EXAMINING THE FEASIBILITY OF AN INSTRUCTIONAL APPROACH FOCUSED ON BUILDING VOCABULARY AND READING COMPREHENSION STRATEGY KNOWLEDGE WHILE READING ADOLESCENT LITERATURE

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by

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Dedication

I dedicate this dissertation to my mom, Robin. Thank you for continuously reminding me that “I am the storm.”

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Abstract

This three-manuscript dissertation explored cognitive and instructional aspects of reading comprehension for adolescents (i.e., children ages 10 through 19). The overall guiding framework for this work was the RAND Reading Study Group's Heuristic for Reading Comprehension, which emphasizes reading comprehension as including three interrelating elements of the reader, text, and activity that all exist within a larger sociocultural context (Snow, 2002). Additionally, the Simple View of Reading (Gough & Tunmer, 1986), which posits that comprehension is the product of both text-based and language-based skills, is utilized further to expand the element of the reader within the framework. Manuscript One employed latent profile analysis to identify unique patterns of adolescent literacy performance in word-level and comprehension skills among a large sample of students (N = 23,800) in the Fall of Grade 6. Separate analyses were conducted and compared for typically developing students and those with Specific Learning Disabilities. This study also investigated the stability of those profiles across the middle school years (i.e., Grades 7 and 8) and examined the predictability of performance on a broad measure of reading comprehension. Manuscript Two synthesized the existing literature on comprehension instruction while reading adolescent literature for students with or at risk of reading difficulties in grades 4 through 12. Manuscript Three evaluated the feasibility of implementing a systematic instructional approach to building vocabulary and comprehension strategies while reading an adolescent literature text in fifth and sixth-grade Language Arts classrooms. This convergent mixed-methods study evaluated the feasibility of implementation through constructs of utility, appropriateness, and acceptability.

Keywords: adolescent literacy profiles, reading difficulties and disabilities, adolescent literature, adolescent reading comprehension instruction, feasibility research

Linking Document

Providing Effective Reading Comprehension Instruction to Adolescents with or at Risk for Reading Difficulties

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Reading comprehension is the complex process of extracting and constructing meaning from written text. This process is influenced by numerous factors, including the *reader* who comprehends the text, the *text* to be comprehended, and the *activity* that requires comprehension (Snow, 2002). Readers may exhibit comprehension difficulties for many reasons; at the knowledge and ability level, this can include problems with word recognition, language comprehension, or a combination of the two. There are additional considerations for adolescent readers as their comprehension is also impacted by self-regulation, motivation, and engagement (Guthrie et al., 2013). Furthermore, the reading demands for adolescents increase significantly in secondary grades because they encounter various text types and genres that escalate in complexity.

Given the myriad of factors influencing reading comprehension at the secondary level, it is unsurprising that many adolescent readers experience reading comprehension difficulties. This difficulty is evident in the 2022 National Assessment of Education Progress (NAEP) Report Card data that demonstrated only 33% of Grade 4 students and 31% of Grade 8 students scored at or above a proficient level in reading, which is a decrease of 2 and 3, percent respectively from the 2019 administration. Additionally, NAEP reading performance for Grade 4 students with disabilities decreased from 12% to 11%. Grade 8 students with disabilities performance remained stagnant, with only 9% scoring at or above a proficient level in 2019 and 2022. With the understanding that many adolescents, including those with disabilities, experience reading comprehension difficulties, the present set of studies seeks to add to the literature base on improving adolescent literacy. This set of studies explores three related facets of adolescent reading instruction, including (a) the heterogenous nature of word-level and reading comprehension profiles for adolescents with and without specific learning disabilities (SLD), (b) the characteristics and effects of extant research employing reading comprehension instruction that utilizes adolescent literature as the instructional text, and (c) the potential impact

and feasibility of implementing reading comprehension instruction utilizing adolescent literature that focuses on building vocabulary and developing comprehension strategies.

Heterogenous Nature of Adolescent Literacy Profiles

Prior research investigating the component reading skills of adolescents with reading comprehension difficulties suggests several heterogeneous profiles (Brasseur-Hock et al., 2011; Cirino et al., 2013; Clemens et al., 2017). Brasseur-Hock and colleagues (2011) identified five profiles of below-average comprehenders with subgroups of students with specific weaknesses in listening comprehension, reading comprehension, fluency, and students with moderate and severe levels of global weaknesses. Four distinct literacy profiles were revealed by Clemens and colleagues (2017) with various combinations of low and average performance in the areas of fluency and vocabulary (e.g., low fluency and low vocabulary, low fluency and average vocabulary, average fluency and low vocabulary, average fluency and average vocabulary). Notably, an overwhelming majority of their sample (96%) demonstrated difficulties in either fluency, vocabulary, or both. Similarly, Cirino et al.'s (2013) findings revealed that middle school students with and without difficulties who displayed comprehension difficulties also demonstrated difficulties in decoding and/or fluency.

Moreover, heterogeneous profiles have been identified in adolescents with late-emerging reading difficulties (Catts et al., 2012; Etmanskie et al., 2016; Leach et al., 2003). The longitudinal study by Leach and colleagues (2003) revealed that more than two-thirds of students in their sample with late-emerging reading difficulties demonstrated some difficulty with word identification and decoding. Conflicting findings from both Catts et al. (2012) and Etmanskie et al. (2016) suggest that students with late-emerging reading difficulties are more likely to have difficulties with reading comprehension than with word recognition. Altogether, these findings indicate that many adolescent readers with reading comprehension difficulties,

regardless of disability status, may display areas of weakness in word recognition, including the component skills of decoding and fluency.

When considering the heterogeneous nature of adolescent literacy profiles, including those with SLD, it is evident that a “one size fits all” approach to reading comprehension is not likely to be effective for all students. This body of studies underscores the importance of screening adolescents with valid and reliable reading assessments that are sufficiently comprehensive to identify weaknesses in reading comprehension and foundational reading skills that contribute to reading comprehension. Subsequently, these assessment results should be used to inform the design of reading instruction and intervention that address the necessary components of reading (Cirino et al., 2012) at an appropriate intensity (Fuchs et al., 2010).

Adolescent Literature Instruction

Beginning in the upper elementary grades, students encounter book-length texts such as novels, also called chapter books. It is important to note that simply exposing students to these types of texts does not guarantee that they can independently read and comprehend them. As previously mentioned, text features are one of the main elements of comprehension (Snow, 2002). Student comprehension may be hindered for reasons unique to reading lengthier texts (Morgan & Williams, 2009). One reason is that novels and chapter books often have a complex format with numerous layers of story action and meaning (Peterson & Eeds, 1990). Another reason is that sustained understanding throughout the text is crucial for students to make sense of the complicated storylines, conflicts, multiple characters, and changes in setting that are often present in book-length texts. Additionally, students may be unable to automatically generalize skills and strategies practiced in isolation and shorter texts to lengthier texts without instruction and guidance (Morgan & Williams, 2009).

These lengthier types of texts students encounter in the upper elementary and secondary grades can often be classified as adolescent literature (i.e., book-length works written for an audience of 11- to 21-year-olds; Dagostino et al., 2021) with a prominent defining feature being that the subject matter is often written from the viewpoint of young people (Nilsen & Donelson, 2008). Reading texts written from a young person's point of view can help adolescents understand concepts at their developmental and experiential level (Dagostino et al., 2021). Additionally, this characteristic allows these texts to appeal to adolescents in such a way that can boost their reading motivation and engagement in the classroom setting (Graves & Philippot, 2002; Ivey & Broaddus, 2001). Given the appeal of adolescent literature, it is logical to consider it a well-suited text type for reading comprehension instruction, especially for students with reading comprehension difficulties in the secondary grades.

Reading Comprehension Instruction Utilizing Adolescent Literature

A dearth of research exists on the effects of instruction utilizing adolescent literature on the reading comprehension outcomes of students, especially those with reading comprehension difficulties. Much of the extant body of research on adolescent literature focuses on aspects related to young adult identity development and personal growth, which is primarily drawn from psychological and sociological perspectives (Dagostino et al., 2021). This research is mainly qualitative in design and focuses on aspects of student social interactions (Allen et al., 2003), experiences of teachers and students when implementing literature discussion groups (Chase, 2000; Evans, 2002), and student identity and leadership development (Smith, 1997).

A few instructional approaches for book-length and adolescent literature have been developed for classroom reading instruction. Two widely known approaches that involve groups of students engaging in discussions involving a piece of literature are book clubs (Raphael & McMahon, 1994) and literature circles (Daniels, 2002). These instructional approaches aim to improve the comprehension skills of students as well as their ability to interpret and think

critically about text (What Works Clearinghouse, 2010). While a small body of studies employs these instructional approaches, the What Works Clearinghouse (2010) could not draw any research-based conclusions on their effectiveness because the studies either did not fall within the scope of their adolescent review protocol or did not meet their evidence standards. Chapter glancing (Morgan & Williams, 2009) is another instructional approach designed for book-length texts, but no empirical studies have investigated its effectiveness. A few studies have examined the effects of reading comprehension instruction utilizing AL with students with or at risk for reading difficulties. These studies have been conducted with students at the upper elementary level, including grades 4 and 5 (Conner et al., 2018; Dugan & Bean, 1996; McElvain, 2010; Parker et al., 1999; Quist, 1995) and at the secondary level, including grades 6 through twelve (Egan et al., 1996; Granger et al., 2007; Lamanno, 2007; Williams, 2014; Wilson, 1998). This body of studies contains mixed effects on the reading comprehension performance of participants.

Dissertation Overview

Manuscript 1: *Examining the Word-Level Skill and Reading Comprehension Profiles of Adolescents with and Without Specific Learning Disabilities*

In the first manuscript, I explored the unique literacy profiles of a large sample of typically developing adolescents (N=21,445) and those with a specific learning disability (N=2,355). Latent profiles were created using subtests from a state-level standardized reading assessment, including a measure of word-level skill (e.g., word analysis subtest) and two measures of reading comprehension (e.g., reading comprehension subtest and Maze subtest) administered in the fall of the sixth grade. This paper also examined the developmental trajectories of latent profiles across three time points (Grades 6, 7, and 8) to provide a picture of how students performed across the middle school years. Lastly, the paper utilized information related to latent profile membership and transitions to estimate the relationship between latent

profile membership and a distal measure of broad reading performance (i.e., a state-level high-stakes standardized assessment) administered in the spring of Grades 7 and 8.

Manuscript 2: *Reading Comprehension Instruction Utilizing Adolescent Literature: A Systematic Review*

In manuscript 2, I conducted a systematic literature review to investigate the characteristics and effects of reading comprehension instruction for students in grades 4 through 12 with reading comprehension difficulties that utilized adolescent literature as the primary vehicle for instruction (i.e., book-length texts). For this review, adolescent literature was defined as a book-length text written for an audience of 11- to 21-year-olds in which the subject matter is written from a young person's viewpoint. Texts fitting this description may also be called novels, chapter books, trade books, graphic novels, or young adult literature. This review uniquely contributed to the existing literature base on adolescent reading comprehension as most reviews of extant reading comprehension research synthesized studies that utilized shorter, passage-length texts for instruction, and the existing review of research that synthesized studies that utilized book-length texts was conducted over a decade ago. Electronic, hand, and ancestral searches were conducted, which yielded a total of 10,372 abstracts. After duplicates had been removed, they were screened. The screening and hand and ancestral search yielded 25 full texts that were assessed for eligibility, resulting in 10 studies included in the final review. Studies represented various quantitative study designs, including treatment comparison (e.g., experimental and quasi-experimental), single group pre-post, and single subject.

Manuscript 3: *Examining the Feasibility of an Instructional Approach Focused on Building Vocabulary and Reading Comprehension Strategy Knowledge While Reading Adolescent Literature*

Finally, for the third manuscript, I conducted a feasibility study of an instruction approach using an adolescent literature book-length text focused on building vocabulary knowledge and reading comprehension strategies in 5th and 6th-grade language arts classrooms. The instructional approach is adapted from an early reading comprehensive vocabulary and comprehension curriculum (e.g., EAGER BVERS). Specifically, it incorporates approaches to reading comprehension instruction for adolescents identified as effective by recent research syntheses and meta-analyses (i.e., building students' background knowledge and use of comprehension strategies). Instruction was delivered for 30 minutes a day, 3-4 days a week, for 6 weeks. This convergent mixed methods study combined evidence from teacher surveys, teacher fidelity observations, field notes of teacher debriefs following observations, teacher focus group interviews, and student social validity surveys. Results are reported across six dimensions of fidelity, including integration, implementation, practicality, adaptability, effectiveness, and social validity, as outlined by Gadke and colleagues (2021). Results indicated that the approach was easy to implement, many components were well-liked by teacher and student participants, and teachers provided anecdotal evidence of its potential effectiveness. Additionally, notable barriers to implementation were encountered, including the lessons' lengthiness, the lack of integrated grade-level standards, and the inability of the approach to adapt to meet the diverse needs of a large group of students.

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Manuscript 1

Examining the Word Level Skill and Reading Comprehension Profiles of Adolescents with and without Specific Learning Disabilities

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Abstract

This study examined the heterogeneity of literacy profiles for adolescents with and without Specific Learning Disability (SLD). Student subgroups displaying common patterns of performance in word level skills and reading comprehension were identified through latent profile analysis. Results indicate most of the total sample demonstrated below average performance in one or both areas with word level skill difficulties being more common than difficulties in reading comprehension alone. Changes in reading performance by profile over time (Grade 6 to 8) were examined through a latent transition analysis revealing consistent patterns in the SLD sample and variable patterns in the typically developing sample. Resulting profiles were utilized to predict performance on an end-of-year broad reading comprehension measure indicating very little change in performance over time. Findings suggest large numbers of adolescents with concurrent word level and reading comprehension difficulties likely need sustained intervention in word level skills to support their reading comprehension.

Keywords: adolescent literacy, reading comprehension, spelling, specific learning disability

Examining the Word Level Skill and Reading Comprehension Profiles of Adolescents with and without Specific Learning Disabilities

Introduction

As adolescent readers progress through secondary grades, they face increasingly difficult demands requiring them to read and apply knowledge from complex texts. This level of reading for understanding may be markedly difficult for students that possess weaknesses in one or more of the core skills necessary for reading comprehension. The Nation's Report Card (2019) makes evident the existence of reading comprehension difficulties in adolescent students by reporting that only 34% of eighth-grade students scored at or above Proficient level on the 2019 National Assessment of Education Progress (NAEP) Reading Assessment.

Research has revealed that proficiency in multiple skills, including foundational text reading skills, as well as receptive and expressive language, are required for accurate reading comprehension. This is evident in the empirically validated framework of reading comprehension known as the Simple View of Reading (SVR; Gough & Tunmer, 1986), which describes reading comprehension as the product of decoding and language comprehension. The relationship between decoding and language comprehension can vary based on a few reasons, one of which being the number of years the individual has been reading (Florit & Cain, 2011). This specifically applies to adolescents because the strength of the relationship between decoding and reading comprehension decreases around the age of 10 (García & Cain, 2014). For novice, early readers, decoding has the largest influence on reading comprehension, but language comprehension becomes increasingly more important as students' decoding skills develop and the texts they read become more complex (Language and Reading Research Consortium, 2015; Tilstra et al., 2009). This trend is likely because the relative importance of decoding and language comprehension changes based on students' level of reading development and the complexity of the texts they are reading (Lonigan et al., 2018).

The Simple View of Reading underscores the importance of decoding and language comprehension; however, it does not thoroughly define all the component skills within these domains that influence comprehension. Better insight into the specific component skills required for reading comprehension, specifically in adolescent and older readers, is provided by the direct and inferential mediation (DIME) model of reading comprehension. The DIME model of reading comprehension (Cromley & Azevedo, 2007) extends the SVR by breaking comprehension into its component parts. The DIME model hypothesizes that the relationship between five components are responsible for reaching comprehension including background knowledge, vocabulary, inference, strategies, and word reading. The importance of word reading, vocabulary, and background knowledge are stressed because they directly affect reading comprehension and indirectly affect the reader's ability to utilize comprehension strategies and draw inferences.

While the DIME model of adolescent reading does not specifically include a spelling construct, there is some agreement that orthography is related to skilled reading. Research has demonstrated a moderate to strong relation between decoding and spelling at the grapho-phonemic level (Robbins, et al., 2010). More complex grapho-phonemic patterns, like those encountered by readers in secondary grades, have higher correlations than those of less complex patterns, like those encountered by readers in elementary grades. When students read words, their memory retains word-specific knowledge that then contributes to their ability to spell words (Ehri, 2000). Spelling has been shown to have a small direct effect on reading comprehension that increases as students' progress from sixth grade to tenth grade (Reed et al., 2016). Additionally, it has been found that spelling mediates the relationship between vocabulary knowledge and reading comprehension for students in this age group.

Research has demonstrated that improving the reading comprehension skills of adolescents, especially on standardized measures of reading comprehension, is quite difficult

(Scammacca et al., 2015; Solis et al., 2014; Wanzek et al., 2013). Reading comprehension ability can break down for a multitude of reasons (Snow, 2002), but when focusing on the SVR to determine the origins of reading comprehension difficulties, the most obvious origins of such difficulties would include problems connected to language comprehension and/or word reading problems. Within the context of the DIME model of reading comprehension, all five components made significant contributions to reading comprehension for older students including word reading which had a small, significant direct effect (Cromley & Azevedo, 2007). In adolescents, extant research has shown that the majority of students with reading comprehension difficulties commonly have additional difficulties in more basic word level reading skills (Cirino et al., 2013).

Literature Review

The Heterogeneous Nature of Reading Skills Among Adolescents with Reading Difficulties

Studies investigating the component reading skills of adolescents with reading difficulties suggest a heterogeneity of profiles (Brasseur-Hock et al., 2011; Cirino et al., 2013; Clemens et al., 2017). Brasseur-Hock et al. (2011) investigated reading skill profiles of adolescent struggling readers (*n*=319) on three standardized measures of reading comprehension and eight standardized measures of component skills including vocabulary, listening comprehension, word- and text-level reading accuracy and fluency. Importantly, five profiles of component skills emerged among below average comprehenders distinguished by their specific strengths and weaknesses. Findings revealed subgroups of students with specific weaknesses in listening comprehension, reading comprehension, fluency, and students with moderate and severe levels of global weaknesses. Cirino et al. (2013) investigated the pattern of overlap between middle school typical readers (*n*=723) and those with reading difficulties (*n*=1,025) on measures of decoding, fluency, and comprehension. They found that the majority of sixth to eighth grade students with reading comprehension difficulties also had difficulties in decoding or fluency.

Their findings also revealed a varying relation between reading components for students with reading difficulties.

Clemens and colleagues (2017) investigated the prevalence of reading fluency and vocabulary difficulties among 180 adolescents in Grades 6 though 8 with low reading comprehension. Findings revealed four distinct score profiles with 96% of the sample demonstrating difficulties in one or both areas. The largest group, which was comprised of over half the sample (*n*=103, 57%), included the low fluency and low vocabulary profile. Two mixed profiles included less than a quarter of the sample: low fluency and average vocabulary (*n*=41, 23%); average fluency and low vocabulary (*n*=28, 16%). Lastly, a very small portion of the sample, only 4% (*n*=8), fit the profile for average fluency and average vocabulary. Altogether, these studies suggest that the majority of adolescent readers with reading comprehension difficulties, regardless of disability status, display areas of weakness in component skills including word reading and fluency.

The existence of heterogeneous profiles is also evident in adolescents with late emerging reading difficulties (Catts et al., 2012; Etmanskie et al., 2016; Leach et al., 2003). The identification of this subgroup of students was first introduced in Chall's (1983) theory of reading through discussion of the "fourth grade slump". Students in this subgroup may exhibit adequate or better progress in beginning reading but begin to fall behind when advanced texts require them to integrate their vocabulary and critical thinking skills with their basic reading skills. Essentially, as reading material in Grade 4 becomes more complex and reading instruction is not continued past the primary grades, some skilled readers can suddenly present with reading problems (Etmanskie et al., 2016).

Leach and colleagues (2003) classified children with late-emerging reading difficulties into three reading subtypes: children with primary problems in word recognition, children with primary problems in comprehension, and children with both word recognition and

comprehension difficulties. Children in any of these groups may have different underlying deficits. Through their longitudinal study, Leach et al. (2003) found that more than two thirds of the late emergers also had at least some difficulty with word identification and decoding, providing support that many children who exhibit late-emerging reading difficulties have difficulty at the word level. Another longitudinal study by Catts et al. (2012) produced conflicting results suggesting that children with late-emerging reading difficulties may be more likely to have difficulties with reading comprehension than with word recognition. To further investigate this subgroup of students, Etmanskie et al. (2016) conducted a longitudinal study to explore the permanence or lack of late-emerging reading difficulties. Their findings in the prevalence of late-emerging reading difficulties were that 0.2% of children in their sample had poor word reading skills and 3.3% of children had poor reading comprehension skills for the first time in Grade 4 which were consistent with those of Catts and colleagues in that difficulties with reading comprehension were more common than difficulties with word recognition.

Current Study

This study builds upon extant research that has described the heterogeneous nature of reading skill profiles among adolescents, specifically those with reading difficulties. This study will contribute to the growing body of work showing that adolescents with reading comprehension difficulties may experience difficulties in component skills that contribute to reading comprehension (Biancarosa & Snow, 2004). Previous research on adolescent literacy profiles utilized smaller sample sizes and rarely compared typically developing students to those with reading difficulties. The current investigation draws upon a much larger sample of students while also separating groups of students with and without formal diagnosis of a specific learning disability (SLD) for analysis. Additionally, this study utilizes resulting student skill profiles to predict performance on a broad measure of reading comprehension in two subsequent years which has not previously been included in analyses in this area of research. Latent profiles were

extracted from a large state-level dataset, utilizing Latent Profile Analysis (LPA) in order to determine the number of unique profiles that emerge based on measures of word level skills and reading comprehension for sixth-grade students with and without SLD. Next, the component reading skill profiles were examined for changes in performance over time through a Latent Transition Analysis (LTA) before being used to predict students' scores on a broad measure of reading comprehension in grades seven and eight for each group of students. The research questions for this study include:

1. How many reading component skill profiles emerge for students with SLD and those without SLD?
2. How does reading performance change or stay the same for the latent profiles across all three middle school years?
3. How do the latent transition profiles predict performance on a broad measure of reading comprehension in subsequent grades one year and two years later?

Method

Participants

This study used data from Florida's Progress Monitoring and Reporting Network (PMRN), a statewide educational database of standardized assessment data for all Florida public school children in kindergarten through twelfth grade. Sixth grade reading data came from 2011-2012 school year, and seventh and eighth grade reading data were from the subsequent 2012-2013 and 2013-2014 school years, respectively. In sixth grade, the students with SLD had an average age of 11.32 (*SD* = .62) and typically developing (TD) students had an average age of 10.71 (*SD* = .46). Data on specific learning disability and other exceptionality status were drawn from the PMRN and included students classified under the Individuals with Disabilities Education Act (IDEA). According to IDEA, a child has SLD if, "a child does not achieve adequately for the child's age or to meet State-approved grade-level standards in one

or more of the following areas, when provided with learning experiences and instruction appropriate for the child's age or State-approved grade–level standards: oral expression, listening comprehension, written expression, basic reading skills, reading fluency skills, reading comprehension, mathematics calculation, mathematics problem solving" (US Department of Education, 2014). Overall, IDEA provides free appropriate public education, evaluation and individualized education plans for children who qualify for an exceptionality under 14 categories: (1) autism, (2) deaf-blindness, (3) deafness, (4) emotional disturbance, (5) hearing impairment, (6) intellectual disability, (7) multiple disabilities, (8) orthopedic impairment, (9) other health impairment, (10) specific learning disability, (11) speech or language impairment, (12) traumatic brain injury, (13) visual impairment, and (14) developmental delay (Dragoo & Lomax, 2020). For our operationalization of students with SLD, only those students who were classified under the IDEA category of SLD (and no other IDEA category) as reported in the PMRN were included. Only children with complete data availability were included in the analyses.

As a first step, the overall sample underwent a series of status checks for SLD status, SES status, and school attendance. Given the current study's interest in determining the differences in the component reading skills of both SLD and TD students, any child who did not retain a designation of SLD or TD for all three school years (2011-2014) was dropped from the overall sample (n = 141). Similarly, due to the importance of SES in achievement outcomes and the inclusion of SES as a covariate in the models, any child who did not retain the same designation as eligible or not eligible for free or reduced lunch for all three years was dropped from the overall sample (n = 6,335). Finally, due to the nesting of children within schools and the need to account for school effects, any child who did not attend the same school for all three years was dropped from the overall sample (n = 8,552).

The final sample at Time 1 included 23,800 students in 6th grade during the 2011-2012 school year who were attending schools across the state of Florida. Prior to running analyses, the component reading skill scores were mean-centered for the whole sample. Then, the

sample was divided into two subsamples: SLD and TD students. Specifically, there were 2,355 SLD students across 399 schools and 21,445 TD students across 504 schools. Times 2 and 3 included the same students with the same designation (SLD or TD) who were in 7th grade during the 2012-2013 school year and 8th grade during the 2013-2014 school year, respectively. For TD students, 53.99% qualified for free or reduced-price lunch status, 47.92% were male, and the racial/ethnic composition included 49.82% White, 27.69% Black, 16.11% Hispanic, and 6.37% Other. For students with SLD, 60.00% qualified for free or reduced-price lunch status, 49.33% were male, and the racial/ethnic composition included 47.28% White, 31.39% Black, 15.21% Hispanic, and 5.99% Other.

Procedure and Measures

All reading-related assessments were administered as a part of regular school attendance during the fall semester of each school year, with the exception of The Florida Comprehensive Assessment Test (FCAT), which was administered during the spring semester of each school year. The measures used to create the latent profiles came from the Florida Assessment for Instruction in Reading (FAIR, Florida Department of Education, 2009) and include the Reading Comprehension subtest, the Word Analysis subtest, and the Maze subtest. All three subtests are administered on a computer and require students to wear headphones and have a live Internet connection. Each task includes directions and practice items with feedback. The combination of all three FAIR assessments in Grades 3 -10 has been shown to predict FCAT reading performance (Florida Department of Education).

Socioeconomic Status (SES)

SES was operationalized as student-level free or reduced-price lunch rate and was drawn from the PMRN. Free or reduced-price lunch rate is measured as the percentage of students eligible for subsidized lunch. Free lunch is offered to students from households with an income at or below 130 percent of the poverty income threshold, and reduced-price lunch is

available for students from households with an income in the range of 130-185 percent of the poverty threshold (Kena et al., 2015).

FAIR Reading Comprehension subtest. The FAIR Reading Comprehension (RC) subtest is a computer-adaptive assessment comprised of one to three literary and informational passages, which are read silently and followed by seven to nine multiple- choice questions. Raw scores were used in the current study. Generic estimates of reliability from item response theory are .92 in Grades 5–12.

FAIR Maze Task. The Maze is a timed, computer-administered cloze-format test of text reading efficiency. Students are instructed to silently read a passage and choose which one of three words best completes the cloze items embedded within each passage. The score on the Maze based on the average number of Maze items correctly in 3 minutes on two passages. Raw scores were used in the current study. Corrected parallel-form reliability ranges from .77 to .90 in Grades 7–12.

FAIR Word Analysis Task. The Word Analysis Task (WA) is a computer-adaptive test of spelling that assesses students' knowledge of the phonological, orthographic, and morphological information necessary to accurately identify words in text. Students begin by spelling five words at their grade level. Then, the system adapts based on their ability and they receive harder or easier words, with an average of approximately 12 words spelled and a maximum of 30 words total. Raw scores were used in the current study. Based on generic IRT, estimates of reliability for the Word Analysis task range from .90 in Grades 4–6 to .95 in 8th grade (Foorman & Petscher, 2010).

FCAT Reading Comprehension Subtest. The Florida Comprehensive Assessment Test 2.0 (FCAT) is a high-stakes standardized assessment that is administered every spring to Florida public school students in grades 3 through 12 to test for reading comprehension skills that students are expected to master at each grade level (Tannenbaum et al., 2006). The FCAT has shown high reliability, ranging from .86-.91 (Tannenbaum et al., 2006; Florida Department of

Education, 2002). In the present study, Developmental Scale Scores were used which is a vertically scaled score that allows for the development of the same child across grade levels to be measured. For grades 3-12, alpha reliability coefficients exceed .90, ranging from .92 to .95 (Carlson et al., 2010).

Data Analyses

Latent Profile Analysis (LPA) operates under the assumption that the observed sample is a combination of individuals from different latent profiles, with individuals who have similar observed scores on a set of selected measures assumed to come from the same probability distributions and thus, belonging to the same profile (Vermunt & Magidson, 2002). LPA is conducted using a systematic model comparison approach to determine the best model based on a balance of parsimony, model fit, and the interpretability of the profiles for a series of models that increase by one profile (i.e., subgroup) at a time. When an increase in model fit is not statistically significant, it is an indication that that the more parsimonious model, with one fewer profile, should be chosen. Starting with a two-profile solution, the three FAIR measures (RC, WA, and Maze) were used to systematically test solutions with increasing numbers of profiles. The fit statistics used to evaluate the models were the log-likelihood ratio test, entropy, Akaike information criterion (AIC), Bayesian information criterion (BIC), sample-size-adjusted BIC (SABIC), and the Lo-Mendell-Rubin adjusted likelihood ratio test (LMR-LRT) and its accompanying *p*-value. For the log likelihood ratio test and entropy statistics, higher values signify a better fit. For AIC, BIC, and SABIC, smaller values are indicative of better fit. For the LMR-LRT test, a higher value and a statistically significant *p*-value ($p < .05$) indicate a better fit

Given the longitudinal nature of the data, instead of assuming measurement invariance like a traditional LPA approach, Latent Transition Analysis (LTA; Velicer et al., 1996) was used to examine the developmental trajectories of latent profiles across three time points (Grades 6, 7, and 8) and test for measurement invariance directly. Conducting an LTA allowed for examination of how the presence of latent profiles and their associations varied over time (Ryoo et al., 2018),

providing a picture of how students performed across the middle school years and enabling the consistent interpretation of latent status characteristics.

All analyses were conducted in Mplus version 7.4 (Muthén & Muthén, 1998-2012) using Full Information Maximum Likelihood (FIML) and an integration algorithm. LPAs were conducted based on the three FAIR reading subtests (RC, WA, and Maze) for each of the three time points (Time 1 = 6th grade, Time 2 = 7th grade, Time 3 = 8th grade), and the same three measures were used for the LTAs. Because children were nested within schools, the multilevel aspect of the data was incorporated into the models implicitly through the estimation of cluster-robust standard errors (McNeish et al., 2017), allowing the focus of the present analysis to stay on student-driven differences rather than the role played by schools. Covariates included age, and sex, and socioeconomic status (SES). In order to use the age, sex and SES covariates as control variables, they were included when enumerating the latent statuses (Li & Hser, 2011). To compare relative fit among LTA models, -LL, AIC, BIC, SABIC, and entropy were used. Consistent with other longitudinal data analyses, it was necessary to diagnose and explore cross-sectional data first at each time point. Therefore, a series of LPA models were conducted separately for SLD and TD children to determine the most likely number of latent profiles that were present in each group for each school year. The results from the LPAs at each time point are presented separately for TD students and students with SLD in Table 1. Once the most likely number of profiles was determined for each group, each candidate number of profiles was tested as an LTA that included all three time points (6^{th}, 7^{th}, and 8^{th} grade) to determine which model fit the longitudinal data best while providing the most theoretically informative profile divisions. Then, for each candidate LTA model, measurement invariance was tested to determine whether item response probabilities should be constrained or freely estimated. The reason for this comparison was to determine whether item response probabilities caused ambiguity when latent statuses were defined because their characteristics were attributable to not only observed items but also to measurement model variance. When longitudinal

measurement invariance is met (because an invariant model fits better than a freely-estimated model), it means that latent status characteristics are attributable to observed items over time and not to measurement model variability (Ryoo et al., 2018). Importantly, even the freely-estimated model was restrained to be configurally invariant, meaning that all latent statuses were constrained to have the same factor structure (i.e., 3 profiles for each grade; Asparouhov & Muthén, 2014).

Once the final LTA model was estimated for TD students and students with SLD separately, information related to latent profile membership and transitions was extracted for use in a subsequent model for each group to estimate the relationship between latent profile membership and a distal measure of broad reading performance: average FCAT reading scores in 7^{th} and 8^{th} grade using the ML three-step approach (Vermunt & Magidson, 2013). The ML three-step approach was developed based on an error-in-variable schema, meaning that it accounts for the fact that measurements used to define latent profiles are subject to measurement error. Accordingly, this approach aims to account for this measurement error and estimate the true underlying latent profiles by using a three-step process. The steps involve (1) identifying the best-fitting unconditional model and saving the posterior probabilities and modal profile assignment for that model, (2) computing estimated conditional probabilities for modal profile assignment given true latent profile membership, and (3) specifying a new analytic model (that includes FCAT reading scores in 7^{th} grade and 8^{th} grade) with fixed parameters representing the classification error (Vermunt & Magidson, 2013).

Results

Descriptive statistics for all achievement measures are presented separately for SLD and TD students in Table S1, and the bivariate correlations between the reading assessments, age, and SES are presented in Table S2 in the supplemental materials.

LTA of Typically Developing (TD) Children

After conducting a series of LPA models for each time point, measurement invariance was tested for each of the potential LTA profile solutions. The fit indices for all LTA models tested are presented in Table 2 with TD students and students with SLD reported separately. The final LTA model chosen for TD children was a freely-estimated model with 3 latent profiles for each middle school year, with freely estimated means, variances, latent status prevalences, and latent status transitions. Although fit indices indicated that the four-profile model provided a better fit for all three grades, an examination of the profile means revealed that the third and fourth profiles from the 4-profile model were barely discernible in 7th and 8th grade. As such, the three-profile model was chosen, which showed a unique pattern of performance for each profile on the three FAIR reading measures over time (depicted in Figure 1).

The overall means and variances (in parentheses) for the component reading skills were -10.21 (7684.68), 13.90 (8333.07), and 1.26 (79.75) for 6th grade RC, WA, and Maze, respectively. For 7th grade, the overall means (and variances) for RC, WA, and Maze were 11.42 (8391.61), 11.83 (5960.04), and 1.64 (52.49), respectively. For 8th grade, the overall means (and variances) for RC, WA, and Maze were 12.39 (8938.28), 13.49 (7930.36), and 1.46 (117.65), respectively. The means for all three reading components were similar over time, with RC means steadily increasing from 6th-8th grade, and WA and Maze performance means following less consistent patterns. The latent prevalences, means and variances for each reading measure by latent profile are presented in Table 3.

Based on their latent means, the three profiles were named Persistently Low Performers with Declining Comprehension (Profile 1), Improvers in Comprehension and Word Level Skills (Profile 2), and Decliners in Comprehension and Word Level Skills (Profile 3). Across all profiles and grades, TD children showed consistent and average Maze performance, indicating that Maze may not be a good component skill for differentiating latent profiles of TD readers. The three profiles are described in detail below.

Profile 1: Persistently Low Performers with Declining Comprehension. This group started as the largest profile, with identical prevalences in 6th and 7th grade (53%) but dropped to just 7.4% of the sample, and thus the smallest group, by 8th grade. Students in this group were characterized by consistently low performance on all three reading measures, with WA and Maze performance that stayed about the same and declining RC performance that reached its lowest point in 8th grade. The transition probabilities for this profile suggested that all students who started in this group transitioned to a different group at both transition points, with 98.6% transitioning to Profile 3 with just 1.3% transitioning to Profile 2 in 6th-7th grade and 97% transitioning to Profile 2 with just 3% transitioning to Profile 3 in 7th-8th grade.

Profile 2: Improvers in Comprehension and Word Level Skills. This group demonstrated inconsistent prevalences across the three school years, starting at 29% in 6th grade, declining to 7% in 7th grade, and increasing to 46% (the largest profile) in 8th grade. This group was characterized by high word level skills and especially high comprehension skills. They began 6th grade as the second highest performing profile with especially high comprehension performance, showed a large jump in word level skills performance in 7th grade, and then another large jump in comprehension performance in 8th grade, ending middle school with the highest scores in all reading domains. The transition probabilities for this profile suggested that all students who started in this group transitioned to a different group in the 6th-7th grade transition, with most students (96.2%) transitioning to the Profile 3 and 3.8% transitioning to Profile 1. In contrast, the 7th-8th grade transition probabilities for this profile suggested that a majority (98.6%) of students would remain in this profile, with just 1% transitioning into each of the other two profiles.

Profile 3: Decliners in Comprehension and Word Level Skills. This group started with a low prevalence (18%) in 6th grade but increased to much higher prevalences in 7th and 8th grade (40% and 46%). They started off as the highest achieving profile, with especially high WA performance but showed inconsistent RC and WA performance across the three middle school

years. In 7th grade, there was a large decline in WA performance, followed by a large decline in RC performance in 8th grade, so by the end of middle school, RC, WA, and Maze performance were all at the same level and below average. The transition probabilities for this profile suggested that just only 3.8% of students who started in this group stayed in this group in the 6th-7th grade transition, with moderate proportions (38.4% and 57.8%) transitioning to Profile 1 and 2, respectively. In contrast, the 7th-8th grade transition probabilities for this profile suggested that most of these students (88.9%) transition to Profile 1 and the remaining 11.1% would remain in the same profile.

LTA for Students with Specific Learning Disability (SLD)

After conducting a series of LPAs for each time point for children with SLD, a differing number of profiles were found to provide the best fit for each of the three grades: 3 profiles in 6th grade, 4 profiles in 7th grade, and 2 profiles in 8th grade. As such, 2-, 3- and 4-profile LTA models were tested. The LTA models tested included the covariate effects of age, sex and SES in the creation of latent profiles and latent transition probabilities. For each number of profiles, measurement invariance was tested, comparing a freely-estimated model (with freely-estimated means, variances, prevalences, and transition probabilities) to a measurement invariant model. All fit indices for the LTA models tested are presented in Table 2. The freely-estimated LTA that included 4 latent profiles demonstrated the best fit according to most indices (-LL, AIC, SABIC, and entropy), but the 3-profile model showed better fit according to the BIC. After plotting and comparing the two models, the 3-profile model (depicted in Figure 1) was chosen because it showed performance patterns that were more interpretable and theoretically stable than the 4-profile model.

The overall means and variances (in parentheses) for the component reading skills were -62.62 (4516.97), -94.94 (8107.67), and -8.31 (58.32) for 6th grade RC, WA, and Maze performance, respectively. For 7th grade, the overall means (and variances) for reading RC, WA, and Maze performance were -62.93 (5822.81), -75.98 (6445.73), and -9.79 (73.82),

respectively. For 8th grade, the overall means (and variances) for RC, WA, and Maze performance were -61.47 (8526.08), -84.85 (9274.71), and -9.64 (93.52), respectively. The means for RC and Maze performance were similar between the time points, but WA performance had mean differences ranging from 10 to 19 points across the three grades. Notably, all means were much lower for children with SLD than those of TD children, lending support to the choice to separate the two groups.

The latent prevalences, means, and variances for each reading measure by latent profile are presented in Table 3. The three profiles that emerged for students with SLD were characterized based on their means as Consistently Low Performers with Improving Word Level Skills (Profile 1), Consistently Average Performers (Profile 2), Consistently High Performers with a Word Level Skill Deficit (Profile 3). Overall, the latent transition probabilities suggested that children were likely to stay in the same profile, both in the transition from 6th to 7th grade and from 7th to 8th grade.

Profile 1: Consistently Low Performers with Improving Word Level Skills. This profile had similar prevalences in all grades (16.1% in 6th grade, 14.3% in 7th grade, and 16.5% in 8th grade) and is characterized by very low 6th grade RC and even lower WA performance. Even though Maze performance was the highest skill for this group, they still performed the lowest, and below the overall average, in Maze. WA performance improved each year, and RC dropped in 8th grade. The transition probabilities for this profile suggested that a large proportion (76.7%) would stay in this profile in the transition from 6th to 7th grade and the transition from 7th to 8th grade (90.7%), with a smaller proportion of students (21.5% and 9.3%) transitioning to Profile 2 in the 6th-7th and 7th-8th grade transition, respectively. An even smaller (1.8%) proportion of students were likely to transition to Profile 3 in the 6th-7th grade transition, but no students would transition to the same group in the 7th-8th grade transition.

Profile 2: Consistently Average Performers. This profile was the largest and had very similar prevalences in all grades (54.6% in 6th grade, 56% in 7th grade, and 54.8% in 8th grade). They were characterized by consistent average performance on Maze and WA with some improvement in RC by 8th grade. For both transitions, the transition probabilities for this profile indicated that a vast majority of students (98% and 95.6%, respectively) stayed in the Profile 2, with a very small proportion of students (1.8%) likely to transition to Profile 3 in the 6th-7th grade transition or to Profile 1 in the 7th-8th grade transition (4.4%).

Profile 3: Consistently High Performers with a Word Level Skill Deficit. This profile had prevalences of 29-30% in all grades and was characterized by high performance on all component skills, with above average Maze performance and RC that was higher than Maze by 8th grade. Although their performance was higher than the other two profiles, they had relatively lower WA performance compared to the other reading skill domains. For both transitions, the transition probabilities for this profile indicated that a vast majority of students (98.2% and 96.8%, respectively) stayed in Profile 3, with just 1% and 1.3% transitioning to Profile 1 and 2 in 6th-7th grade and 1.5% and 1.7% transitioning to Profile 1 and 2 in 7th-8th grade.

Covariates. The role played by the control variables (age, sex, and SES) in the assignment to and transitions between profiles are discussed in Supplemental Materials and reported in supplemental tables S3 and S4.

Distal Outcomes: FCAT Reading in 7th and 8th Grade

Overall, compared to students with SLD, TD students demonstrated higher FCAT reading performance in both 7th and 8th grade. The 3-step ML approach revealed that, for both groups of students, the pattern of FCAT reading scores was consistent across 7th and 8th grade, with the same profiles scoring the highest, second highest or lowest on FCAT reading in both grades with *p*-values < .001. For TD students, Profile 1 demonstrated the lowest FCAT scores with a mean score of 210.05 (*SE* = 0.58) in 7th grade and 214.50 (*SE* = 0.59) in 8th grade. Next

was Profile 3 with a mean score of 223.86 (*SE* = 0.51) in 7th grade and 231.45 (*SE* = 0.52) in 8th grade. The highest scores were found for Profile 2 with a mean score of 247.02 (*SE* = 0.54) in 7th grade and 254.44 (*SE* = 0.53) in 8th grade. For students with SLD, Profile 1 demonstrated the lowest FCAT reading scores with a mean score of 151.64 (*SE* = 7.75) in 7th grade and 184.61 (*SE* =10.61) in 8th grade. Next was Profile 2 with a mean score of 213.29 (*SE* = 1.16) in 7th grade and 220.66 (*SE* =1.22) in 8th grade. Highest scores were found for Profile 3 with a mean score of 233.69 (*SE* = 1.80) in 7th grade and 241.48 (*SE* =1.61) in 8th grade.

Discussion

Persistent difficulties in word level skills may be a reason why many adolescents, regardless of disability status, have reading comprehension difficulties. As described by numerous models of reading comprehension (Cromley & Azevedo, 2007; Hoover & Gough, 1990), and empirical studies of comprehension in adolescents (Foorman & Petscher, 2010; García & Kain, 2014) word level skills are critical to supporting the processes necessary to construct meaning from text. The study examined the word level skill and reading comprehension profiles of adolescents with and without SLD. This investigation allowed for the examination of profile heterogeneity within student groups, which has been established in extant research (Brassuer-Hock et al., 2011; Cirino et al., 2013; Clemens et al., 2017), as well as a comparison across student groups which has been less commonly examined (Cirino et al.). Further, this study investigated these groups longitudinally to better understand group stability across grade bands. The current study further expands on previous work in this area by including an increased sample size of both TD (*n*= 21,445) and SLD students (*n*=2,355) as compared to Brassuer-Hock et al. (below-average comprehenders *n*=319), Clemens et al. (struggling readers *n*=180), and Cirino et al. (typical readers *n*=723, struggling readers *n*=1,025). As such, the current study better informs the design and focus of assessment and intervention practices for adolescent students that may have reading comprehension difficulties.

Reading Component Skill Profiles

The first research question investigated the number of reading component skill profiles that emerge for TD students and those identified with SLD. Results indicate that three unique skill profiles emerge for both student samples with varying performance for word level skills (Word Analysis subtest), the cloze (Maze subtest), and reading comprehension (RC) subtest as measured by the state level reading assessment. Data in this study suggest heterogeneity in both groups of students, those with typically developing literacy skills and those with SLD. Both samples contained profiles of higher performers and lower performers but with more nuance than just low, medium, and high scores; SLD student means were well below the TD student means, with greater than a 100-point discrepancy between the two groups on some measures. The greatest discrepancy across groups is seen in the word level skills performance. The score differential between the highest performing TD profile and the lowest performing SLD profile was over 200 points at all timepoints. This great variability in performance highlights the challenge that schools and teachers have when planning and implementing reading instruction during the middle school years. The pronounced difference in word level skill performance across the middle school years underscores the importance of assessing word level component skills including spelling. Administering a diagnostic spelling inventory annually, beyond just in the primary grades, can provide information about a student's decoding and encoding skills. This information informs the type and intensity of word level instruction (e.g., phonological, orthographic, morphological) that will meet varied student needs. Results indicate that almost all of the students in the full sample, including both students with and without SLD, had scores below the mean in either one or both skill areas, i.e., word level skills and reading comprehension, during at least one timepoint in the middle school years. These findings are similar to those of Clemens and colleagues (2017) who found that a majority of their adolescent sample (96%) displayed below average performance in one or both skill areas assessed. Nearly half of the current study's total sample (58%), regardless of disability status, displayed profiles

with concurrent difficulties in word level skills and reading comprehension; this is most pronounced in Time 3 (Grade 8). Most skill profiles presented a high incidence of word level skill difficulties. In total, all three profiles in the SLD sample and two of the three profiles in the typically developing sample (54%) demonstrated below average word level skills either with or without reading comprehension difficulties at one of the timepoints. This is similar to findings from both Leach et al. (2003) and Cirino et al. (2013) in that most students who exhibit reading comprehension difficulties also have difficulties at the word level.

Given that students with reading disabilities, including SLD and dyslexia, can present with a combination of symptoms including poor spelling and difficulty comprehending what was read (Hulme & Snowling, 2016) it was expected that heterogeneity within the skills assessed in this study would emerge. Unexpectedly, in this analysis all profiles of students in the SLD sample performed below average across all measures examined at multiple timepoints. Previous studies of students with reading difficulties and disabilities (Brasseur-Hock et al., 2011; Cirino et al., 2012; Clemens et al., 2017; Solis et al., 2014) found one or multiple classes or profiles of students displaying performance on a number of skills in the average or even above average range. Additionally, an overlap among different types of difficulties within student samples was expected along with a gap in observed performance between the typically developing and SLD sample (Solis et al., 2014). Instead, the analysis revealed an overlap among difficulties across profiles with TD Profile 1 completely overlapping with SLD Profile 3 on the reading comprehension and cloze measures.

These findings underscore the need for schools to attend to the teaching of reading and writing alongside typical Language Arts (LA) instruction because a majority of adolescents with disabilities enter middle school with established reading difficulties (National Center for Education Statistics, 2021). Extant research has documented that middle school students with reading difficulties, regardless of disability status, not only experience challenges

comprehending complex grade-level texts but continue to present with difficulties in foundational reading skills (e.g., word reading or fluency) throughout adolescence (Cirino et al., 2013). Spelling knowledge is distinctly related to text reading efficiency and reading comprehension at the sentence and text level, even for adolescents, but a lack of spelling growth in secondary classrooms suggests a lack of spelling instruction (Foorman & Petscher, 2010). These foundational reading gaps, while not typically prioritized in middle school, must be addressed with specialized instruction and supports if students are expected to show improvement in their understanding of grade-level complex texts.

Longitudinal Transition of Latent Profiles

The findings from the current study support extant research that discovered a high prevalence of basic skill difficulties among adolescent readers (Brassuer-Hock et al., 2011; Cirino et al., 2013; Clemens et al., 2017) but extend this work by investigating how reading performance by profile changes over time. The rank order among the profiles and the pattern of performance among the component reading skills remained the same across the middle school years for students with SLD, while TD students demonstrated much more fluctuation, with changes in rank order and performance patterns at each transition point (from 6th to 7th grade and 7th to 8th grade). The most struggling SLD students were more stagnant and showing less improvement over the middle school years. This is consistent with research suggesting that students with reading difficulties, particularly word level reading difficulties, require sustained targeted instruction over multiple years to demonstrate improvement in performance (Solis et al., 2014).

For any given middle school year and any given profile, students with SLD showed a pronounced deficit in word level skills compared to their comprehension and cloze performance, which appeared as a consistent “V” shape across all the latent statuses depicted in their LTA figures. In contrast, TD students’ performance patterns on the component reading skills ranged

anywhere from a diagonal line, in which cloze performance was better than word level skill performance, which was better than comprehension performance (i.e., Profile 1 in 6th grade), to a mostly straight line, in which performance on all three reading skills was relatively equal (i.e., Profile 3 in 8th grade). TD students even showed an “inverted V shape”, capturing the opposite performance pattern to students with SLD, wherein scores on word level skills were highest relative to the other reading domains.

Variability in performance across profiles over time demonstrates the diverse needs of students, even among the highest performing student profiles, regardless of disability status. This further emphasizes the need for screening of reading comprehension and related component skills in adolescence to inform instructional practice in the classroom. Students with reading comprehension difficulties but higher word level skills will benefit from explicit instruction of vocabulary and reading comprehension strategy instruction implemented in both LA and content-area classrooms (Capin et al., 2022). Students with documented evidence of reading difficulties, particularly in word level skills, will require intensive interventions targeting different aspects of reading. This intensive instruction, taking place in a small group, would include a focus on fluency, multisyllabic word reading, or foundational word reading skills (e.g., phonics, word recognition) depending on students’ unique learning needs (Capin et al.).

Prediction of Broad Reading Comprehension

The third research question investigated how the component reading skill profiles predict performance on a broad measure of reading comprehension in subsequent grades one year and two years later. Correlations indicate that the FAIR reading comprehension subtest strongly predicts FCAT performance for students in grades 4-10 (Foorman et al, 2013). Utilizing this reliable predictor along with student performance on the FAIR Maze (cloze) and word analysis (WA) measures to predict FCAT performance, results indicate that student performance on the FCAT broad measure of reading comprehension remain stable over time. Results indicate there

is very little change in overall performance over time, when looking from grade 7 to 8. This overall pattern of stagnant reading comprehension growth mirrors the national trend for U.S. adolescents (Ellerman & Oslund, 2019).

Implications for Practice

The results of this study have implications for reading achievement assessment and intervention design and delivery for adolescents both with and without a specific learning disability (SLD). Like elementary age students, adolescents should be screened with reliable and valid reading assessments that include not only more complex skills like comprehension but also word-level component skills, like spelling, which moderate reading comprehension performance (Reed et al., 2016). Given there is no “one size fits all” approach to effective reading instruction, these assessments are key in determining the type and intensity of instruction required to meet students’ unique learning needs. As shown by the current findings, adolescents may demonstrate average reading comprehension while simultaneously demonstrating below average word level skills. While instruction in spelling, or orthographic knowledge, is documented as receiving very little attention in grades 8-12 (Foorman & Petscher, 2010), these results support the provision of specific, targeted instruction in word level skills for adolescent students demonstrating weakness in these areas in order to further support their reading comprehension development.

Improving reading comprehension in adolescents will require a sustained focus on developing long-term solutions as opposed to short-term gains on measures utilizing low-level comprehension (Elleman & Oslund, 2019). This focus should include developing word level skills in conjunction with developing background knowledge, vocabulary, inference, and comprehension monitoring skills which represent the additional components of the DIME model of reading comprehension. This type of instruction will benefit the majority of older students that require interventions that address several components of reading (Cirino et al., 2012). Extant

research in the form of longitudinal studies with adolescents with poor reading comprehension and reading disabilities suggests that one year of supplementary reading intervention may not be sufficient to address reading difficulties in students with deficits in word reading skills, vocabulary, and background knowledge (Solis et al., 2014). Solis and colleagues (2014) posit that for adolescents, continued remediation beyond just one year that includes intensive interventions utilizing content area texts to bolster background knowledge and content learning are essential to prevent these students from falling further behind their normative peers. Additionally, adolescents should receive interventions at an appropriate intensity based on their current reading achievement scores (Fuchs et al., 2010).

Limitations

It is important to acknowledge that reading comprehension involves several components and processes beyond the skills assessed by the Word Analysis and Maze tasks used in the present analysis. The adolescents in this sample with reading comprehension difficulties may also experience difficulty in other skill areas that were unable to be included in this analysis. This includes higher order processes such as inference making, comprehension monitoring, and story structure knowledge (Cain & Oakhill, 1999) as well as working memory (Cain et al., 2004).

Another limitation is that the SLD sample includes any student identified with a disorder in understanding or using spoken or written language. This disorder may manifest in an imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations and represents about 33% of all students in special education (National Center for Education Statistics, 2021). The PMRN database did not contain the level of detail to isolate a sample of students with SLD that have an impairment in reading only, meaning that the sample may include students with SLD that do not have documented impairments in reading specifically. It is worth mentioning that the National Center for Education Statistics estimates that over 80% of students with SLD have difficulties in word-level reading and all the students in our SLD sample

demonstrated below average performance in both word level and reading comprehension skills. While all the students in the SLD sample may not have documented impaired reading, their assessment and subsequent intervention should target each students' specific areas of weakness regardless of the type of SLD.

There were also some limitations introduced by the methods employed in the current study. For instance, despite providing more nuanced information about the reading component skills of SLD and TD readers, extracting three profiles from three FAIR reading measures could represent over-fitting, a possibility that is difficult to judge in mixture models (Loken & Molenaar, 2008). However, the use of three time points for each reading measure (from 6^{th}, 7^{th}, and 8^{th} grade) is likely to have made the results more robust than estimating the latent profiles based on a single time point. Given this study's interest in examining how profiles differed qualitatively between SLD and TD students and the fact that an SLD designation is imposed on students by their schools, which translates to a child with an SLD designation being treated differently within the school environment in terms of accommodations, general labeling, and in other ways, separate models were conducted for TD and SLD children. Notably, this choice imposed two empirical limitations to the analysis: one, SLD and TD students could not be allocated to the same profiles and two, joint school clustering was not allowed.

Conclusion

This study examined the word level skill and reading comprehension performance of over 2,000 adolescents with SLD and 20,000 without SLD. Within both subgroups, three distinct profiles of student skills were identified and then examined for changes in performance over time before being used to predict performance on a broad measure of reading comprehension in two subsequent years. This study demonstrates the heterogeneity of word level and reading comprehension skill development in adolescents with and without SLD. Performance by profile remained consistent for adolescents with SLD but varied for those without. The present findings

add to a growing body of evidence demonstrating the majority of adolescents with reading comprehension difficulties, regardless of disability status, also experience difficulty with word level skills. This underscores the importance of employing reading achievement assessments for adolescents that are sufficiently comprehensive to identify weaknesses in foundational reading skills that may be contributing to reading comprehension difficulties. This data can then be used to help align intervention to meet the needs of adolescent populations of readers.

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Tables

Table 1.
Latent profile analysis model fit indices for TD students and students with SLD

Typically Developing Students

Grade	Profiles	*DF*	-LL	AIC	BIC	SABIC	Entropy	LMR-LRT	*p*-value
6	2	19	-276025.68	552089.35	552238.58	552178.20	0.53	4004.14	<.0001
6	3	29	-275575.97	551209.93	551437.70	551345.54	0.52	890.38	.0001
6	**4**	**39**	**-275354.25**	**550786.51**	**551092.82**	**550968.88**	**0.53**	**438.97**	**.0128**
6	5	49	-274714.00	549525.99	549910.85	549755.13	0.65	415.00	.0792
7	2	19	-256843.15	513724.30	513872.08	513811.70	0.54	5246.51	<.0001
7	3	29	-255948.83	511955.66	512181.22	512089.06	0.57	1770.54	<.0001
7	**4**	**39**	**-255683.73**	**511445.45**	**511748.80**	**511624.86**	**0.53**	**524.84**	**.0044**
7	5	49	-255488.91	511075.82	511456.95	511301.23	0.58	385.69	0.3900
8	2	19	-219127.44	438292.88	438437.31	438376.93	0.50	2357.01	<.0001
8	3	29	-218828.62	437715.25	437935.70	437843.54	0.46	591.47	<.0001
8	**4**	**39**	**-216041.60**	**432161.20**	**432457.67**	**432333.73**	**0.61**	**735.24**	**<.0001**
8	5	49	-218553.39	437204.78	437577.27	437421.55	0.54	253.29	.0957

Students with Specific Learning Disability

Grade	Profiles	*DF*	-LL	AIC	BIC	SABIC	Entropy	LMR-LRT	*p*-value
6	2	19	-31280.04	62598.08	62706.35	62645.98	0.52	584.78	<.0001
6	**3**	**29**	**-31227.89**	**62513.78**	**62679.03**	**62586.90**	**0.57**	**102.96**	**.0093**

6	4	39	-31198.88	62475.75	62697.99	62574.08	0.51	57.28	.4276
7	2	19	-30875.59	61789.18	61896.98	61836.62	0.50	515.79	<.0001
7	3	29	-30747.24	61552.48	61717.02	61624.88	0.60	253.40	.0006
7	**4**	**39**	**-30697.53**	**61473.05**	**61694.33**	**61570.42**	**0.61**	**98.15**	**.0159**
7	5	49	-30787.51	61673.01	61951.03	61795.35	0.77	-80.02	.9745
8	**2**	**19**	**-29113.18**	**58264.35**	**58370.46**	**58310.10**	**0.53**	**242.13**	**<.0001**
8	3	29	-29058.43	58174.86	58336.82	58244.69	0.60	108.06	.1063
8	4	39	-28525.24	57128.48	57346.28	57222.38	0.68	173.00	.4502

Note. TD = typically-developing, SLD = Specific Learning Disability; -LL = -Log likelihood; AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; SABIC = Sample-size-adjusted Bayesian Information Criterion. The best-fitting models for each grade are **bolded**.

Table 2.

Fit indices for the LTA models tested for typically developing children and children with Specific Learning Disability

Invariance	Group	Profiles	*N*	Clusters	*DF*	-LL	AIC	BIC	SABIC	Entropy
Free	TD	3	21445	504	122	-728955.62	1458155.25	1459127.98	1458740.27	.740
Free	TD	4	21445	504	162	-728256.44	1456836.90	1458128.55	1457613.72	.695
Invariant	TD	3	21445	504	86	-731490.89	1463153.78	1463839.48	1463566.18	.745
Invariant	TD	4	21445	504	114	-730617.54	1461463.08	1462372.03	1462009.74	.644
Free	SLD	2	2355	399	86	-88381.28	176934.55	177430.28	177157.04	.811
Free	SLD	3	2355	399	122	-88144.06	176532.13	177235.37	76847.75	.813
Free	SLD	4	2355	399	162	-87994.83	176313.65	177247.47	176732.76	.819
Invariant	SLD	2*	2355	399	63	-88753.23	177632.45	177995.61	177795.44	.764
Invariant	SLD	3	2355	399	86	-88594.70	177361.39	177857.12	177583.88	.771
Invariant	SLD	4*	2355	399	95	-88514.10	177218.20	177765.81	177463.98	.767

Note. TD = typically-developing, SLD = Specific Learning Disability; -LL = -Log likelihood; AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; SABIC = Sample-size-adjusted Bayesian Information Criterion. Model fit indices for the 5-profile invariant LTA for TD children were not reported because the model did not converge. The 4-profile invariant LTA was not fully invariant because it was necessary to allow 6th grade FAIR RC scores to vary between classes so the model would converge. *The variances could not be estimated for these models in order to achieve convergence.

Table 3.

Unstandardized Latent Indicator Prevalences, Means, and Standard Errors by Profile from the 3-Profile LTA

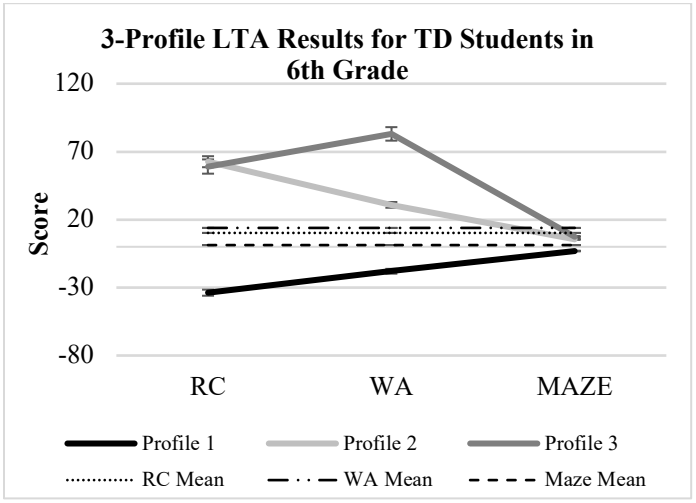
Latent Profile	Grade	Prevalence (%)	*N*	Comprehension (SE)	Word Level Skills (SE)	Maze (SE)
Typically Developing Students						
Profile 1: Persistently Low Performers with Declining Comprehension						
	6	53	11,346	-33.77 (2.24)	-18.01 (1.78)	-3.13 (0.26)
	7	53	11,385	-27.28 (2.47)	-10.76 (1.43)	-3.74 (0.27)
	8	7.4	1,595	-70.31 (7.43)	-22.58 (6.65)	-5.36 (0.69)
Profile 2: Improvers in Comprehension and Word Level Skills						
	6	29	6,224	62.61 (4.05)	30.85 (2.12)	5.52 (0.42)
	7	7	1,439	55.23 (6.75)	76.46 (6.94)	17.08 (1.37)
	8	46	9,880	72.29 (3.02)	54.78 (2.31)	8.97 (0.45)
Profile 3: Decliners in Comprehension and Word Level Skills						
	6	18	3,875	59.06 (5.25)	83.07 (4.97)	7.43 (0.50)
	7	40	8,620	69.51 (3.32)	40.78 (2.59)	8.10 (0.60)
	8	46	9,970	-14.85 (3.80)	-6.83 (1.88)	-2.66 (0.31)
Students with Specific Learning Disability						
Profile 1: Consistently Low Performers with Improving Word Level Skills						
	6	16.10	379	-118.70 (7.81)	-169.40 (23.04)	-14.62 (1.16)
	7	14.32	337	-117.91 (6.46)	-157.54 (15.39)	-19.75 (1.17)
	8	16.54	390	-140.83 (8.35)	-144.61 (13.03)	-19.88 (1.07)
Profile 2: Consistently Average Performers						
	6	54.57	1285	-75.62 (5.24)	-97.25 (7.49)	-9.52 (0.51)
	7	56.01	1319	-78.28 (5.90)	-73.06 (5.30)	-10.69 (0.45)
	8	54.79	1290	-68.16 (7.30)	-87.26 (7.33)	-10.33 (0.62)
Profile 3: Consistently High Performers with a Word Level Skill Deficit						
	6	16.54	390	-6.80 (6.77)	-46.43 (4.95)	-2.57 (0.78)
	7	29.68	699	-2.62 (7.80)	-36.55 (4.86)	-2.70 (0.98)
	8	28.67	675	6.11 (8.63)	-36.43 (6.66)	-1.42 (1.22)

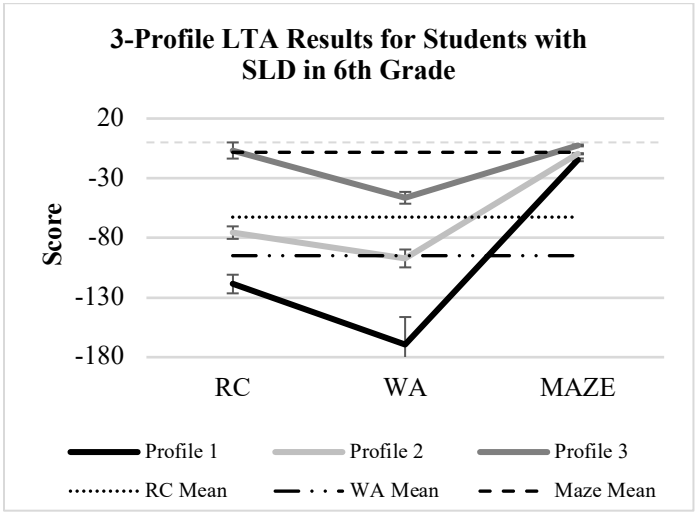
Note. Comprehension = Florida Assessments for Instruction in Reading, Reading Comprehension subtest, Word Level Skills = Florida Assessments for Instruction in Reading Word Analysis subtest, Maze = Florida Assessments for Instruction in Reading Maze subtest.

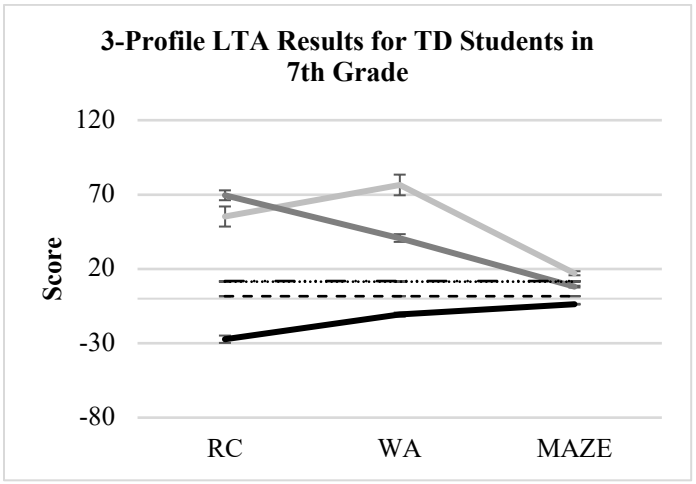
Figures

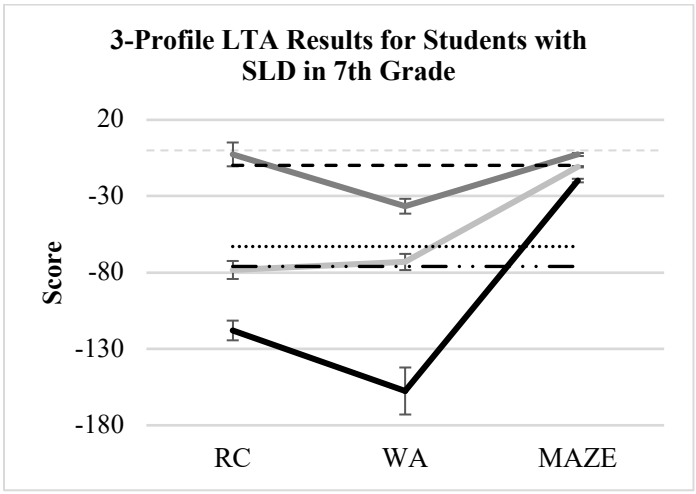
Figure 1.

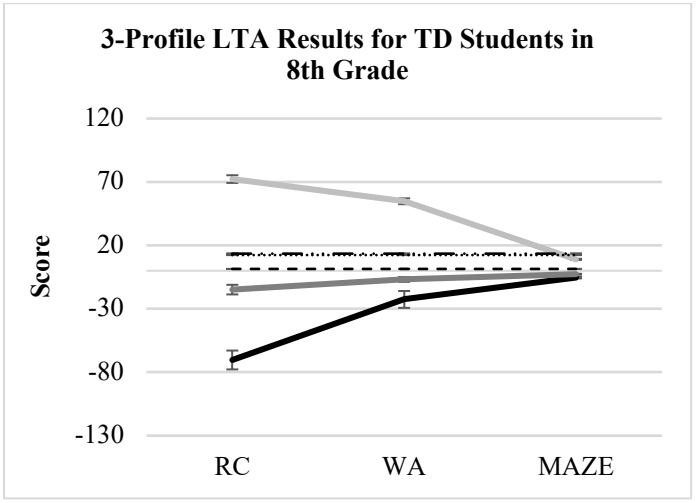
3-Profile LTA Results for TD Students (Left) and Students with SLD (Right) in 6th-8th Grade

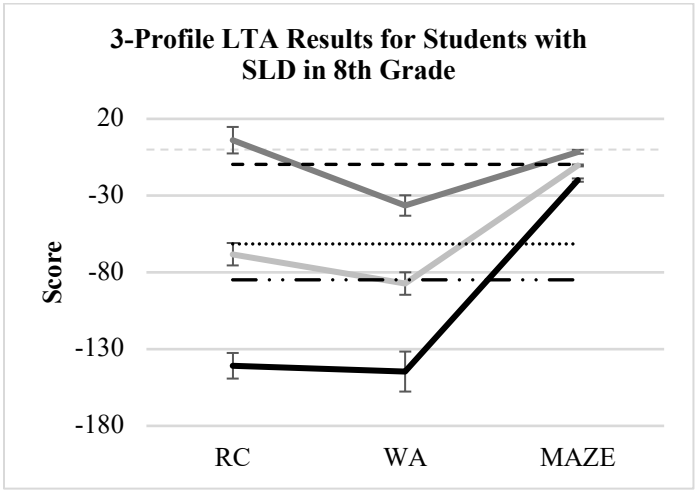












Manuscript 2

A Systematic Review of Instruction Utilizing Adolescent Literature on Comprehension Outcomes for Students With or At-Risk of Reading Difficulties

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Abstract

This systematic review synthesizes the existing research on comprehension-focused instruction while reading adolescent literature for students in grades 4 through 12 with or at risk for reading difficulties or disabilities. The current lack of research on effective reading comprehension instruction that employs adolescent literature book-length texts motivates this review. Ten studies met the inclusion criteria. Of those studies meeting the criteria, four were group comparison design studies, four were single group pre-post design studies, and two were single-case design studies. While three of the included studies did not contain sufficient information to calculate an effect size, a wide range in effect sizes were computed for the remaining between-subjects design studies (-0.08 to 0.37) as well as the within-subjects design studies (0.11 to 1.58). Findings revealed preliminary evidence suggesting that instruction while reading adolescent literature can improve comprehension outcomes for students with or at risk of reading difficulties or disabilities.

Keywords: adolescent literacy, reading comprehension, adolescent literature, reading difficulties or disabilities

A Systematic Review of Instruction Utilizing Adolescent Literature on Comprehension Outcomes for Students With or At Risk of Reading Difficulties

Introduction

A considerable body of research stresses the importance of reading instruction for students at the elementary level. However, the existing research on literacy instruction for adolescent students lacks a similar depth (National Endowment for the Arts, 2004). This dearth of research has drawn increasing attention over the past two decades as evidence has surfaced noting that adolescents (i.e., individuals between the ages of 10 and 19; World Health Organization, 2024) are not being adequately prepared to meet the 21st Century demands of citizenship, employment, and higher education (Center on Education Policy, 2007). This is evidenced by the National Assessment of Education Progress (NAEP) Report Card, which demonstrated that in 2022, only 33% of fourth-grade students and 31% of eighth-grade students could comprehend text at or above a Proficient level. Additionally, in 2019, only 31% of twelfth-grade students performed at or above a Proficient level on the assessment. This is especially concerning since adolescents who underperform in school are more likely to suffer troubling outcomes throughout their lives, such as drastically lower income levels and unemployment (OECD, 2007).

A potential explanation for adolescents' specific literacy challenges is the drastically changing literacy demands in the secondary grades (i.e., grades 4-12; Carnegie Council on Advancing Adolescent Literacy, 2010). Beginning in fourth grade, students experience increasing text length and complexity demands that intensify in subsequent grades. In addition, they must combine literacy skills and content knowledge to learn new words, facts, and ideas. These demands are steep for typically developing readers who can independently comprehend grade-level texts but are even steeper for students exhibiting comprehension difficulties. Students exhibiting reading comprehension difficulties may have problems with word

recognition, language comprehension, or a combination of both (Snow, 2002). Raising concern is the fact that many students with reading comprehension difficulties may likely exhibit concurrent weaknesses in both word recognition and language comprehension component skills (Brasseur-Hock et al., 2011; Cirino et al., 2013; Clemens et al., 2017; Richmond et al., 2023). Additionally, the comprehension of adolescent readers is also impacted by self-regulation, motivation, and engagement (Guthrie et al., 2013). Considering the complex nature of reading comprehension and the subsequent multitude of reasons that comprehension can break down, it is unsurprising that most adolescent readers cannot meet the literacy demands placed upon them.

Specifically, adolescents are frequently expected to read, interpret, critique, and summarize lengthier texts such as novels but rarely receive sufficient support or instruction in the skills needed to do so (Hall et al., 2011). Students typically begin encountering novels in third grade through teacher read-alouds (Jacobs et al., 2000). However, they can present unique comprehension challenges when students are expected to read them independently (Morgan & Williams, 2009). Novels often have a complex format with numerous layers of story action and meaning (Peterson & Eeds, 1990). Students who lack the knowledge or training to notice and make sense of the multiple characters, complicated storylines, conflicts, and changes in setting will be unable to sustain their understanding throughout a chapter book-length text. Additionally, students experiencing comprehension difficulties may not automatically apply the skills and strategies they have practiced in shorter texts to chapter books or integrate multiple strategies while reading if they have only practiced them in isolation (Morgan & Williams, 2009).

A dearth of research exists on effective reading comprehension instruction for adolescents that employs lengthy, complex texts such as novels. An intervention report from the What Works Clearinghouse (WWC, 2010) found that no studies implementing instructional

activities with adolescent literature met WWC evidence standards. Most studies reviewed in the report incorporated book clubs (Raphael & McMahon, 1994) or literature circles (Daniels, 2002). While the WWC was unable to conclude the effectiveness of reading instruction using book clubs and literature circles on outcomes for adolescent learners, previous syntheses and meta-analyses have identified effective reading comprehension instructional practices for students with reading difficulties and disabilities during interventions that predominantly use passages and other texts that are relatively short in length (e.g., Edmonds et al., 2009; Filderman et al., 2022; Hall, 2016; Joseph et al., 2016; Scammacca et al., 2015; Solis et al., 2012; Stevens et al., 2019; Swanson et al., 2014).

The present systematic review aims to contribute to the existing knowledge base by summarizing the characteristics and effects of reading comprehension instructional interventions that use lengthier texts (i.e., novels) and is evaluated in research that includes adolescents, including those with or at risk for reading difficulties. The most recent research synthesis that focused on reading comprehension instruction using lengthier texts was conducted over a decade ago and did not identify any studies that met prespecified evidence standards (WWC, 2010). Therefore, there is a great need to systematically review the research on this topic conducted during the last 13 years.

Literature Review

Adolescent Literature Definition and Research

Adolescent literature refers to book-length works written for an audience of 11- to 21-year-olds (Dagostino et al., 2021). There are several defining characteristics of adolescent literature, with the prominent one being that the subject matter is written from the viewpoint of young people (Nilsen & Donelson, 2008). This can help adolescents understand concepts at their developmental and experiential level (Dagostino et al., 2021). Because of this, adolescent literature appeals to young readers in a way that can bolster reading motivation and

engagement when in the classroom (Graves & Philippot, 2002; Ivey & Broaddus, 2001). It is posited that the use of adolescent literature in teaching serves a dual purpose of developing the necessary intellectual skills to comprehend the work and encouraging adolescents to engage with more complex adult novels as they mature (Dagostino et al., 2021). Given these factors, adolescent literature can be considered well-suited for reading comprehension instruction in the secondary grades.

Most research on instruction using adolescent literature does not focus on reading comprehension outcomes. Instead, it focuses on outcomes of young adult identity development and personal growth, informed by psychological and sociological perspectives (Dagostino et al., 2021). Dagostino discusses the work of three psychologists to construct an understanding of adolescent students' relationship with young adult literature: Havighurst's (1956) view of developmental tasks, Erikson's (1968) Eight Stages of Man, and Marcia's (1980) work on identity states. Dagostino also elucidates how adolescent literature impacts identity development and personal growth by drawing on theories of group affiliation from the sociologists G. Stanley Hall (2006), Bronfenbrenner (1992), Larsen (2018), and Lashbrook (2000). These sociologists provide an early historical perspective on group affiliation, an ecological model on environmental pressure, a perspective on the good and bad influences of peer pressure, and a perspective on the emotional dimensions of peer pressure, respectively. Dagostino uses the work of these scholars to support the importance of carefully selecting books for adolescent instruction that address problems faced by this group of students to provide a way of understanding issues at their stage of life. However, Dagostino does not discuss the implications for students' comprehension of these books.

Themes related to identity development and personal growth perspective are also explored in much of the extant qualitative research on adolescent literature instruction (e.g., Allen et al., 2003; Chase, 2000; Evans, 2002; Smith, 1997; Sloboda et al., 2014). Allen and

colleagues (2003) analyzed the social interactions during literature circles of two fifth-grade students who struggled with reading. The experiences of a teacher, participant researcher, and ten cross-age, cross-ability elementary students in a private school were investigated by Chase (2000) using naturalistic inquiry and ethnographic research methods. Evans (2002) employed a social constructivist framework to investigate fifth-grade students' perceptions of their experiences participating in peer-led literature discussion groups. In another qualitative study, Smith (1997) examined how an adolescent literature book club allowed sixth-grade girls to negotiate their identities and positions as readers. Lastly, Sloboda and colleagues (2014) conducted a qualitative case study that examined students' responses to comprehension strategy practice with graphic novels but did not formally assess reading comprehension. While this is not an exhaustive summary of the qualitative extant research on adolescent literature instruction, it demonstrates that most of this research has not investigated the reading comprehension outcomes of adolescent participants.

Aside from this body of qualitative research, there is a small amount of research evaluating the effects of reading instructional approaches that use adolescent literature on reading comprehension outcomes. Two widely known instructional approaches for adolescent literature are book clubs (Raphael & McMahon, 1994) and literature circles (Daniels, 2002). These approaches were developed for use during regular classroom instruction and involve groups of students engaging in discussions of a piece of literature. These approaches ultimately aim to improve the comprehension skills of students as well as their ability to interpret and think critically about text (WWC, 2010). In 2010, the What Works Clearinghouse (WWC) analyzed the existing research on book clubs and literature circles to determine their effectiveness for adolescents.

Specifically, the WWC identified 284 studies of book clubs and literature circles for adolescents that were published or released between 1989 and 2009. A majority of the studies,

273 specifically, were not eligible for WWC review because they did not employ a group experimental, group quasi-experimental, or single-case experimental design; evaluate the impact of an approach on student literacy outcomes; measure the effectiveness of an approach in a manner defined by the WWC; have a sample that included students in grades 4-12; or have a sample that had at least 50 percent general education students. The remaining 11 studies that were eligible for WWC review did not meet WWC evidence standards because they (a) failed to establish a comparable treatment group prior to treatment, (b) combined the book club or literature circle approach with another intervention component in a way that made it difficult draw causal inferences about effects; or (c) failed to meet the threshold for demonstrating an intervention effect in a single-case experimental design study. As a result, the WWC could not draw any research-based conclusions on the effectiveness of these instructional approaches.

Chapter glancing is another instructional approach designed to help students comprehend lengthier adolescent texts (Morgan & Williams, 2009). This approach involves the students and teacher examining each chapter's opening lines before reading the entire chapter. When examining the opening lines, the students discuss what they think they know and make suggestions about how this information might help support their further reading of the book. While the authors share their personal experiences in implementing this approach, no experimental studies investigate its effectiveness.

Prior Reading Comprehension Syntheses and Meta-Analyses

Prior reviews and meta-analyses have examined the effects of reading comprehension interventions for students in upper elementary, middle, and secondary settings (e.g., Daniel & Williams, 2021; Edmonds et al., 2009; Filderman et al., 2022; Hall, 2016; Joseph et al., 2016; Scammacca et al., 2015; Solis et al., 2012).

Hall (2016) synthesized intervention research on inference instruction for struggling readers in Grades 1 through 12. Included studies reported moderate to large effects on

researcher-developed measures of inferential reading comprehension (*g*=0.72 to *g*=1.85) and negative to large effects on standardized measures of reading comprehension (*g*=-0.03 to *g*=1.96). Additionally, there was 100% non-overlapping data for all measures in the one single-case design study included in the review. The findings suggested that inference interventions can be effective when targeting prior knowledge activation and integrating information in the text.

Joseph and colleagues (2016) reviewed studies published between 1990 and 2012 that implemented self-questioning interventions. Reading comprehension was assessed through multiple standardized measures in only 5 of the included studies. While the authors did not calculate a mean effect for the 35 included studies, their findings supported using self-questioning strategies in improving reading comprehension for a range of students, including those with disabilities, in Grades 2 through 12. The effects of self-questioning on reading comprehension outcomes of students with learning disabilities and reading difficulties in Grades K through 12 were also reviewed by Daniel and Williams (2021). Their search encompassed research from 53 years, 1965-2018, and found mixed effects of self-questioning strategy instruction on students' reading comprehension outcomes. Seven of the ten included studies employed researcher-development measures of reading comprehension, two administered standardized reading comprehension measures, and one administered both. Their findings revealed varied effects in the medium to large range for students who received two or more total hours of strategy instruction—specifically, the average weighted mean effect for group comparison design studies was *g*=0.61.

Scammacca and colleagues (2015) reviewed the literature published between 1980 and 2011 on interventions for students in Grades 4 through 12 with reading difficulties. The authors reported on effects by intervention type (i.e., comparing reading comprehension, word study, vocabulary, fluency, and multiple-component interventions). However, they did not examine the

effects of specific component skills within reading comprehension strategy instruction. Their findings revealed a mean effect of 0.23 for all types of outcome measures, both standardized and unstandardized, with a mean effect of 0.13 across all standardized, norm-referenced outcome measures. Specifically, for reading comprehension outcome measures, a resulting mean effect size of 0.24 was found for standardized and unstandardized measures, with a smaller mean effect size of 0.19 for standardized measures only. Moderator analyses by type of intervention revealed that vocabulary followed by comprehension interventions had a significantly greater mean effect size when looking at all outcomes compared to fluency and multicomponent interventions. No significant differences were found between effects in studies that included only students with learning disabilities as compared to those that included students with reading difficulties not designated as having learning disabilities. Similarly, no significant differences were found for researcher versus teacher-implemented interventions for different grade bands of students (e.g., grades 4-5, 6-8, 9-12), hours of intervention, or design type (e.g., multiple treatments, singular treatment, and control).

A synthesis of reading interventions for students with reading difficulties in Grades 6 through 12 published between 1994 and 2004 was conducted by Edmonds and colleagues (2009). The authors meta-analyzed a subset of 13 of the identified 29 studies with calculations that weighted standardized measures more heavily than researcher-developed measures. This resulted in an overall weighted large effect size (d=0.89) with a smaller, medium effect size (d=0.47) for the studies that included only standardized measures of reading comprehension (n=7). Additionally, the authors conducted separate analyses of studies by intervention type and found that word-level interventions were associated with small to moderate effects (d=0.34) on reading comprehension.

Solis et al. (2012) synthesized reading comprehension interventions for students with learning disabilities in Grades 6 through 8. The authors identified 12 group comparison studies

and 2 single-case design studies published between 1979 and 2009. Most interventions in the included studies utilized strategy instruction related to the main idea or summarization. Only 4 of the included studies reported performance on standardized measures of reading comprehension, indicating medium effect sizes (g=0.33 to g=1.56). Findings from studies that used researcher developed measures of reading comprehension (n=10) indicated large effect sizes (g=-0.74 to g=2.87). The authors did not calculate a mean effect size across the total body of studies.

Most recently, Filderman and colleagues (2022) conducted a meta-analysis of the effects of single-component reading comprehension interventions for struggling readers in Grades 3 through 12. The authors operationalized reading comprehension interventions as inclusive of four instructional approaches: "(a) strategy instruction, (b) background knowledge, (c) metacognitive approaches, and (d) instructional enhancements" (Filderman et al., 2022, p. 2). This operationalization allowed for the examination of the relative effects of various approaches to comprehension instruction. The authors find significant positive effects on reading comprehension outcomes (e.g., weighted mean effect g=0.59) with higher effects associated with background knowledge instruction (β=0.54), strategy instruction (β=0.77), and researcher-developed measures (β=0.47). Additionally, results indicate that study quality, grade level, and metacognitive approaches did not moderate study effects.

Overall, these prior reviews and syntheses provide evidence that gives insight into the types of interventions while reading primarily passage-length texts that improve the comprehension of students with or at risk for reading difficulties. Specifically, several reviews have demonstrated that strategy instruction is effective for students across grade levels from elementary through 12th grade (Daniel & Williams, 2021; Edmonds et al., 2009; Filderman et al., 2022; Hall, 2016; Joseph et al., 2016; Scamacca et al., 2015). This includes combined strategy instruction (i.e., main idea, making inferences, retelling, predicting, text structure, generating

questions; Edmonds et al., 2009; Filderman et al., 2022; Scamacca et al., 2015) as well as isolated strategy instruction such as self-questioning (Daniel & Williams, 2021; Joseph et al., 2016) and making inferences or drawing conclusions (Hall, 2016). Additionally, these reviews provide evidence that interventions, including vocabulary instruction (Filderman et al., 2022; Scamacca et al., 2015), can also improve student reading comprehension performance.

Current Study

Given the current lack of evidence on the effects of reading comprehension instruction utilizing adolescent literature, reviewing the extant research on interventions employing shorter texts can provide insight into the components and approaches of effective reading comprehension instruction for adolescents, including those with comprehension difficulties. Prior research has demonstrated the effectiveness of reading comprehension instruction for adolescents with reading comprehension difficulties (Edmonds et al., 2009; Filderman et al., 2022; Hall, 2016; Joseph et al., 2016; Scammacca et al., 2015; Solis et al., 2012; Swanson et al., 2014), but such instruction has typically employed shorter, passage length text as the vehicle of instruction (Morgan & Williams, 2009). The most recent research review that synthesized reading comprehension instruction using book-length texts is over a decade old and failed to identify any studies that met evidence standards (WWC, 2010). Therefore, the purpose of this systematic review is to provide an updated understanding of the characteristics and impact of reading comprehension instruction for students with reading comprehension difficulties that utilizes book-length texts in the form of adolescent literature (i.e., young adult novels, chapter books, trade books, graphic novels). Two questions guide the present systematic review:

1. What are the characteristics of reading comprehension instruction utilizing adolescent literature evaluated in studies published between 1990 and 2022?

2. What are the effects of reading comprehension instruction utilizing adolescent literature on the reading comprehension outcomes of fourth through twelfth-grade students with comprehension difficulties?

Method

Operational Definition

An operational definition for adolescent literature was created to use during the screening and coding process. *Adolescent literature* is a book-length narrative text written for an audience of 11—to 21-year-olds in which the subject matter is written from a young person's viewpoint. Texts fitting this description may also be called novels, chapter books, trade books, graphic novels, or young adult literature.

Search Procedures

The review began with a search of gray literature and peer-reviewed articles published in English between January 1, 1990, and December 31, 2022. A four-step process was used to identify studies: (a) identification of students through an electronic database and register search; (b) screening of abstracts; (c) identification of students through other sources; and (d) full-text review.

Electronic Database and Register Search

A systematic search of the literature base was conducted following PRISMA guidelines (Liberatti et al., 2009). First, an electronic search of ERIC, PsycINFO, Academic Search Complete, and Education Research Complete was conducted to identify all relevant studies. The primary search terms in the database search captured what was being read and included *chapter book* OR *novel* OR *young adult literature* OR *trade book* OR *adolescent literature*. The secondary search terms identified studies focused on reading comprehension and included *comprehen** OR *understand** OR *meaning*. The tertiary search terms included *difficult** OR *learning disab** OR *reading disab** OR *at risk* OR *struggl* reader* OR *dyslex** OR *special*

education. These terms were selected to identify studies investigating the effects of interventions targeting reading comprehension for students with or at risk for reading disabilities. The final search terms were selected to capture the method of instruction and included *instruct** OR *interven** OR *teach** OR *program** OR *small group* OR *curricul** OR *lesson* OR *strateg** OR *inferenc** OR *summar** OR *vocabulary* OR *background knowledge* OR *predict** OR *paraphras** OR *main idea* OR *supplement** OR *think aloud* OR *think-aloud*. The electronic search yielded a total of 11,906 abstracts, with 10,372 abstracts remaining after duplicates were removed.

Screening

Second, the lead author trained a team of two doctoral student reviewers in an hour-long training session. Both reviewers were enrolled in Doctor of Philosophy programs, one with an emphasis on reading and the other with a primary focus on special education and a secondary emphasis on reading. Additionally, both reviewers had previously been members of other systematic review teams and thus knew the review process. As a result, the training solely focused on the inclusion and exclusion criteria for this current review. Following the training, both reviewers achieved 100% reliability, exceeding the 90% gold standard, with the first author when screening 5 practice abstracts. The lead author and the two reviewers utilized the Covidence systematic review software (Covidence, 2021) to screen the 10,372 abstracts. Two reviewers independently screened all abstracts: the lead author and one additional review team member. The first author reviewed and resolved all screening disagreements. The screeners had over 99% consensus on abstract screening.

Of the 10,372 abstracts remaining after duplicates were removed, 10,352 studies were eliminated during the abstract review phase. Most commonly, studies were excluded because the study did evaluate the effects of reading comprehension instruction based on the operational definition, did not include a reading comprehension outcome measure, included participants who did not fall within the required age or grade range or were identified with a

disability that did not meet inclusion criteria (e.g., intellectual disability, autism spectrum disorders, or sensory disabilities), or evaluated an intervention that utilized an instructional text that was not in the form of a novel or chapter book, or the study design was not quantitative. Abstract screening resulted in 20 texts reviewed in the full-text stage for study eligibility.

Study Identification Through Other Sources

Next, a hand search was conducted of major journals that frequently publish articles on reading intervention: *Exceptional Children, Journal of Learning Disabilities, Learning Disabilities Research & Practice, The Journal of Special Education, Learning Disability Quarterly, Remedial & Special Education,* and *Scientific Studies of Reading*. We searched during a 2015 to 2022 time frame to identify recent publications that may have been missed in the electronic database search (Cooper et al., 2019). This search did not yield any additional articles that met inclusion criteria. Then, an ancestral search of related reviews was conducted (i.e., Boon et al., 2015; Daniel & Williams, 2021; Edmonds et al., 2009; Filderman et al., 2022; Gersten et al., 2021; Hall, 2016; Joseph et al., 2016; Kim et al., 2012; Kuder, 2017; Lee & Tsai, 2017; Scammacca et al., 2015; Solis et al., 2012; ter Beek et al., 2018). The ancestral search yielded two additional studies that met the inclusion criteria.

Full-Text Review

Together, the electronic database search and other search procedures yielded a total of 22 studies that required full-text review. A full-text review was completed by the lead author and the same two doctoral student reviewers who completed abstract screening. The lead author conducted an hour-long training session with the two reviewers focused on the inclusion criteria and the order in which they would be applied to the body of studies. Following training, both reviewers achieved 95% reliability, exceeding the 90% gold standard, with the lead author on 4 practice full texts before beginning to review. The same double-screening process used in the

abstract phase was applied to the full-text review phase, which required each full text to be independently screened by two reviewers: the lead author and one additional review team member. The lead author then resolved disagreements, and the screening team had a 98% consensus on full-text reviews. Of the 22 full-text articles reviewed, 10 met the inclusion criteria. At this stage, studies were excluded for the same reasons noted during the abstract review. Figure 1 depicts a PRISMA diagram illustrating the search strategy and inclusion results.

Inclusion and Exclusion Criteria

All abstracts were screened, and full texts of the studies that met the initial screening for eligibility were evaluated. Included studies met the following inclusion criteria:

a) The study was reported in articles, dissertations, or research reports published in English between 1990 and 2022.
b) The study utilized a group-design experimental or quasi-experimental study design, a single-group pre-post design, or a single-case experimental design.
c) Participants were identified as students with or at risk for reading difficulties in Grades 4 through 12. Studies in which participants with intellectual disabilities, autism spectrum disorders, or sensory disabilities (e.g., deafness, blindness) comprised more than 25% of the sample were not included.
d) The primary language of instruction was English.
e) Instruction took place in a school setting (e.g., school-based after-school tutoring and school-based summer instruction) or clinical setting.
f) The intervention was delivered across more than one session and focused on reading comprehension. Studies of interventions that focus on language or listening comprehension, with or without explicit text reading by participants, were also included.
g) The text utilized during instruction was a narrative text in the form of a chapter book, novel, trade book, graphic novel, or a book-length text otherwise identified as young

adult literature or adolescent literature. Interventions utilizing passages or short stories only were not included.

h) The study measured intervention effects on comprehension.

Data Analysis

Coder Training

The ten included studies were independently coded by two coding team members following the same procedures as the abstract screening and full-text review. The coding team included the lead author, the same two doctoral students from the abstract screening and full-text review phases, and one additional Doctor of Philosophy student with a primary emphasis on special education and a secondary emphasis on reading. The lead author coded each study, and a review team member completed the second coding. Each coder underwent two hours of training with the lead author before coding. The team then coded one practice article before comparing codes with the lead author and discussing discrepancies. After adding clarification to the coding manual, the authors coded one more article on which they were required to achieve a minimum of 90% reliability with a gold standard. The first author resolved any disagreements that arose. The total overall agreement was 94% across the 8 remaining articles, calculated as a coefficient of the percentage agreement divided by the number of agreements and the total number of cells. Additionally, interrater reliability, which was calculated as Fleiss' Kappa (Fleiss & Cohen, 1973), resulted in an acceptable coefficient of 0.9, $p < .001$, 95% CI [0.80, 0.97].

Coding Procedures

A coding protocol was utilized that identified (a) study design features, (b) participant information, (c) intervention characteristics, and (d) participant outcome measures. The study design features included methodological characteristics of each study: sample size, type of study design (i.e., group experimental or quasi-experimental, single-group pre-post, or single-case experimental design), and whether fidelity of implementation was tracked. Participant

characteristics included grade level(s), special education classification, language learner classification, and eligibility for free or reduced-price lunch (FRPL). Coders tracked the name of the novel(s) read during instruction; whether the book was instructor or student-selected; the name of the instructional approach used; whether instruction was delivered in whole-group or small-group format; the position of the individual(s) delivering instruction (i.e., general education classroom teacher, special education teacher, reading specialist, member of the research team, other); and length and dosage of instruction. Additionally, the team coded for incorporation of specific instructional components: instructor modeling, reading comprehension strategy instruction, student or instructor lead discussion, knowledge building (i.e., building background or vocabulary knowledge), student written response, and use of graphic organizer. Participant outcome measures were coded for measure type (i.e., standardized, unstandardized/researcher-developed), and time measure was administered (i.e., pretest, ongoing during instruction, posttest, or follow-up). The spreadsheet utilized for coding contained a combination of forced-choice items (e.g., intervention components, participant grade level, outcome measure type), open-ended items (e.g., number of participants), and written descriptions (e.g., the title of the novel(s) used, the instructional approach implemented).

Effect-Size Calculation

Seven studies included statistical information necessary for the calculation of effect sizes. For all studies, except those using a single-case design, the effect size was calculated using the traditional formula for Hedges' *g* (Hedges, 1981). The effect size was calculated as the between-case standardized mean difference for single-case design studies. The between-case standardized mean difference estimates the effects of an intervention across participants in a study. It is the single-case design effect size metric most conceptually consistent with Cohen's *d* (Maggin et al., 2019). Group comparison design studies were calculated using a web-based effect size calculator (Wilson, 2023). For single-group pre-post design studies, the effect size

was calculated using formulas in Microsoft Excel (2018). Lastly, for single-case design studies, individual participant data was extracted via the WebPlotDigitizer web application (Rohatgi, 2024) and then entered into a web-based calculator for between-case standardized mean differences (Pustejovsky et al., 2023). Three studies (Dugan & Bean, 1996; Granger et al., 2007; Quist, 1995) did not include the necessary statistical information to calculate an effect size and are summarized descriptively. Due to the limited number of eligible studies and the lack of similarity among them, a mean-weighted effect size was not calculated.

Results

Due to the varying foci of the adolescent literature interventions, a two-part data analysis was conducted. In the first part of the analysis, the elements of the study features were synthesized to better identify the characteristics of the interventions that were tested under what conditions and with what populations of students. The following part of the analysis involved calculated effect sizes to determine the impacts of the adolescent literature interventions on reading comprehension outcomes of students with reading difficulties in grades 4 through 12.

Study Features

Of the ten studies that met selection criteria, two were published in the last 10 years of the 22-year span that delimited the search (1990-2022). Three of the studies were published in a peer-reviewed journal (Connor et al., 2018; Granger et al., 2007; McElvain, 2010), one was a conference paper presentation (Dugan & Bean, 1996), and the remaining six studies were either a Master's thesis (Egan et al., 1996; Parker et al., 1999; Quist, 1995; Wilson, 1998) or Doctoral dissertation (Lamanno, 2007; Williams, 2014). Specifics of each study's design are recorded in Table 1. Information from the included body of studies is summarized in the following sections to contextualize the findings better.

Sample Characteristics

Despite the small number of selected studies, 617 students were included, with a range of 4 to 204 participants per study. Four studies identified students with a disability who received instruction in either a special education setting (Granger et al., 2007; Lamanno, 2007; Quist, 1995) or a general education setting (Parker et al., 1999). Three studies included students with reading difficulties who were not identified with a disability (Dugan & Bean, 1996; McElvain, 2010; Williams, 2014), and three studies did not report the disability status of their participants (Connor et al., 2018; Egan et al., 1996; Wilson, 1998). One study (McElvain, 2010) included participants identified as English language learners (ELLs), and this was also the only study to report the FRPL status of participants. While selection criteria allowed for students in grades 4 through 12, the included studies do not contain any participants in grades 7 or 8. Most participants were enrolled in grades 4 through 6 (see Table 2).

Study Design

As detailed in Table 1, the body of selected studies includes four group comparison studies (Connor et al., 2018; McElvain, 2010; Williams, 2014; Wilson, 1998), four single group pre-post studies (Dugan & Bean, 1996; Egan et al., 1996; Parker et al., 1999; Quist, 1995), and two single-case design studies (Granger et al., 2007; Lamanno, 2007). Only one of the group comparison studies randomly assigned participants to conditions (Connor et al., 2018). Two studies reported implementation fidelity data (Connor et al., 2018; McElvain, 2010), and two more described a measure of implementation fidelity but did not report any fidelity data (Lamanno, 2007; Williams, 2014). All but one study (Quist, 1995) employed standardized measures of student outcomes.

Intervention Design and Implementation

The duration of interventions was anywhere from 6 to 28 weeks. Four of the interventions were implemented by researchers (Connor et al., 2018; Dugan & Bean, 1996; Egan et al., 1996; Lamanno, 2007), one was implemented by a researcher who was also the classroom teacher (Granger, 2007), three by a general education classroom teacher (Parker et al., 1999; Williams, 2014; Wilson, 1998), one by a special education teacher (Quist, 1995), and one by general education teachers will ELL certifications (McElvain, 2010). Eight included studies utilized traditional novels for instruction while two utilized graphic novels (Lamanno, 2007; Williams, 2014). In six studies, the entire group of treatment participants read the same novel, while four included various novels in instruction (Egan et al., 1996; Lamanno, 2007; McElvain, 2010; Parker et al., 1999). The novels were implementer selected in five of the included studies (Connor et al., 2018; Granger et al., 2007; Quist, 1995; Williams, 2014; Wilson, 1998), student participant selected in one study (Dugan & Bean, 1996), and in the remaining four studies the novels were selected by both the implementer and the student participants (Egan et al., 1996; Lamanno, 2007; McElvain, 2010; Parker et al., 1999). Specifically considering intervention components, all the studies except Connor et al. (2018) included two or more of the following: teacher modeling, strategy instruction, discussion, knowledge building, written response, and graphic organizers (see Table 3).

Effect Sizes

The effect sizes obtained are summarized and reported in the following sections to determine the effects of adolescent literature interventions on reading comprehension outcomes. Studies that did not contain sufficient information for effect size calculation are summarized descriptively. Studies are grouped by study design to facilitate interpretation of the results.

Group Comparison Design Studies

Four included studies are categorized as Group Comparison Design Studies, which employ experimental or quasi-experimental methods. One group received treatment and was compared to a control group that did not receive treatment. One study in this group utilized a randomized controlled trial design (Connor et al., 2018). The other three studies utilized quasi-experimental designs with no random assignment of participants to treatment conditions (McElvain, 2010; Williams, 2014; Wilson, 1998).

The study by Connor and colleagues (2018) used an incomplete-random-blocks design to explore the effects of Enacted Reading Comprehension instruction on numerous reading-related outcomes of fourth-grade students. Specifically, reading comprehension outcomes were assessed using two standardized measures, the Test of Silent Reading Efficiency and Comprehension (TORSEC) and the Gates MacGinitie Reading Test. Students randomized to the treatment condition received intervention 4 days a week, for 30 minutes a day, for about 5 weeks. The intervention employed principles of embodied cognition that used motor actions to support the grasp of more abstract ideas within texts. Students read the novel *A Single Shard* (Park, 2001) with accompanying discussions. In the control condition, students received business-as-usual instruction following their districts' core literacy curriculum. Effect sizes for standardized measures of reading comprehension between the treatment (n=91) and control (n=113) groups were extremely small (TORSEC g=0.04; Gates MacGinitie g=-0.08), with neither being statistically significant or educationally meaningful for the age range of participants.

McElvain's (2010) study examined the impact of Transactional Literature Circles on the reading comprehension outcomes of target ELL students in grades 4 through 6 that met their district's criteria for being at risk of retention due to their reading or English language performance on state standardized assessments. The Transactional Literature Circles approach lesson plan includes a 15-minute whole group reading mini-lesson followed by 30 minutes of

independent reading where students silently read and respond to their Literature Circle book or receive small group instruction. After 30 minutes of independent reading or small group instruction, the students work for 15 minutes in a student-led book club where they discuss their reading response logs or cooperatively work on a book project. Small group instruction involves discussion, strategy modeling and practice, and vocabulary instruction. Flexible grouping is utilized such that the groupings and novels may be teacher-selected, student-selected, or a combination of both. The control group (*n*=75) was comprised of ELL students within the same district who were selected based on the same criteria as the treatment group. Student performance on the California Achievement Test for Reading 6 produced a small effect size (*g*=0.31) in favor of the treatment group (*n*=75), which was not statistically significant.

In the 2014 study by Williams, the effect of instruction utilizing a graphic novel on the figurative language comprehension of sixth-grade students was examined. The treatment group (*n*=77) was read aloud, via audio recording, the graphic novel *Rapunzel's Revenge* (Hale & Hale, 2008). Instruction occurred for nine weeks with two to three lessons per targeted figure of speech (e.g., simile, metaphor, idiom, hyperbole, and personification). Intervention lessons incorporated instructional components for summarizing, note-taking, nonlinguistic representations, questions, reflection, and cooperative learning. Students in the control group (*n*=69) received instruction from their participating teacher's usual instructional materials. The comparison of student performance between the treatment and control groups on the Figurative Language Interpretation Test provided a small effect size (*g*=0.37) that was statistically significant.

Wilson's (1998) study analyzed the impact of reading comprehension instruction using a novel compared to a skills-based approach to remedial reading on high school students (grades 9 through 12). Treatment students (*n*=27) in 3 remedial English/Reading classes read *The Outsiders* (Hinton, 1967) with accompanying activities for vocabulary in context, discussion

questions, written responses, story mapping, character analysis, and prediction. They received instruction daily for approximately ten weeks. The control group consisted of 27 students enrolled in 2 remedial English/Reading classes who received traditional, skills-based reading instruction that included instruction in a series of isolated specific skills, reading for concepts, and reading for critical thinking in workbooks and work packets. A comparison of student performance on the Reading Comprehension Test of Advanced 1 Form L of the Metropolitan Achievement Test produced an effect size of -0.04, which was not statistically significant.

Summary of Group Comparison Design Studies. The Group Comparison Design Studies in this review provide mixed evidence on adolescent literature instruction's effectiveness in improving participants' comprehension outcomes, including those at risk for reading difficulties. In two studies, effect sizes were extremely small and not statistically significant (-0.08 to 0.04) (Connor et al., 2018; Wilson, 1998). However, in the other two studies (McEvlain, 2010; Williams, 2014), the effect sizes were small (0.31 to 0.37), and only one was statistically significant (Williams, 2014). The great variance in effect sizes (-0.08 to 0.37) among the studies in this group is particularly intriguing. It could be attributed to the nature of instruction in the treatment condition (Connor et al., 2018) or the nature of the counterfactual (Wilson, 1998). The studies in this group with small but statistically significant effects provide preliminary insight into the effectiveness of adolescent literature instruction that includes components of strategy instruction and written response for students, including English Learners in grades 4 through 6.

Single Group Pre-Post Design Studies

Four of the included studies are categorized as Single-Group Pre-Post Design Studies (Dugan & Bean, 1996; Egan et al., 1996; Parker et al., 1999; Quist, 1995), which are quasi-experimental designs that do not include a comparison or control group. In this group of studies, the same outcome variable was measured in one group of participants before (pretest) and after (posttest) treatment was administered (Privitera & Ahlgrim-Delzell, 2018).

The study by Dugan & Bean (1996) examined the impact of Transactional Literature Discussions on the reading comprehension performance of fifth-grade at-risk students (*n*=6). Students participated in 15 lessons that were 45 minutes long and occurred 1-2 times a week while reading the novel *Shiloh* (Naylor, 1991). Transactional Literature Discussions employed instructional components for previewing, making predictions, thinking aloud while reading, asking questions, journaling, discussions, and reflecting. Instruction was grouped into segments that followed a gradual release of responsibility model (Pearson & Gallagher, 1983). The first segment of lessons was teacher-directed; in the second segment of lessons, the teacher and students shared responsibility for the reading and activities, and in the third segment, students led the reading and activities. Student comprehension was assessed using the Diagnostic Reading Scales. Results indicate that three students improved at least one grade level, one student improved three grade levels, and two students showed no improvement. An overall effect size could not be calculated from the provided information in this study.

In the 1996 study by Egan and colleagues, the effect of integrating the use of novels with a basal reading program on the reading performance of sixth-grade at-risk students (*n*=10) was investigated. Instruction involving a variety of novels included components of teacher read-alouds, journal activities, graphic organizers, paired learning, and cooperative group activities. Students could also choose novels to take home to read as part of the intervention. Cooperative group activities began with groups of 4-5 students but changed to groups of 3 to encourage more student interaction and participation. During this instruction, students continued reading and completing activities with short stories from the basal reading program. Instructional activities using the novel took place 2-3 times a week. The Reading Diagnostic Checklist evaluated Student performance before and after the intervention. Results revealed a 30% improvement in oral reading comprehension and a 20% improvement in silent reading

comprehension and recall of questions, resulting in large effect sizes of 1.34, 1.00, and 1.00, respectively.

Parker and colleagues (1999) examined the impact of literacy circles on the reading comprehension of at-risk fifth graders (*n*=10). Instruction involving the literacy circles included components of teacher modeling, vocabulary instruction, journaling, graphic organizers, and discussions. This instruction was integrated with short stories from the grade-level basal reader. Instruction occurred daily and began with each literacy circle selecting and reading their novel from a provided list. As instruction progressed, the class transitioned to all literacy circles reading the same novel and joining in whole-group discussions. Student performance on the Woodcock Johnson-Revised assessment was categorized as below grade level, at grade level, and above grade level. The authors report a 40% decrease in the number of students performing below grade level, no change in the amount performing at grade level, and a 40% increase of students performing above grade level for a resulting large effect size of 1.58.

In the study by Quist (1995), the effects of using graphic organizers while reading the novel *Stone Fox* (Gardiner, 1980) were examined using teacher-generated comprehension questions. Both literal and higher-order questions were used in the assessment. Study participants included five students with learning disabilities in the fifth grade. Students read the novel orally and engaged in discussion and the completion of graphic organizers. Different graphic organizers were used throughout the novel, including a plot chart, story map, prediction chart, knowledge chart, story summary, character map, and a Venn diagram. Sufficient information to calculate an effect size was not presented in the study. However, the author reports that after treatment, the mean performance of students on the teacher-generated comprehension questions was 7.2 points higher than before receiving treatment instruction.

Summary of Single Group Pre-Post Design Studies. Results from the Single Group Pre-Post Design studies provide preliminary evidence that instruction while reading adolescent

literature improves reading comprehension performance for adolescents with or at risk for reading difficulties. This inference is tentative, however, due to the small sample sizes of all the studies in this group, which can lead to an increased random chance of inflated effect sizes. Additionally, because of the study design, none of the studies in the group contained a comparison or control condition and are prone to internal validity threats. This is particularly true for threats associated with observing the same participants over time (e.g., regression towards the mean and testing effects; Privitera & Ahlgrim-Delzell, 2018). However, all studies in this group demonstrated positive gains for students, including those with learning disabilities. To this end, this group of studies provides preliminary insight that suggests instruction while reading book-length texts may improve reading comprehension outcomes for adolescents with or at risk for reading difficulties.

Single-Case Design Studies

Two of the included studies are categorized as Single-Case Design Studies (Granger et al., 2007; Lamanno, 2007) that report and analyze data for each study case individually, where each case or participant serves as their own control (Privitera & Ahlgrim-Delzell, 2018).

The study by Granger and colleagues (2007) examined the impact of Reader Response Plus on the reading comprehension of twelfth-grade students (*n*=4) in a self-contained English class. The authors describe Reader Response Plus as a reading intervention program that combines reader response journals with classroom discussion. The program was designed to increase written and spoken self-expression opportunities for students with disabilities. Students received daily instruction over a six-week period during which they read *The Watsons Go to Birmingham* (Curtis, 1995). During each lesson, the students silently read a brief portion of the novel assigned by the teacher (approximately five pages) before responding to a journal prompt and discussing responses with the class. The Qualitative Reading Inventory-3 was administered at pre-instruction, mid-way through the six weeks of instruction, and post-instruction to

determine the independent, instructional, and frustration levels reading levels of each student participant. Due to the nature of the results reporting on the outcome measures, no effect sizes were calculated for this study. The authors report that all four students improved their independent reading levels by moving up at least one grade level, and two improved by moving up two.

The Lamanno (2007) study explored the effectiveness of an intervention utilizing graphic novels to increase the reading comprehension skills of a small group of high school students with reading difficulties or disabilities. The study included 14 total participants in grades 9 through 12, 7 of whom met the inclusion criteria for the present systematic review. The author employed a single-subject multiple baseline research design (A-B-BC) across six groups of subjects. During the first intervention phase, students received instruction 3 times a week for 30-45 minutes per session, for 15-22 sessions. Following the first intervention phase, students continued instructional sessions utilizing a graphic novel of their choosing from a graphic novel library provided by the researcher. Instructional sessions included read-aloud of sections of the graphic novel by the student or researcher, vocabulary instruction, summarizing, discussion, and occasional phonics instruction when necessary. Student performance on the AIMSWeb Maze assessment resulted in a between-case standardized mean difference of 0.11, which is extremely small and not statistically significant.

Summary of Single-Case Design Studies. Similar to the Group Comparison Design Studies, this group of Single-Case Design Studies indicates mixed effects of instruction using adolescent literature on the comprehension outcomes of participants. While an effect size for the between-case standardized mean difference was not able to be calculated for the Granger et al. (2007) study, all participants did demonstrate improvement in comprehension performance following treatment. All participants in the Lamanno (2007) study also demonstrated improvement, but the effect size was extremely small, which could be attributed to the outcome

measure used to assess comprehension. In this case, study participants were in grades 9 through 12, but the AIMSWeb Maze tool is not validated for students beyond the 8th grade.

Discussion

This systematic review sought to identify the state of knowledge regarding the use and effectiveness of instruction while reading book-length texts to improve the comprehension of adolescents with or at risk for reading difficulties. However, this review is limited by the small number of studies identified that were examined and the range in effect sizes (-0.08 to 1.58) garnered. This likely reflects the inherent differences in study designs (e.g., between-subjects versus within-subjects), the variety of instructional components employed, and the sensitivity of comprehension measures. This would suggest that more research must be conducted before any conclusive interpretations can be made from this evidence base.

Results from studies in all three design groups indicate that instruction utilizing adolescent literature can positively impact the reading comprehension of students in grades 4 through 12, including those with or at risk for reading difficulties. When considering the characteristics of the instruction implemented, all but three studies included written responses. This is promising, considering that evidence has documented that writing about text improved overall reading comprehension for typically developing readers and those with reading difficulties (Graham & Hebert, 2011, 2010). Most reviewed studies (*n*=8) also included text-centered discussions in whole or small groups that were either teacher or student-led. This corresponds to evidence suggesting that productive classroom discussions about text can effectively promote students' literal and inferential comprehension and their critical thinking and reasoning about text (Wilkinson et al., 2015). Additionally, half of the reviewed studies included the use of various graphic organizers, which have been documented as having a moderate effect (*g*=0.46) on student reading comprehension outcomes when used in isolation (Filderman et al., 2022).

Less than half of the studies included components related to knowledge building, strategy instruction, or teacher modeling. This is surprising given that several research syntheses have documented the effectiveness of strategy instruction, both combined and in isolation, in approving student reading comprehension outcomes (Daniel & Williams, 2021; Edmonds et al., 2009; Filderman et al., 2022; Hall, 2016; Joseph et al., 2016; Scamacca et al., 2015). One potential explanation may lie in the fact that several of the studies included in the present review (*n*=7) were published before the syntheses mentioned above (Dugan & Bean, 1996; Egan et al., 1996; Granger et al., 2007; Lamanno, 2007; Parker et al., 1999; Quist, 1995; Wilson, 1998). Additionally, prior reviews provide evidence that interventions, including vocabulary instruction, can also be effective in improving the reading comprehension performance of students with reading difficulties and learning disabilities (Bryant et al., 2003; Filderman et al., 2022; Scamacca et al., 2015).

The converging results of the intervention studies reviewed suggest that adolescents with or at risk for reading difficulties would benefit from instruction while reading novels that includes components of teacher modeling, strategy instruction, and knowledge building (i.e., vocabulary and background knowledge). Furthermore, this instruction should include embedded discussions, whether teacher or student-led, and written responses, allowing students frequent opportunities to integrate and demonstrate their knowledge. Additionally, including graphic organizers may help students organize their thinking in preparation for composing written responses related to reading. However, this guidance should be considered preliminary, given the limitations of the studies included in this review.

Limitations and Implications for Future Research

As noted earlier, only one study randomly assigned participants to conditions (Connor et al., 2018), and only two studies reported implementation fidelity data (Connor et al., 2018; McElvain, 2010). Three studies did not include sufficient information to calculate effect size

(Dugan & Bean, 1996; Granger et al., 2007; Quist, 1995), and the varied nature of the study designs did not allow for calculating a weighted mean effect across the body of studies. As a result, no causal inferences can be made at this juncture.

It is important to reiterate that only two included studies were published within the last decade (Connor et al., 2018; Williams, 2014). Most of the older studies in this review may not reflect current practice, as documented in other research fields (e.g., medicine; Patsopoulos & Ioannidis, 2009). Another limitation is that six included studies are categorized as grey literature (Egan et al., 1996; Lamanno, 2007; Parker et al., 1999; Quist, 1995; Williams, 2014; Wilson, 1998). While including grey literature increases the diversity of authors and institutions represented in this review, it also introduces concerns about study quality and reliability. Limitations about the generalizability of these findings to participant subpopulations should also be noted. While this review included studies with participants in grades 4 through 12, none of the included studies contained students in grades 7 or 8. Additionally, high school participants were represented in this body of studies, but in minimal numbers (e.g., 9^{th} grade=21; 10^{th} grade=14; 11^{th} grade=10; 12^{th} grade=20).

Some notable suggestions can be made from this review concerning implications for classroom instruction while reading adolescent literature. Findings from this review may help guide teachers in structuring comprehension instruction that utilizes book-length texts. Most students with reading difficulties and disabilities would benefit from structured approaches to reading and comprehending adolescent literature that include components of explicit strategy instruction, productive text-based discussions, written responses connected to the text, and prioritizing building both vocabulary and background knowledge. Additionally, it would be advantageous to focus on integrating multiple strategies and pieces of knowledge simultaneously when working with lengthier, complex texts such as novels. Teachers must consider these components in conjunction with their student's unique levels of ability and

knowledge when planning an effective approach to comprehension instruction using adolescent literature.

Future rigorous experimental research is warranted to better determine the impact of instruction utilizing adolescent literature on reading comprehension outcomes, particularly for students with reading difficulties or disabilities. Importantly, instructional approaches employed in future studies should be purposely designed to include instructional components that have demonstrated effectiveness in improving adolescent comprehension outcomes. These studies should strive to include a detailed description of the fidelity of implementation, which was absent in most of the studies reviewed in this current synthesis. In addition, future studies should strive to identify and use outcome assessments that are normed and standardized for the study population.

Conclusion

In conjunction with a prior review of adolescent literacy instruction conducted over a decade ago, no specific conclusions concerning causal evidence or effectiveness can be drawn at this time. Instead, the results of this systematic review are primarily intended to provide updated guidance from trends in this body of research on adolescent literature comprehension instruction. Given the relatively small body of studies synthesized, the outcomes of this review do provide preliminary evidence to suggest that providing instruction while reading book-length texts can improve comprehension performance for adolescents with or at risk for reading difficulties. Future research in this realm is highly encouraged to help build a more substantial base of evidence regarding instructional practices while reading adolescent literature that effectively improves comprehension outcomes for students with or at risk for reading difficulties.

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Tables

Table 1

Study Characteristics

Study	Study Design	Number of Participants	Grade Level(s)	Duration	Person Implementing	Outcome Measure
Connor et al. (2018) *fidelity: Yes*	Group comparison	204 (General Education) *FRPL: NR*	4	5 weeks (4 x week; 30 min.*)	Researcher	Test of Silent Reading Efficiency and Comprehension *Standardized* Gates MacGinitie Reading Test *Standardized*
Dugan & Bean (1996) *fidelity: NR*	Single group pre-post	6 (General Education) *FRPL: NR*	5	8 weeks (2 x week; 45 min.*)	Researcher	Diagnostic Reading Scales *Standardized*
Egan et al. (1996) *fidelity: NR*	Single group pre-post	18 (General Education) *FRPL: NR*	6	24 weeks (5 x week)	Researcher	Reading Diagnosis Checklist *Standardized*
Granger et al. (2007) *fidelity: NR*	Single-Case	4 (Special Education) *FRPL: NR*	12	11 weeks (4 x week; 30 min.*)	Teacher/Researcher	Qualitative Reading Inventory *Standardized*
Lamanno (2007) *fidelity: NR*	Single-Case	6 (Special Education) *FRPL: NR*	9, 10, 11, 12	6 weeks (5 x week; 40 min.*)	Researcher	AIMSWeb Maze *Standardized*

Study	Study Design	Number of Participants	Grade Level(s)	Duration	Person Implementing	Outcome Measure
McElvain (2010) *fidelity: Yes*	Group comparison	150 (General Education; ELLs) *FRPL: Yes*	4, 5, 6	28 weeks (5 x week; 60 min.*)	Teacher (General Education w/ ELL Certification)	California Achievement Test for Reading 6 *Standardized*
Parker et al. (1999) *fidelity: NR*	Single group pre-post	23 (General Education) *FRPL: NR*	5	16 weeks (5 x week)	Teacher (General Education)	Woodcock-Johnson Revised *Standardized*
Quist (1995) *fidelity: NR*	Single group pre-post	5 (Special Education) *FRPL: NR*	5	(5 x week)	Teacher (Special Education)	Comprehension Questions *Teacher created*
Williams (2014) *fidelity: NR*	Group comparison	146 (General Education) *FRPL: NR*	6	9 weeks	Teacher (General Education)	Figurative Language Interpretation Test *Standardized*
Wilson (1998) *fidelity: NR*	Group comparison	54 (General Education) *FRPL: NR*	9, 10, 11, 12	10 weeks (5 x week)	Teacher (General Education)	Reading Comprehension Test of the Metropolitan Achievement Test *Standardized*

Note. *Indicates the number of minutes per session; NR=Not Reported.

Table 2

Approximate Sample Sizes at Each Grade Level

Grade Level	Approximate Number of Participants
4	259
5	89
6	204
7	0
8	0
9	21
10	14
11	10
12	20

Table 3

Intervention Characteristics

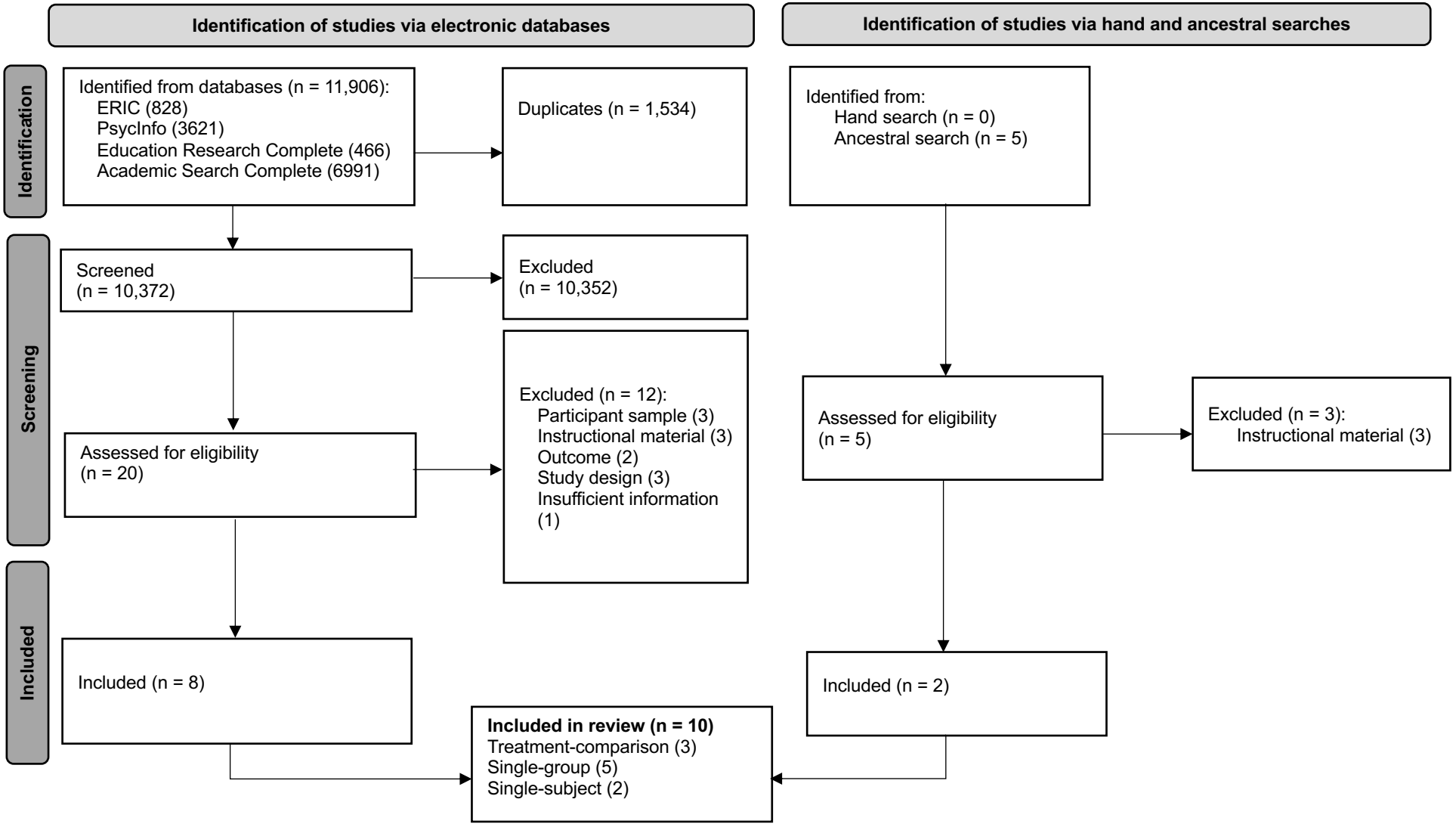
Intervention	Teacher Modeling	Strategy Instruction	Discussion	Knowledge Building	Written Response	Graphic Organizer	Novel	Novel Selection
Connor et al. (2018) • *Enacted Reading Comprehension*			X				*A Single Shard*	Implementer
Dugan & Bean (1996) • *Transactional Literature Discussions*	X	X	X		X		*Shiloh*	Student
Egan et al. (1996)					X	X	Variety	Both
Granger et al. (2007) • *Reader Response Plus*			X		X		*The Watsons Go to Birmingham*	Implementer
Lamanno (2007)		X	X	X		X	Variety (Graphic Novel)	Both
McElvain (2010) • *Transactional Literature Circles*		X	X	X	X		Variety	Both

Intervention	Teacher Modeling	Strategy Instruction	Discussion	Knowledge Building	Written Response	Graphic Organizer	Novel	Novel Selection
Parker et al. (1999)	X		X	X	X	X	*The Sign of the Beaver* *Shiloh* *Blue Willow* *Echohawk* *Hatchet* *A Wrinkle in Time* *Bunicula* *The Family Under the Bridge* *Survival!* *The House of Dies Drear*	Both
Quist (1995)			X			X	*Stone Fox*	Implementer
Williams (2014)		X			X		*Rapunzel's Revenge* (Graphic Novel)	Implementer
Wilson (1998)		X	X	X	X	X	*The Outsiders*	Implementer

Figures

Figure 1

PRISMA Diagram Illustrating Search Procedures



Manuscript 3

Examining the Feasibility of an Instructional Approach Focused on Building Vocabulary and Reading Comprehension Strategy Knowledge While Reading Adolescent Literature

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Abstract

This study examined the feasibility of implementing an explicit and systematic instructional approach focused on building vocabulary and comprehension strategies while reading an adolescent literature book-length text. Instruction was implemented during a 6-week time period in Grades 5 and 6 Language Arts classrooms in a rural middle school setting. Using a convergent mixed-methods study design, data from classroom observations, teacher interviews, and teacher and student surveys were analyzed according to feasibility constructs of utility, appropriateness, and acceptability. Results indicated that teachers found the instructional approach easy to implement, and many of the components appealed to teachers and students. Additionally, teachers provided anecdotal evidence of the potential impact of the instructional approach on student vocabulary knowledge, listening comprehension, and comprehension strategy usage. However, several barriers to implementation were revealed, including the lengthiness of lessons, the need for grade-level standard integration, and the inability to adapt to the diverse needs of students. Implications for practice and future research are discussed.

Keywords: adolescent literacy, reading comprehension, adolescent literature, reading difficulties or disabilities, feasibility research

Examining the Feasibility of an Instructional Approach Focused on Building Vocabulary and Reading Comprehension Strategy Knowledge While Reading Adolescent Literature

Introduction

The number of young adults ages 18 to 24 reading literature (e.g., novels, short stories, plays, poetry) decreased by 28% from 1982-2002 (National Endowment for the Arts, 2004). Two factors strongly linked to literacy reading rates are education and income level. Literary reading rates increase consistently at every level of educational attainment, from grade school to high school to college and graduate school. Specifically, reading rates of novels and short stories are more than one-third higher than the national average for college graduates. Reading rates also increase with income level; families with incomes of $40,000 or more exceeded the national average, while those with incomes below that amount fell below the overall average. These somber outcomes may potentially be the longitudinal effects of under-performance in school during adolescence (OECD, 2007). This is particularly concerning given the current reading performance of adolescents (i.e., children ages 10 to 19; World Health Organization, 2023), as evidenced by the National Assessment of Education Progress (NAEP) Report Card. In 2019, 2019 only 31% of twelfth-grade students performed at or above a Proficient level on the reading assessment. Additionally, in 2022, only 33% of fourth-grade and 31% of eighth-grade students could comprehend text at or above a Proficient level.

Given that most adolescents cannot read and comprehend grade-level texts successfully, it is unsurprising that literary reading rates are declining. This is especially true considering that novels present unique challenges for reading comprehension given their complex format with numerous layers of meaning and story action (Peterson & Eeds, 1990). Students, especially those with comprehension difficulties, require instruction and support to integrate multiple strategies throughout the text. Unfortunately, students are often not provided sufficient support, resulting in challenges with sustaining understanding over the course of the

text (Hall et al., 2011). One reason this instruction is only sometimes provided is the challenge of limited class time in schools; teachers feel pressured to prioritize numerous types of instruction while leaving less time for literature-specific reading instruction (Duncan & Paran, 2018). A potential avenue for supporting students with comprehension difficulties is to incorporate adolescent literature (i.e., book-length works written for an audience of 11- to 21-year-olds; Dagostino et al., 2021) in purposely designed reading instruction. Adolescent literature also employs numerous literary elements found in classic literature, which can bridge students to reading more complex adult novels as they mature (Dagostino et al., 2021). As a result, adolescent literature can be a vehicle that allows students to develop the necessary intellectual skills to comprehend the work itself, encouraging lifelong reading habits (Santoli & Wagner, 2004).

Literature Review

Adolescent Reading Comprehension

Reading comprehension is “the process of simultaneously extracting and constructing meaning through interaction and involvement with written language” (Snow, 2002, p. xiii). Theoretical models and empirical data suggest that reading comprehension is a complex process impacted by several factors. Specifically, the Rand Reading Study Group (RRSG) conceptualizes three interrelating elements in reading comprehension: the *reader*, the *text*, and the *activity* or purpose for reading. These elements interact within a larger sociocultural context that continuously shapes and is shaped by the reader throughout the reading process. A heuristic illustrating the interrelated elements and context is depicted in Figure 1.

When considering the interacting elements that occur during reading, the *reader* element encompasses all the abilities, knowledge, capacities, and experiences an individual brings to the reading process. Specifically, the reader must possess the ability to accurately decode words and comprehend language to successfully comprehend written text (Gough & Tunmer,

1986; Hoover & Gough, 1990). These components can be broken into phonological awareness, decoding, and sight recognition subcomponents for word reading and background knowledge, vocabulary, language structures, verbal reasoning, and literacy knowledge for language comprehension (Scarborough, 2001). Importantly, extant research has demonstrated that many adolescents who have difficulty comprehending text likely have concurrent weaknesses in both word recognition and language comprehension component skills (Brasseur-Hock et al., 2011; Cirino et al., 2013; Clemens et al., 2017; Richmond et al., 2023) When considering adolescents, further insight into the specific component skills required for reading comprehension is provided by the direct and inferential mediation (DIME) model of reading comprehension (Cromley & Azevedo, 2007). Specifically, the model highlights the importance of word reading, vocabulary, and background knowledge as directly impacting reading comprehension and indirectly impacting the adolescent reader's ability to draw inferences and utilize comprehension strategies while reading.

Aside from knowledge and abilities, the adolescent reader's motivation to read also impacts their comprehension (Guthrie et al., 2013). Guthrie and Wigfield (1997) define motivation as an individual's beliefs, needs, values, and goals. When literacy activities match an individual's values, needs, and goals, that individual is more likely to expend effort and sustain interest in those activities. Given motivation's important role in reading, especially for adolescents, it is vital to acknowledge the alarming trend that reading motivation declines as students enter middle school (Aarnoutse & Schellings, 2003). This trend has been attributed to the mismatch between student preferences and the typical reading assignments they encounter in school settings (Ivey, 1998). If adolescents' classroom reading experiences are limited to textbooks and classic literature, they may perceive these literacy tasks as disconnected from their own life experiences and lacking relevance (Pitcher et al., 2007). This underscores the

importance of understanding adolescents' motivations and using this knowledge to thoughtfully design reading comprehension instruction that will be engaging and effective.

The element of *text* is a broad concept that includes any text in printed or electronic form. The RRSG (Snow, 2002) posits that the text's features significantly affect comprehension. Factors inherent in the text influence its difficulty; this includes the relationship between the text and other elements, including the reader's knowledge and abilities and the activities in which the reader is engaged. Students are typically introduced to chapter books beginning in third grade through teacher read-alouds (Jacobs et al., 2000) and continue to encounter them throughout the secondary grades in the form of adolescent and classic literature (Santoli & Wagner, 2004). However, as previously mentioned, lengthier texts such as chapter books present unique challenges for comprehension (Morgan & Williams, 2009). In addition to complicated storylines and complex layers of meaning, chapter books typically include multiple characters, conflicts, and changes in setting. Students typically learn to apply reading comprehension strategies in isolation or shorter, passage-length texts (Morgan & Williams, 2009).

Enter adolescent literature, a book-length text well-suited for reading comprehension instruction in the secondary grades. There are several defining characteristics of adolescent literature (see Table 1), with the leading one being that the text is written from the viewpoint of young people (Nilsen & Donelson, 2009). Adolescent literature's characteristics help it appeal to young readers in such a way that can bolster reading motivation and engagement (Graves & Philippot, 2002; Ivey & Broaddus, 2001). This appeal stems from the fact that adolescent literature deals with universal themes and eternal questions (e.g., Who am I? Where do I fit in?) in a way that young readers can understand and subsequently connect to their own lives (Herz, 1996).

Lastly, the *activity* element includes the processes, purposes, and consequences connected with the act of reading. A purpose is set before reading, which can be either externally imposed

or internally generated (Snow, 2002). When the purpose is set for students who are beginning to read an adolescent literature novel, it frequently revolves around personal growth and identity development (Dagostino et al., 2021). Research investigating these themes is typically informed by psychological and sociological theories of development (Havighurst, 1956), identity states (Marcia, 1980), and group affiliation (Bronfenbrenner, 1992; Hall, 2006; Larsen, 2018; Lashbrook, 2000) as opposed to frameworks specific to comprehension such as the Simple View of Reading (Gough & Tunmer, 1986; Hoover & Gough, 1990). These themes are explored in most qualitative research on adolescent literature instruction (e.g., Allen et al., 2003; Chase, 2000; Evans, 2002; Smith, 1997; Sloboda et al., 2014). While providing an exhaustive summary of this body of qualitative research will not inform the present study, mentioning it is meant to help provide context regarding the fact that a majority of extant research on adolescent literature does not directly address implications for reading comprehension.

Comprehension Instruction While Reading Adolescent Literature

Even though students in the secondary grades have numerous encounters with chapter books, there is currently a limited understanding of how instruction involving chapter books aimed towards adolescents (i.e., adolescent literature) impacts reading comprehension for those with typically developing reading ability and those with or at risk for reading difficulties. This realm's small body of studies employs various research designs (e.g., randomized controlled trial, quasi-experimental, single group pre-post, single-subject design), making it difficult to compare the magnitude of effects and make causal inferences directly. However, results from this body of research indicate that instruction while reading adolescent literature can have a positive impact on the reading comprehension of adolescents with or at-risk for reading difficulties (Connor et al., 2018; Dugan & Bean, 1996; Egan et al., 1996; Granger et al., 2007; Lamanno, 2007; McElvain, 2010; Parker et al., 1999; Quist, 1995; Williams, 2014; Wilson, 1998).

A subset of studies in this area produced minimal, even negative, effects that were not statistically significant. (Connor et al., 2018; Lamanno, 2007; Wilson, 1998). Connor and colleagues (2018) implemented a randomized controlled trial investigating the effects of the *Enacted RC* intervention on the reading comprehension performance of third and fourth-grade students at risk of comprehension difficulties. The intervention incorporated motor actions and used embodied cognition to improve students' understanding of texts, with students reading and discussing the novel *A Single Shard* in the final phase of instruction. Unfortunately, their findings reveal small, negative effects on standardized measures of reading comprehension for third (g=-0.09) and fourth (g=-0.08) graders in the sample when comparing the business-as-usual control condition to the *Enacted RC* treatment condition.

Lamanno (2007) evaluated the effects of graphic novels in small-group reading instruction on the reading comprehension of high school students with disabilities using a single-subject multiple-baseline research design. Participants were grouped according to reading achievement level, and various graphic novels were used for the various groups. Instruction using the graphic novels included graphic organizers, vocabulary instruction, written responses, and small-group discussions. After receiving the intervention, participants demonstrated slight improvements on a curriculum-based measure of reading comprehension. However, they demonstrated no significant improvement on a standardized measure of reading comprehension (between-case standardized mean difference=0.11). The impact of reading instruction using a novel was compared to a skills-based approach by Wilson (1998). Participants in this quasi-experimental study included 27 students in 3 high school remedial reading classrooms (i.e., grades 9 through 12). Students in the treatment classrooms read *The Outsiders* with instructional activities for discussion, vocabulary in context, written responses, character analysis, story mapping, and prediction. Participants in the comparison condition received traditional, skills-based reading instruction, using workbooks and work packets to practice a

series of isolated specific skills, reading for concepts, and reading for critical thinking. Results indicated that students in the comparison condition demonstrated higher performance than students in the treatment condition on a standardized measure of reading comprehension (*g*=-0.04).

In a few studies, all or nearly all participants demonstrated improved reading comprehension performance (Dugan & Bean, 1996; Granger et al., 2007; Quist, 1995). Granger and colleagues (2007) investigated the effects of *Reader Response Plus* on the reading comprehension and attitudes of twelfth-grade students with disabilities. The *Reader Response Plus* intervention program combines classroom discussion and reader response journals to provide students with disabilities with increased opportunities for written and spoken self-expression. The intervention was implemented with the novel *The Watsons Go to Birmingham,* and all four student participants demonstrated an overall increase in reading comprehension on the Qualitative Reading Inventory over the six-week study.

Dugan and Bean (1996) investigated the effects of Transactional Literature Discussions (TLD) on the reading comprehension performance of six fifth-grade students with reading comprehension difficulties. The TLD intervention included before, during, and after reading strategies with the novel *Shiloh* that the student participants selected. After eight weeks of instruction, most students demonstrated enhanced comprehension on performance assessments. Specifically, three students increased performance by one grade level and one student by three grade levels as measured by the Diagnostic Reading Scales. The effect of reading instruction using novels with graphic organizers on the comprehension performance of fifth-grade students with SLD was investigated by Quist (1995). In this study, the five participants first read the novel *Shiloh* without graphic organizers and then read the novel Stone Fox with graphic organizers. Participant performance was measured using a set of teacher-generated comprehension questions, including literal and abstract. Students demonstrated

greater reading comprehension using graphic organizers; overall group performance was 7.2 points higher.

Lastly, a subset of studies demonstrated small to large effects on participant reading comprehension performance that was statically significant (Egan et al., 1996; McElvain, 2012; Parker et al., 1999; Williams, 2014). McElvain's (2010) quasi-experimental study investigated the impact of the Transactional Literature Circles (TLC) approach on the reading comprehension of fourth to sixth grades at-risk English learners. The TLC approach incorporated daily whole-group mini-lessons, small group instruction, independent reading with reading response logs, and student-led book club. Students were grouped and assigned a novel based on their independent reading level. The study's findings revealed that the participants who received the TLC approach outperformed students in the control group on a standardized measure of reading comprehension (g=0.31).

Egan (1996) studied the impact of a series of reading activities (e.g., read-alouds with journaling, story mapping, cooperative group activities) using a variety of novels on the reading performance of 10 sixth-grade students, including 9 students with reading comprehension difficulties. Students receiving instruction demonstrated increased performance on silent (g=1.00) and oral (g=1.34) reading comprehension from pre- to post-test. Parker and colleagues (1999) implemented literature circles for approximately 16 weeks in a fifth-grade classroom containing 23 students, including students with disabilities and reading difficulties. This instruction began using short literary stories, but once the students were familiar with the procedures, various novels were added to the curriculum. After instruction, results revealed a 40% decrease in targeted students performing below grade level in broad reading performance (g=1.58).

Williams (2014) utilized a quasi-experimental research design to explore graphic novels' impact on sixth-grade students' figurative language comprehension. Over nine weeks of

instruction, students in treatment classrooms read the graphic novel *Rapunzel's Revenge* while receiving explicit instruction in figurative language (e.g., similes, metaphors, idioms, hyperboles, and personification). At the post-test, students in the experimental group (n=77) had better figurative language comprehension than students in the control group (n=69), producing a small but statistically significant effect (g=0.37).

Overall, this developing body of research on adolescent literature reading instruction demonstrates mixed results regarding its effects on reading comprehension. However, the instructional components and strategies that demonstrated positive impacts on participants' comprehension performance can inform the design of adolescent literature reading instruction in future investigations.

Developing an Instructional Approach that Builds Vocabulary and Develops Comprehension Strategies While Reading Adolescent Literature

Additional research is needed to contribute to the scant base of evidence on the effectiveness of instruction while reading adolescent literature on improving the comprehension performance of students with or at risk for reading difficulties. An initial step to provide such a contribution should begin with purposely designing an instructional approach centered around book-length text that includes instructional components demonstrated evidence of effectiveness in improving adolescent comprehension outcomes. This includes components implemented in previous investigations of adolescent literature reading instruction and those recommended by research reviews and syntheses of comprehension instruction for adolescents with or at risk for reading difficulties.

Instructional components shared across the small body of extant adolescent literature reading comprehension research include strategy instruction, text-based discussion, vocabulary and background knowledge building, written responses, and graphic organizers (Dugan & Bean,

1996; Egan et al., 1996; Granger et al., 2007; Lamanno, 2007; McElvain, 2010; Parker et al., 1999; Quist, 1995; Williams, 2014; Wilson, 1998). Several of these components have evidence of their effectiveness in improving comprehension performance when implemented with shorter, passage-length texts. Specifically, strategy instruction has been shown to improve the reading comprehension performance of students with or at risk for reading difficulties (Daniel & Williams, 2021; Edmonds et al., 2009; Filderman et al., 2022; Hall, 2016; Joseph et al., 2016; Scamacca et al., 2015). Additionally, comprehension instruction that prioritizes building vocabulary and background knowledge is recommended as beneficial for students with reading difficulties (Filderman et al., 2022).

As previously established, many adolescents are not reading at a proficient level (The Nation's Report Card, 2023), and the majority likely exhibit both word-level and broader comprehension difficulties (Brasseur-Hock et al., 2011; Cirino et al., 2013; Clemens et al., 2017; Richmond et al., 2023). One solution to making a higher-level text, such as an adolescent literature novel, accessible to students would be to read it aloud, exposing them to a more advanced text structure and increasingly difficult vocabulary (Stevens, 2016). Additionally, extant research suggests that read-aloud instruction has improved adolescent vocabulary and comprehension performance (Marchessault & Larwin, 2014). Extant research has documented that explicit instruction of comprehension skills in oral contexts can support students' later reading comprehension abilities with typically developing students (Clarke et al., 2010; Kendeou et al., 2005; Nation & Snowling, 2004). This instruction is typically done through shared storybook reading with younger students. One such curriculum designed to build vocabulary and early reading strategies through the use of shared storybook reading was developed by Solari and Ciancio (2014). Implementation of this curriculum has been investigated with elementary-age students with autism both in-person and virtually (Henry et al., 2023; Henry & Solari, 2020; Solari et al., 2020). Findings from this body of students reveal that students who

received instruction using the curriculum demonstrated growth on a standardized measure of listening comprehension (Henry et al., 2023) and outperformed peers who did not receive instruction on standardized measures of narrative competence (Solari et al., 2020) listening comprehension, expressive vocabulary, and narrative retell (Henry & Solari, 2020).

Current Study

Given the mixed effects of reading comprehension instruction utilizing adolescent literature, this study aims to investigate the implementation of a class-wide instructional approach designed to build vocabulary and develop reading comprehension strategies for adolescents with or at risk for reading difficulties while reading an adolescent literature text. The intervention will be modeled after an early reading language comprehension intervention (Solari & Ciancio, 2014) that has previously been studied with elementary-age students and incorporates instructional elements previously studied with adolescent literature instruction (Dugan & Bean, 1996; Egan, 1996; Granger et al., 2007; Lamanno, 2007; McElvain, 2010; Parker et al., 1999; Quist, 1995).

Research Questions

This study aims to examine the feasibility of implementing an instructional approach in middle school language arts classrooms that builds vocabulary knowledge and comprehension strategy usage while reading an adolescent literature text. When developing an intervention or instructional approach, feasibility research is critical to the development process (Diamond & Powell, 2011; Zucker et al., 2019). Feasibility studies guide the development and refinement of interventions before conducting pilot studies or full-scale randomized controlled trials (Kazdin, 2018). For the purposes of this study, feasibility will be evaluated using six of the feasibility dimensions outlined by Gadke et al. (2021): integration, implementation, practicality, adaptability, effectiveness, and social validity. These dimensions will be grouped into three

broad constructs: utility (i.e., integration, implementation, practicality), appropriateness (i.e., adaptability, effectiveness), and acceptability (i.e., social validity). Specifically, the research questions for the present study are:

1) What is the utility of implementing an instructional approach targeting vocabulary building and comprehension strategy usage while reading adolescent literature in 5th—and 6th-grade middle school language arts classrooms?
    a. To what extent is the instructional approach aligned with the infrastructure of the school and classroom?
    b. Are middle school teachers able to implement the instructional approach with fidelity?
    c. Can the instructional approach be implemented with the available resources, time, training, and materials?
2) What is the appropriateness of implementing an instructional approach targeting vocabulary building and comprehension strategy usage while reading adolescent literature in 5th—and 6th-grade middle school language arts classrooms?
    a. Does the instructional approach offer sufficient flexibility to accommodate diverse classroom and student needs?
    b. Is there preliminary evidence of the potential of the instructional approach for improving student outcomes?
3) What is the acceptability of implementing an instructional approach targeting vocabulary building and comprehension strategy usage while reading adolescent literature in 5th and 6th-grade middle school language arts classrooms?
    a. Do middle school language arts teachers perceive this instructional approach as appropriate for classroom use?

b. Do middle school students perceive this instructional approach as appealing and appropriate?

Method

Research Design

The present study will utilize a convergent mixed methods research design to examine the feasibility of implementing the adolescent instructional approach. This design allows for the simultaneous collection of two separate databases (e.g., quantitative and qualitative), which are then merged to combine results (Creswell & Creswell, 2018). For the current study, this choice of research design is advantageous as it draws from the researcher's perspective and includes the participants' perspectives (Creswell & Clark, 2018) to facilitate a more complete understanding of the dimensions of feasibility being investigated.

Participants and Setting

Ten teachers were recruited from a middle school in a distant rural Central Virginia district. The middle school is the only one in the district and houses grades 5, 6, and 7. According to the National Center for Education Statistics, the school enrolls approximately 763 students, with around 250 students per grade level. The student population is 53% male and 47% female, and 42% are eligible for free or reduced-price lunch. Student enrollment by race/ethnicity is 66% White, 14% African American, 10% Hispanic, 0.01% Asian, 0.01% Native American/Alaskan Native, and 9% two or more races. The school employs 57 full-time teachers with an average student/teacher ratio of 13.39. For the 2022-2023 school year, 60% of the enrolled students passed the state assessment for reading academic achievement (Virginia Department of Education).

Teachers who provided daily language arts instruction to 5th and 6th-grade students were eligible to participate, including general and special education teachers. The middle school is structured so that each grade level contains four language arts classrooms. One classroom is

designated as the collaborative classroom in 5th grade, and two classrooms are collaborative in 6th grade. In this particular school, the collaborative classrooms traditionally contain students with Individualized Education Programs (IEPs), 504 plans, and those identified as English learners. Collaborative classrooms are co-taught by a general education and special education teacher. General education teachers from all of the language arts classrooms in grades 5 and 6 consented to participate, as did one special education co-teacher and one student teacher. The regional Institutional Review Board (IRB) approved recruitment and data collection procedures. Written informed consent was obtained from teacher participants before any training or data collection. Teacher demographic information is detailed in Table 2.

Procedures

Professional Development and Teacher Support

Consented teachers received three hours of professional development to train them to implement the instructional approach. Topics covered during the professional development included: (1) an overview of the study, (2) a detailed description of the experimental study design, including an emphasis on the importance of fidelity of implementation, (3) implementation of the critical components of the instructional approach, and (4) classroom procedures to facilitate student discourse. Training occurred the week prior to the beginning of instructional implementation early in January of the 2023-2024 school year.

Weekly email check-ins occurred during each of the six weeks of instructional implementation. In-class observations and support visits occurred in weeks 2, 4, and 6 of instructional implementation. Each in-class observation was followed by a 15-20-minute debrief with the primary investigator to allow time for feedback and questions about the implementation of the approach. Additionally, the implementing teachers met weekly as a grade-level team with the school's literacy coordinator, who had attended the training, had access to all the instructional materials, and supported using the instructional approach in their classrooms.

Description of the Adolescent Literature Instructional Approach

The instructional approach used in this study was modeled after an early reading scripted vocabulary and listening comprehension intervention program developed by Solari and Ciancio (2014). The core instruction targets listening comprehension strategies and story vocabulary using the adolescent literature realistic fiction novel *Out of My Mind* (Draper, 2010). Instruction was implemented for 30-40 minutes daily, 3 days a week, over 6 weeks. Each text-reading lesson consisted of a read-aloud of a chapter *Out of My Mind* (15-20 min), instruction in story vocabulary (5 min), and a written expression component related to the comprehension strategy and novel (10 min). See Table 3 for an outline of instructional components.

Instruction systematically progressed through increasingly intense levels of targeted comprehension strategies. Three strategies were included in the instructional approach: (1) making inferences, (2) identifying important information and main ideas, and (3) generating questions. Each comprehension strategy was organized into a 2-week unit intended to provide extensive exposure to and experience with the target strategy. The comprehension units began with an “Anchor Lesson,” an introductory lesson with explicit instruction in the new skill and a brief activity using visuals, but no text reading, for initial skill practice. Following the “Anchor Lesson,” the remaining lessons in the unit were centered around a chapter from the selected novel. Text-centered lessons followed a gradual release of responsibility model (Pearson & Gallagher, 1983) for applying comprehension strategies. Earlier lessons in the unit involved many instances of teacher modeling that shifted to guided and independent practice as the unit progressed. Table 4 provides an outline of the comprehension units. Each lesson had an accompanying slide presentation deck displayed during the lesson.

Read-Aloud Component. Each text-reading lesson included a before, during, and after reading component. Before reading, the target comprehension strategy featured in the unit and what happened in the previous chapter of the novel were reviewed. A slide depicting the graphic

associated with the target comprehension strategy is displayed during the review (see Figure 2). The prior chapter review included a reminder of how the comprehension strategy was applied (e.g., “in chapter 3, we inferred that Melody was worried that she may be sent to live away from her family”) and re-asking the guiding question that was answered. The guiding question sets a purpose for reading the chapter by allowing students to focus on a key idea during the read-aloud. All students should be able to answer the guiding question after reading the chapter. After reviewing the guiding question from the previously read chapter, the guiding question for the current chapter is asked and is displayed on a slide in the lesson’s presentation deck.

During the read-aloud, teachers were instructed to display a slide depicting the graphic associated with the target comprehension strategy. While reading, they paused at predetermined points in the chapter to engage in think-aloud modeling, draw attention to and define story vocabulary, and prompt students for questions. Questions posed to students prompted them to apply a comprehension strategy or to think about other literary elements (i.e., figurative language, characterization, author’s word choice). After reading, the teacher restates the guiding question and displays it on the presentation slide. Students were prompted to talk with a partner or at their table to answer the guiding question before sharing responses with the class. Teachers were provided a prompt hierarchy to scaffold student responses when necessary. If students could not answer the guiding question after talking with peers, the teacher provided a minimal level of scaffold by providing a binary choice (e.g., “Who gives Melody treats like soda, her parents or Mrs. V?”) to elicit a response. If students continued to respond incorrectly, the teacher provided a moderate level of scaffold by providing a fill-in-the-blank statement (e.g., “Mrs. V gives Melody treats that her parents won’t give her, like_____(soda)”) to elicit a response. If students continued to respond incorrectly, the teacher provided an intense level of scaffold by calling for an imitation of the correct response (e.g., “Say, ‘Mrs. V gives Melody treats that her parents won’t give her, like soda.’”). After reading, this

portion of the lesson concluded with the teacher highlighting the target comprehension strategy and reinforcing examples of students using the strategy during the read-aloud.

Story Vocabulary. Each text-centered lesson included explicit instruction of 2 story vocabulary words. Brief, student-friendly definitions of the target words were given during the read-aloud when they were initially encountered. Following the read-aloud portion of the lesson, teachers provided explicit instruction in the word while displaying the accompanying slide. Each vocabulary slide includes the word, part of speech, student-friendly definition, example usage from the novel, and an image conveying the word's meaning. The teacher models saying the word and then asks students to repeat the word chorally three times. Then the student-friendly definition is given, followed by the example usage in the novel. Finally, the teacher draws attention to the image on the slide and connects it to the word's meaning.

Next, students engaged in activities to apply knowledge of and support a deeper understanding of the word. Vocabulary activities were multimodal; students were prompted to brainstorm a list of synonyms and antonyms for the word, look at pictures, and identify whether they were an example or non-example of the word or think of examples of the word in everyday life. The activities are intended to actively engage students in vocabulary instruction and allow for repeated contact with each word. An example of a vocabulary slide and accompanying activity can be found in Figure 3. In the last lesson of each comprehension strategy unit, teachers engaged students in a review activity of the eight words taught in the unit.

Written Expression. A writing activity concluded most text-centered lessons. The writing activity was designed to promote individual and group practice with the target comprehension strategy while supporting the comprehension of the novel. Writing activities were completed in student journals containing graphic organizers directly related to the target comprehension strategy and open response pages for lengthier writing prompts (see Figure 4). The open-response writing activities included opinion/persuasive prompts connected to events or

characters in the novel. Students were given paper journals and a digital version of the graphic organizers on an editable slide. Both options were provided to make the journal activities accessible to students requiring accommodations for writing, such as word processing or speech-to-text tools.

Measures

Fidelity

Each teacher completed observations designed to measure the fidelity of the instructional approach implementation. Observations were video recorded, and 20% were double-coded for fidelity using an adapted instrument designed for use with the original instruction program (Solari & Ciancio, 2014). Items on the fidelity instrument are grouped by the main elements of 1) adherence to the intervention script, 2) scaffolding of students' learning, and 3) overall quality of the process of pacing, preparation, and student engagement (see Figure 5). The primary investigator and a trained graduate student, focusing on reading, completed fidelity coding. Before beginning coding, the graduate student completed a one-hour training with the primary investigator. This training detailed the components of the intervention and the fidelity instrument. Following training, the graduate student achieved 88% reliability with the primary investigator before coding began. The total percent interrater agreement was calculated by adding the number of coded items that were agreements across all recorded observations and dividing the sum by the total number of coded items across all recorded observations, which resulted in 98% total agreement. Additionally, interrater reliability between the primary investigator and trained coder, calculated as Cohen's Kappa (Cohen, 1960), resulted in an almost perfect agreement with a coefficient of 0.89, $p < .001$.

Teacher Surveys

Information about participant teachers' backgrounds, initial education and professional development, collaboration, beliefs and attitudes, teaching practices, and their school was

collected via the Reading Teacher Questionnaire (NCES, 2018). Upon completing the 6-weeks of instruction, teachers completed a survey of intervention feasibility, acceptability, and appropriateness (Weiner et al., 2017). This Likert-style survey asks respondents to gauge their agreement with statements related to the intervention on a 5-point scale with options for (1) "completely disagree," (2) "disagree," (3) "neither agree nor disagree," (4) "agree", and (5) "completely agree" (see Table 5).

Teacher Interviews

During the 6-week instructional implementation, each classroom observation was followed by a 15-20 minute debrief between the teacher and primary investigator. Discussions during observation debriefs centered around facilitators and barriers to implementing the instructional approach and teacher-suggested adaptations. Following the 6-weeks of instructional implementation, teachers participated in a 45-minute semi-structured focus group interview by grade level with the primary investigator. Open-ended questions asked during the interview probed teachers on the six dimensions of feasibility being examined in the current study (Table 6). The interview sessions were audio-recorded and transcribed for data analysis.

Student Survey

A survey to collect student social validity data around the adolescent literature instructional approach was administered to students with guardian consent and student assent. The survey was completed by 40 students with nearly equal representation between grade levels (5^{th} grade n=21; 6^{th} grade n=19). The survey contained both Likert-style and open-response items and was administered by a trained data collector who had no knowledge of the specific components of the instructional approach. Items were included to probe students' opinions about the adolescent literature text chosen for the instructional approach, the activities included in the implementation, and the impact of the activities on their reading performance

(refer to Table 7). Students completed the survey independently in small groups, and the data collector provided read-aloud or transcription assistance to any students who requested support.

Analysis Plan

Data analysis followed the traditional structure of a convergent mixed methods design in which quantitative and qualitative data are analyzed separately before being merged to combine and compare the results. Figure 6 provides an overview of the data analysis process and measures used.

Quantitative Data Analysis

Data collected and analyzed for the quantitative component of this study include teacher implementation fidelity, teacher responses on the feasibility survey, and student responses on the social validity survey Likert-style items. Fidelity data was collected and analyzed for 7 of the 10 teachers in the sample. Fidelity data was not analyzed for the three teachers (5C, 5D, 6B) who elected to discontinue implementation of the instructional approach mid-way through the 6-week study. To examine implementation fidelity from the double-coded observation videos, average scores were computed across teachers on adherence, scaffolding, and quality scales.

All 10 teachers in the sample completed the feasibility survey following week 6 of instructional implementation; this included the 3 teachers who discontinued instruction following week 3. Mean scores on survey items were computed and averaged across teachers and grade levels on the feasibility dimensions of utility, acceptability, and appropriateness. Lastly, the student social validity survey was completed by 40 students from the 6 classrooms in which the teachers completed the entire 6 weeks of instructional implementation. Mean scores on the survey items were computed and averaged across grade levels. All calculations were performed in Microsoft Excel (2018).

Qualitative Data Analysis

Data collected and analyzed for the qualitative component of this study include field notes from observations and debriefs with teachers, teacher focus group interviews, and student responses to the open-ended items on the social validity survey. Notes from observations and debriefs are included for nine teachers in the sample. All ten teachers participated in the focus group interviews: 6 in the 5th-grade interview and 4 in the 6th-grade interview. As previously mentioned, 40 students completed the social validity survey, but not all consistently answered the open-response questions.

Analysis began with the primary investigator typing field notes and transcribing the focus group interviews. Student responses to the open-ended survey items were also typed up for analysis. The primary investigator read all typed data twice prior to coding. Then, the primary investigator hand-coded the data using predetermined codes aligned with six of the dimensions outlined in Gadke and colleagues' feasibility framework (2021): social validity, practicality, integration, adaptability, implementation, and effectiveness.

Results

The quantitative and qualitative data analysis results are merged and compared in the following sections. The results are organized by the constructs representing the feasibility dimensions clustered by the research questions. In order of research questions, results are presented for the utility, appropriateness, and acceptability feasibility constructs. Results for research question 1 concerning utility combined findings from quantitative data sources, including teacher fidelity observations, teacher feasibility survey, and the Reading Teacher Questionnaire. In addition, qualitative data sources included in the results for research question 1 include teacher focus group interviews and field notes from observation debriefs. Research question 2 results, which address the appropriateness construct, merged findings from the

teacher focus group interview, field notes from observation debriefs, and the teacher feasibility survey (quantitative). Lastly, results for the acceptability constructed are reported to address research question 3. Data sources integrated to answer this research question include the teacher focus group interview, field notes from observation debriefs, and the student social validity survey (quantitative and qualitative).

Utility

The utility construct encompassed the feasibility dimensions of integration, implementation, and practicality as outlined by Gadke and colleagues (2021). The focus of research question 1a was the dimension of integration. This feasibility dimension is focused on the extent to which the instructional approach is aligned with the unique features of the setting to facilitate integration into the current service delivery approach (Bowen et al., 2009). The level of implementation is the focus of research question 1b. This dimension is concerned with the extent to which teachers can enact the procedures of the instructional approach as intended and designed. Research question 1c investigated the practicality dimension, which involves determining whether the instructional approach can be used given contextual and environmental constraints such as time, resource, availability, and practitioner commitment (Bowen et al., 2009). On items 9 through 12 of the feasibility survey, 5th (*M*=3.71) and 6th grade (*M*=3.78) teachers have nearly equal average mean responses.

Integration

Fifth-grade teachers explained that the instructional approach was very “different from the way we normally do things” (5D). This was corroborated by their responses on the Reading Teacher Questionnaire, which indicated that the longest instructional text they had used this year was 2-10 pages long. This was true of 6th grade teachers 6B and 6C as well. Teachers 6A and 6D were the only teachers in the sample who had previously used novels as instructional

texts in the current school year. The teachers explained how this approach differed from their typical literacy block:

> I think the biggest thing is, this was a novel versus short stories. So, we typically use short stories to teach skills. (5A)

> It was a novel, you know. It was very specific skills, like one skill at a time versus several, which is kind of the way that we do things with our stories. We kind of try to go through several different skills at a time versus just the one you know. So, I think it was very different from what we normally do. (5F)

As the examples show, the 5th-grade teachers considered this instructional approach starkly contrasting the typical instructional practices in their language arts blocks. Despite these differences, Teacher 5A admitted they liked having the focus skills because they felt it provided more practice opportunities for their students. However, they also noted that they would like to add additional literary activities to connect more of their grade-level standards. Teacher 5F concurred and suggested that the addition of different vocabulary activities would be beneficial for their students.

Both groups of teachers admitted that the district's climate is not overly accepting of new instructional interventions or approaches. This sentiment was echoed by teachers who had been in the district for as little as 3 years and as long as 20 years. The teachers explained they perceived their district as hesitant to adopt new approaches: "*They don't like anything new*" (5D). They expanded upon this by noting that this can vary within the district: "*I think it depends on the team, it depends on the members of the team*" (5F), and "*this team is very open to trying out new things*" (5C). Concerning this project, one teacher explained that they were told they were not allowed to do whole class novels and were pleasantly surprised that the school was endorsing this instructional approach for the study. Additionally, the team of 6th-grade teachers

expressed frustration with the district's lack of training and follow-through of instructional initiatives, as the following examples illustrate:

> I feel like there is this huge momentum for the first two to three months and after that it kind of just fizzles out. And it seems like it's just another thing that collects dust on our shelves…the pattern has repeated itself over and over in this county at multiple grade levels. (6B)

> In the first few weeks [as a new teacher], I was handed some resources, but it was kind of like this assumed thing that I knew what I was doing, so I kind of had to learn on the fly. (6C)

These examples indicate that the teachers have experience identifying barriers to integrating instructional approaches that are unique to and beyond the purposes of this study.

Implementation

The group consensus from both grade levels in the post-instruction interview was that the instructional approach was simple. The following examples illustrate how teachers perceived the implementation of the instruction approach:

> I didn't think it was complicated at all. It's pretty easy…it was really well thought out, like no issues with that at all. (5A)

> I like the notebook where I can flit it around and as I'm reading, I get to a little sticky and I can find in the notes what it is. (5F)

> The implementation of it was very easy, it was just the time factor that made it difficult. (6A)

While these responses indicate that the approach was simple to implement, teachers in both grades admitted it felt awkward for the first couple of weeks. The consensus was that it felt easier once they had to get into the rhythm of it: "*It wasn't difficult; it was just the typical learning*

process that you go through when you do something for the first time" (5F). However, teacher responses to three feasibility survey items suggest a slight divergence from these sentiments. Survey item 11, "This instructional approach seems doable," had nearly equal mean responses from 5th (3.67) and 6th (3.5) grades, with both means below a 4 (Agree). Mean responses were also nearly equal (5th=3.83, 6th=3.75) on item 10 ("This instructional approach seems possible").

Additionally, responses to item 12 ("This instructional approach seems easy to use") were noticeably higher for 6th grade (4.25) than for 5th grade (3.67). A possible explanation for this divergence is that teachers may have considered other contextual implementation factors, not solely the complexity of the instructional approach, when completing these survey items. Table 9 provides a joint display of teacher survey responses and corresponding qualitative quotes for this feasibility dimension.

Observation data indicated a high overall combined fidelity of 90 percent across the 6 teachers who fully implemented the instructional approach, with individual fidelity averages ranging from 85 to 95 percent (see Table 8). Grade level fidelity of implementation was marginally higher for 6th grade (91%) than for 5th grade (89%). Teachers with the highest fidelity averages (>90%) were 5C, 6A, and 6C. Interestingly, these teachers are the three youngest in the teacher sample, excluding the only student teacher (5B). It is also worth noting that the teacher with the highest fidelity average (6C) is the only teacher in the sample who did not attend a traditional teacher preparation program. This suggests that the materials and structure of the instructional approach can support implementation for practitioners with little existing teacher training.

Practicality

In the post-instruction interview, teachers across both grade levels expressed feeling well-prepared to implement the instructional approach after the training. The teachers

highlighted certain appealing aspects of the training: "*I liked being provided some background for what they were going to do*" (6A). They also explained that the training effectively communicated the teacher's roles and responsibilities during implementation: "*There were no surprises in terms of what was expected by the approach, but it always feels different the first time you are doing something new in the classroom*" (5C). Fifth-grade teachers expanded upon this and noted an unavoidable "learning curve" when they began to implement the instructional approach, which teacher 5F likened to the experience of student teaching. When probed about suggestions for making the training more effective, teachers 5F and 6A mentioned that it would be helpful for the teachers to preview the instructional materials before the training: "*Getting the interventional materials before would have allowed us time to process everything, and we could have come up with more questions to ask during the training*" (5F).

Sixth-grade teachers agreed that the instructional approach seemed implementable, given their mean survey response (4) on item 9. The mean response for 5th-grade teachers was marginally lower at 3.67. These responses connect to a consistent concern that emerged across both grade levels early in the implementation: the constraint of time. This concern was evidenced in field notes from observation debriefs during instruction and the post-instruction interview. Teachers expressed concern about the lessons taking as long as 45 minutes for longer chapters (i.e., > 10 pages):

> With recess on Thursdays, we only have about 10 or 15 minutes of class time left once we finish that day's lesson. (5F)

> That period of time is just too long to have them sitting and engaged with the same task. (6A)

In addition to concerns about the length of the lessons, there was also a concern about sufficiently covering all grade-level instructional standards before the spring high-stakes state

assessment window. A joint display of grade-level mean survey responses and teacher qualitative responses related to this dimension can be found in Table 9. It is important to note that the school's daily bell schedule changed the week before implementing the instructional approach, which shortened two of the three instructional blocks. Additionally, in week two of implementation, the school was only in session once on a two-hour delay schedule due to weather. The loss of instructional time because of these contextual factors likely compounded the teachers' concerns about time during the 6-week implementation period.

Appropriateness

The appropriateness construct included Gadke and colleagues' (2021) adaptability and effectiveness feasibility dimensions. Research question 2a examined the practicality dimension of adaptability, which relates to whether the instructional approach can be meaningfully modified to fit the needs of different situations (Gadke et al., 2021). The feasibility dimension of effectiveness, research question 2b, considers the potential of meaningful change or benefit for populations receiving the instructional approach. Overall, 5th-grade teachers indicated a marginally higher (0.13) rating of appropriateness (M=3.21) than 6th-grade teachers (*M*=3.08) on items 5 through 8 of the feasibility survey (see Table 10).

Adaptability

Responses from the teacher survey, observation debriefs, and focus group interviews suggest that the instructional approach could not accommodate the diverse student and classroom needs across grade levels. This is substantiated by lower individual item mean responses across the corresponding portion of the feasibility survey for the 6th grade than for the 5th (-0.17 to -0.37). Specifically, half of the 6th-grade teachers disagreed with the items "This instructional approach seems fitting for my students" and "This instructional approach seems suitable for my students." Further insight into this difference of opinion between the 6th-grade teachers is evident in their interview responses:

> Some of the lessons were at a lower level than most of my students needed. (6D)

> The amount of teacher talk was a huge barrier for my students. I feel like my students need a more active and hands-on role in the instruction. Me doing the majority of the reading is not helping to build students' reading stamina. (6B)

It is important to note that the concern about the mismatch between the instructional approach and their students' needs ultimately resulted in Teacher 6B deciding to discontinue the implementation of the instructional approach midway through the 6-week timeline.

In contrast, the other 6th grade teachers (6A, 6C) felt the instructional approach was "very suitable" for their students with Individualized Education Programs (IEPs), 504s, and even students without any documented disabilities who need a higher level of support. One teacher elaborated on the appropriateness of the approach for this population of students: "*Many of my students with IEPs would not have been able to read the book independently, so having the read-aloud component made this book accessible for them*" (6A). Similarly, one of the 5th-grade teachers noted that they thought the read-aloud component was suitable for their class:

> While the read-aloud is time-consuming, and some days I leave school without a voice, I feel like it helped students get engaged with the story. I think some students just don't get read to enough, and even my students who hate reading are fully invested when it's time for Out of My Mind. (5C)

This teacher also mentioned that they thought several of their students had never read a chapter book before, and this instructional approach may have been the first supportive and positive experience they had with a novel.

Effectiveness

Mixed opinions of effectiveness between grade levels were uncovered in the post-instruction interview. Fifth-grade teachers were in consensus that they had seen improvement in student performance following the implementation of the instructional approach:

> I have seen improvement in all three skill areas, and my students seem to question everything now. They're like, 'My questions are important.'" (5C)

> It has become the norm in our classroom now. More students are confident in speaking up than they were before. Everyone is asking questions and sharing their opinions. (5B)

This norm shift could be attributed to aspects of the instructional approach that the teachers noted as being different from their typical classroom practices, including the increased focus on one skill (i.e., generating questions) and the increased opportunities for peer interaction.

Teacher 6C was the only 6th-grade teacher who indicated they had seen growth in their students during the 6 weeks of instruction. Specifically, they noted that the gradual release of responsibility (Pearson & Gallagher, 1983) with the student journal component had allowed their students to become successful in independently applying the comprehension skills. In the post-instruction interview, they illustrated this with an example of the skill of making inferences. Following the comprehension unit on that skill, their students independently completed the graphic organizer to make inferences from the journal as an assessment and demonstrated significant progress. Divergently, teachers 6A and 6D did not share examples of student growth or progress during instruction: "*Some of my students frequently struggle with remembering what happened in the previous chapter if we talk about it the next day*" (6A). They explained that these students often need more prompting or support to recall events from the story. Teacher 6D commented that their students' listening comprehension skills were adequate during the novel reading portions of the class, but those skills did not transfer to other class activities.

Acceptability

Research questions 3a and 3b investigated the social significance or relevance of the instructional approach goals, outcomes, and procedures (Gadke et al., 2021) from the perspective of both the teacher implementers (3a) and student participants (3b). Fifth-grade teachers indicated a 0.56 higher mean average acceptability rating (M=3.8) than 6th-grade

teachers (*M*=3.24) on items 1 through 4 of the feasibility survey. Similarly, 5th-grade students (M=2.4) had a slightly higher mean social validity rating than 6th-grade students (*M*=2.3). Table 11 shows the teacher's quantitative and qualitative data reported for this construct.

Teachers

Teachers identified several aspects of the instructional approach that they perceived as appropriate for their classrooms. Specifically, the guiding question was mentioned by teachers in both grade levels in observation debriefs and the post-instruction interview. One teacher encapsulated the essence of the purpose of the guiding question: "*Without the guiding question, I would probably just have the students summarize each chapter after reading, but the guiding question is much more engaging*" (6A). Teacher 5F explained that they liked to leave the slide with the guiding question displayed while reading the chapter, as opposed to the comprehension skill slide, as a reminder to students of what they were trying to answer. Teacher 5F also mentioned that they liked the visual aspect of the lesson presentation slides and the nonverbal response options (e.g., thumbs up, thumbs down) in the vocabulary activities.

The 5th and 6th-grade teachers expressed their appreciation of student engagement in the vocabulary activities: "*It is engaging for them to interact with the book that way*" (5C). Additionally, Teacher 6C extended the vocabulary activities with a project after the comprehension skill unit. For the project, each student in their class was assigned a word, and they had to illustrate the word using the definition, but they were not allowed to use any other words. They recounted that their students were invested in the project and enjoyed the opportunity to demonstrate their knowledge in a nontraditional way. Lastly, one teacher explained how the graphic organizers in the student journals were particularly beneficial for their students: "They [graphic orgainizers] helped students get their thoughts formulated into different parts until they got to that big kind of question or inference or skill that we were working on" (6A).

Students

Responses on the student social validity survey, detailed in Table 12, indicated that most students like reading *Out of My Mind* (Draper, 2010). On the survey scale of 1 to 3 (1-Do Not Agree, 2-Sort of, 3-Agree), mean responses to the item "I like reading Out of My Mind" were 2.8 and 2.6 for 5th and 6th grade, respectively. Mean responses for both grades were substantially lower (5th=2.1, 6th=1.8) on the item that probed whether they liked the skills they practiced while reading. Interestingly, responses to a later item on the survey suggest that they felt the activities helped them understand the book, as evidenced by equal mean responses for both grades (*M*=2.6). Additionally, most student respondents noted that they felt they could apply the skills they practiced (e.g., making inferences, finding the main idea, asking questions) to other stories they read (5th *M*=2.4, 6th *M*=2.5).

Responses to the open-ended survey items produced a few conflicting themes within and across grade levels. At least one student in each grade level indicated that they liked being asked questions and doing activities while reading:

> Yes, I did enjoy the activities while reading. (5C023)
>
> Yes, I like the book and the activities. (6A033)
>
> [I enjoyed] pausing to talk about what was happening. (6C024)
>
> Yes, cause it really helped me [understand the book]. (5A052)

Conversely, at least one student in each grade indicated that they would like to do more reading instead of the activities and would like to read independently at their own pace. Two students in 6th grade named specific skills in their responses: "*I liked how it helped me understand what was important and what was a fun fact or just helped me understand the main idea of that chapter*" (6C031) and "*I liked being able to read between the lines* [*making*

inferences]" (6D035). Additionally, two 5th-grade students also elaborated on their feelings about the vocabulary activities: "*I enjoyed vocab because I learned new words sometimes*" (5A017) and "*I enjoyed the thumbs up and thumbs down*" (5C006).

Students also suggested potential components that should be added or removed from the instructional approach: "*I would add some more activities to read a little better*" (5C023). This is interpreted as activities that target word-level reading skills instead of the language-based comprehension skills targeted in the instructional approach. One student noted they would welcome the addition of more culminating activities: "*I feel like it should have more activities after the chapter*" (6D035). When asked to provide final thoughts on the activities in the instructional approach, more than one student commented that they were enjoyable, as evidenced by the following examples:

> I liked the book study because it was fun to learn and read a good book with the class. (5C018)
>
> I really enjoy reading the book and asking questions. (5C023)
>
> [I enjoyed] reading with friends. (6A030)

In addition to these examples, more than one student asked if their class would be reading another novel, further proving their affinity for the instructional approach.

Discussion

The overarching objective of this study was to examine the feasibility of implementing an instructional approach focused on building vocabulary and comprehension strategies while reading an adolescent literature text in 5th and 6th-grade language arts classrooms. Very few studies have investigated reading instruction while reading adolescent literature focused on improving student comprehension, and many have included small sample sizes. Additionally,

combined findings from this small body of research indicate mixed effects on student comprehension outcomes, and many of the studies were conducted over 20 years ago. Within the last two decades, several research reviews and meta-analyses have provided insight into effective reading comprehension instruction characteristics for students with or at risk for reading difficulties while using primarily passage-length texts. For the current study, evidence from these research reviews and meta-analyses was integrated with evidence from the extant literature base of adolescent literature reading comprehension instruction to design an instructional approach focused on improving student comprehension outcomes. This may be one of the first instances of an investigation of a purposefully designed adolescent literature reading comprehension-focused instructional approach.

This investigation sought to address whether and how this developed adolescent literature approach could be evaluated and implemented. As such, the study design and analysis were guided by six dimensions of feasibility as outlined by Gadke and colleagues (2021), which included integration, implementation, practicality, adaptability, effectiveness, and social validity. For the current study, these dimensions were grouped into three broad constructs: utility (i.e., integration, implementation, practicality), appropriateness (i.e., adaptability, effectiveness), and acceptability (i.e., social validity). Findings from this study suggest that the instructional approach can be integrated into existing classroom settings, even if it dramatically differs from established instructional practices. Many of the teachers, particularly all of the 5th grade, reported that their instruction typically involved shorter, passage-length texts, and this was their first use of a class-wide novel. They admitted that a drastic adjustment occurred at the beginning of implementation, but they felt much more comfortable mid-way through the 6-weeks of instruction. A critical integration consideration is the extent to which existing school and district climates are accepting of new interventions or approaches.

Most teachers admitted that their district's climate is not traditionally accepting, but they, as a team, were open to trying new things.

Concerning practicality, study findings suggest that time was a major barrier to implementation. Teachers reported that some lessons could take 45 minutes, over half of their recently shortened instructional block. This caused many teachers to feel pressured to adequately cover the plethora of grade-level instructional standards in the remaining three months before the high-stakes state assessment. While concerns about the time demands placed on teachers are not unique to this study (Melnick & Meister, 2008), this finding reinforces the importance of considering this barrier when planning instruction. A very encouraging finding was the consensus across grade levels that the instructional approach was easy to implement. This was true for all teachers, including those not attending a traditional teacher preparation program. Teachers reported that everything was well laid out and liked having the read-aloud prompts directly in their instructor's novel copy. This allowed the read-aloud to have a more engaging and conversation-like experience for students, which was evident in the fidelity observations. Teachers' average survey responses support these findings; overall, feasibility survey responses were higher for the utility construct than for the other two.

Unfortunately, average feasibility survey ratings were lowest for the construct of utility. This suggests that the instructional approach was not sufficiently adaptable to meet the needs of a diverse group of students. Focus group responses from teachers indicated that this instructional approach was most suitable for students with or at risk for reading difficulties and could not meet the diverse needs of their more proficient and gifted students. Several teachers noted that they felt it might be more beneficial for their more proficient students to read the novel independently, while they targeted a small group of students who required the read-aloud to access the text. An important finding is that one of the fifth-grade teachers reported that they felt the read-aloud had successfully engaged even their most reluctant readers. This finding is

supported by extant research suggesting that reading aloud to adolescents can increase motivation, engagement, and understanding (Albright, 2002).

Another encouraging finding is that several teachers cited evidence of the potential effectiveness of the instructional approach on their students' listening comprehension, vocabulary acquisition, and comprehension skill performance. Specifically, one of the 5th-grade teachers noted that they noticed improvement in all previously mentioned areas. Another 5th-grade teacher expressed that the norm had changed entirely in their classroom, and more students were confident in asking questions and sharing their thoughts or opinions. Additionally, one 6th-grade teacher reported that the gradual release of responsibility model (Pearson & Gallagher, 1983) was successful in helping their students to apply the comprehension skills independently. This anecdotal evidence provides promise that this instructional approach may effectively improve student outcomes, though this has yet to be investigated.

Several aspects of the instructional approach were found to be acceptable and appealing to both the teacher and student participants in the study. While mean acceptability ratings on the feasibility survey for 5th grade compared to 6th grade, teachers from both grades reported that they liked the level of student engagement and variety of the vocabulary activities. Teachers in both grades also mentioned the guiding question as one of the most liked instructional components. Additionally, one of the 6th-grade teachers liked the graphic organizers because they were very beneficial for helping their students formulate their thoughts around the focus comprehension skill. This particular teacher instructs a collaborative class with many students with or at risk for reading difficulties. Given the student population, this finding is supported by extant research that suggests graphic organizers can be effective when implemented in reading comprehension instruction for students with learning disabilities and EL (Kim et al., 2004) and those identified as English learners (Praveen & Rajan, 2013). Lastly, mean social validity survey responses indicated that students liked reading the selected novel

and that the activities they did while reading helped them to understand the book. While a few students indicated that they would prefer to read the book independently, several noted that they enjoyed reading the book as a group, which suggests they found the instructional approach acceptable.

Limitations

This study has several limitations that should be addressed in future feasibility studies, ultimately leading to pilot studies of this adolescent literature instructional approach. First, this study only examined feasibility across some of the ten dimensions, as outlined by Gadke et al. (2021). Specifically, recruitment capability, data collection, design procedures, and generalizability were not assessed. Future feasibility studies should include an investigation of these components to better inform the development and refinement of new interventions and instructional approaches.

Second, several of the feasibility dimensions examined in this study could be improved upon in future investigations. For example, a more robust measure of teacher feasibility, beyond a Likert-style item survey developed explicitly for the study, could provide more meaningful data to draw conclusions. Additionally, this study included no teacher self-report of implementation fidelity. Providing teachers with a fidelity checklist similar to that used by the primary investigator could promote greater adherence to the instructional approach as designed.

Another limitation of the current study is the small sample size and isolation to one school site. This was compounded by the fact that two classrooms discontinued treatment mid-way through implementation. This meant that data on student social validity could only be collected from the consenting students in the classrooms that completed the full instructional implementation, which eliminated 11 of the consenting students who were in the classrooms that discontinued implementation. Also, the only special education teacher in the study was in

one of the classrooms that discounted implementation. As a result, there is no data from a special education teacher's perspective on the entire 6-weeks of implementation. Therefore, concerns about these findings generalizing to other schools, teachers, and student populations must be considered.

Implications and Future Directions

There is a need for additional research on the potential benefits of instruction while reading adolescent literature on the comprehension outcomes of students, including those with or at risk for reading difficulties. While this study investigated the feasibility of implementing an adolescent literature instructional approach, several adjustments need to be made before the approach can be piloted to examine evidence of its effectiveness. One such adjustment would be considering avenues for shortening the lessons, making them easier to fit within existing language arts blocks. This could involve dividing the text into longer chapters over more than one day. Additionally, purposefully including activities that specifically align with state-mandated learning standards would make more efficient use of instructional time. This would allow for more strategies and standards to be covered within the novel instead of through numerous short stories. Such adjustments may help alleviate some of the timing concerns experienced by teachers in the current study. Another adjustment would be to include a decision tree for teachers to provide differentiation for varying student reading proficiencies. This would allow teachers to use their knowledge of the students' reading abilities to select the appropriate text reading format (e.g., independent reading, partner reading, read-aloud in a small or whole group). An adjustment of this type would certainly help make the approach more adaptable to a diverse range of student needs.

Teachers of adolescent students, particularly those with or at risk for reading difficulties, must thoughtfully structure their language arts instructional blocks to meet the needs of a diverse group of students. This is particularly challenging given the large number of adolescents

not reading at a proficient level (The Nation's Report Card, 2023) who likely have deficiencies in word-level skills (Brasseur-Hock et al., 2011; Cirino et al., 2013; Clemens et al., 2017; Richmond et al., 2023). One way to provide students with clear and explicit strategy instruction while avoiding these barriers to decoding or word-reading is read-alouds of instructional texts. While read-alouds are traditionally only done at the elementary level, their value in motivating and engaging students has been demonstrated at the middle school level (Albright, 2002). This study also found supporting evidence of this, even with students who have been historically reluctant to read. Additionally, teachers should feel encouraged to consider implementing new interventions and instructional approaches even if they differ from existing classroom instructional routines and norms. This is especially true if the intervention or approach incorporates evidence-based practices that have demonstrated effectiveness in improving student outcomes and are thoughtfully designed for ease of use.

Conclusion

Building upon a small body of extant research, this study examined the feasibility of implementing an instructional approach focused on building vocabulary and comprehension strategy knowledge while reading adolescent literature. The results of this study are intended to guide further development of the instructional approach before investigating its effect on student reading comprehension outcomes. Importantly, findings revealed that the approach was easy to implement, many of its components were well-liked by teacher and student participants, and teachers provided anecdotal evidence of its potential effectiveness. Notable implementation barriers included the lessons' lengthiness, the need for integrated grade-level standards, and the inability of the approach to adapt to meet the diverse needs of a large group of students. Future research on the effects of instruction while reading adolescent literature on the comprehension outcomes of students, particularly those with or at risk for reading difficulties, is highly encouraged.

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Tables

Table 1

Defining Characteristics of Adolescent Literature Adapted from Nilsen & Donelson (2009)

Characteristics
1. Written from the viewpoint of young people
2. The young person takes the credit for solving the problems
3. The writing is fast-paced
4. Includes a variety of genres and subjects
5. Stories about characters from many ethnic and cultural backgrounds should be included
6. Stories are generally optimistic with characters making worthy accomplishments
7. The writing deals with emotions that are important to young people
8. The book makes a contribution to the growth of the young reader by serving a development purpose of moving the young person to maturity
9. The book often depicts contemporary events or situations
10. The approach is one that is readable and understandable even when the conceptual content of the book is difficult
11. The language of the book mirrors the language of young people yet represents any well-written piece of literature
12. Varies genres may help the reader see the same concept or issue in different ways

Note. The characteristics of adolescent literature are adapted from the characteristics of young adult literature from “Literature for Today’s Young Adults” by A.P. Nilsen & K.L. Donelson, 2009. The authors use the term young adult literature instead of adolescent literature used in the present study. The characteristics have been adapted to the phrase “young adult” as “young person.”

Table 2

Teacher Participant Demographic Information

Teacher Identifier	Gender	Age	Role at Current School	Years at Current School	Years as a Teacher	Highest Level of Formal Education	Standard Teacher Training Program
5A	Female	46	General Education	6	23	Master's Degree	Yes
5B	Female	29	Student Teacher (Supervised by 5A)	2	6	Associate's Degree	Yes
5C	Female	26	General Education	4	4	Master's Degree	Yes
5D	Female	66	Special Education (Co-Teacher 5C)	14	40	Master's Degree	Yes
5E	Female	39	General Education	2	4	Master's Degree	Yes
5F	Female	41	General Education	3	9	Master's Degree	Yes
6A	Female	37	General Education	1	11	Master's Degree	Yes
6B	Female	51	General Education	13	28	Master's Degree	Yes
6C	Male	28	General Education	3	4	Bachelor's Degree	No
6D	Female	49	General Education	17	35	Master's Degree	Yes

Table 3

Instructional Components

Text-Reading Lesson	Procedure
Read-Aloud (15-20 min)	Before reading: Review the target comprehension strategy Review the story and previous chapter's guiding question Introduce current chapter's guiding question During reading: Read-aloud with teacher in-text cues for think-aloud modeling and question prompts After reading: Review guiding question and comprehension strategy
Vocabulary (5 min)	Students chorally recite the word three times Provide student-friendly definition Connect to visual representation of the word Engage in knowledge application activity to support deep comprehension of words
Written Expression (10 min)	Reviews progress from previous lesson (if applicable) Continue/complete writing activity Students share their writing with peers

Table 4

Comprehension Units

Making Inferences		
Week	Day	Lesson
1	1	Anchor
	2	Text-Reading Chapters 1-2
	3	Text-Reading Chapter 3
2	4	Text-Reading Chapter 4
	5	Text-Reading Chapter 5
	6	Text-Reading Chapter 6
Main Idea		
Week	Day	Lesson
3	7	Anchor
	8	Text-Reading Chapter 7
	9	Text-Reading Chapter 8
4	10	Text-Reading Chapter 9
	11	Text-Reading Chapter 10
	12	Text-Reading Chapter 11
Generating Questions		
Week	Day	Lesson
5	13	Anchor
	14	Text-Reading Chapter 12
	15	Text-Reading Chapter 13
6	16	Text-Reading Chapter 14
	17	Text-Reading Chapter 15
	18	Text-Reading Chapter 16

Table 5

Teacher Feasibility Survey

Item	Completely Disagree	Disagree	Neither Agree nor Disagree	Agree	Completely Agree
1. This instructional approach meets my approval.	1	2	3	4	5
2. This instructional approach is appealing.	1	2	3	4	5
3. I like this instructional approach.	1	2	3	4	5
4. I welcome use of this instructional approach.	1	2	3	4	5
5. This instructional approach seems fitting for my students.	1	2	3	4	5
6. This instructional approach seems suitable for my students.	1	2	3	4	5
7. This instructional approach seems applicable to my students.	1	2	3	4	5
8. This instructional approach seems like a good match for my students.	1	2	3	4	5
9. This instructional approach seems implementable.	1	2	3	4	5
10. This instructional approach seems possible.	1	2	3	4	5
11. This instructional approach seems doable.	1	2	3	4	5
12. This instructional approach seems easy to use.	1	2	3	4	5

Note. Survey adapted from Weiner et al. (2017)

Table 6

Teacher Semi-Structured Interview Protocol

Feasibility Dimension	Question
Utility	
Integration	1. How would you describe your school and/or district climate related to accepting and implementing new interventions? 2. How well does this intervention fit with your values and norms and the values and norms within your school? 3. How well does the intervention fit with existing infrastructure, work processes, and practices in your setting? 4. What, if any, kinds of infrastructure changes will be needed to accommodate the intervention? 5. Describe your typical literacy block. How does the intervention compare (e.g., whole group vs. small group to other similar existing programs in your setting?
Practicality	1. What barriers complicated implementation and what factors facilitated implementation?
Implementation	1. How do you feel the training prepared, or didn't prepare, you to carry out the roles and responsibilities expected of you? What was missing, if anything? 2. How complicated do you perceive the intervention to be? Please consider the following aspects of the innovation: duration, scope, intricacy and number of steps involved and whether the innovation reflects a clear departure from previous practices. 3. How confident are you that you will be able to successfully implement the innovation (without --researcher support)?
Appropriateness	
Adaptability	1. What kinds of changes or alterations, if any, do you think you will need to make to the intervention so it will work effectively in your setting? Are there components that should not be altered?
Effectiveness	1. To what extent did the intervention meet the diverse needs of the students in your class? (Broken up for specific student populations of interest) 2. Have you seen improvement in student listening comprehension and target vocabulary and comprehension skill usage during intervention?
Acceptability	
Social validity	1. Have you elicited information from students regarding their experiences with the intervention? If so, what were they?

Table 7

Student Social Validity Survey

	"Do Not Agree"	"Sort of"	"Agree"
I like reading Out of My Mind.	1	2	3
I like the skills we practiced while reading Out of My Mind.	1	2	3
The activities helped me learn new words.	1	2	3
The activities helped me understand how to make inferences.	1	2	3
The activities helped me understand how to find the main idea and important information.	1	2	3
The activities helped me understand how to ask questions.	1	2	3
The activities helped me understand the book.	1	2	3
I feel like I can apply these skills (making inferences, finding the main idea, asking questions) to other stories I read.	1	2	3
What, if anything, did you enjoy about the activities while reading?			
What, if anything, would you add or get rid of to make the activities while reading better?			
What other final thoughts about the reading activities would you like me to know?			

Table 8

Teacher Fidelity Percentages

	Observation			
Teacher	1	2	3	Average
5A & 5B	78	83	94	85
5C	100	92	90	94
5F	86	88	89	88
				5^{th} Total 89
6A	87	100	90	92
6C	100	100	84	95
6D	90	76	89	85
				6^{th} Total 91
				Overall 90

Table 9

Joint Display of Instructional Approach Utility

Survey Question	Grade Level M (SD) 5th *n*=6	6th *n*=4	Teacher Qualitative Quote(s)
This instructional approach seems implementable.	3.67 (0.52)	4 (0)	Practicality "The time crunch comes in with two of our classes being short now and I feel like 'oh my gosh! I haven't hit the things that I need to hit' If we can get a full 90 minutes in class that would be great but that's just not possible with the way our days are structured."-5F
This instructional approach seems possible.	3.83 (0.41)	3.75 (0.5)	
This instructional approach seems doable.	3.67 (0.52)	3.5 (1)	"And if we have mandated curriculum next year I don't know if this would even be an option."-5A
This instruction approach seems easy to use.	3.67 (0.52)	4.25 (0.5)	"The lessons were really long sometimes and I think that's just the nature of if it's a longer chapter. You know there are other things that go with it…..the activities take me more than 30 minutes and that's too much time for them to be kind of sitting. There were a couple of days where it was like a 45 minute lesson and it took up most of my block."-6A
Total	3.71 (0.46)	3.78 (0.62)	
			"The amount of teacher talk played a huge role for me personally with the groups that I have this year. There are a lot of behavior issues and they definitely need more hands-on. And then the kids that are very studious students need more. Most days I just struggle with 'am I even meeting their needs on any given day of the week?', and knowing that I'm reading everything to them with very little interaction on their part. I knew I was not giving them what they needed."-6B
			Implementation "I didn't think it was complicated at all. It's pretty easy. We have the notes."-5A

	"It's well laid out; everything is right there."-5D
	"And I like the notebook where I can flip it around. And as I'm reading, I got the little sticky, and then I can find in the notes what it is."-5F
	"I don't think it was very complicated at all to implement it and to follow it. It was just a matter of time but I think the implementation of it was very easy."-6A
	"Not very complicated at all. It's just the time constraint and getting into a rhythm with it, but none of that was difficult."-6C

Note: M=Mean survey responses, SD=Standard deviation

Table 10

Joint Display of Instructional Approach Appropriateness

	Grade Level M (SD)		
	5th	6th	
Survey Question	*n*=6	*n*=4	**Teacher Qualitative Quote(s)**
This instructional approach seems fitting for my students.	3.12 (0.98)	2.75 (0.96)	Adaptability "I thought the read-aloud was really good. It's time-consuming…….I think some students just don't get read to enough and even my students that hate reading are fully invested when it's time for Out of My Mind."-5C
This instructional approach seems suitable for my students.	3.12 (0.98)	2.75 (0.96)	"I think with my having the collab class, I think that the approach of it being able to be read-aloud was appropriate for them. I have a lot of students that have IEPS that they have the read-aloud accommodation and they're reading below grade level so they wouldn't have been able to do this independently."-6A
This instructional approach seems applicable to my students.	3.33 (0.82)	3 (1.41)	"It was very suitable for my students with IEPS, 504s, or even students who don't have any accommodations and are just low. But I have a decent handful of students who would benefit from maybe more challenging prompts."-6C
			"For my classes some of the lessons were a little bit lower level."-6D
This instruction approach seems like a good match for my students.	3 (0.98)	2.83 (1.41)	Effectiveness "I think I've seen improvement in all 3 skill areas, especially questioning. I feel like they question absolutely everything now, and they're like 'my questions are important'."-5C
Total	3.21 (0.88)	3.08 (1.09)	"Definitely. It's the norm in here now. Every day, there's questioning and asking opinions or thoughts and more students are speaking up to share."-5A
			"I feel like all of our students are more confident to share, not just with this but with other things in class as well."-5B

	"Some struggle with remembering what happened in the last chapter if we talk about it the next day. They need a little more prompting or support to remember."-6A
	"Something that worked really well for us was slowly letting go so they can independently go into a skill. Like when we do an inference we would model, then come back and do it again but a little less [modeling]. We would do it again up on the board and in their journal but then they would finish on their own. Then we kind of finish with almost like an assessment of the skill where they have to do it on their own and I saw great progress form that."-6C

Note: M=Mean survey responses, SD=Standard deviation

Table 11

Joint Display of Instructional Approach Acceptability

	Grade Level M (SD)		
	5th	6th	
Survey Question	*n*=6	*n*=4	**Teacher Qualitative Quote(s)**
This instructional approach meets my approval.	3.5 (0.55)	3 (1.15)	"I like the vocab and the guiding question. Love that before reading the chapter you ask the guiding question so they're thinking about it as they're reading the chapter, and then answering it after."-5C
This instructional approach is appealing.	3.8 (0.41)	3.25 (1.5)	"I like the slides, the turn and talk, and the thumbs up, thumbs down to see what they know."-5F
I like this instructional approach.	4 (0)	3.25 (0.96)	"The vocab is super engaging, and I think it is really engaging for them to interact with the book that way."-5C
I welcome the use of this instructional approach.	4 (0)	3.5 (1.29)	"I like the [graphic] organizers that you provided. I mean that could just be a case by case depending on your students but I really thought the organizers helped to get their thoughts formulated into different parts until they got to that big kind of question or inference or skill that we were working on."-6A
Total	3.8 (0.38)	3.24 (1.13)	"I really like the vocabulary aspect. We extended it by doing a project when we finished a unit where we assigned a word to everybody and they had to illustrate the word using the definition. They couldn't use any other words, they could only use pictures or things like that to know that they understood the meaning."-6C

Note: M=Mean survey responses, SD=Standard deviation

Table 12

Joint Display of Student Social Validity Responses

	5th Grade M (SD) *n*=21	6th Grade M (SD) *n*=19	Student Qualitative Quote(s)
I like reading Out of My Mind.	2.8 (0.4)	2.6 (0.5)	5th Grade "I enjoyed how she asked questions about the book while we were reading."-5A003
I like the skills we practiced while reading Out of My Mind.	2.1 (0.62)	1.8 (0.6)	"I enjoyed the thumbs up and thumbs down."-5C006
The activities helped me learn new words.	2.2 (0.83)	2.2 (0.79)	"I enjoyed vocab because I learned new words sometimes."-5A017
The activities helped me understand how to make inferences.	2.2 (0.54)	2.3 (0.73)	"It was enjoyable."-5A022
The activities helped me understand how to find the main idea and important information.	2.5 (0.6)	2.4 (0.78)	"I like the book study because it was fun to learn and read a good book with the class."-5C018
The activities helped me understand how to ask questions.	2.1 (0.73)	2.2 (0.81)	"They (the activities) are fun and help me learn."-5F053
The activities helped me understand the book.	2.6 (0.59)	2.6 (0.5)	"I would add some more activities to read a little better."-5C023
I feel like I can apply these skills (making inferences, finding the main idea, asking questions) to other stories I read.	2.4 (0.6)	2.5 (0.61)	"I would probably want it more independent so we can go at our own pace."-5C002
Total	2.4 (0.66)	2.3 (0.7)	6th Grade "I liked how it helped me understand what was important and what was a fun fact or just helped me understand the main idea of that chapter."-6C031

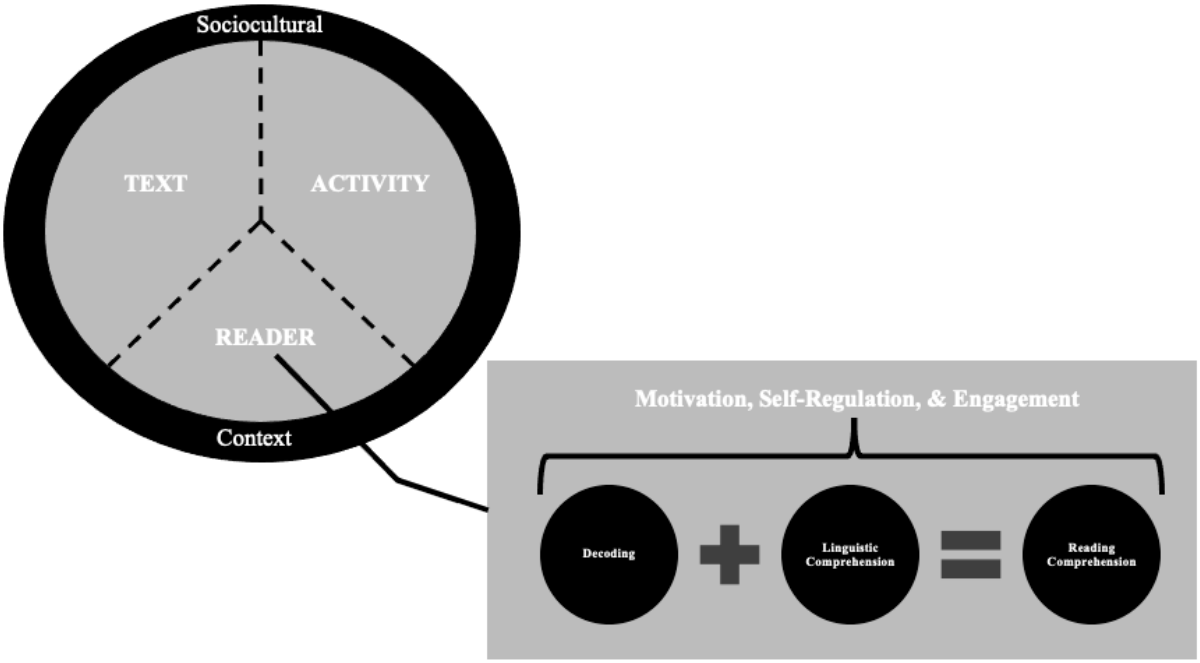
	"I liked being able to read between the lines."-6D035 "Will we read another book after this one?"-6C024 "I liked the book, all good."-6A048 "I like doing activities while reading instead of just sitting there and silently reading it."-6C043 "I like reading the book but it's too long."-6A050 "I would like more reading instead of activities."-6C049 "I feel like it should have activities after the chapter."-6D035

Note: M=mean, SD=standard deviation, student participants are identified by their language arts teacher, and a unique three-digit number is randomly assigned.

Figures

Figure 1

Framework for Thinking About Adolescent Reading Comprehension



Note: Incorporates the Rand Reading Study Group's Heuristic for Thinking About Reading Comprehension (Snow, 2002) and the Simple View of Reading (Hoover & Gough, 1990)

Figure 2

Comprehension Strategy Graphics

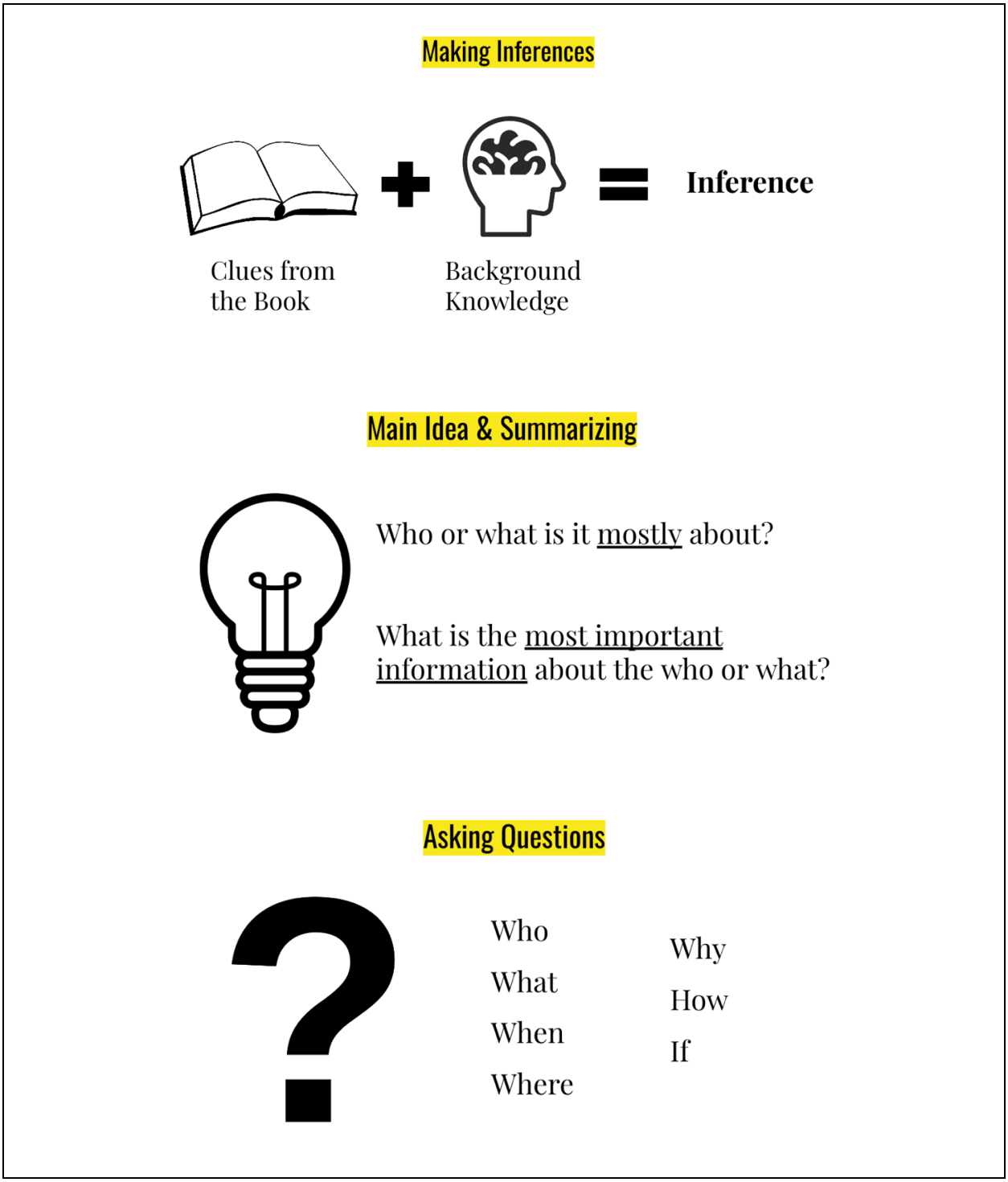
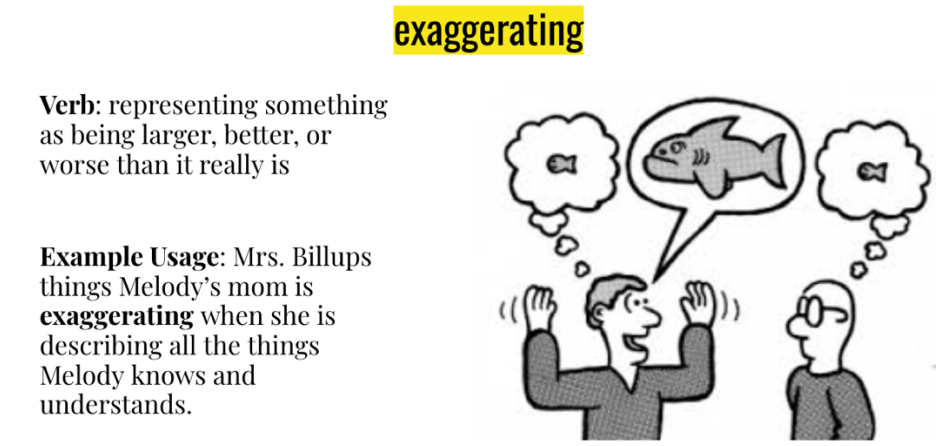


Figure 3

Vocabulary Slide and Activity Example



"This word is exaggerating. Let's say exaggerating three times. *(Say it three times together.)* In the book, Mrs. Billups thinks Melody's mom is exaggerating when she is describing all the things Melody knows and understands. When you are exaggerating, you are representing something as being larger, better, or worse than it really is. The person in the cartoon is exaggerating the size of the fish they are thinking about since it is described as much larger than it actually is."

ACTIVITY: EXAMPLES AND NONEXAMPLES

"I'm going to read some statements and I want you to decide if I am exaggerating something. If you think I am exaggerating something in the statement, give a thumbs up. If you do not think I am exaggerating something in the statement, give a thumbs down. I may call on you to tell me why you answered the way you did." *(Call on 1 student for each example.)*

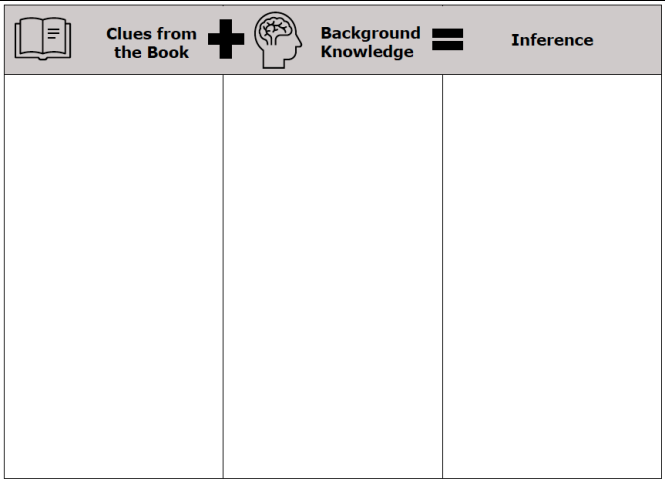
EXAMPLES:

"I am so hungry; I could eat a horse." *(thumbs up)*
"My dog knows three commands: sit, lay down, and roll over." *(thumbs down)*
"That's so easy, I can get that done in 2 seconds." *(thumbs up)*
"The weather is so cold, I can see my breath when I go outside." *(thumbs down)*

Figure 4

Student Journal Graphic Organizers

Making Inferences



Main Idea & Summarizing

Who or what is the chapter mostly about?	What is the most important information about the who or what?

Main Idea Statement

Asking Questions

Questions I have about the important ideas in the chapter:

What I learned:

Figure 5

Fidelity of Implementation Checklist

Adolescent Literature Instructional Approach Fidelity Checklist

Lesson _____ Date _____ OBS _____

Anchor Lesson (If Applicable)

Y N Introduces skill
Y N Provides teacher model/think-aloud
Y N Guides student practice
Y N Concludes lesson and links to next activity

Before-Reading Card

Y N Review comprehension skill
Y N Introduce/review story
Y N Today's guiding question

Read Aloud

Y N Reads all in-text cues
Y N Scaffolds student answers

After-Reading Card

Y N Asks for/restates guiding question
Y N Scaffolds student answers
Y N Reinforces comprehension skill

Vocabulary

W1	W2	
Y N	Y N	Defines word
Y N	Y N	Provides teacher model
Y N	Y N	Encourages use of word in sentence

Student Journal/Discussion

Y N Provides clear instruction for activity
Y N Provides teacher model
Y N Prompts student to contribute at least one idea

Overall

Y N Instructor kept students engaged
Y N Instructor reinforced appropriate contributions
Y N Instructor scaffolded when needed
Y N Instructor was organized and had materials prepared

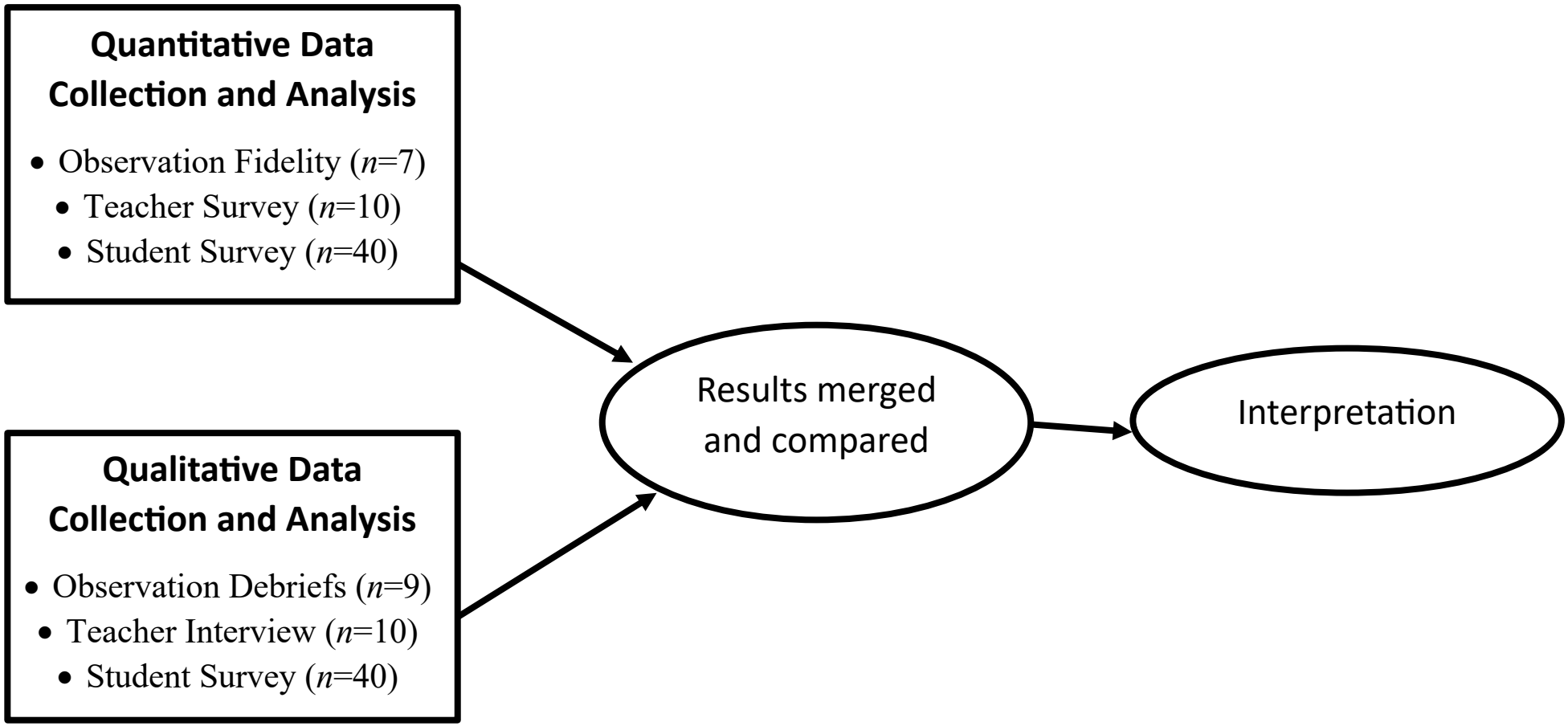
NOTES _____

TOTAL # YES
NO
Percentage

Note. Adapted from Solari & Ciancio (2014)

Figure 6

Convergent Mixed Methods Design



Note. Adapted from Creswell & Clark (2017)