al., 2017).

SRSD is also criterion-based instruction and individualized for each student. Therefore, the framework offered from each stage uniquely tailors to the writers' strengths and weaknesses. This approach has the ability to help students progress gradually or at a quicker pace, depending upon the student. To continue the success with SRSD, one must promote a supportive environment with opportunity for positive constructive feedback and consistency (Santangelo et al., 2007).

When following the SRSD model, students have historically been successful in improving their writing skills. Specifically, SRSD has shown to have a positive impact on sentence-combining. According to Limpo & Alves (2013), two groups of fifth and sixth grade students improved their sentence-combining skills through SRSD use when writing opinion essays. The lessons gradually progressed from planning and constructing complex sentences, to self-monitoring strategies, and then towards complete independence. As the teacher continued to control the support given to the students, the students demonstrated increased independence with their syntactic complexity and

writing development. Results of the study determined that the SRSD promoted not only sentence-combining growth, but also improved students' planning, composing, and revising practices (Limpo et al., 2013).

SRSD has also been successful in supporting writers identified with a learning disability. A study conducted in Egypt by Saad (2009) included 67 student participants with learning disabilities. The grade level of the participants ranged from grades six through eighth (ages 12-15 years old). The 67 participants (40 boys; 27 girls) were randomly divided into two groups. The control and experimental group participated in a training to improve writing skills. Students in the experimental group were trained using SRSD over the course of three, 45-minute training sessions. The control group was trained traditionally, meaning they were not taught using principles of the SRSD model. Both the control and experimental groups displayed a significant increase in word recognition and comprehension skills. However, those in the experimental group gained better scores on post-tests versus the control group. The benefits of SRSD are evident regardless of one's cognitive capability. However, there is a need for more recent studies to determine the efficacy of this approach. The existing evidence displays many benefits to using SRSD, including how this strategy promotes learners to become more independent writers (Saad, 2009).

The Current Study

In summary, there is a need to make resources and services, specifically those related to writing skills, easily accessible to families who homeschool, as this will continue to develop more efficient communicators. Previous studies indicated that

parents who homeschooled their children had the most concern with their writing abilities. Therefore, the researcher examined all possible practices to develop a service to benefit students' writing skills. When examining the existing literature, it was recognized that this was not only an area of need for one specific education domain but for all, as this has continued to be a difficulty across school systems. One of the key components to writing quality has been recognized as syntactic complexity, including skills such as sentence combining and lexical diversity. Syntactic complexity has been discovered to gain significant development and success through expository discourse with the support of the self-regulated strategy development.

Based on the needs of students who homeschool, the researcher determined the following research questions:

1. Research Question 1: Will an online writing workshop benefit adolescents' written syntactic complexity?
    a. The researcher foresees that the majority of participants will improve their overall syntactic complexity as measured by the TOWLS-4 Sentence Combining Subtests (SCS). It was anticipated syntactic complexity skills would improve due to implementation of the SRSD approach to gain understanding and increase independence in this area.
2. Research Question 2: Will an online writing workshop alter adolescents' writing self-efficacy, motivation, and independence in writing?

a. The researcher expects that the online writing workshop will allow all participants to gain self-efficacy in their writing. However, motivation and independence will be determined on each individual's personal success in their writing. The Writing Self-Efficacy Survey in combination with the TOWLS-4 subtests was used at pre- and post-test as a measure to determine the correlation among adolescents' self-efficacy and writing performance over the span of the five-week writing program.

3. Research Question 3: Will an online writing workshop using SRSD impact adolescents' expository writing convention skills?
    a. Based on previous related research, it is anticipated that the adolescent participants will improve their overall written skills, as syntactic complexity is a vital component for overall success in written language. Specifically, participants' writing conventions during expository writing samples were measured pre- and post-intervention to demonstrate change in this domain.
4. Research question 4: Will an online writing workshop effect adolescent's overall writing skills?
    a. As identified in the literature, many components determine overall success in writing; however, these areas have been considered and addressed in the development of the study. Therefore, the researcher determines that participation will affect overall writing

skills as measured by the TOWLS-4 subtests including Logical Sentence Subtest, Vocabulary Subtest, Sentence Combining Subtest, Spelling and Punctuation Subtest.

Research question 5: Will parents indicate change as a result of their child's participation in the writing workshop and express interest in future workshops for their children similar to the one provided in the study?

b. As previously stated, parents of homeschool children expressed concerns about the limited availability of resources provided to their families. Therefore, the researcher foresees that parents will support services similar to the one provided in the study due to the convenience offered through telepractice as documented through a post-workshop parent survey.

Chapter III

Methods

Participants

A recruitment survey was developed and distributed to families who participated in the University of Nebraska Kearney Physical Education Program for students who were homeschooled. The recruitment survey link was also shared with various homeschool associations via social media (i.e., Facebook). Nine adolescents participated in this study. Their ages ranged from ten to twelve years (mean = 11 years, 2 months; five females and four males; see Table 1 for specific age and gender information). The researcher chose to target this age as previous literature indicated that this was an area for improvement in the United States for fourth-graders (U.S. Department of Education, 2012). As previously mentioned, syntactic complexity is a vital component to the development of writing for young students. Therefore, it was determined that a younger adolescent population would be targeted in hopes of providing earlier, more frequent exposure to written syntactic complexity. All participants were monolingual English speakers.

Two graduate student clinicians with two semesters of clinical experience facilitated the interventions associated with this study. The author worked with five of the participants, and the other graduate student clinician provided services for four of the child participants. Both student clinicians completed CITI research ethics training and participated in telepractice Zoom training with a telepractice clinical educator whom has been a speech-language pathologist for twenty-eight years and a telepractice clinical educator for four years prior to data collection. Throughout the study, the student

clinicians were supervised by an additional clinical educator with fifteen years of experience as a speech-language pathologist and eleven years as a clinical educator in the university clinic setting.

Table 1

Participant Information

Participant	Age	Gender
1	11 years; 0 months	Male
2	10 years; 2 months	Male
3	11 years; 10 months	Female
4	11 years; 5 months	Female
5	11 years; 1 month	Male
6	11 years; 6 months	Female
7	12 years; 1 month	Female
8	11 years; 9 months	Male
9	10 years; 1 month	Female

Materials

Intake Survey and Consent

An intake survey was created using Qualtrics. The intake survey provided a comprehensive overview of the study's procedures and the potential risks followed by the opportunity for parents to provide consent for their child to participate. The survey also gathered information regarding the availability of each participant, their contact information (i.e., email address, phone number), and demographic information for each participant (i.e., name, date of birth, gender). At the beginning of the first online session, the clinician then obtained assent from each child participant; each child was read their

rights as a participant, given an overview of the procedures of the study, and were educated about potential risks. Both parent consent forms and child assent were obtained to ensure the confidentiality and safety of the participants. Once the parents and children agreed to participate, the researcher conducted all sessions via Zoom, an encrypted video software. Each participant was required to have a computer, internet, web-camera, and the ability to download the Zoom software on their personal device.

Formal Writing Measure

To evaluate participant's overall writing skills pre- and post-intervention, the clinicians administered the Test of Written Language 4th Edition (TOWLS-4). This assessment was informally administered, as it was presented via telepractice (an unintended use for this measure). The TOWL-4 was used to assess the areas of conventional, linguistic, and conceptual aspects of writing. The subtests in the assessment included Vocabulary, Spelling, Punctuation, Sentence Logic, and Combining Sentences (Hammill et al., 2009).

Modifications were implemented when administering the subtests of the TOWLS-4 to meet each participant's technological abilities and for time efficiency. Specifically, each participant was given the option of typing their written responses on a shared Microsoft Word document or their answers could be hand written and presented to the clinician after every three questions (5 participants wrote their responses; 4 typed). The requirements and tasks associated with each subtest are provided in Table 2.

Table 2

TOWLS-4 Subtests

Subtest	Description	Skills Assessed	Example
Vocabulary	Participant writes/types a complete sentence using the provided vocabulary word.	Ability to use the vocabulary word properly in a grammatically correct sentence.	Word: Prize Sentence: I won the prize.
Grammatical Conventions	Clinician verbally gave a sentence, as the participant wrote/typed the exact sentence.	Using the appropriate spelling and punctuation.	"You can go with me."
Logical Sentences	Participants were expected to distinguish what was incorrectly stated in each sentence.	Ability to put together logically correct sentences via verbal response.	Given Sentence: "The cat barked." Example Response: "The dog barked."
Sentence Combining	Participants were given two sentences, and asked to combine them in writing/typed in the most efficient and logical way possible.	Precision of combining sentences and clearly portraying the message given.	Given Sentences: He is fat. He is jolly. Example Response: He is fat and jolly.

The final traditional component of the TOWLS-4 is a story composition component. Students are typically provided a picture and asked to write a story about the visual stimuli. Then, following the TOWLS-4 guidelines, individuals are evaluated on their writing conventions (e.g., complete sentences, correct spelling/punctuation), ability to complete the writing process (e.g., brainstorming, rough draft, final draft, multiple paragraphs), and the skills to use adjectives, combine sentences, and use transitions. For the purposes of this study, the clinicians implemented an expository writing prompt (e.g., What is your favorite animal and why?) instead of the traditional picture prompt to elicit a story. Expository discourse was elicited as it not only places a higher demand on cognitive communication for children but also tends to promote more complex syntactical structures from adolescents' writing versus narrative and conversational

discourse (Berman et al., 2007). The expository writing samples were evaluated using the writing convention and process procedures outlined by the TOWLS-4.

Writing Self-Efficacy Survey

At pre- and post-intervention assessment sessions, participants completed the Writing Self-Efficacy Survey (WSES). The WSES was used to evaluate participants' self-efficacy in the following areas: handwriting, spelling, using descriptive language (i.e., word choice), sentence combining, vocabulary, the ability to identify grammatical errors, and following the writing process. Participants were provided a modified Likert-scale with five ratings from "not at all" to "Very, very much." Each option had a corresponding visual ranging from small squares (i.e., "not at all") and grew to large squares ("Very, very much"). Participants rated each topic regarding their motivation and self-efficacy towards aspects of writing (e.g., "How much help do you need when combining sentences?"). In addition, participants were asked how much support they receive from their parents in each of these areas and how much time they spend focusing on writing during their school schedule (see Appendix B for WSES).

Self-efficacy is defined as one's belief of their capability to successfully complete certain tasks (Bandura, 1986, 1993). Zimmerman (2000) discovered that there are many factors that play a role in the amount of self-efficacy achieved in written language development. Ninety-five freshman college students participated in Zimmerman's study. Two scales measuring self-efficacy were provided to the participants. The participants were also required to share their demographic information and SAT verbal aptitude score. From the information collected from the surveys and participants, it was recognized that

previous experiences, personal standard, perceived academic self-efficacy, verbal aptitude score, direct instruction, and comparing performances did not affect academic ability but did have a strong effect among one's self-efficacy. (Zimmerman, 2000). This is critical to keep in mind as some of these factors also influence adolescents in the writing performance. This continues to support the current study as it targets assesses the adolescent population which ranges from nine years old to 19 years old. A study conducted by Shell et al. (1995) continues to emphasize the importance of self-efficacy regarding adequate writing skills. This study examined the grade and achievement level differences among 4th, 7th, and 10th students' relation between reading and writing achievement results through standardized testing and expectancy beliefs. Correlations identified reading and writing achievement with self-efficacy. The study further identified that writing was more highly related to component skills relative communication skills. This reinforces the importance among self-efficacy to reach students' highest potential of writing skills.

To determine the participants' self-efficacy in the current study, the WSES was adapted from Eggleston (2017), who assessed the relationship and significance between writing self-efficacy and writing fluency. Although results in the study conducted by Eggleston did not identify self-efficacy as a significant predictor, self-efficacy has historically been proven as a valuable measure for evaluating student motivation and success. As cited in Eggleston (2017), self-efficacy was determined as a significant predictor in writing apprehension, perceived usefulness of writing, and writing aptitude of elementary students (Limpo et. al., 2013; Pajares et al., 1997; Pajares et al., 1999;

Pajares 2001; Pajares 2007; Schunk et al., 1993; and Shell et al., 1995). However, few studies have focused on self-efficacy in regards to writing development and therefore, more research needs to be done to ensure validity of results.

Self-Regulated Strategy Development (SSRD)

The author implemented the SSRD approach to support students and continue their success and development of their writing skills to manage and expand their academic capabilities. Furthermore, SRSD has been shown to develop self-efficacy and positive attitudes towards academic subjects, including writing (Harris et al., 1996). The six stages of the SRSD approach include: developing background knowledge, discussing it, modeling the skill, memorizing the skill, providing support when needed, and establishing independence within the skill (Harris et al., 1992). These steps support the researcher's motive and the idea that increased independence improves participants' writing skills. Efficient strategies from SRSD have been proven to improve planning, writing, revising, editing, and managing the writing process. SRSD incorporates a process of goal-setting, self-instruction, self-monitoring, self-assessment, and lastly self-reinforcement (Harris et al., 1996). These are all overall foundational skills young writers need to learn in order to carry over the skills in other communication environments (Raphael et al., 1988).

Post-Treatment Survey

Following the completion of the study, the researcher offered an opportunity for the parents of the participants to provide feedback on the benefits of the treatment. The parents were asked to provide their opinions regarding their child's enjoyment and the convenience of the services offered. The parents were also asked to answer if they thought they recognized improvement in their child's knowledge and independence in writing skills. In addition, parents indicated how appropriate the workshop content was regarding writing instruction. To conclude the survey, the researcher asked if the parent and their child would be interested in participating in future workshops similar to the one offered (see Appendix C: Writing Workshop Parental Feedback Survey). The survey was distributed via email, and completed through Qualtrics.

Procedures

The University of Nebraska Kearney Institutional Review Board (IRB) approved the current study; following this approval, the recruitment survey link was distributed to the families who participated in the University of Nebraska Kearney Physical Education Program for students who were homeschooled. The recruitment survey link was also shared with various homeschool associations via social media groups. This study recruited participants across the state of Nebraska. Child participants were required to be ages ten to twelve years old. Participants had to be currently receiving homeschool education and be monolingual English speakers. The study was conducted over five weeks (see Appendix D for Treatment Schedule). Before beginning the study, parents

provided consent and each child provided assent to confirm that they understood their rights as participants.

Pre-Test

During the first week, each participant completed a pre-test battery across two sessions. The first session was scheduled as a sixty-minute individual session; sessions ranged in length for each participant (range: 50 minutes-90 minutes). This session consisted of assessment using the TOWLS-4 modified protocol. Participants were allowed as much time as needed to complete the five subtests.

During the second pre-test session, the participants generated their own expository writing sample given a writing prompt (i.e., What is your favorite animal and why?). Each child was allowed twenty minutes to complete their expository writing sample. They had five minutes to brainstorm and fifteen minutes to write their passage. In addition, each of the participants completed the WSES.

After each participant completed all pre-test requirements, the clinicians scored the measures and entered each child's pre-test results into an Excel spreadsheet. The clinicians and supervising clinical educator met to discuss the pre-test results for each participant. Upon meeting, the research team determined it was appropriate to begin all participants on the most basic level of syntactic complexity intervention: introducing coordinating conjunctions.

Treatment

Following pre-tests, the clinicians facilitated SRSD activities to help participants gain knowledge of written language concepts. Each participant received forty-five-minute

therapy sessions twice a week for three weeks. The clinicians provided a SRSD strategy to offer support while the participants gradually gained independence and self-esteem with their writing abilities.

SRSD guided the course of treatment as the student clinicians followed the steps provided from existing literature and executed the approach through various activities (see Appendix E for Intervention Documentation). The clinicians began by implementing the first step of the SRSD by developing background knowledge and educating the participants about coordinating conjunctions (i.e., for, and, nor, but, or, yet, so) and clause types (independent versus dependent). While educating the students, the clinicians implemented the second step of SRSD by discussing with the participants the purpose, steps, and benefits of the strategy and how this can improve their writing skills. Next, step three was executed as the student clinicians modeled techniques of using conjunctions by identifying conjunction words within sentences and dissecting sentences into independent and dependent clauses. Then, as the clinicians continued to follow SRSD and implement step four, the participants began to increase their independence, and the participant was given the opportunity to complete a series of sentences by providing the correct conjunction word. To continue increasing the participants' syntactic complexity skills, the participants then worked on combining their own sentences which corresponded with step five, and finished their therapy and SRSD step six by composing their own essays following the complete writing process. It is important to note that all therapy sessions were individualized, therefore each participant progressed at their own

pace and focused on different aspects of writing, however, the main goal for each participant was increasing their syntactic complexity through written language.

Post-Test

At the conclusion of the intervention phase, each participant completed a post-test battery across two sessions. The first session was scheduled as a sixty-minute individual session; sessions ranged in length for each participant (range: 50 minutes-90 minutes). This session consisted of assessment using the TOWLS-4 modified protocol. Participants were allowed as much time as needed to complete the five subtests.

During the second post-test session, the participants generated their own expository writing sample given a writing prompt (i.e., What do you want to be when you grow up and why?). Each child was allowed twenty minutes to complete their expository writing sample. They had five minutes to brainstorm and fifteen minutes to write their passage. In addition, each of the participants completed the WSES.

After each participant completed all post-test requirements, the clinicians scored each child's post-test results and added this data to the existing Excel spreadsheet including pre-test results.

Following the five-week clinical study, a Qualtrics feedback survey was distributed to the participants' parents via email. This survey was intended to further examine the benefits of workshop participation for both parents and children.

Data Analysis

After the study was complete and the final survey was closed, the researchers organized the participants' results and responses into Excel spreadsheets for analysis. All

data was saved and accessed through Box, a secure online cloud storage. To protect participants, data was de-identified. Descriptive statistics were used to analyze participants' responses. These results were analyzed and compared by both researchers to ensure reliability. Any discrepancies were re-evaluated and resolved until 100% agreement between both raters were determined. In addition, the researchers analyzed the quantitative data within IBM SPSS Statistics 21.0 (SPSS), completing a descriptive analysis to reveal a significant difference while providing a general understanding of the data collected (Creswell et al., 2007).

Chapter IV

Results

During the five-week online writing workshop, nine participants from the ages of 10-12 years old, began and completed the entire workshop. The format of the workshop included a pre-test week (2 sessions), three weeks of writing development treatment (2 sessions each week; 6 sessions total), and a post-test week (2 sessions). The participants completed the TOWLS-4 subtests (i.e., Vocabulary, Punctuation, Spelling, Logical Sentences, and Sentence Combining) before and after the treatment phase. In addition, the participants completed a written expository sample and the WSES before and after the treatment phase. Descriptive statistics and t-test analyses were conducted to analyze the data. Through IMB SPSS Statistics (Version 24) the t-test analyses compared pre- and post-test results of each subtest to identify if there was a significant difference at a 0.05 significance level.

Research Question 1: Syntactic Complexity

To identify the participants' written syntactic complexity, each completed the TOWLS-4 Sentence Combining Subtest Form A (SCS-A) before the treatment. After completion of the pre-test components, they participated in three weeks of treatment with implementation of the SRSD strategy. After the workshop, participants completed the TOWLS-4 Sentence Combining Subtest Form B (SCS-B). The results for each participant were documented and a paired samples t-test analysis was completed. The results from pre-test (M = 10.1, SD = 0.54) and post-test (M = 13.2, SD = 0.91) Sentence

Combining subtest scores indicated that participants' syntactic complexity significantly improved following participation, $t(8) = -4.75$, $p = .001$.

Research Question 2: Writing Self-Efficacy Survey

To explore participants' self-efficacy over the five-week period, a WSES was developed and administered to the adolescents during the pre-test and post-test phases. The WSES was adapted from Eggleston (2017) to fit the needs of the current study and participants. The WSES evaluated self-efficacy, motivation, and independence in the following areas: the writing process, spelling, handwriting, sentence combining, word choice, and the ability to revise their own papers (see Appendix B for WSES). Participants rated each topic regarding their motivation and self-efficacy towards aspects of writing (e.g., "How much help do you need when combining sentences?"). Participants were provided five choices ranging from "Not at all" to "Very, very much." Each option had a corresponding visual representation ranging from small squares (i.e., "Not at all") and grew to large squares (i.e., "Very, very much"). In addition, participants were asked how much support they received from their parents in each of these areas and how much time they spend focusing on writing during their school schedule.

Participants' responses were analyzed by calculating change from pre-test to post-test. WSES results were analyzed by the level of change across each topic; WSES items were divided into three different categories: self-efficacy (n = 6), motivation (n = 4), and independence (n =4). One question was not placed in any category as the researchers asked the participants how often they participated in writing at home during school hours (item 7). The participants reported during the pre-test, that the average time spent in

writing during school hours at home was approximately 2.0 hours. However, when answering the same question during their post-test the average time reported was around 2.67 hours. Table 3 provides the change across the topic areas of motivation, self-efficacy, and independence from pre-test to post-test.

Table 3

WSES: Changes in Ratings from Pre-Test to Post-Test

Item Number	Question	Assessing Self-Efficacy, Motivation, or Independence	Change in Mean Rating
8	**How good do you think you are at combining sentences (i.e., using and, or, but)?**	Self-Efficacy	1.11
13	**How well do you catch your writing mistakes (i.e., capitalization, misspelled words, punctuation)?**	Self-Efficacy	1.0
1	**How much do you like to write stories?**	Motivation	0.88
10	**How much do you enjoy adding in word choice (i.e., descriptive words) into your stories?**	Motivation	0.88
4	**How good do you think you are at handwriting?**	Self-Efficacy	0.44
2	**How good do you think you are at writing stories?**	Self-Efficacy	0.33
3	**How much do you like handwriting?**	Motivation	0.33
9	**How much help do you need when combining sentences?**	Independence	- 0.33

11	**How much help do you need adding in word choice (i.e., descriptive words) into your stories?**	Independence	-0.22
5	**How much do you like spelling?**	Motivation	0.22
7	**How much do adults at home help you with your writing?**	Independence	0.11
6	**How good do you think you are at spelling?**	Self-Efficacy	0.11
12	**How well do you go through the writing process (i.e., brainstorming, rough draft, revisions, final draft)?**	Self-Efficacy	-0.11
14	**How much help do you need to fix your writing mistakes (i.e., capitalization, misspelled words, punctuation)?**	Independence	0.11

Note. The results presented within this table are ranked by change; the greatest improvement is listed first. Negative results indicated participants gained independence in combining sentences and adding in word choice (items 9 and 11), but on Item 12 showed feelings of less confidence with the writing process following completion of the writing workshop.

Research Question 3: Expository Writing Skills

Participants' expository writing skills were evaluated through a written sample at pre-test and post-test. The written sample was collected in a modified manner from typical TOWLS-4 administration, but was scored using the TOWLS-4 contextual conventions subtest (CCS) guidelines. The subtest provided a scoring system that evaluated the participants on their ability to use correct spelling/ punctuation, transitions, sentence-combining, and complex sentences. Since the administration of this subtest was altered (not conducted in the standardized manner), the researcher only calculated a raw score for these writing samples using the CCS. After determining each participant's

comprehensive raw CCS pre-test (CCS-PRE) and CCS post-test (CCS-POST) scores, a paired samples t-test analysis was completed. The results from CCS-PRE (M = 12.89, SD = 6.23) and CCS-POST (M = 16.56, SD = 6.76) raw scores indicated a significant change in participants' expository writing convention skills as measured by the CCS, $t(8) = -3.11$, $p = .014$.

Research Question 4: Overall Writing Skills

The researchers analyzed the participants' success in overall writing skills from pre-test to post-test using subtests from the TOWLS-4 (i.e., Vocabulary, Spelling, Punctuation, and Logical Sentences). At the conclusion of the study, the researchers conducted paired t-test analyses comparing pre- to post-test scores for each subtest. The results are presented in Table 5.

Subtest	Pre-test Mean (SD)	Post-test Mean (SD)	*t*(df)	*p*
Vocabulary	7.67 (1.12)	8.78 (1.3)	-2.63(8)	.030*
Spelling	6.89 (2.02)	7.67 (2.34)	-1.49(8)	.17
Punctuation	7.89 (1.45)	7.78 (2.23)	-4.75(8)	.82
Logical Sentences	9.67 (1.12)	11.11 (1.76)	-3.04(8)	.016*

Note. * indicates significance difference from pre-test to post-test at .05 significance level.

Research Question 5: Parental Feedback

At the conclusion of the study, the researcher distributed a final survey to the parents of the adolescent participants through Qualtrics. The survey asked parents to provide their feedback regarding the treatment offered. Questions corresponded with the child's writing improvement, logistics of the services provided (e.g., time of year, time of sessions), and interest in similar workshops. Two out of the nine parent participants took part in the survey. However, one participant only answered the first two questions and then discontinued the survey. The additional participant completely answered all questions throughout the survey. Both participants reported that their child enjoyed and looked forward to each session, but only one out of the two participants said that they noticed their child recalling and learning the new information during participation of the writing workshop.

The one participant who continued to answer the remaining questions reported that the "Timing of the treatment was great with the pandemic." The participant continued to suggest that if it was a normal school year (outside the pandemic), that January would have been better. When asked if there was anything else the parent wished was addressed during the workshop, the participant answered, "No, I thought the content was great." To conclude the survey, the participant was asked if workshops similar to the one provided were common for the child to attend and if they were uncommon would they be interested in more workshops similar to this one. The participant replied, "No, they are not common. Yes, we would like to participate in more." The parent had no further feedback regarding their child's participation in the online writing workshop.

Chapter V

Discussion

The aim of the current study was to evaluate the effectiveness of an online writing workshop addressing participants' syntactic complexity and overall writing skills. To evaluate the workshop's effectiveness, the study measured participants' improvement in the areas of sentence combining, writing conventions, writing quality, and ability to follow the writing process. In addition, through the WSES the study assessed each participant's self-efficacy in the areas of vocabulary, spelling, punctuation, sentence combining, word choice, and the writing process.

Research Question 1: Will an online writing workshop benefit adolescents' written syntactic complexity?

After comparing participants' TOWLS-4 SCS-A and SCS-B, pre- and post-test sentence combining subtest scores, t-test results indicated a significant difference. This supports the idea that implementing the SRSD approach positively impacted the adolescents' written syntactic complexity. As determined by Domsch and colleagues (2007), a primary indicator of sentence complexity includes the ability to combine sentences. This literature represents the functionality of implementing curriculum-based knowledge and use of three types of conjunctions including: coordinating, subordinating, and correlative (Domsch et al., 2007). Results from this study indicated that three out of six participants received higher scores on the standardized TOWLS-4 subtest of sentence combining. In addition, five out of six exhibited positive treatment effects for the number of complex sentences written. These results suggest sentence-combining sentences with

the implementation of conjunction curriculum can increase syntactic complexity in writing.

The SRSD approach provided great support to the participants. This is not surprising as it has repeatedly been proven from previous studies to expand individuals' sentence combining abilities as it is based off of criterion-based instruction and individualized for each specific participant (Santangelo et al., 2007). In addition, the framework of this approach is derived from evidence-based practices that evolve around the principles of goal setting, progress monitoring, and self-instruction (Graham et al., 2005). By using this self-instructed approach, the participants were able to learn and execute different ways to expand syntax within their sentences. The participants increased their use of syntactic complexity through implementing conjunctions in their writing to combine two simple sentences. They also achieved greater syntactic complexity through the use of descriptive words in their sentences. While the majority of participants did improve their syntactic complexity, determining the consistency of these improvements over an extended period of time would benefit future adolescents' participating in workshops similar to the one in this study.

Research Question 2: Will an online writing workshop alter adolescents' writing self-efficacy, motivation, and independence in writing?

SRSD has been shown to promote children's self-efficacy and attitude towards academic writing (Harris et al., 1996). The author predicted that the participants' self-efficacy across writing areas (e.g., syntactic complexity, vocabulary, grammatical conventions) would improve. A survey was retrieved from a study by Eggleston (2017)

and modified to fit the needs of the study and our participants. The survey was used to evaluate participants' self-efficacy, motivation, and independence towards writing. To present the most meaningful results for this date, the researcher compared mean scores from each question at pre-test to mean scores for each question at post-test. Table 3 displayed the comparison of change over time (ranked from greatest change to least change over time).

In the area of self-efficacy, participants had the most improvement in combining sentences. The mean score of responses to this question had the most change across all questions on the survey. These results support the procedures of the treatment phase, and reinforce that the intervention targeted the necessary areas to improve syntactic complexity in writing while also increasing self-efficacy within this domain. This information solidifies the support that the SRSD approach provided for the participants as one of the primary goals of the approach is to gain an adequate amount of self-efficacy (Harris et al., 1996). The second most improved area as reported by the participants also indicated improved self-efficacy in how well the participants caught their writing mistakes (i.e., capitalization, misspelled words, and punctuation). This continues to support the benefits of implementing the SRSD approach to enhance the independence of the writer (Harris, 2005; Harris et al., 1996).

The researcher also analyzed questions regarding motivation. The questions were specific to how much the participants liked to complete different writing tasks, such as writing stories, adding word choice, handwriting, and spelling. The most improved area regarding motivation included how much the participants enjoyed writing stories. Results

also displayed a positive change over time showing an increase in how much participants enjoyed adding in word choice into their stories. Remaining motivated to write stories will aid in participants' ability to continue practicing their writing skills and better develop their abilities.

The researcher also compared pre-test and post-test results representing participants' independence. These questions asked participants how much adult supervision or help they needed when adding in word choice, completing the overall writing process, fixing writing mistakes, and combining sentences. As a group, questions regarding independence had the least amount of change. However, the biggest change in independence-related questions was in regard to how much help participants needed when combining sentences. The negative change in these scores from pre- to post-test indicated that participants needed less help in sentence combining following the intervention. Results from the participants' WSES further supported the SRSD approach as a model that enhances students' abilities to learn, manage, and becoming more independent in the writing process (Santangelo et. al., 2007). Based off of the results from this study, the SRSD was related to positive changes in writing self-efficacy as it relied upon criterion-based instruction and individualization of each participant. Therefore, participants progressed at the pace appropriate to ensure success.

The SRSD approach has continued to increase students' self-efficacy as it improves upon and focuses on each component of writing development. As presented previously, findings have identified that students' self-efficacy significantly impacts their writing motivation. Hetthong & Teo (2013) identified a positive and significant

correlation among self-efficacy and writing performance. This information applies to the relationship among successful writing performance and increased writing self-efficacy among the participants in this study. It is important to note, that other components impact self-efficacy when writing including discourse and the writing topic. Therefore, further research identifying additional elements impacting adolescents' self-efficacy in writing would be beneficial.

Research Question 3: Will an online writing workshop using SRSD impact adolescents' writing conventions in an expository writing sample?

In respect to the third hypothesis, the researcher anticipated the majority of adolescents would improve their overall expository writing skills. The researchers compared written expository passages using the TOWLS-4 CCS rating scale before and after treatment. The results indicated a significant difference from pre-test to post-test and determined that the adolescents participating in the workshop improved their overall expository writing convention skills.

Expository discourse was addressed in the current study as existing literature demonstrated that expository discourse elicits greater lexical and syntactical complexity compared to other genres (i.e., narratives; Scott et al., 2000). Expository writing encourages greater in depth vocabulary in addition to a greater amount of words per each t-unit. Furthermore, expository discourse is more content-based and informational (as compared to narratives), so it allows writers to use more complex language.

Research question 4: Will an online writing workshop effect adolescent's overall writing skills?

When reflecting on the fourth research question, it is apparent from the results that participation in the workshop did benefit participants' overall writing skills. When evaluating specific components of writing development (i.e., Vocabulary, Spelling, Punctuation, Logical Sentences), a significant difference was discovered in participants' TOWLS-4 Vocabulary and Logical Sentence subtests when comparing pre-and post-test standard score means. Many factors impacted the participants' overall success, and the results from the current study align with previous research. Specifically, vocabulary skills significantly improved in the current study with the use of expository writing instruction; vocabulary was also improved in subject-specific expository passages in Dockrell et al. (2007). Perhaps the success displayed from this study is due to the logical hierarchy presented in expository writing rather than simplistic chronological fashion that is presented in narrative writing (Scott et al., 2010). Furthermore, expository discourse was implemented in the current study to increase participant's writing complexity; this occurs naturally within more complex discourse areas such as expository writing as it requires higher-level cognitive processes (Scott et al., 2000) and more complex vocabulary.

It is important to note that vocabulary skills were treated at sentence-level and taught more directly during the intervention, whereas spelling and punctuation were targeted more indirectly throughout the writing process. This could further explain the reasoning towards increased improvement in vocabulary as opposed to spelling and punctuation.

Another factor that can be credited towards the success of improved Vocabulary and Logical Sentences scores is the use of SRSD. The use of SRSD is shown to increase syntactic complexity, an essential to writing success, but also in building the self-efficacy of young writers. Improved self-efficacy continues to promote greater writing success in areas such as lexical diversity (i.e., vocabulary; McNamara et al., 2010). SRSD has been effective in improving students' writing skills through tasks such as goal-setting, self-instruction, self-monitoring and self-assessment. SRSD has supported students in planning, writing, revising editing, and managing the writing process. This has been supported in multiple studies and was evident in the current study as well (Raphael et al., 1988; Graham et al., 2005; Lieneman et al., 2000).

Research Question 5: Will parents provide feedback supporting the benefits of the writing workshop and express interest in future workshops for their children similar to the one provided in the study?

Limited results were collected to determine a valid consensus regarding the parental benefits of the writing workshop. However, the two parents who participated in the survey both reported that their child looked forward to the sessions. As the survey continued, the one parent who completed the entire survey stated that they could tell their child was recalling the information learned. This could be due to many factors between the differences of learners as some may have needed additional instruction than what was provided in the five-week program. However, this parent also noted that the workshop was beneficial and they would like to continue participating in workshops similar to the current study as many are not available. This information continues to support the notion

that resources/services similar to this one are not widely available. States and educators need to provide resources to support all students including those who are homeschooled.

Limitations and Future Directions

As the researchers reflected on the study, they evaluated each component and identified limitations presented throughout. To begin, the measures used within the study could have skewed the validity of the results. Although the TOWLS-4 is formal standardized assessment, it was modified to meet the needs of the participants and evaluate the goals of the study. Furthermore, the TOWLS-4 assessment is recommended to be administered face-to-face; however, the clinicians administered the assessment via telepractice. Due to administering the assessment over telepractice the clinicians provided the option of writing or typing responses. This may have skewed the validity of the pre- and post-test results as participants who typed used resources on the computer to aid in correct spelling (i.e., auto-correct). However, the clinicians tried to limit their opportunities for using these resources. Although the TOWLS-4 was administered via telepractice, since the onset of the COVID-19 pandemic, the authors of TOWLS-4 have now developed a standardized online version. Therefore, for future reference, those who would like to administer the TOWLS-4 via telepractice should use the online version to ensure valid information is collected.

In regards to the WSES, the clinicians modified the survey presented in the study conducted by Eggleston to convey the participants' feelings and self-efficacy towards writing (Eggleston, 2017). The formatting of the survey remained similar to Eggleston's as both studies' populations were conducted with adolescents. It would benefit future

researchers to evaluate additional self-efficacy surveys and ways to analyze self-efficacy data to ensure the most accurate representations of adolescent writers' self-efficacy, motivation, and independence in written language development. Future researchers would also benefit from comparing self-efficacy measures to one another to ensure the most accurate information.

In addition, the TOWLS-4 writing passage prompt was changed to evaluate the participant's skills with writing expository discourse instead of narrative discourse. The CCS from the TOWLS-4 continued to be applicable to assess the writing convention skills of the participants. However, for future reference, researchers would want to explore additional options for using an expository rating scale and ensure reliability and validity for their study.

Furthermore, the researchers assessed the consistency of treatment provided for each participant, to determine the reliability of facilitating the treatment. The researchers noted that a limitation was the use of two student clinicians. However, these student clinicians were supervised by the same licensed speech-language pathologist during each session. Although two student clinicians were used, the lead clinician conducting the research trained the additional clinician on implementing each day's curriculum beforehand to ensure the greatest amount of reliability. As the clinicians continued to evaluate their treatment practices, using a therapy approach including SRSD made each intervention individualized and therefore was not identical. However, this process helped aid in the success of all participants as the clinicians allowed each participant's abilities to determine the pace and where each client's skills were at in the SRSD procedure.

Within the treatment phase, the time allowed to implement the SRSD approach was also a limitation, as experts recommend at least three months to acquire the greatest success (Harris, et. al., 2005). Researchers would want to extend the study in the future to determine what progress could be made over a longer treatment period. It is also recommended that future research explores the SRSD approach as compared to other treatment strategies targeting syntactic complexity to determine efficiency and explore generalization to other academic writing areas.

When analyzing the recruitment of participants, a limitation was the similarities among all. All nine participants were recruited from the central Nebraska area; this was by design as the supervising speech-language pathologist is only licensed to practice in the state of Nebraska. To determine if this writing approach would be applicable for others, future research should expand the population across different geographical regions. Future research in this area could also target a younger population. This would continue to benefit the literature regarding writing development as many statistics emphasize the need of early intervention due to the unsatisfactory writing scores documented in 2012 (U.S. Department of Education, 2012).

Lastly, future studies should continue to expand in order to provide more recent research on the use of SRSD. It would be beneficial for the speech-language pathology field, and educators, in general, to determine more accurate information on how much time is needed to successfully implement SRSD. In addition, if future studies target earlier age groups, then additional research would need to be completed on the efficiency of SRSD in supporting earlier written language development. Overall, continued research

on this topic would further support the most efficient practices and ways to implement SRSD in different areas of writing as well as related self-efficacy, motivation, and independence.

An additional area that would benefit from increased research is the practices and populations of the homeschool community. Much is unknown about this population and the services/resources that are available to them. As educators, it is critical that services and resources for each state are accessible and known to the homeschool population. It is vital to our society that the needs of this population continue to be met as well as their ability to display strong self-efficacy in writing to succeed in future academic and professional areas of life.

Chapter VI

Conclusion

The current study evaluated the benefits of providing an online writing workshop for adolescents who are homeschooled. The participants of the study were adolescents who were homeschooled and their parent(s), who were recruited via social media. After receiving child and parental consent, nine adolescents (5 females; 4 males), ages ten to twelve years old participated in a five-week online writing workshop.

The workshop consisted of one pre-test week, three weeks of treatment, and one post-test week. The participants were evaluated through modified use of the TOWLS-4 subtests, expository writing samples, and the WSES (adapted from Eggleston, 2017). During the treatment phase of the study, the clinicians implemented SRSD to assist students in developing knowledge about writing skills and processes, while promoting positive self-efficacy of themselves as writers (Harris et al., 1996). After the conclusion of the study, t-test analyses were conducted to compare the means of the participants' pre- and post-test measures. The results indicated a significant difference, and, therefore, supported the conclusion that the online writing workshop helped improve adolescents' syntactic complexity, self-efficacy, independence, and overall writing skills. However, additional studies regarding adolescent's syntactic complexity and the SRSD approach should continue to be implemented in trials longer than five-weeks to determine the consistency and generalization of skills in other academic writing areas. Furthermore, this study revealed the need to continue research on the topic of adolescent writing

development, and more importantly the accessibility of resources similar to this study for families who homeschool.

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Appendix A: Recruitment Letter

Hello,

My name is Shelby Hinrichs and I am a graduate student in the speech-language pathology department at UNK. For the past three years, I have been conducting research to offer accessible speech and language services to those who homeschool. After managing a national survey that reached out to 90 different homeschool associations across the U.S., it was brought to my attention that many parents felt that they were not informed properly of the speech and language services available to them. In addition, the majority of parents surveyed had concerns regarding their child's writing development and, therefore, expressed interest in obtaining more resources in this area.

This previous research experience has motivated me to provide an online writing workshop for children to increase their syntactic (sentence) complexity. This relates to the expansion of sentences by combining two complete thoughts through a variety of conjunctions. According to Danielle McNamara (2010), the most critical linguistic features consist of syntactic complexity, lexical diversity, and word frequency. These skills determine the continuous success and growth of writing development and overall communication throughout adolescence (McNamara, Crossley, & McCarthy, 2010).

My faculty mentor, Dr. Whitney Schneider-Cline, and I are recruiting 12 child participants to partake in the online writing workshop. These participants must be homeschooled, monolingual English speakers, and be 10-12 years of age. If you choose to participate in the study, you will be asked to have access to a computer, internet, and a web-camera. As the guardian, you will be asked to be present during the time the clinician and your child meet to help with any miscommunication or technology difficulties. No audio/video recordings will be collected. However, your child's written responses from the pre/post-test will be saved in a secured UNK Box folder. If you choose to participate in this study, your participation will be completely anonymous; no one will be able to identify you or your child.

It is important to note that this study has no association with the UNK P.E. program. Therefore, your participation in this study is completely voluntary. If you do not participate or drop out later during the study, this will not affect you relationship with Dr. Adkins or the UNK P.E. Program.

This writing workshop is a five-week program and we ask that you set aside two, 20-minute sessions during the weeks of May 11-15 and June 8-12 for pre/post-testing. During the treatment phase, we ask that you set aside two, 45-minute sessions during the weeks of May 18-June 5. If this interests you and your child, we ask that you sign-up and provide your availability by completing a survey at the following link: https://unk.co1.qualtrics.com/jfe/form/SV_9sFK6PH9Lj6waep

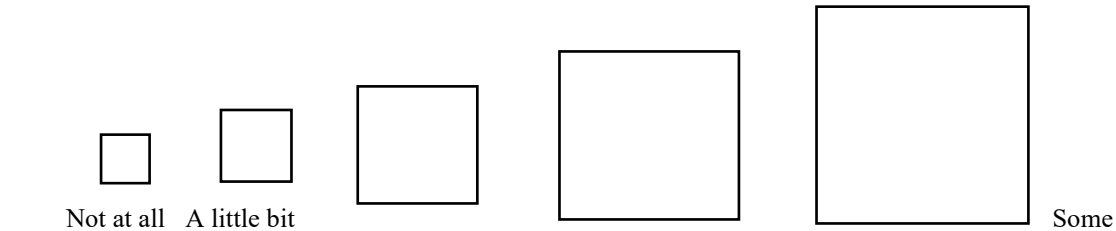
If you have any questions about this project, please contact:
Shelby Hinrichs at hinrichssa2@lopers.unk.edu or
Faculty mentor, Dr. Whitney Schneider-Cline at schneiderwm@unk.edu

Sincerely,
Shelby Hinrichs B.S. Ed.
University of Nebraska at Kearney

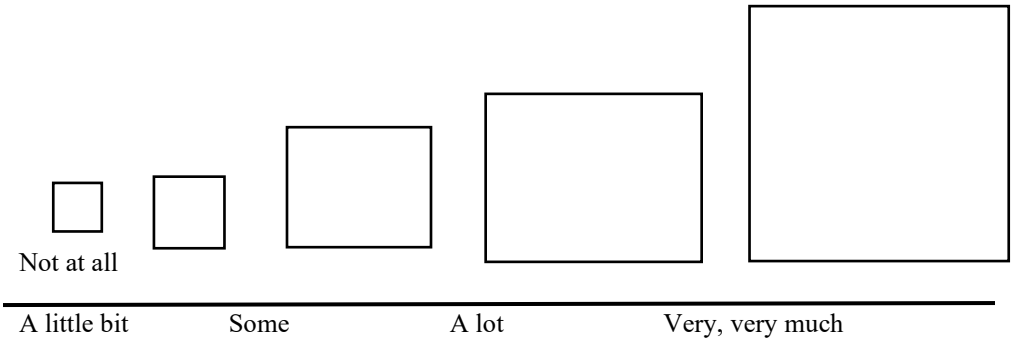
Appendix B: Writing Self-Efficacy Survey

Writing Self-Efficacy Measure

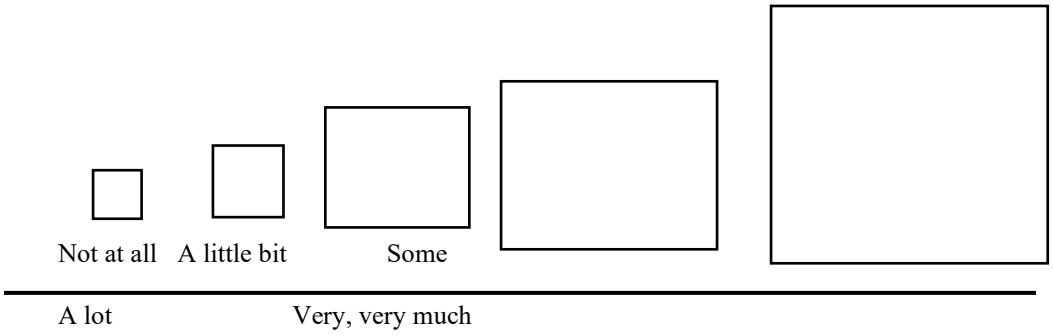
1. How much do you like to write stories?



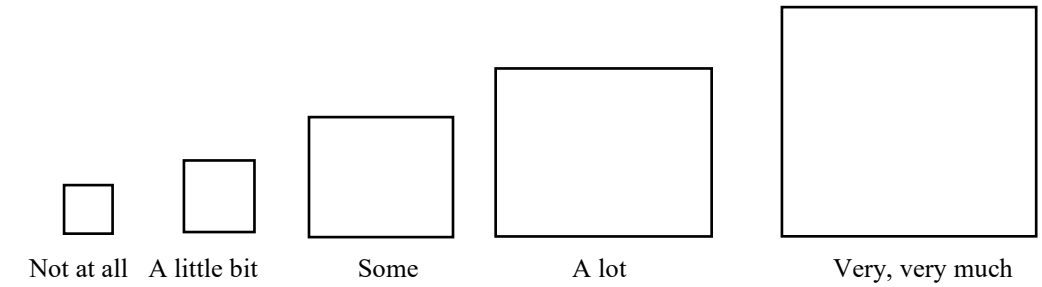
2. How good do you think you are at writing stories?



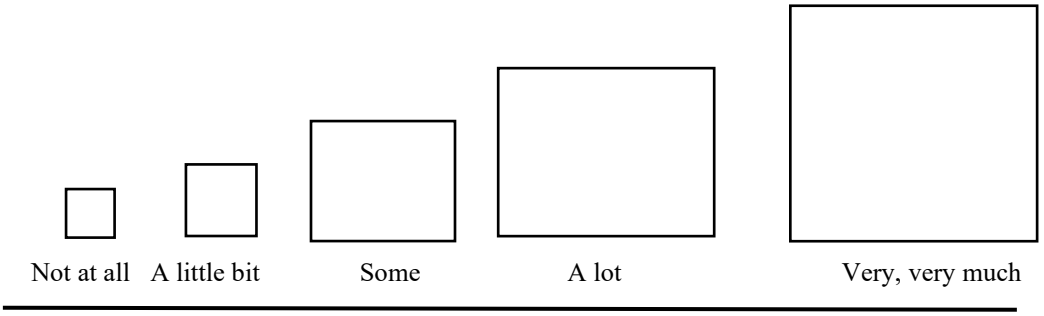
3. How much do you like handwriting?



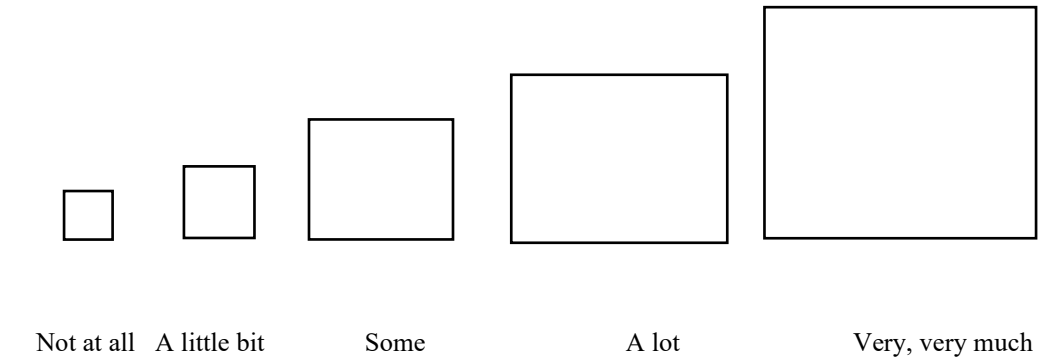
4. How good do you think you are at handwriting?



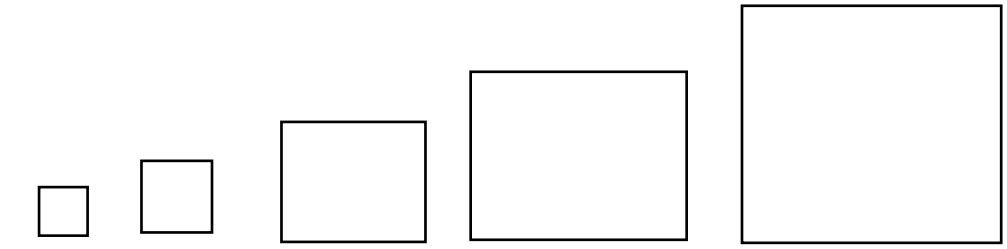
5. How much do you like spelling?



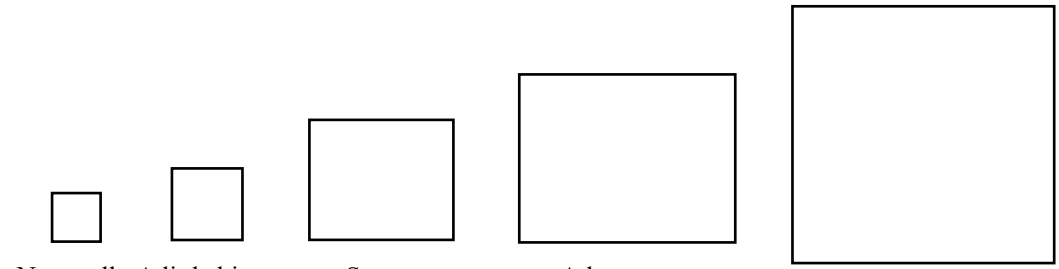
6. How good do you think you are at spelling?



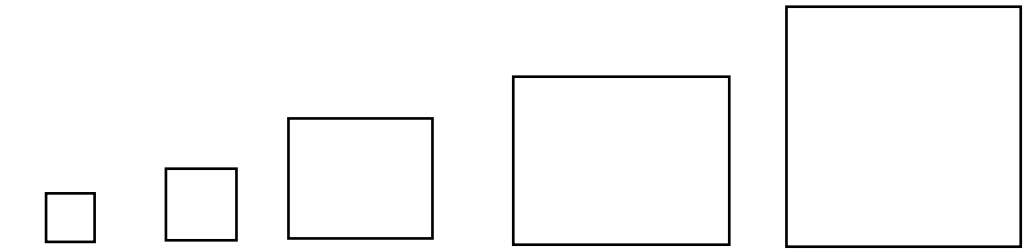
7. How much writing do you do at home during school hours?



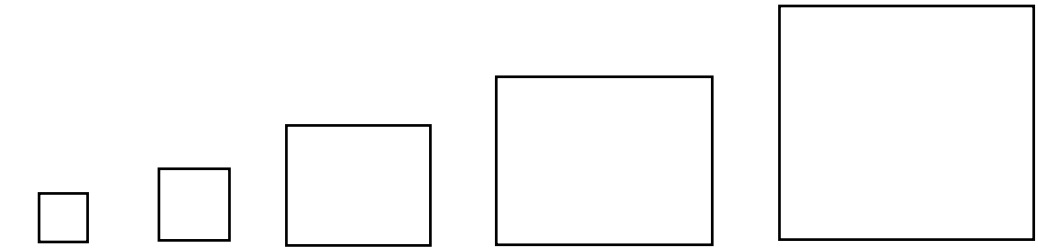
8. How much do adults at home help you with your writing?



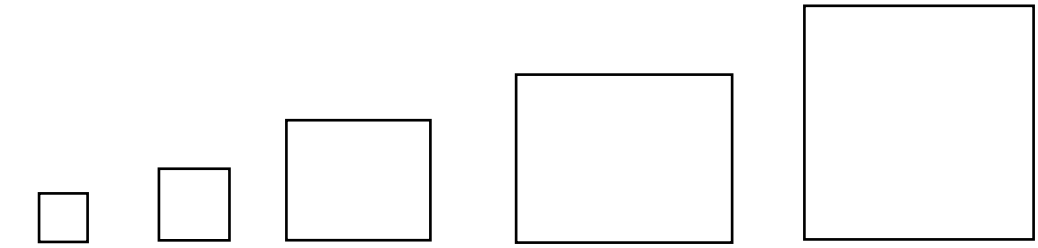
9. How good do you think you are at combining sentences (i.e., using and, or, but)?



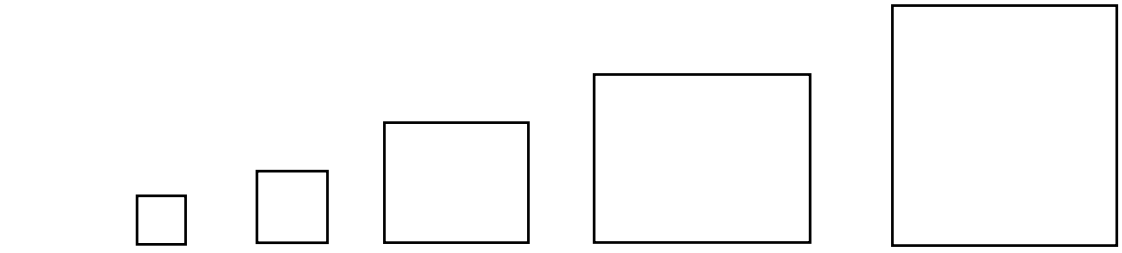
10. How much help do you need when combining sentences?



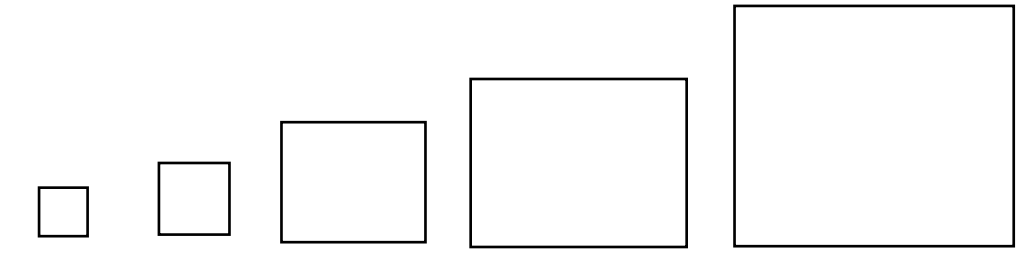
11. How much do you enjoy adding in word choice (i.e., descriptive words) into your stories?



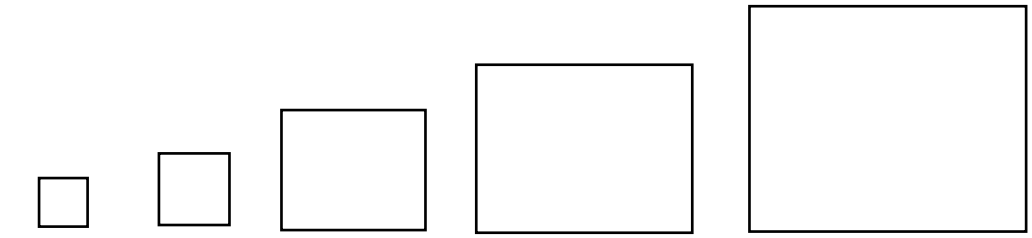
12. How much help do you need adding in word choice (i.e., descriptive words) into your stories?



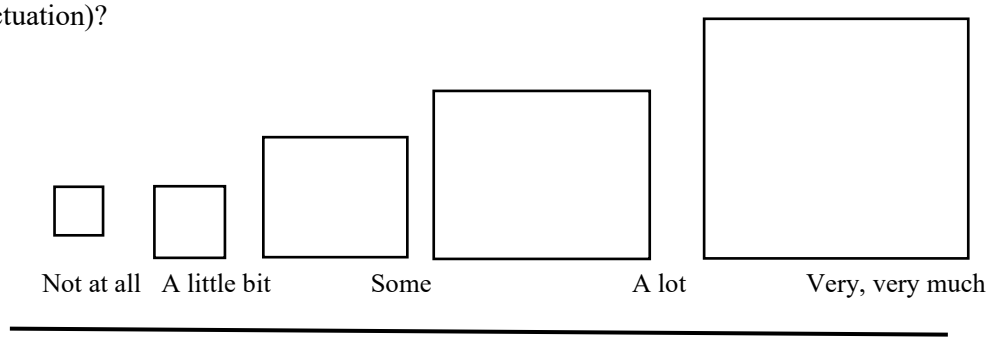
13. How well do you go through the writing process (i.e., brainstorming, rough draft, revisions, final draft)?



14. How well do you catch your writing mistakes (i.e., capitalization, misspelled words, punctuation)?



How much help do you need to fix your writing mistakes (i.e., capitalization, misspelled words, punctuation)?



Appendix C: Writing Workshop Parental Feedback Survey

Writing Workshop Feedback
Q 1
IRB# 033020-1
Title of Research Study: Online Writing Workshop for Children Who Homeschool to Address Syntactic Complexity

Summary: This study examines the effect of children's syntactic complexity and overall writing development from a writing workshop. Your child has completed the writing workshop. We now hope you will take the time to offer feedback in order to make these resources and services accessible for you and your family and others in the future. You might decide to participate in this questionnaire to help offer feedback on benefits of the workshop, as well as suggestions that could improve the workshop. You might decide not to participate in the questionnaire as you are not willing to share feedback about your child's progress or opinions about the workshop. This will take you approximately 5-10 minutes to complete. The questions you will be asked to answer include your child's enjoyment, if your child recalled any new information, and suggestions you have to offer regarding time frame and content of the writing workshop. Invitation to

You are invited to participate in this survey. The following information is provided in order to help you to make an informed decision whether or not to participate in this survey. If you have any questions, please do not hesitate to ask.

You are eligible to participate in this study, as your child completed the five-week writing workshop.

The purpose of this study is to offer a questionnaire for parents to complete so that they may express their feedback and opinions of the overall benefits of the online writing workshop to increase children's sentence complexity and overall writing development.

Participation in this study is voluntary. If you decide to participate in this questionnaire, your participation will be completely anonymous. The answers collected from this

questionnaire will be filed in a secured folder. Your answers will not be connected to your child's performance.

You could possibly experience discomfort from expressing your opinions about the writing workshop.

This allows you the opportunity to suggest how to make resources and services similar to what your child participated in, better and more accessible for you and other families who homeschool.

The information obtained from the questionnaire could inform future intervention practices on the best times and content to use to help those who may struggle in writing development.

If you choose to participate in this questionnaire your participation will be completely anonymous; no one will be able to identify you/your child. It is important to note that your participation is completely voluntary.

Your rights as a research subject have been explained to you. If you have any additional questions concerning your rights as a research subject, you may contact the University of Nebraska at Kearney Institutional Review Board (IRB), phone 308-865-8843.

If you have any questions about the project, please contact:

Shelby Hinrichs at hinrichssa2@lopers.unk.edu

Faculty mentor, Dr. Whitney Schneider-Cline at schneiderwm@unk.edu

This project has been reviewed by the Institutional Review Board at the University of Nebraska Kearney (IRB approval #: 033020-1).

You are voluntarily making a decision whether or not to participate in this research study. Your signature certifies that the content and meaning of the information on this consent form have been fully explained to you and that you have decided to participate having read and understood the information presented. Your signature also certifies that you have had all your questions answered to your satisfaction. If you think of any questions during this study, please contact the investigators. You will be given a copy of this consent form to keep.

Thank you for your time!
Shelby Hinrichs
University of Nebraska Kearney

○ Yes, I agree to participate in the questionnaire. (If so, please type your name.) (1)
_____

○ No, I do not agree to participate in the questionnaire. (2)

Q2 Did your child seem to enjoy and look forward to each session of the writing workshop?
_____Q3 Did you notice your child recalling and learning new information during participation in the writing workshop?

_____

Q4 Was the given timeframe (May – June for approximately 45 minute sessions) convenient and beneficial? Why or why not? Would a different time in the year be better?

_____

Q5 Was there anything else you wished we would have addressed during this workshop?

_____

Q6 Are workshops like this common for your child to attend? If they are uncommon would you be interested in more workshops similar to this one?

_____

Q7 Please feel free to share any other feedback or insight regarding your child's participation in this online writing workshop here.

_____

Appendix D: Treatment Schedule

	Monday	Tuesday	Wednesday	Thursday
Clinician 1 Schedule	**P1 9-10am**		**P1: 9-10am**	
		P5: 9:30-10:30		**P5: 9:30-10:30**
	P3:10:30-11:30		**P3:10:30-11:30**	
		P7: 10:30-11:30		**P7: 10:30-11:30**
		P9: 11:30-12:30		**P9: 11:30-12:30**
Clinician 2 Schedule				
	P2: 9:30-10:30am		**P2: 9:30-10:30am**	
		P6: 9-10am		**P6: 9-10am**
	P4: 11-12pm		**P4: 11-12pm**	
		P8:11-12pm		**P8: 11-12pm**

Appendix E: Intervention Documentation

Session 1	Clinician(s): 1 & 2
Subjective: The clients arrived on time. Minimal redirection was needed as they were all engaged and actively participated.	
Objective+Assessment: The clinicians implemented the first and second steps of the SRSD approach. The clinicians discussed the importance of adequate writing with the participants. The participants listed situations of when they write, why becoming a strong writer is important, and what makes a good paper/successful writer. After discussing the importance the clinicians informed the participants on the three types of conjunctions and how they can improve writing. To continue the clinicians educated participants on the different types of clauses when using coordinating conjunctions. The participants began learning the coordinating conjunctions (i.e., for, and, nor, but, or, yet, and so) and their meaning. They then assessed their knowledge over coordinating conjunctions by matching the conjunction word with the appropriate meaning.	
Plan: To continue the participants' progress and independence, the clinicians plan to continue targeting the appropriate use of coordinating conjunctions. The clinicians will continue to implement the SRSD approach through a hierarchy of activities that will continue to encourage more independence and self-efficacy from each participant. The clinicians will continue to keep sessions individualized as they target specific areas of need separately for each client.	

Session 2	Clinician(s): 1 & 2
Subjective: The clients arrived on time. Minimal redirection was needed as they were all engaged and actively participated.	
Objective+Assessment: To assess the participants' knowledge of what was taught previously, the participants were given a short quiz regarding the criteria of coordinating conjunctions and clauses. The majority of participants successfully answered all questions correct. However the questions that were wrong were then discussion and targeted before the clinicians felt that they were ready to continue. During the session, the majority of therapy included identifying the targeted conjunction words in each sentence and evaluating if the clause was independent or dependent. This corresponded with steps three and four in the SRSD approach.. The participants also identified the subjects and predicates in each sentence. All participants successfully identified the coordinating conjunction words in each sentence my circling. They also successfully conveyed the meaning of each sentence, however some participants still had difficulties evaluating if a clause was independent and dependent.	

Plan: To continue the participants' progress and independence, the clinicians plan to continue targeting the appropriate use of coordinating conjunctions. The clinicians will continue to implement the SRSD approach through a hierarchy of activities that will continue to encourage more independence and self-efficacy from each participant. The clinicians will continue to keep sessions individualized as they target specific areas of need separately for each client.

Session 3	Clinician(s): 1 & 2
Subjective: The clients arrived on time. Minimal redirection was needed as they were all engaged and actively participated.	
Objective+Assessment: To begin the session, the clinicians began with an activity for the participants to identify the coordinating conjunctions and express to the clinicians of their knowledge regarding clauses. Once each participant completed the activity with at least 80% accuracy, the clinicians moved on to a different activity where the participants had to fill in the blank with what they thought the correct coordinating conjunction was in that sentence. This offered many of the participants' challenges, and therefore the majority of participants would remain on this step. This established a new meaning of independence for the participants which led to step five in the SRSD approach. In addition, to continue improving overall writing development the participants would critique the remainder of the sentence by suggesting if there was a need correct punctuation, capitalization, or better word choice.	
Plan: To continue the participants' progress and independence, the clinicians plan to continue targeting the appropriate use of coordinating conjunctions. The clinicians will continue to implement the SRSD approach through a hierarchy of activities that will continue to encourage more independence and self-efficacy from each participant. The clinicians will continue to keep sessions individualized as they target specific areas of need separately for each client.	

Session 4	Clinician(s): 1 & 2
Subjective: The clients arrived on time. Minimal redirection was needed as they were all engaged and actively participated.	
Objective+Assessment: To begin the session, the clinicians continued targeting the participants' independence when using coordinating conjunctions during a "fill-in-the-blank" activity. Previously the clinicians were providing options where the participant had to choose among. However, now the clinicians increased the difficulty as the participants were not offered options. To continue improving overall writing development the participants would	

critique the remainder of the sentence by suggesting if there was a need correct punctuation, capitalization, or better word choice.
Plan: To continue the participants' progress and independence, the clinicians plan to continue targeting the appropriate use of coordinating conjunctions. The clinicians will continue to implement the SRSD approach through a hierarchy of activities that will continue to encourage more independence and self-efficacy from each participant. The clinicians will continue to keep sessions individualized as they target specific areas of need separately for each client.

Session 5	Clinician(s): 1 & 2
Subjective: The clients arrived on time. Minimal redirection was needed as they were all engaged and actively participated.	
Objective+Assessment: The clinicians provided an activity to increase the independence of sentence-combining skills and overall writing ability. During the session the participants were given two simple sentences. Their goal was then to combine the two sentences. Once the sentences were combined. The participants were asked to go back and determine if they could make the sentence better by fixing mistakes or establishing more descriptive language throughout. Some participants moved through the activity quicker than others as additional participants continued on as they began their own paper after the clinicians provided a writing prompt. During this time, the clinicians heavily supported all participants as they exhibited the correct way of how to set up a paper. Then the participants were given extended amount of time to establish their papers. After completing their paper, the clinicians went through their paper with them and discussed ways they could improve their writing.	
Plan: To continue the participants' progress and independence, the clinicians plan to continue targeting the appropriate use of coordinating conjunctions. The clinicians will continue to implement the SRSD approach through a hierarchy of activities that will continue to encourage more independence and self-efficacy from each participant. The clinicians will continue to keep sessions individualized as they target specific areas of need separately for each client.	

Session 6	Clinician(s): 1 & 2
Subjective: The clients arrived on time. Minimal redirection was needed as they were all engaged and actively participated.	
Objective+Assessment: As the clinicians concluded the treatment phase they ended with one last session regarding the participants' overall writing skills. The clinicians began the activities by providing a new prompt. After providing the prompt the participants were given time to complete the writing process and develop their paper. The clinicians were there to support the participants if they displayed great difficulties when following	

the writing process. After completing their writing passage, the clinician and participant then revised the paper to improve the quality. During this time, the clinicians assessed the participants' knowledge of their skills and ability to combine sentences to increase their syntactic complexity.
Plan: To continue the participants' progress and independence, the clinicians plan to continue targeting the appropriate use of coordinating conjunctions. The clinicians will continue to implement the SRSD approach through a hierarchy of activities that will continue to encourage more independence and self-efficacy from each participant. The clinicians will continue to keep sessions individualized as they target specific areas of need separately for each client.