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READING INTERVENTIONS FOR STUDENTS WITH EMOTIONAL BEHAVIORAL
DISORDERS

A MASTER'S THESIS
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ERIN MALY

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BETHEL UNIVERSITY

READING INTERVENTIONS FOR STUDENTS WITH EMOTIONAL BEHAVIORAL
DISORDERS

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Abstract

The focus of this literature review is to determine the efficacy of reading interventions for students with Emotional Behavioral Disorders with comorbid reading disabilities. Students with EBD frequently exhibit reading difficulties which place them at risk for further negative life experiences. They are also likely to spend the most time in a self-contained classroom for the highest level of support. Despite this, they receive minimal amounts of direct reading instruction while in that setting. Special education teachers express concerns about the barriers to providing effective reading instruction but have a high interest in expanding their resources with professional development. Although they progress at a slower rate than their peers with other high-incidence disabilities, students with EBD and comorbid reading disabilities make gains with basic reading skills when proper instruction and intervention are implemented. This study found that using Peer-Assisted Learning Strategies, Repeated Reading, Corrective Reading, and other strategies increases reading abilities for students with EBD across all ages, in addition to increasing on-task behavior and personal beliefs about reading.

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CHAPTER I: INTRODUCTION

History of Emotional Behavioral Disorders and Academic Success

Literacy is considered an essential skill to succeed in life. The quality of life, sense of self, access to fair employment and higher education, and the ability to effectively communicate are significantly lower without the skills to read, write, and comprehend language. Though there are many contributing factors to gaining basic literacy skills, practical instruction and interventions are essential to success for students with disabilities (Lane et al., 2006).

Students identified with an Emotional Behavioral Disorder (EBD), also known as Emotional Disturbance (ED), must exhibit characteristics over a period of time that adversely affect a child's educational performance, such as the inability to learn that cannot be explained by intellectual, sensory, or other health factors (Individuals With Disabilities Education Improvement Act, 2004, 34 CFR 300.8(c)(4)). Despite the lack of intellectual, sensory, or other health factors, students with EBD display significant literary deficits across multiple areas of reading and classroom settings (Garwood et al., 2014; Mattison, 2008).

Though students tend to be quickly identified as being *at risk* for behavioral and academic achievement in an elementary setting, most students are not formally identified with EBD until they are in the middle school setting (Kauffman & Landrum, 2012). By the time these students reach high school, they are reading several grade levels below their peers (Yakimowski et al., 2016) and continue to exhibit behavioral problems that negatively impact their overall academic performance across most subjects in comparison to peers with other high-incidence disabilities (Nelson et al., 2004). Academic performance continues to be closely related to school drop-out rates. Recent numbers from the Office of Special Education Programs (2020) indicate

that students with EBD are more likely to drop out of school and less likely to graduate than all students with disabilities. This data reinforces the downward trajectory of quality of life for students with EBD, as they are also more likely to engage in risky behavior and have poor academic performance (Chitiyo et al., 2021). Historically, the arrest rate for students with EBD increased by 24% within 20 years (Sanford et al., 2011). More alarmingly, incarcerated youth, in general, are described as having poor literacy skills (Wilkerson et al., 2012).

There are longstanding statements that problem behaviors of students with EBD result in less time within the general education classroom, thus missing core instructional time with their peers. In the 2018-2019 school year, the Office of Special Education Programs (2020) determined that only 49% of identified EBD students spend 80% or more of their time within the general education setting. One study concluded that the co-occurrence of problem behaviors and reading difficulties could be the root of feelings of frustration, task avoidance, behaviors that result in limited access to direct instruction, inattention, and general dissatisfaction with school (Roberts et al., 2019). Other discoveries address more specific developmental-based reading deficits among students with EBD. Studies estimate that 68% of students with EBD also have clinical language deficits (Nelson et al., 2005), with an additional estimation that 81% of students with EBD have unidentified comprehensive language deficits (Hollo et al., 2014). Richard Mattison (2008) concluded that specified areas of reading difficulties, such as phonological awareness and reading comprehension, are most prevalent among students with comorbid emotional/behavioral and reading disorders.

Rationale

This literature review aims to determine the appropriateness and efficacy of reading interventions for students with Emotional Behavioral Disorders. Whether reading interventions address positive behavior reinforcement to increase access to core instruction or target specific areas of reading and language deficits, enough evidence suggests that students with Emotional Behavioral Disorders should receive effective reading interventions to succeed academically and improve their overall quality of life. Recent research also suggests that reading interventions are moderately effective at improving reading performance amongst students with Emotional Behavioral Disorders (McKenna et al., 2019), and students can make academic growth at a rate in comparison to their non-disabled peers (Ysseldyke et al., 2017).

Definition of Terms

The following terms are defined to provide clarity of meaning throughout this literature review. Emotional Behavioral Disorders (EBD) are classified as a disability through IDEA (2004), where students exhibit behaviors that adversely affect their access to educational experiences. A Specific Learning Disability (SLD) is a disability classified through IDEA (2004) where a student shows a discrepancy in academic abilities not resulting from cognitive impairment. High-incidence disabilities are the most common disability categories which include Emotional Behavioral Disorders (EBD), Learning Disabilities (LD), Speech-Language Impaired (SLI), and Other Health Impairments (OHI). A self-contained classroom setting is defined as an educational setting where special education students receive direct instruction away from their same-aged peers in the general education setting. A residential school setting can be considered a self-contained setting as most requisites for attendance include some form of identification for

special education services. Both self-contained and residential settings are available for students with disabilities when their behaviors or other extenuating circumstances place too much risk for their or others' safety. Pro-social behaviors are the norm socially accepted behaviors expected within a particular environment. They can be broadly defined but are not limited to students being on task, keeping their hands to selves, and following directions. Reading disabilities/disorders are defined by the inability to read or comprehend different text forms. Reading instruction and interventions are developed curricula, programs, or research-based methods that improve a student's academic success in basic literacy skills. Direct instruction is when the teacher instructs in large or small-group settings to introduce or review specific skills. Oral reading fluency is reading accurately at a rate appropriate for the text, including proper cadence and intonation that matches the text content. Correct words per minute (cwpm), or words correct per minute (wcpm), is the number of words correctly read within a timed context. Basic reading skills include decoding and understanding other basic phonological processes. Reading comprehension is understanding a text in both explicit and implicit ways. Social validity is the approval or acceptance of a particular thing that is being implemented within a study.

Research Questions

What are appropriate interventions for reading-based academic needs for students with Emotional/Behavioral Disorders?

- Do reading interventions have different outcomes for students with Emotional/Behavioral Disorders than those with Learning Disabilities?
- Do reading interventions have different outcomes for students with Emotional/Behavioral Disorders based on age or grade level?

- How do intervention outcomes differ between inclusive versus self-contained settings?

CHAPTER II: LITERATURE REVIEW

Literature Search Procedure

Sources used for this literature review were found using the Academic Search Premier and ERIC databases. Search terms included “emotional behavioral disorder(s),” “reading disability,” “reading intervention(s),” “reading instruction,” “reading curriculum,” “reading deficits,” “language impairment,” “elementary,” “secondary,” “reading comprehension,” “reading fluency,” “literacy,” and “academic achievement.” Articles of original research highlighted the importance of reading interventions for students with Emotional Behavioral Disorders, including but not limited to specific strategies and programs. Original research that discussed the efficacy of interventions and overall growth among students identified with Emotional Behavioral Disorders and Specific Learning Disabilities was also reviewed.

Comorbidity of Literacy Difficulties and Emotional Behavioral Disorders

The comorbidity of academic deficits, particularly reading with Emotional Behavioral Disorders, has been well documented for almost 20 years—a study conducted by Mary Wagner et al. (2005) reviewed the many characteristics of students with Emotional Behavioral Disorders. They compiled data from two studies, the *Special Education Elementary Longitudinal Study* (SEELS) and the *National Longitudinal Transition Study–2* (NLTS2), to understand student and household characteristics, functional characteristics, and education service-related experiences of students formally identified with Emotional Behavioral Disorders (EBD).

When reviewing passage comprehension subtest data from the *Woodcock-Johnson–III* (WJ-III; Woodcock et al., 2001) of elementary and middle school students, students with EBD

showed significant academic deficits. Specifically, 61.2% of students with EBD had scores below the 25th percentile (Wagner et al., 2005). These results are consistent with the reading results of students in other disability categories that also tend to experience more significant cognitive deficits. This study also collected data from parent questionnaires. 27.7% of parents of elementary students and 62.7% of parents of middle school students with EBD rated their child's cognitive functioning as high, drastically different than what the academic achievement tests exhibited (Wagner et al., 2005).

An alarming finding from this study was that even though students with EBD start showing difficulties around the same age as students with other disabilities, they are more likely to receive special education services a year later than their peers. They are also less likely to receive early interventions or preschool special education services than their peers with other disabilities. Some limiting factors of this study include that it only collected data from two single sources and did not specify what type of services these students received once identified, i.e., specific academics such as direct reading interventions in addition to functional and behavioral.

Kathleen Lane et al. (2006) conducted a study that examined the academic, social, and behavioral characteristics of students with Emotional Behavioral Disorders or Learning Disabilities soon after the Wagner et al. (2005) article was published. Their study emphasized the characteristics of high school students with Emotional Behavioral Disorders and how they compared them to students identified with a Learning Disability (LD). Their research stressed the importance of comparing the academic needs of students of both disabilities to provide the best interventions during the secondary school years when time becomes limited to close gaps. There were 45 participants with EBD and 49 with LD, all aged 14 to 19. Two schools were public high schools, and two were alternative settings for students with learning and emotional disorders.

The *Social Skills Rating System-Secondary Teachers Version* (SSRS; Gresham & Elliott, 1990), *Walker-McConnell Scale of Social Competence and School Adjustment* (SCSA; Walker & McConnell, 1995), *School Archival Records Search* (SARS; Walker et al., 1991), and WJ-III (Woodcock et al., 2001) collected comparative data for the two disability categories.

Students with EBD scored within a mean average of 73.95 on the WJ-III Basic Reading Skills subtest. In contrast, their peers with LD only scored slightly lower, with a mean average of 72.38. Despite their academic reading abilities being virtually the same, teacher questionnaire responses from the SSRS showed that teachers' perceptions of overall academic competence are much lower for students with EBD than LD. Students with EBD also had higher absences and negative narrative comments within their cumulative files (Lane et al., 2006).

The data that used teacher reports created a limitation within this study as it can be subjective to certain biases against students with EBD and perceptions of undesired behaviors within the classroom. Data was not collected from peers within the general education population, limiting the number of comparisons of student groups. Despite these limitations, this study shows equivalent reading deficits among students with EBD compared to LD.

Knowing that students with EBD experience equivalent reading deficits as peers in other disability categories, it is also essential to understand the different types of reading disabilities these students face. Richard Mattison (2008) conducted a study to examine the different areas of reading disabilities with a population of middle school students within a self-contained school specifically for students with EBD. A total of 118 students in grades 6-8 participated in this study; 68 students for the 2001-2002 school year and 50 for the 2004-2005 school year (Mattison, 2008). He utilized the Basic Skills Cluster and Reading Comprehension Cluster of the

Woodcock Reading Mastery Test-Revised (Woodcock, 1987, 1998) to determine the prevalence and specified areas of reading disabilities.

Mattison (2008) determined that 50% of the students also had a reading disability in general. When broken down into specific cluster areas, 7.6% had deficits in basic skills, 14.4% in reading comprehension, and 28% in both areas of basic skills and reading comprehension. The percentages between the different school years did not have a large discrepancy, allowing for results to be accurate for the review of all 118 students.

Though Mattison (2008) placed a concern of limitations within the study as the student population was within a self-contained school in comparison to a less restrictive environment, he stressed that the results should be used as an alert to prepare special education teachers of the comorbid reading disabilities in students with EBD.

Significance of Reading Interventions

Most students are expected to make academic progress as they age through the educational system, especially when receiving direct intervention services through special education. Jeffrey Anderson et al. (2001) conducted a study that compared the academic progress of students with EBD and LD to understand the difference in progress between the two disability categories since they tend to share the same academic characteristics of reading deficits.

Generally, students with EBD are more likely to be placed in self-contained classrooms due to high levels of external behaviors. Students with LD are more likely to receive their education in a less restrictive environment with access to a resource setting that provides support when needed. While in a self-contained setting, instruction often focuses on pro-social and behavioral interventions, leaving little time for academics to be a target.

This multi-year study points out that despite having similar academic needs and receiving more direct services, students with EBD are not academically progressing at rates compared to their peers with LD.

Participants of the study needed to maintain continuous enrollment within the same district. They formally had the identification of EBD or LD as determined by the district, along with federal and state requirements. Data was collected first when the students were in kindergarten or first grade and again in fifth or sixth grade. A total of 103 students participated. Forty-two students were identified with EBD, and 61 were identified as LD. 57% of the participants were first identified in kindergarten, while the remaining 43% were identified in the first grade (Anderson et al., 2001).

Data from multiple assessment sources determined that students with EBD scored slightly higher in reading than their peers with LD in kindergarten or first grade. Students with EBD made no progress during the four-year study, while students with LD made notable gains (Anderson et al., 2001).

Multiple factors were considered when reviewing the discrepancy between the two groups. The students with EBD spent more time in a self-contained classroom or school, while students with LD spent more time in the general education setting. 45.2% of the students with EBD were also retained in kindergarten or first grade, whereas only 31.1% of students with LD were retained (Anderson et al., 2001).

Limitations of the study point out that even though it is implied that both groups of students were receiving direct services based on eligibility status and amount of time within a special education setting, types of interventions were not explicitly recorded during the four years. The alarming results of this study highlight the importance that specific interventions

should be utilized for the academic progress of students with EBD in contrast to having higher amounts of self-contained minutes or use of retention to make gains.

A newer study looked at reading achievement for students beyond the elementary years through a review of state-mandated proficiency test scores. Mary Yakimowski et al. (2016) discussed that many states and districts rely on scores from state-mandated assessments to gauge the academic proficiency of all students, including those with identified high-incidence disabilities; Speech Language Impairment (SLI), Learning Disability (LD), Emotional Behavioral Disorders (EBD), and Attention Deficit Disorders (ADD). These assessments only gauge whether a student is proficient in the grade-level content area, as established by academic standards. Students with high-incidence disabilities are expected to complete the state-mandated assessments despite knowing that many are not proficient in reading, writing, or math based on other normative assessments used during the eligibility evaluation process. Yakimowski et al. (2016) shared other alarming considerations that secondary-level content area instruction moves past basic literacy skills, which places students with high-incidence disabilities at a disadvantage as they show deficits in those areas. This study aimed to determine differences in growth and performance patterns of secondary students with high-incidence disabilities in reading achievement.

Scores from the *Connecticut Mastery Test* were collected from 2,294 students categorized into four high-incidence disabilities. Scores from 2008 5th and 2011 8th-grade assessments were used to compare the direct impact of content area instruction shifting from basic literacy to higher-level thinking skills (Yakimowski et al., 2016).

Students with SLI scored the lowest average on the 5th-grade 2008 assessments, with LD being 3rd, EBD being 2nd, and ADD having the highest average. Comparatives of the 8th-grade

2011 assessments showed varied growth patterns between the different disability groups. Students with EBD showed the smallest growth in reading proficiencies from 5th to 8th grade. Students with LD showed the highest level of growth during that same timeframe. Students with SLI had the second-highest level of growth, and ADD had the third-highest level (Yakimowski et al., 2016).

Limitations of this study included the general fact that, unlike previous studies that focused on the performance growth of students with LD, there was a lack of previous research on the other high-incidence disabilities mentioned in the study (Yakimowski et al., 2016). Though IDEA (2004) defines the different disability categories, states can set their own definitions and npoeligibility requirements to receive services; therefore, this study cannot be a national depiction of reading achievement growth patterns. Implications of this study highlight that the general reading instruction utilized at the secondary level is not enough to close the achievement gaps equally among the differing disability categories (Yakimowski et al., 2016), and specific interventions should be reviewed and implemented to close that gap.

The discussion of specific reading interventions opens an argument as to whether teachers of students with EBD are adequately prepared to teach such specific academic content. With students of EBD spending more time in a self-contained classroom than their peers with LD (Anderson et al., 2001), instruction provided to these students primarily comes from one resource teacher licensed in the area of EBD or other areas of high-incidence disabilities. With a lack of direct training in a content area, instructional delivery from special education teachers needs to be considered a variable for outcomes of student progress (Levy & Vaughn, 2002).

Research by Levy & Vaughn (2002) documents the delivery of reading instruction for students with EBD in a self-contained classroom by a licensed special education teacher. The

study looked for features such as grouping, phonological awareness, word analysis, fluency, and comprehension instruction. It also observed differentiated instruction and progress monitoring completed by the special education teachers and gathered teacher reports of their knowledge of such instruction (Levy & Vaughn, 2002). Participants included special education teachers of self-contained classrooms. The students within those settings ranged from 1st to 5th grade. There were a total of 31 students spread throughout the classrooms. Data was collected using an observational model using the *Classroom Climate Scale* (CSS). One section of the CSS included quantitative data from a rating scale on teacher instruction and behavior. The second section was descriptive-based and adapted for reading research by adding questions about phonological awareness, word analysis, fluency, and comprehension (Levy & Vaughn, 2002). Observations were made during four consecutive days for each teacher and classroom. Interviews with teachers were conducted post-observation to gather self-reports of knowledge on reading instruction.

Two teachers were observed providing direct reading instruction that aligned with the standards of the National Reading Panel (NICHD 2000). This included a mix of whole-group and individual instruction on phonological awareness, word analysis, fluency, and comprehension while managing behaviors with positive reinforcement and gathering data for progress monitoring. Direct instruction in the different areas of reading was not observed in the other classrooms. Individual packet work was primarily used with limited student feedback and progress monitoring. When three teachers were asked about progress monitoring, they stated they only monitored the progress of the IEP goals, which were solely behavior-based. Only two teachers indicated that they had received some form of preservice training on research-based

reading instruction. The rest of the teachers stated that their formal training to become an EBD teacher and any additional training had only been based on behavior management.

The small sample size is considered a limitation in addition to not reviewing data on student progress due to the short term of the study. The study's conclusions highlight the lack of research-based and direct reading instruction in a self-contained classroom and the need for further professional development on reading instruction for special education teachers of students with EBD (Levy & Vaughn, 2002).

Though Levy & Vaughn's (2002) study implies that reading instruction is not adequately used in self-contained settings to supplement a comparable English or reading curriculum in an inclusive general education setting, updated research shows an encouraging difference. A study was completed to determine the characteristics of special education and English teachers that provide reading instruction to secondary students in day treatment and residential schools and which instructional practices they use. A survey was sent to 351 day-treatment and residential schools across the nation that met the requirements of being a facility for youth with EBD, not solely a hospital program, and providing educational services for 7th to 12th-grade students (Wilkerson et al., 2012).

Only a total of 123 surveys were returned. Over half of the teachers held a master's degree, the rest had a bachelor's degree, and a small percentage (1.6%) held a doctoral degree. 73% of the teachers were full-time in a self-contained classroom, 4.9% were full-time resource teachers, 3.3% were part-time teachers in different roles, and 18% were either reading specialists, remedial reading teachers, or special education co-teachers (Wilkerson et al., 2012). License types were included in the survey, and participants were allowed to select all that applied. 52% held an EBD or LD-specific license. 41% were licensed at a cross-categorical level. 27% held

elementary licenses, and 15% held secondary licenses. At least 17% held reading or English-specific content area licenses (Wilkerson et al., 2012). The data does not account for which individuals held multiple certifications. This evidence concludes that the participants were deemed adequately qualified for their positions of providing reading instruction to students with EBD. 37.4% of the participants shared that 50% or more of their students could not read sufficiently to gain basic information from a text. Survey results also stated that the most commonly used reading instructional strategy was asking comprehension questions during reading, with vocabulary instruction and writing instruction to support reading as the second and third most used (Wilkerson et al., 2012). Though almost a third of the teacher participants shared that at least half of their students do not demonstrate proficient reading skills, 26.5% shared that they never use basic phonetic instruction, a vital literacy skill component (Wilkerson et al., 2012).

Low survey participation created limitations with this study as it did not allow for a larger sample size (Wilkerson et al., 2012). Another limitation was using survey data only, unlike the study by Levy & Vaughn (2002), which primarily used observational data that could be cross-referenced with teacher self-reports. The Wilkerson et al. (2012) study shows a promising change in reading instruction use for students with EBD in self-contained settings. However, caution should be considered as teacher-reported data cannot be cross-referenced with actual implementation.

John McKenna & Stephen Ciullo (2016) used a mixed methods study of observation and teacher interviews to extend the previous research by Levy & Vaughn (2002). The research was conducted to determine the amount of time during class used to provide direct reading instruction, what instruction was being used and if it followed recommended reading practices,

and what was perceived as barriers by teachers (McKenna & Ciullo, 2016). One school that provided residential and day-treatment services was chosen for this study. The school served approximately 40 students in the 1st through 6th grades. Almost all students were eligible for EBD, with more than half with a secondary LD. Half of the students received complete 24-hour care and services, while the other half were only part of the day treatment portion. Classes within this school averaged seven students per group. Four reading groups were observed, with a separate teacher only participating in the interview portion of the study due to parental consent objections. Three head teachers, an assistant teacher, and a literacy specialist participated in the study. Like the Wilkerson et al. (2012) study, data on levels of education and certification was collected for each adult participant. Two participants had their bachelor's degrees, two held master's degrees, and one had some graduate school experience (McKenna & Ciullo, 2016). Data on types of reading training and behavior training was also collected. All adult participants had formal reading training through the *Wilson Foundations* (2002) program. Other types of reading training that some participants had included spelling-based programs, making inferences, fluency, phonics, incorporating writing into reading, and reading comprehension. All participants had received training on crisis intervention (McKenna & Ciullo, 2016).

The first phase of the study involved observations of the adult participants. Each participant was observed a total of 7 times throughout the 2013-2014 school year. Observations occurred during the reading class block and lasted approximately 40 minutes (McKenna & Ciullo, 2016). The time spent on direct reading instruction was over 60% of the observed minutes. The remainder of the time was considered instructional when students worked independently or with one-on-one support or as non-instructional during transition or when managing behavior (McKenna & Ciullo, 2016). The primary type of direct reading instruction

was word study and phonics, with reading comprehension instruction and text reading following close in line. A minimal amount of time was spent on spelling, direct vocabulary instruction, writing or language arts, oral language development, concepts of print, and alphabetic knowledge. There was no direct instruction on phonological awareness or reading fluency. Technology was incorporated into some instruction for listening to stories, word reading activities, and listening comprehension activities.

The study's second phase included teacher interviews to discuss the use of evidence-based practices and barriers to reading instruction. Four of the five interviewed teachers stated that they used evidence-based practices, while one teacher needed clarification on how evidence-based practices are defined. All teachers shared that they received some professional development and training on evidence-based reading instruction and behavior management while in their teacher preparation programs. All teachers discussed phonics-based instruction during their reading class, accounting only for 18% of direct instruction during observations (McKenna & Ciullo, 2016). Other areas of evidence-based instruction were not consistently observed. All teachers discussed their implementation of reading comprehension instruction, but cross-examination from observations indicated that no specific strategies were being taught or used during instructional time. All teachers identified primary barriers to reading instruction as task avoidance from students, low frustration tolerance, lack of prior success in reading, and lack of time spent reading outside of the school setting (McKenna & Ciullo, 2016). They also indicated that further professional development in comprehension strategies and high-interest activities for student engagement would be helpful.

Generalizations were challenging to make from this study due to the small sample size of students and teachers from one school. Active monitoring of student progress was not completed

during this mixed methods study, leaving out information on the effectiveness of reading instruction on student academic performance (McKenna & Ciullo, 2016).

Studies thus far have evaluated reading instruction in self-contained settings (i.e., self-contained classrooms, day treatment settings, and residential schools). These self-contained settings operate under unique circumstances with chronic negative behaviors and have limited access to quality instructional content compared to general education settings (Sanders et al., 2021). The working conditions for special education teachers can also considerably impact reading instruction for students with EBD (Mathews et al., 2021).

A focus group study was conducted to understand the context of residential treatment facilities and how that may impact direct reading comprehension instruction (Sanders et al., 2021). Residential treatment facilities for children provide services for youth with EBD or those at-risk. Residential settings house self-contained classrooms for students based on age, academic, and behavioral needs. The focus group of this study included the special education teachers of the self-contained classrooms, where they provided instruction on multiple content areas, including reading (Sanders et al., 2021). All were licensed special education teachers that shared experience with literacy instruction. Each individual was asked twelve questions that focused on the acceptability, demand, implementation, and practicality of direct reading comprehension instruction within the context of their residential facility-based self-contained classroom.

Results highlighted unanimous thoughts on the importance of reading comprehension instruction in addition to varying factors that prevent seamless implementation. All participants believed that teaching reading comprehension is vital within residential settings as it is a lifelong skill (Sanders et al., 2021). They also believed it is essential to understand how their students learn best and provide differentiated instruction to increase and maintain engagement, including

their thoughts on being flexible. When considering the context of their classrooms, many participants identified barriers to implementing specific comprehension instruction. First, many self-contained classrooms have mixed age groups with varying reading abilities. They also are likely to experience sudden changes in who is in their classroom based on intake and discharge procedures of the residential treatment program. Participants also addressed that many comprehension instructional methods must be developed for settings comparable to theirs rather than only designed for general education instruction and interventions. The final barrier addressed by the participants explained that their instructional toolbox seems incomplete in or to address the many areas of reading comprehension (Sanders et al., 2021). Determining which comprehension instruction to choose when having limited options while also considering the different needs of students can take time and effort.

Future research implications concerning this focus group study should include developing and trialing adaptations to typical reading comprehension instruction and interventions offered to general education teachers (Sanders et al., 2021).

In similar terms to address how the implementation of reading instruction is not solely dependent on a special education teacher's qualifications, Mathews et al. (2021) set out to examine how the working conditions for special education teachers can directly affect instruction provided to students with EBD in a self-contained setting. The research used comparative measures to examine how the quality of reading instruction varied across sites in correlation with how the working conditions varied.

Six teachers of self-contained classrooms from six public elementary schools were chosen as participants in this study. All participants held certification in special education and had completed or were working towards a master's degree. Students within the self-contained

classroom participated in one or two general education specialist classes and had lunch with their same-aged general education peers. The special education teachers taught all other content areas in the self-contained classrooms (Mathews et al., 2021). The special education teachers worked closely with paraprofessionals who accompanied students in both general education environments and self-contained classrooms. Data was collected through video and field observations, interviews, and surveys about curriculum and additional program personnel.

Results indicated that special education teachers who provided higher-quality reading instruction had multiple benefits within their working environment. They had co-leaders within their programs, paraprofessionals in addition to support and time for training, and uninterrupted direct instructional time (Mathews et al., 2021). Regarding having a co-leader within their environment, two teachers stated they had partners they could rely on in addition to having defined roles in the classroom. Partnerships that differed in understanding their roles and responsibilities led to gaps during instructional time. The teachers who worked alone during instructional time had to juggle more duties, leading to ineffective use of time. The teachers with reliable paraprofessionals, other colleagues who helped support the paraprofessionals, and the time to train paraprofessionals could also provide strong reading instruction in their classroom settings (Mathews et al., 2021). These teachers described their relationships with their teaching partners and paraprofessionals as close, allowing them to work closely as a team for the best interest of their students. Unfortunately, some teachers experienced inconsistent presence of paraprofessionals unfamiliar with the setting and students, which resulted in time being taken from instruction to direct paraprofessionals on student behavior and provide last-minute training. These teachers sometimes turned down substitute paraprofessional support because working short-staffed was more manageable than training and acclimating an unfamiliar adult to the

setting. Lastly, special education teachers who experienced no interruptions during instruction were able to provide strong reading instruction to students. The lack of interruptions directly correlates with the close teaching partnerships and consistent paraprofessional support. Having multiple adults in one setting can create a well-balanced environment, especially when all adults have been adequately trained and understand their roles and responsibilities.

This study determined that the working conditions of special education teachers can directly affect consistent reading instruction in self-contained classrooms (Mathews et al., 2021). Teachers working in conditions with minimal support suffered the greatest as they tried to juggle too much responsibility with the nuances of a self-contained setting. Unfortunately, not only does this jeopardize access to quality reading instruction for students with EBD, but it also jeopardizes the teacher's well-being. Observers noticed that some special education teachers had more curricular materials than others and appeared to have a sufficient understanding of the reading instruction they were implementing, which became a limitation in the study as they were unable to evaluate the quality of materials and whether they directly supported strong instruction and working conditions of the individuals (Mathews et al., 2021).

Peer-Assisted Learning Strategies

There has been early research on specific reading strategies and their effects on reading achievement, on-task behavior, and active engagement for students with EBD. A standard instructional design called *Peer-Assisted Learning Strategies* (PALS; Fuchs et al., 2001) has been implemented with other reading strategies and curricula. PALS is a peer tutoring design that pairs lower-performing students with higher-performing students to coach and read with each other

(Wehby et al., 2003). The design aims to increase student engagement by working in pairs to complete various reading activities.

Before creating PALS, Locke & Fuchs (1995) studied the effects of partner reading and peer-mediated instruction on students with EBD's on-task behaviors and social interactions.

Three 11-year-old students enrolled in a public school that received services in a self-contained classroom participated in this study.

Students were selected based on their identification of EBD, attention deficits noted on their IEPs, difficulties in following directions, and reading levels a year or more below grade level (Locke et al., 1995). Students used peer-mediated instruction to complete partner reading tasks focusing on paragraph shrinking and prediction relay. Students were trained on the appropriate methods of making error corrections during the partner reading activity. The student classified as the stronger reader in the pair was also trained to prompt discussion questions. The stronger reader helped if the weaker reader could not adequately retell the reading passage. On-task and social interaction behavior was defined as appropriately attending to the task, teacher, or peer, remaining in their seat, and keeping hands to themselves (Locke et al., 1995). It was measured through observation.

Results of this study showed that on-task behavior significantly increased through the implementation of structured reading instruction, such as peer-mediated instruction. Baseline data taken before implementation showed that students could only display on-task behaviors 52.5% of the time. After implementing peer-mediated instruction, on-task behavior rose to 87.5% of the time. Positive interactions also rose, going from 4.17% to 17.5%.

This study only focused on behaviors concerning reading instruction and did not measure academic achievement. Despite that, it shows promising results regarding how students with

EBD are impacted by structured instruction, as behaviors and academic performance are strongly related.

One study, in particular, used PALS and *Open Court Reading* (Adams et al., 2000) with EBD students. Researchers wanted to implement an intensive reading program that had been specifically modified for the learning needs of students with EBD and measure the impact of the program on both the achievement and social behavior of students (Wehby et al., 2003). Eight elementary students from a self-contained school for students with EBD participated in the study. Five students had a primary disability of Emotional Disturbance (ED). In contrast, the other three students had different high-incidence disabilities and displayed behavioral characteristics similar to those of students with EBD. Ages ranged from 7-9. Students had been completing reading-based activities in their classrooms but had not received direct instruction in reading before the study began.

The *Open Court Reading* program was modified for efficient and effective use for the students who participated in the study. The program is based on phonemic awareness skills that identify letter sounds, blend sounds into words, and use these processes for reading and writing. It also models reading comprehension strategies. The curriculum specified for kindergarten and first-grade students matched the participants' reading needs despite the age discrepancy. The curriculum was also modified for students to receive instruction for 45 minutes 4 days a week instead of the total suggested amount (Wehby et al., 2003). During the same school day, yet happening at a different time, the PALS program was implemented for 30 minutes. Like the modified *Open Court Reading* program, the PALS's kindergarten and first-grade decoding lessons were used. A study member implemented the *Open Court Reading* instruction, whereas the classroom teacher conducted the PALS activities with participants. Weekly probes were used

to measure student progress on instructional content. Observations were conducted to measure the percentage of time a target student attended during reading instruction and the frequency of inappropriate behaviors such as talking out, aggression, and disruption (Wehby et al., 2003).

This combined intervention study showed moderate improvement for some students with different reading tasks and minimal improvement with pro-social behaviors during instruction. Groups were divided based on the implementation of kindergarten or first-grade content. Students who participated in the modified first-grade curriculums showed the most improvement with nonsense words, blending, and segmentation probes. There was a slight improvement with sound naming and sight word instruction. Students who participated in the modified kindergarten curriculums had gains with the nonsense words and segmentation probes, limited gains with blending and sound naming, and no improvement with sight words (Wehby et al., 2003). There was little change in pro-social behaviors. Two students in the first-grade instruction group had initial improvement with attending to direct instruction, while others showed improvement toward the end of the study. Other pro-social behaviors were not observed during instructional time. The moderate gains in reading skills did not significantly impact pro-social behavior (Wehby et al., 2003).

The use of *Open Court Reading* and PALS was completed relatively quickly, with modifications to the instructional time with both programs. Interventions that target specific skills are more likely to be effective on overall reading skills when used to fidelity for how it was designed. Gains in phonological awareness through interventions did not necessarily mean gains in overall reading ability on grade-level materials, as it was not measured in this study. Lastly, teacher ratings on student behavior were not included. What the observers classified as negative

behaviors could have slightly differed from the teacher's perception of behavior changes (Wehby et al., 2003).

Three authors from the Wehby et al. (2003) study conducted further research on using PALS with a different paired curriculum. Like previous research, this study found varied areas of improvement in particular reading abilities, and pro-social behaviors could not be directly tied to reading improvement (Barton-Arwood et al., 2005).

Participants of this study included six students with EBD in a 3rd-grade self-contained school. In tandem with PALS, the *Horizons Fast Track A-B* (Engelmann et al., 1997) program provided direct instruction for word attack skills, letter printing, spelling, and sentence writing (Barton-Arwood et al., 2005). The program typically includes independent seat work, though that portion was modified for this study due to time constraints. The *Horizons* program includes a placement test to ensure appropriate instruction, which was implemented at the beginning of the study for each participant. The first-grade PALS instruction was used for this study based on teacher reports, observations, and reading pre-tests. The partner reading portion of PALS was omitted from the study because of time constraints. Adults modeled each activity to the student pairs for the study's duration to increase students' correct responses (Barton-Arwood et al., 2005). Direct instruction and modeling typically happen only at the beginning of the PALS procedure. Phoneme blending, segmentation, word list reading, nonsense-word fluency, and oral-reading fluency were the target areas between both curriculums and this study. Direct observation was used to determine the frequency of participant engagement, nonengagement, negative talk, and aggression.

In phoneme blending, data showed drastic improvement for all students once intervention began compared to baseline data. Students also improved with phoneme segmenting once direct

instruction from both curriculums began. There were mixed results with nonsense-word fluency as some students showed immediate progress once intervention began while others showed a much slower rate of progress. All students made improvements with word list reading from the *Horizons* program. Half of the students made gains with oral reading fluency by implementing both intervention curriculums. The other students had too many variables with the oral reading fluency probes to show improvement. Lastly, observational data for the impact of reading curriculums on pro-social behavior was inconclusive. Students displayed minimal inappropriate behaviors but high engagement rates during baseline and intervention observations.

Barton-Arwood et al. (2005) addressed limitations that may have impacted the study outcomes. Two pairs of students had only been exposed to general reading-based activities, whereas the other pair had prior experience with a structured reading curriculum. Negative talk and aggression criteria could have been too broad, resulting in minimal observations of such behaviors. Regardless, both studies (Barton-Arwood et al., 2005; Wehby et al., 2003) reinforce claims that students with EBD can improve in reading areas through PALS and curriculums that target phonological awareness skills.

Sutherland & Snyder (2007) conducted a study that measured the effects of using PALS and self-graphing on the performance of reading fluency and classroom behaviors. This study was also conducted in a self-contained classroom but differed from previous studies as it was a program based in a public school versus a self-contained building. Student participants also differed as they were in the age range of 11-13 and were in grades 6-8. Only four participants were selected for this study based on teacher perception of students that would benefit from the direct instructional models and who would make good pairs for the PALS program. Baseline data was collected from the typical reading instruction that consisted of spelling workbooks and

language arts worksheets. Partner reading, paragraph shrinking, and prediction relay were the components of the PALS curriculum used in tandem with student self-graphing of weekly oral reading fluency rates. Observations of disruptive behaviors and active responses to instruction were used to measure classroom behavior outcomes of direct instruction. The participants were also given the opportunity to provide input about the instructional strategies. Students were given a survey that asked what they liked and disliked about PALS and self-graphing. The teacher was given a rating scale that categorized information on the willingness to implement the intervention, expected effectiveness, and disadvantages of implementation (Sutherland & Snyder, 2007).

Despite only implementing methods 72% of the time, the combined intervention of PALS and self-graphing positively affected overall reading fluency and behaviors within the classroom (Sutherland & Snyder, 2007). As expected with the unique circumstances of a self-contained setting for students with EBD, there were absences, suspensions, and other behaviors that prevented the teacher from being able to implement the intervention 100% of the time. Active responding to instruction increased significantly for students, and disruptive behaviors stayed minimal for two students and significantly decreased for the others. Three students performed above the goal line for reading fluency after implementing interventions. The other student showed steady progress but was just below the expected growth. Student survey data shared that they liked the stories, correcting errors, and learning new words (Sutherland & Snyder, 2007). They also enjoyed the self-graphing process and could see progression with reading. Some students indicated that they did not enjoy doing the interventions daily and felt the time allotted for partner reading needed to be longer. The teacher rating scale indicated that she was very

willing to continue the implementation of the interventions and thought they were effective. She did not perceive many adverse effects to implementation.

With implementation only happening 72% of the time, results could be considered diluted and a limiting factor of the study (Sutherland & Snyder, 2007). Other limitations include that this was a single-case study of four students with EBD in a self-contained classroom. Those contextual factors must be considered regarding the overall effectiveness of both interventions.

Repeated Reading Methods

Typically used to target reading fluency, the *Repeated Readings* (RR) method has students repeatedly read a passage of 200 words or less with error corrections supplied to enhance automaticity for further focus on text comprehension (Samuels, 1997). RR is a method that can be used alone for any reading content or used with reading programs designed to improve other reading skills. Multiple studies have researched the effects of RR on classroom behaviors and reading achievement for students with EBD.

Scott and Shearer-Lingo (2002) specifically looked at the effects of the RR instructional strategy on the reading and on-task behavior of students with EBD within a self-contained classroom. Three seventh-grade students were selected from a self-contained middle school. Recent IEP testing indicated that the students were at least three years below grade level in reading, and teacher reports stated they had low rates of on-task behavior during instruction. In addition to the method of RR, two reading programs were used to provide direct instruction. *Teach Your Child to Read in 100 Easy Lessons* (Engelmann et al., 1983) provides phonics-based instruction where the teacher models letter-sound correspondence and guides students through practice (Scott & Shearer-Lingo, 2002). Implementation is expected only to take 10-15 minutes.

The *Great Leaps Reading* (Campbell & Mercer, 1994) program is also phonics-based and has students complete 1-minute readings of phonic sounds, sight phrases, and a short story. Teachers monitor for errors and briefly review previous errors at the beginning of each lesson. This program is also expected only to take 10 minutes to implement. The *Teach Your Child* program was introduced first to ensure students had the foundational reading skills required for the *Great Leaps* program. Oral reading fluency probes and scores were used to assess the effectiveness of using RR and the two programs. The observation of students was used to monitor on-task behavior using time-based instruments.

The results of this study indicate that RR and facilitating reading fluency practice had a positive effect on both academics and behaviors of students with EBD (Scott & Shearer-Lingo, 2002). All students had a raise of on-task behaviors during timed intervals once intervention implementation began. During the initial phase of only using the *Teach Your Child* program, oral reading fluency rates showed slight improvement. Rates consistently increased once *Great Leaps* was implemented.

Using the program fluency passages for data measurement is a specific limitation of using the RR method in both programs. Student's fluency rates are expected to increase on a passage when it is being re-read. Separate fluency measures must be used to gauge general progress in oral reading fluency. Another limitation that this study faced was inconsistent attendance and the removal of a student due to an offense in the community that warranted juvenile detention (Scott & Shearer-Lingo, 2002), though those scenarios are very realistic on a regular basis for students with EBD in self-contained settings.

A study by Staubitz et al. (2005) was designed to extend research on the effects of RR as a sole reading intervention for students in pairs and how said intervention helped progress on unpracticed readings and standardized assessments. Six participants in this study had reading deficits and were selected by classroom teachers. Three students were in 4th grade, and three were in 5th grade. Five students were receiving special education services under the category of EBD, while one student was identified as LD and was at risk for EBD. These students received academic instruction in a public school's special education resource room. Materials given to students included a graph for charting reading rates, a script for corrective procedures to use during peer-mediated readings, and a card that listed the expected behaviors in relation to the academic tasks. A series of books for grades 3 through 7 were used for repeated reading instruction. Students completed subtests of the WJ-III (Woodcock et al., 2001) to measure letter-word identification, reading fluency, passage comprehension, and word attack skills before baseline data were collected and again after implementation of the RR intervention. Students were paired for peer-mediated RR based on the assessment of reading levels. Intervention procedures started with students reading with their partners for 10 minutes, with one individual reading while the other followed along by tracing with their finger and providing corrections as explicitly taught during peer-mediated training. After reading with their partners for 10 minutes, each student read the same passage to the experimenter of the study. Correct word per minute (cwpm) rates were recorded by the experimenter. Students were allowed to read the passage out loud three times and self-chart their best reading rate. Grade-level fluency criteria were used for students to move on to answer five comprehension questions about the passage they had read. Students moved on to the following leveled passage if they met the grade-level fluency criteria and answered all comprehension questions correctly (Staubitz et al., 2005). Three separate

fluency rates were collected from random unpracticed passages to gather the generalized fluency rates of each student. Questionnaires were also administered to the classroom teachers, participants' parents, and students to gather opinions about using RR instruction.

Results of the study showed positive gains in reading rates and accuracy, in addition to group average scores on the WJ-III subtests administered post-intervention. As students increased their reading speed and accuracy on practice passages, they also decreased the number of 1:1 sessions needed to meet the grade-level fluency criteria. All students showed improvements with the reading comprehension component during the RR intervention and made gains with general fluency measures. On average, the student group made a substantial gain on the passage comprehension subtest of the WJ-III and a slight gain for letter-word identification and fluency.

Questionnaires from students indicated that they enjoyed the RR intervention as it made reading fun, felt better with reading, and were interested in continuing to use the method. Both the classroom teachers involved stated they saw benefits of the RR intervention. One teacher shared high beliefs in the efficacy of RR practices for her students and continued to use the practice after the study was complete. A minimal amount of parents returned their surveys. The two surveys returned stated they were pleased with using the RR intervention. One parent, in particular, shared high enthusiasm as she witnessed progress when her child completed reading and writing tasks at home.

One limitation of the study was that the peer-mediated method was not always used because paired students needed to make equal progress on their reading levels. The experimenter had to complete the peer-mediated component with some students because it would have been less effective for students to do it while on separate reading passages at different levels. Despite

this, the peer-mediated component of the RR intervention was still considered beneficial as the participants enjoyed working together.

Updated research on the RR method highlights the benefits and progress of reading achievement for students with EBD. The effects of RR versus non-RR on reading fluency, reading errors, and comprehension were studied with a group of middle school students by Escapario and Barbetta (2016). This study sought to determine if the RR method had more effectiveness than having students read an equal amount of non-repeated text. Four 6th-grade students identified with Emotional Behavioral Disorders participated in the study. Using the Analytical Reading Inventory (ARI; Woods & Moe, 2007) to determine the instructional level, two students were identified as having a reading level equivalent to the second grade and two students with a reading level equivalent to the fifth grade. A standard and enhanced phase were completed in this study. The standard phase utilized the established reading level of each student, with 100 words per passage for the repeated and non-repeated readings or 300 words per passage on an equivalent non-repeated text. The enhanced phase increased the reading level of passages and a 50% word increase for the two students initially at the fifth-grade instructional level. A three-minute vocabulary lesson was implemented at the beginning of each session. Correct words per minute (cwpm), number of errors per minute, and correct answers to literal comprehension questions were all measured to determine the effectiveness of the comparative methods.

Despite the almost forty-year gap between the development of Samuels' RR method and the gap between prior research on the RR methods (Scott et al., 2002; Staubitz et al., 2005), the results of this study indicate that the use of RR continues to enhance reading fluency overall, raise cwpm rates, lower errors per minute, and raise success rates of answering literal

comprehension questions. During the enhanced phase, where word limits and reading levels were increased, each student continued to show high levels of success.

Like similar studies that researched the effects of RR methods on reading fluency and comprehension progress, a mixed methods study incorporated the use of a classroom pet dog to determine the efficacy of RR, error correction, and performance feedback for fifth-grade students with EBD in a self-contained classroom (Bassette & Taber-Doughty, 2013). The special education teacher's pet dog frequently visited the classroom prior to study implementation. Students were well accustomed to the expectations for behaviors around the dog. A reading intervention "package" (oral reading fluency probes, RR of fictional passages, comprehension questions, corrective feedback, and performance feedback) was used in the two conditions of the dog being present or absent during implementation (Bassette & Taber-Doughty, 2013). Data was collected during each implementation to determine levels of progress. Student motivation levels were also measured through a scaled survey.

Results of the study showed little difference in outcomes between the two conditions of the dog being present or absent during intervention. Progress was made on oral reading fluency and comprehension skills through the use of RR as an intervention regardless of the dog's status. Despite having no significant effect on the outcome, teachers and students preferred the dog being present during interventions. Most students shared that having the dog present motivated them to complete their best work during the intervention.

Though this study's primary function was to measure the difference in intervention performance with the presence of a classroom pet, it still highlighted the positive results of using RR. This study helps pave the way for further research on the efficacy of reading interventions

for students with EBD using a positive reinforcer such as a classroom pet (Bassette & Taber-Doughty, 2013).

Vostal & Lee (2015) researched the impact of RR methods on student-initiated reading and continuous engagement when reading different texts. Two students from a secondary alternative school for students with EBD participated in a study that explored whether RR impacted the delay between reading paragraphs and if an increase in fluency carried over to new reading materials.

Both students were in the 8th grade and reading 5th-grade passages with sufficient accuracy but at a lower fluency rate than expectations for grade-level reading. Oral reading fluency rates were collected during RR interventions in addition to the measurement of latency between paragraphs. RR passages had alternating paragraphs from two different texts. The participants read the odd-numbered paragraphs from a text three or four times first. In the same sitting for the fourth and fifth reading, paragraphs from different texts were placed in the even-numbered spots to evaluate the delay in transition between paragraphs.

Results from this study showed positive impacts on reading fluency in relation to the use of RR. Both students had gains in reading fluency, and that momentum was carried over when paragraphs were added during the fourth and fifth readings. The delay between paragraphs decreased with each reading, including when the different paragraphs were added. Though this study only had data from four sessions with two students, it showed that using RR can benefit students with EBD (Vostal & Lee, 2015). Reading passages used within this study had been used in prior studies (Vostal & Lee, 2011), which showed comparable results. The use of different passages between studies should be considered in future research to determine if the method is equally effective on varying texts.

Corrective Reading Methods

Corrective Reading (CR; Engelmann et al., 1999) is a comprehensive reading program for students with reading deficits in reading recognition and comprehension (Strong et al., 2004). It is specifically designed for students in the upper elementary grades and secondary-level students. The CR program provides a scripted process for the adults implementing instruction. This process focuses on lesson pacing, signaling, and error correction for student feedback and engagement.

An early study was conducted to determine the effect of CR and the RR method on the oral reading fluency performance and comprehension success of middle school students with EBD and reading deficits (Strong et al., 2004). The CR curriculum was implemented as a classwide instruction in a self-contained middle school. Six students between the ages of 12 through 14 participated in the study. Two students were identified as EBD, while two other students had comorbid disabilities of SLI, LD, and OHI. One student was identified as LD without comorbid disabilities but exhibited aggressive behaviors that warranted the placement in a more restrictive setting. One student was identified with OHI without comorbid disabilities but exhibited defiant and aggressive behaviors that also warranted a more restrictive placement.

Baseline data was collected to measure fluency and comprehension levels. Normative assessments were also conducted before instruction to determine reading abilities and social behaviors. Based on those results, the CR Decoding series was chosen as the instructional curriculum. This series focused on decoding and phonological awareness skills and included workbook exercises for teacher-guided and independent completion. This curriculum was implemented during regular reading instruction time for 30-40 minutes 4 days a week. Students completed RR interventions in pairs with a research assistant (RA) using passages from *Great*

Leaps Reading Stories (Campbell, 1999). The passages were first chorally read with the RA, and then the student pairs took turns reading the passage aloud while the other followed along and provided corrections as needed. This was also done four days a week at a separate time from the whole-class instruction of CR.

Students experienced moderate growth in oral reading fluency during the implementation of CR and RR in this study (Strong et al., 2004). 4 of the 6 participants experienced an increase in fluency rates with instructional and grade-level materials after the implementation of RR post-initial introduction of CR. The other two students were already reading at a higher rate than their peers in the group, which could account for the minimal amount of growth exhibited throughout the study.

Like other studies implemented with students with EBD in self-contained settings, student attendance can be a limiting factor for effectiveness (Strong et al., 2004). Students also need to be provided with interventions for a longer period than what was offered in this study.

One crucial factor in implementing a structured curriculum, such as CR, is the teacher's buy-in on use and effectiveness. One study was conducted to assess teacher and student buy-in of CR as an instructional tool through participant surveys (McDaniel et al., 2010). An 8-week study conducted by some of the same authors had been completed prior to the implementation of this follow-up study. The 18 students in that study also participated in a group discussion to discuss their perceptions of reading and beliefs about receiving direct instruction with the CR curriculum (McDaniel et al., 2010). Student ages ranged from 9-14, and all were enrolled at an alternative school for severe EBD. The teachers who implemented the curriculum were given a survey that asked about their beliefs about student improvement with the CR curriculum, perception of implementation, and perception of effectiveness for students with EBD (McDaniel et al., 2010).

Results from the student group discussion and teacher survey indicated that using CR as a curriculum was an effective reading instruction for students with EBD that also showed reading deficits. Both teachers and students expressed value in reading instruction and would like to continue with the implementation of CR. Teachers and students also expressed the need for modifications to be made. The students felt that reading classes lasted too long and instructional passages were too easy for them. Teachers also agreed that some materials seemed too easy for some students but based that outcome as a result of students not taking the initial placement test seriously, therefore scoring at an instructional level much lower than true abilities. Both teachers and students stated that they should be completing grade-level fluency passages. The teachers expressed that behavioral problems in the classroom continue to be an area of concern, in addition to the scheduling conflicts as barriers to properly implementing any curriculum. That being said, the teachers also expressed happiness with the ease of the CR curriculum based on its scripted nature. Future implications of research addressed by the authors highlighted the use of combined data collection methods such as group discussions, interviews, and survey results (McDaniel et al., 2010) instead of a mix between only two of the methods.

Another study was conducted by the same lead author as the McDaniel et al. (2010) study. This time, the research looked at more in-depth information to determine the effects of CR as a supplemental intervention on oral reading fluency, general and subtest scores on reading achievement assessments, and how that may be affected by placement in a self-contained setting (McDaniel et al., 2013). Student and teacher questionnaires were collected to gather information on the perception of the effectiveness and social validity of CR as a supplemental curriculum. Participants of this study were from four different schools within the same district. One self-contained classroom was from the elementary school, and one self-contained school was at

the elementary level. Similarly, one self-contained classroom was in a secondary school, and one self-contained school was at the secondary level (McDaniel et al., 2013). Sixteen students were in the 4th grade, and 15 were in grades 6 through 8. All students were identified with EBD.

Baseline data was collected on all students, including initial assessment data from the WJ-III subtests that measured reading fluency, word attack, letter-word identification, and passage comprehension. A general reading assessment was also completed to gather pre-intervention data. The CR program was used as a supplemental intervention after the implementation of the *Language!* (Greene, 2005) program. The *Language!* program uses embedded components of reading, writing, spelling, vocabulary, grammar, and speaking but does not use direct instruction in those areas (McDaniel et al., 2013). The use of CR in supplement with *Language!* began during the fifth week of the study and continued until the end of eight weeks. Both curriculums were implemented 2.5 times a week, alternating with one another.

Results of this study showed the overall effectiveness of CR as a supplemental intervention as measured by pre and post-implementation assessment results. Students showed significant growth in correct words per minute when completing fluency exercises. Results also showed no difference between implementation in self-contained classrooms versus self-contained schools. Results from student and teacher questionnaires indicated that both groups perceived the CR intervention as beneficial and effective and would use it again to instruct students with EBD and reading difficulties. Though this study used a larger sample size than other studies, it was still considered a small sample size to conclude generalizations on CR effectiveness as a supplemental intervention.

A more recent study used a slightly larger sample size of participants, including 45 individuals with EBD and LD and a comparison group of 23 students (Benner et al., 2020).

Students were enrolled in public school settings at the elementary and middle school level. Six students in the comparison group had special education services under the LD category, and six received Title I services. The purpose of this study was to determine the effects of a remedial reading intervention for students within a resource room setting versus a general education setting and the impact of a remedial reading intervention on the social adjustment of elementary and middle-school students with EBD and LD (Benner et al., 2020). Basic reading skills and social adjustment were assessed pre and post-intervention. The CR decoding program was used as the remedial intervention implemented three times a week for 40-45 minutes over four months. Social adjustment scores were collected through child-behavior checklists completed by the teachers who spent the most time with each student.

Results showed significant improvements in basic reading skills for students with EBD, LD, and the comparison study group after using CR as a remedial reading intervention. EBD and LD students had higher improvement scores on post-intervention assessments on basic reading skills and oral reading fluency. Compared to students with LD, students with EBD were more responsive to instruction based on post-intervention assessments, moving from the low-average range to the average range (Benner et al., 2020). Lastly, students with EBD had more reductions in social adjustment problems compared to their peers with LD, though internalizing behaviors such as inattention and anxiety declined for both groups.

This research had some limitations as the age of students was not a dependent variable to measure effectiveness. Group equivalencies were not analyzed between the participating group and the comparison group. Unlike other studies (McDaniel et al., 2010; 2013), social validity measures were not offered to teachers or students to gather information on their perception of CR as a remedial reading intervention. Despite some of those limitations, results from this study

provided updated, promising insight into the use of CR as a reading intervention for students with EBD to improve their overall reading achievement.

Other Instructional Programs and Methods

Bassette & Taber-Doughty (2016) continued their research with reading interventions and the use of animal assistance. Three elementary-aged students with EBD were selected to participate in this particular study. Students were enrolled in a general education school and had varying amounts of time spent in the general education setting. The students were in the special education resource room to participate in academic activities, including reading instruction which typically consisted of rotations of teacher-led small-group instruction, independent worksheets, and independent reading. All students had difficulties staying on task during the independent reading rotation. Comprehension skills were assessed each day using a computer program paired with the classroom library books the students used for independent reading. During the implementation of the dog reading program, students followed the same rotation schedule but read to a dog for independent reading time. They were instructed to complete the comprehension quiz immediately after reading their short story but were then able to visit with the dog for a short time before rotating to the next station. On-task behavior during implementation was measured using observational data collected when students looked away from the book they were reading. Through interviews, social validity was measured before and after implementation for both students and their teacher. They were asked about their feelings on reading to the dogs and if they thought it would help with their reading.

Results from this study showed that all students had a significant positive change in their on-task behaviors during independent reading time when they could read to a dog. The trend of

on-task behaviors remained even when the instructional level of reading materials was increased. The comprehension quiz scores first showed an immediate increase when the dog reading program was implemented but showed much variability throughout the study. Initial social validity responses indicated that the teacher and all students expected the dog reading program to help them. Post-implementation responses agreed that the dog reading program was fun and positively affected the students. The students, in particular, felt that their reading had improved when being able to read to a dog instead of being by themselves.

The variables in comprehension scores became a limitation of this study, in addition to the small sample size of participating students. This study had students read the short story once before taking the comprehension quiz, though regular instruction allowed students to read the text multiple times (Bassette & Taber-Doughty, 2016). Though this study was primarily designed to measure on-task behaviors in relation to academic improvement, further research of a pet-based reading program on actual academic achievement is suggested. Overall, using a dog reading program to increase engagement in reading for students with EBD has shown positive results (Bassette & Taber-Doughty, 2016).

Engagement in academic tasks for students can be negatively affected by perceived complexity but also reinforced through modifications of academic content (Vostal & Lee, 2011). Before the effects of RR on the latency of reading new content was studied (Vostal & Lee, 2015), the same authors researched how the momentum of reading was affected by changes in reading levels of instructional content. This study specifically sought to determine the effect of reading a lower-leveled paragraph with the latency of reading a subsequent paragraph at a higher reading level, the effects of changing reading levels on fluency rates, and which paragraphs students preferred (Vostal & Lee, 2011).

Participants in this study included three students with ages ranging from 13 to 15. All were enrolled in an alternative school for students with EBD and showed a consistent reading level equivalent to the 5th grade. Informational passages from their social studies curriculum were taken and first adjusted to 5th-grade reading levels. Each paragraph was printed on a separate page. Students read this selection once. For a second reading session, new instructional passages were chosen, paragraphs were adjusted and alternated between 5th-grade reading levels and 3rd-grade reading levels. These alternate paragraphs were also printed on separate pages. Fluency rates and time taken between each paragraph transition were measured. Only after the second reading were students asked which paragraphs they preferred reading without knowledge of which were adjusted to 5th-grade reading levels or 3rd-grade reading levels.

The amount of time spent transitioning from 3rd-grade paragraphs to 5th-grade paragraphs was less compared to the time spent transitioning from 5th to 3rd-grade paragraphs. Overall, the transition time between reading paragraphs was less during the second reading session with the alternate leveled paragraphs compared to the first reading session. All students had higher fluency rates for the second reading session than the first. The momentum of high fluency rates on the 3rd-grade paragraphs was carried over to the 5th-grade paragraphs during the second session. Students indicated a preference for passages that were read during the second session compared to the first.

The presentation of passages is a limitation as paragraphs were printed on separate sheets of paper, which does not replicate regular texts used in instructional environments. Though page turns are expected during reading and can affect time in transition between paragraphs, having paragraphs as a constant on one page could have led to different results that better mimic reading momentum issues for larger texts. Another limitation addressed was that students were forced to

pick a preference, even if they initially said they did not have one. The potential for random selection because of forced choice skewed data on what student preferences were. Despite these limitations, this study shows a positive correlation between easy and hard leveled texts used alternately to maintain reading fluency and momentum. This can also positively affect overall academic engagement for students with EBD who typically struggle during reading instruction (Vostal & Lee, 2011).

A single-case study measured a student's academic performance and engagement using self-monitoring and graphing of correct words read per minute (Gunter et al., 2003). A 9-year-old student with EBD was observed reading portions of her social studies curriculum. Her teacher recorded her reading rate, which was then shared with the student. Baseline data was collected to create an aim line for the student to work toward. A computer program was used to create a graph that showed the baseline. The student entered her scores on the computer program, as collected by the teacher, for each day she was observed. She was able to see the data points on the graph immediately after each input. There was a break in self-graphing due to limited instruction during standardized achievement testing and spring break. This break allowed for new baseline data where the student did not self-graph or monitor progress to be collected. Self-graphing began soon after.

The results of this case study highlight the importance of self-monitoring and graphing on academic performance to increase engagement during instruction for students with EBD. The student continually improved the correct words read per minute rate above aim-line expectations. Consequently, after a break in self-graphing, correct words per minute decreased and were below aim-line expectations. Once self-graphing was reinstated, correct words read per minute drastically increased to aim-line expectations.

Though this is a limited case study on the effects of self-graphing on academic progress for one student, it implies that the method could positively impact behavior and academic performance (Gunter et al., 2003). The method of self-graphing is not designed as an explicit intervention directed by a teacher. It is a method that can easily be incorporated into other instructional interventions to increase student engagement and academic performance.

Research of computer-based methods to improve reading performance has continued, with one study examining how a computer-based reading curriculum affected reading comprehension as measured by achievement testing and informal comprehension probes (Cullen et al., 2014). *Headsprout Comprehension* (2009) is an online computer-based program designed for third through fifth graders that incorporates evidence-based components for improving reading, such as embedded questions, graphic organizers, vocabulary instruction, and immediate feedback for students to improve overall reading comprehension (Cullen et al., 2014).

Participants of this study included five fifth graders and one third grader, all identified with high-incidence disabilities. Most students were receiving special education services under that category of LD. One student received services under the category of EBD, and one student under OHI. Each student spent most of their day in the general education environment while receiving direct reading instruction in the special education resource classroom to meet needs established by their IEP goals. Students completed the computer-based instruction for this study while in the resource classroom. Baseline data was collected using achievement testing and comprehension curriculum-based measurements. Data from the same measurements were also collected using the *Headsprout* program to track progress. Participants were given a questionnaire post-intervention to gather their opinions on the *Headsprout Comprehension* program as a reading intervention.

Results from this study concluded that using the computer-based *Headsprout Comprehension* program as a supplemental reading intervention related to participants' reading comprehension improvements (Cullen et al., 2014). Participants showed gains in reading comprehension on both measurement of achievement tests and comprehension curriculum-based measurements. All students had an immediate positive trend when completing the achievement tests, while most showed gradual and stable improvement on the curriculum-based measurements. The program's effectiveness could be related to student motivation as they indicated enjoyment of using the computer program. Students were given their login information to the online program for personal use over the summer months, which was optional. Three participants continued to access the program for an extended time outside school. One limitation of the study was that measurements of effectiveness only considered the *Headsprout Comprehension* program, even though it was being used as a supplemental intervention, not an explicit reading instructional program. That being said, the amount and types of reading instruction happening outside the resource classroom were not monitored, which could lead to varied results for some students. One implication for future research includes reviewing what is being taught in the general education classroom so those topics can be omitted from intervention and progress measurements.

One study was replicated to continue previous research (Fore et al., 2007) on using concept mapping for vocabulary instruction for students with high-incidence disabilities at the middle school level (Palmer et al., 2014). This study used comparative measures to determine which was more effective for vocabulary instruction and acquisition: using a traditional dictionary or concept mapping with guided instruction.

Participants included four seventh-grade students that received special education services under the category of EBD or OHI. All students received direct instruction for language arts in the special education resource room but accessed the general education setting most of the day. Students had to have at least a fourth-grade comparative reading level but also some identified reading deficits to be selected for this study. A vocabulary pre-test was administered to students to determine the vocabulary words most appropriate for instruction. A post-test was administered two days after instruction to determine which vocabulary words were retained.

Four instruction sessions were based on using a traditional dictionary to acquire a set of vocabulary words. Students were given a list of words, instructed to find the words in the dictionary, write the definition, use it organically in a sentence, and participate in a class discussion led by the teacher to determine a concise definition of the word and clear up any misconceptions (Palmer et al., 2014). A second set of four sessions were completed using a concept mapping model to learn new vocabulary.

Concept mapping is the use of a graphic organizer to learn new information. This study used the *Frayer Model* of concept mapping. The students were instructed to write the vocabulary word of focus in the middle of the graphic organizer. The teacher provided a written and oral presentation on the definition and modeled the word in a few sentences. Then students copied the word's definition, wrote it in a sentence of their own, wrote about what it reminded them of, and drew a picture related to the word (Palmer et al., 2014). The teacher collected the concept maps to check for accuracy. The social validity of the method was measured through an open-ended questionnaire that the participants completed.

The results of this study support the use of concept mapping as an instructional tool for vocabulary development compared to a traditional dictionary. All four students had an increased

acquisition of new vocabulary through concept mapping. Scores from post-implementation measurements were doubled after the use of the concept map in comparison to only using a dictionary. The social validity questionnaire results indicated that students had a positive attitude towards using a concept map and preferred that method over using a traditional dictionary to learn new vocabulary. Some limiting factors of this study include that the sample size of participants was small, and time constraints prevented further measurements from being implemented to determine long-term vocabulary acquisition. Therefore, this study cannot be used to generalize that concept mapping will work for all middle school students with high-incidence disabilities. Future research should also consider the effects of concept mapping for other content areas that students with high-incidence disabilities attend in their general education environment (Palmer et al., 2014).

Research authors have addressed the need to further investigate the effects on reading instruction for students with EBD in the general education classroom (McKenna et al., 2016; Palmer et al., 2014). One study was conducted with a group of elementary students who participated in a reading program within a general education setting (Wehby et al., 2005). Researchers specifically looked at the effects of a comprehensive reading program for students with EBD while receiving instruction in a general education classroom. Four kindergarten students who typically received full-time instruction in a self-contained classroom were selected to participate in this study. Due to their age, the participants' reading deficits were manageable as they were still in the developmental phase of learning early literacy skills. Assessment data was collected before the implementation of reading instruction to determine the academic abilities of the four students. The students were reintegrated into the general education classroom with support from their special education teacher and paraprofessional. The teachers then worked

together to implement the *Scott Foresman Kindergarten Reading Program* (Foresman, 2000).

This program focused on a balanced approach to phonemic awareness, reading comprehension, oral language, and writing/grammar (Wehby et al., 2005). Students also received separate interventions on phonological awareness skills within the resource setting before joining the general education classroom each day. Academic progress was monitored throughout the implementation of both instructions through probes that measured nonsense word fluency, letter naming, and onset fluency. The social validity of instruction was also measured through rating scales, questionnaires, and interviews.

This study showed some improvement in early literacy skills for students with EBD (Wehby et al., 2005). Students had little academic progress when they only received instruction in the general education classroom. Students began to show improvements once the additional intervention in the resource room was implemented. The general education and special education teacher rated the *Scott Foresmen* program positively and would recommend continued use. Both teachers also indicated that the structured curriculum did not necessarily create a positive change in classroom behaviors for the students with EBD.

One limitation was the number of adults within the general education classroom for the duration of this study. This created favorable conditions for small-group instruction and proper support for negative classroom behaviors. However, many general education classrooms do not typically receive this level of support regularly, even when special education students are regularly present. The authors stress the importance of continued research on supplemental intervention for students with EBD while receiving direct instruction within the general education setting (Wehby et al., 2005).

A newer study was conducted with elementary students participating in the district's general education summer school program. The four students chosen received special education services under the category of EBD. They were not eligible for the extended school-year services through their IEPs. However, they met district criteria to receive summer school programming determined by performing in the *at-risk* category on district assessments. This study used specific self-monitoring strategies to determine the impact on on-task behavior and overall oral reading fluency rates while receiving reading instruction in the general education classroom (Rafferty, 2012). Students were chosen based on the teacher's report that they exhibited problem behaviors that prevented her from instructing all students. Most problem behaviors were minor, such as coloring on worksheets, rummaging through desks, leaving the classroom during instructional time, staring out the window, and talking to peers (Rafferty, 2012). Some behaviors escalated to throwing materials and banging on desks in response to teacher redirection on minor behaviors. Regular instruction included peer-paired reading, whole-group instruction, and small-group instruction.

The self-monitoring strategy *SLANT* (Ellis, 1991) was introduced to the four participants, the teacher and the teacher's aide. *SLANT* is a mnemonic device that stands for Sit up straight, Look at the speaker, Activate thinking, Note key information, and Track the talker. The teacher modified the "A" in *SLANT* to stand for "answer the question," and she found it more appropriate for that setting (Rafferty, 2012). The teacher's aide created a poster that displayed *SLANT* that was placed in the classroom for students to reference.

A second item was used as a replacement for the teacher needing to directly approach students to correct problems, as that was a factor that escalated undesired behaviors. A *MotivAider* (2006) is a small tactile prompting device given to students to place in their pockets

that pulses if activated by the teacher. A t-chart was also placed near the SLANT poster with “At this moment, am I on task?” written at the top, with yes or no being the two options. When prompted by the teacher, students were instructed to self-evaluate their behavior and place a tally on the t-chart.

Oral reading fluency measures were completed to gather data on progress. Other on-task behaviors were measured through observational measures.

The study had positive results using a self-monitoring strategy and a tactile prompting device on on-task behavior and reading fluency progress for students with EBD while receiving reading instruction in the general education classroom (Rafferty, 2012). A comparison group of students was used to gauge comparable on-task behaviors. Results showed that the students with EBD made gains, raising levels of on-task behaviors to the same levels as their comparison peers. The general education teacher also commented that it was easy to learn and establish the self-monitoring strategy, that instructional time was not being interrupted by redirecting behaviors, and that she could finish lessons with her small groups, which she could not do prior to implementation. This study shows promising results that can be employed within general education settings to increase success for students with EBD. The short nature of a summer school program led to the prevention of phased-out strategies, and maintenance data could not be taken. Oral reading fluency rates were measured minimally throughout the study and should happen more frequently to accurately show the relationship between the self-monitoring strategy of behaviors on academic progress. The author suggests that further research should be conducted over a more extended period during the academic school year to limit time constraints (Rafferty, 2012).

Developing writing skills depends highly on reading skills, as individuals must use correct vocabulary, understand text structure, and comprehend texts to create written summaries (Berninger, 2000). Unfortunately, students with reading deficits often have difficulty with basic writing tasks. High school students with EBD are likely to be behind their same-aged peers in reading (Yakimowski et al., 2016), and many content areas emphasize writing instruction to show mastery of the subject matter (Ennis, 2016). One study addressed using a writing strategy to improve summary writing skills of social studies content for high school students with EBD. The study aimed to investigate the use of *Self-Regulated Strategy Development* (SRSD; Graham & Harris, 1996) for summary writing of content-area materials using specific strategies and the impact on writing performance for students with EBD (Ennis, 2016).

SRSD is a writing intervention that uses teacher guidance to identify and model a writing strategy for students to memorize and practice through independent writing tasks. In addition to SRSD, this study used two other specific writing strategies; TWA (Mason et al., 2006), which stands for Think before reading, think While reading, think After reading, and PLANS (Mason et al., 2006), which stands for Pick goals, List ways to meet goals, And make notes, Sequence notes (Ennis, 2016).

The participants of this study were three high-school students from a self-contained school for students with EBD. They all exhibited adequate reading and writing skills based on normative assessments, though they struggled with writing on assignments and assessments for their social studies class. Reading passages and writing probes were administered that covered content from previous social studies class sessions. Students were to summarize the text using the TWA+PLAN method they learned at the study's beginning. The probe responses were scored

based on summary elements, structure, coherence, and quality of writing (Ennis, 2016). The total written words were also counted and recorded.

All students significantly improved their writing skills after they learned the SRSD, TWA+PLAN strategies. Students showed the most gains with total written words and proper summary elements. Gains in the quality of writing were also evident, though less drastic for some participants.

The author highlighted the fact that SRSD and TWA+PLAN is not a strategy that is exclusive to social studies content but can be used in just about any writing task in any content area (Ennis, 2016). This study was implemented towards the end of the school year, which limited the ability to gather maintenance data on the continuation of strategy use. The author was also the instructor of the writing interventions and only worked with the three participants. However, areas of future research should consider looking at the efficacy of the writing interventions when taught in a whole-class setting by the classroom teacher (Ennis, 2016). Overall, using the specific SRSD, TWA+PLAN writing interventions can effectively increase the writing skills of students with EBD.

CHAPTER III DISCUSSION AND CONCLUSION

Summary of Literature

This literature review was conducted to determine appropriate interventions for reading-based academic needs for students with Emotional Behavioral Disorders in addition to differences in outcomes between students with EBD and LD, age groups, and context of the classroom setting. Around 50% of students with EBD are likely to have comorbid reading disabilities (Mattison, 2008). They are also likely to have reading disabilities that are at an equivalent level compared to their peers with LD (Lane et al., 2006). Students with EBD typically show a need for services at an earlier age than peers with other high-incidence disabilities. However, they often receive those services much later in their education (Wagner et al., 2005).

There has been strong evidence that students with EBD need direct instruction in reading as they are less likely to make adequate progress than those with LD and other high-incidence disabilities (Anderson et al., 2001; Yakimowski et al., 2016). Despite that, students with EBD do not receive adequate reading instruction even while in a self-contained classroom (Levy & Vaughn, 2002). At least 40% of class time is considered non-instructional for varying reasons, such as behavior management, independent work, and one-on-one help (McKenna & Ciullo, 2016). Young elementary students with EBD progress with foundational reading skills when separate interventions are used in the special education setting while receiving grade-level instruction in the general education classroom (Wehby et al., 2005).

Special education teachers in self-contained settings often have the appropriate training to employ specific reading instructional practices and are highly interested in further professional

development (Levy & Vaughn, 2002; McKenna & Ciullo, 2016; Wilkerson et al., 2012).

Emphasizing an educator's ability to teach a specific subject while ignoring other contextual factors can cause further detriment for students with EBD and their access to quality instruction. Special education teachers in self-contained classrooms need additional support to make further improvements, as better working conditions and proper adaptations to reading instruction are directly related to academic success for students with EBD (Mathews et al., 2021; Sanders et al., 2021).

Using Peer-Assisted Learning Strategies with other curricula can be an effective intervention for students with EBD who exhibit deficits in basic reading skills in elementary and middle school-aged children. A decrease in negative behaviors in the classroom is also observed when using structured instructional time with peers compared to independent reading work (Barton-Arwood et al., 2005; Locke et al., 1995; Sutherland et al., 2007; Wehby et al., 2003).

The instructional method of Repeated Reading benefits reading achievement for students of all ages with EBD who exhibit deficits in reading fluency and comprehension. It can be used in many different ways to address phonological awareness instruction, oral reading fluency, comprehension, and continuation of reading fluency when changing passages (Escarpio et al., 2016; Scott et al., 2002; Staubitz et al., 2005; Vostal et al., 2015). Studies have also concluded that using Repeated Reading can increase on-task behavior and positive feelings toward reading instruction for students who struggle to remain on-task and show little interest in reading (Scott et al., 2002; Staubitz et al., 2005).

The Corrective Reading program is a structured curriculum for upper elementary and secondary level students that provides teachers with scripted lessons designed to improve abilities in many areas of reading (McDaniel et al., 2010). It can be implemented as a

supplemental intervention in addition to regular reading instruction. Studies have shown evidence of success for students with EBD (McDaniel et al., 2010; 2011) and with other high-incidence disabilities (Benner et al., 2020; Strong et al., 2004). Students and teachers have shared their confidence in the program and believe it is an effective intervention that addresses reading needs. Teachers also believe it is an easy intervention to implement due to its structure of highly scripted content (McDaniel et al., 2010; 2011).

There are many different instructional methods and programs beyond PALS, RR, and CR. Multiple studies have measured students' reading skills with EBD using other specific curricula, instructional strategies, and academic engagement strategies.

Elementary students with EBD have shown higher rates of academic engagement and on-task behaviors with a class pet or dog partner reading program (Bassette, 2016; Bassette et al., 2013). Not only did they feel motivated to spend time with their dog partners, but they also felt more confident while reading in a low-pressure environment.

Other engagement strategies include using computer programs, such as Headsprout Comprehension, and self-monitoring of reading progress and behaviors. Elementary and middle school students become more motivated when they receive instant feedback from computer program curriculums and can chart and see their progress when graphing fluency rates (Cullen et al., 2014; Gunter et al., 2003). These students are also more likely to engage in pro-social behaviors during reading instruction in the general education classroom when receiving discreet behavior redirection and self-monitoring behaviors with clearly defined expectations (Rafferty, 2012).

Adapted strategies or curriculums become essential for students with EBD to succeed in other content areas that require sufficient reading skills. At the secondary level, using varied

reading levels in an alternating presentation increases students' fluency when reading content-specific texts (Vostal & Lee, 2011). Older students with EBD are more likely required to complete summary-based writing tasks to show acquisition of content-based standards. Concept mapping for vocabulary acquisition is a preferred and effective method for middle school students compared to a traditional dictionary (Palmer et al., 2014). Using self-regulated strategies and mnemonic devices to aid the writing process helps high school students use proper summary elements. It also increases the total number of words written (Ennis, 2016).

Limitations of Research

Though the topic of EBD and comorbid academic deficits has been addressed in research for over 40 years, the amount of research on specific reading interventions to address deficits is limited. Finding adequate literature to review became challenging as many of the newer publications were either a synthesis or meta-analysis of prior research. It also took much work to find research implemented within an inclusive setting to address differences in reading instruction versus a self-contained setting. Most of the literature was conducted in a self-contained resource classroom. That factor is relevant for most situations for students with EBD as escalated behaviors prevent access to the general education setting, and reading interventions in a self-contained classroom in addition to instruction in the general education environment is more beneficial than general education interventions alone (Wehby et al., 2005).

Implications for Future Research

Research on specific reading interventions for students with EBD should continue to be implemented as reading achievement gaps grow. Areas to consider include adaptations of

interventions used in general education classrooms and how intervention efficacy results are impacted by implementing a behavior-based strategy or program. One concerning topic in some literature for this review includes the teacher's access to proper support and additional professional development (Levy & Vaughn, 2002; Mathews et al., 2021; McKenna & Ciullo, 2016; Sanders et al., 2021; Wilkerson et al., 2012). Many teachers addressed the barriers to implementing direct reading instruction, but it is also important to question why some barriers exist and how to provide solutions. Another area of future research should address the effective use of accommodations, modifications, and Positive Behavior Support Plans (PBSP) as outlined in a student's IEP concerning academic functioning and access to the general education curriculum with their same-aged peers.

Implications for Professional Application

Special education teachers working with students with EBD should consider applying some of the strategies discussed in this literature review to increase reading instructional time in the classroom. Some interventions are curriculum specific, which can be difficult for teachers to attain because of funding and licensing agreements. However, other strategies are skill-based and can be implemented in multiple settings. Concept mapping, regular fluency practice with repeated readings, self-graphing, mnemonic devices for writing tasks, and self-monitoring structures can all be utilized within a general education classroom or self-contained setting. These topics can also be effortlessly researched within Professional Learning Communities to create structured implementation and progress monitoring schedules.

Conclusion

Students with EBD are likely to experience equivalent academic deficits compared to their peers with other high-incidence disabilities. Unfortunately, they are also likely to show little progress unless correct instruction is in place. Students with EBD should receive direct reading instruction to progress with basic reading skills. Adequate research has shown improvements for students when structured curriculums or strategies are implemented while in the self-contained special education classroom in addition to instruction in the general education setting. Direct instruction designed for the student's needs can increase academic engagement and on-task behaviors, positively affecting academic success. Special education teachers express high regard for using curriculums or strategies within their environments as most are easy to implement and can be used for multiple grade levels. High school students should have more interventions paired with comprehensive writing tasks and other content areas. Though there has been research on this topic for over 40 years, continued research needs to be done to help further support special education teachers and students with EBD.

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