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Abstract

This case study examined the effects of a structured, multisensory phonics intervention delivered through one-on-one tutoring for a homeschooled third-grade student with persistent reading difficulties and characteristics consistent with dyslexia. Instruction occurred twice per week across a six-month period and targeted foundational literacy skills, including phonological awareness, letter–sound knowledge, decoding, and high-frequency word recognition. Progress was monitored approximately every eight weeks using a combination of informal skill inventories and DIBELS 8th Edition progress-monitoring measures. Across the intervention period, the student demonstrated substantial growth in phonological awareness and phonics skill mastery, increased letter naming fluency, and improved performance on decoding and high-frequency word measures. In contrast, performance on timed DIBELS measures consistently lagged behind untimed assessments, suggesting that automaticity and processing speed remained areas of need despite improved accuracy. Findings indicate that structured, multisensory instruction may support rapid acquisition of foundational reading skills for students with significant delays, while highlighting the importance of incorporating explicit fluency-building opportunities when timed performance is a critical outcome.

Literature Review

Dyslexia Characteristics

The purpose of this study was to work with a student exhibiting characteristics consistent with dyslexia, a common underlying factor in persistent reading difficulties (Shaywitz, 2003; Lyon et al., 2003). Although a formal diagnosis of dyslexia was not available for Jackson, descriptors outlined in the *Texas Dyslexia Handbook* were used to examine whether his observed reading difficulties aligned with commonly identified characteristics of dyslexia.

According to the *Texas Dyslexia Handbook,* students in second and third grade with dyslexia commonly exhibit persistent difficulties across multiple areas of reading and written language development. These students often struggle to recognize high-frequency sight words, decode single words, and accurately recall letter–sound correspondences and common letter patterns during reading. Weaknesses in phonological processing may interfere with the ability to connect speech sounds to corresponding letters or letter combinations, frequently resulting in omitted or inaccurate spellings (e.g., *after* spelled as *eftr*). Reading fluency is also a notable area of difficulty, with students demonstrating slow, inaccurate, or expressionless oral reading and limited ability to decode unfamiliar words in connected text using phonics knowledge. As a result, students may rely heavily on picture cues, contextual guessing, or memorized patterns when reading, rather than efficient decoding strategies. Difficulties with written expression are also common.

In addition, many students in these grades continue to display foundational skill deficits typically associated with earlier stages of literacy development, including challenges with syllable segmentation, phoneme identification and manipulation, letter-name and letter-sound recall, decoding words in isolation, and spelling words phonetically or recalling correct letter sequences in frequently encountered words (e.g., *sed* for *said*).

Jackson's observed reading behaviors and assessment results were consistent with several of these descriptors, supporting his selection as the focal participant for this study.

Multisensory Learning

Multisensory learning is grounded in cognitive and educational theory suggesting that instruction engaging multiple sensory modalities—visual, auditory, kinesthetic, and tactile—supports stronger learning and memory. When students simultaneously see, hear, say, and manipulate language elements, they are more likely to form neural connections that enhance retention and transfer of skills (Birsh & Carreker, 2018). For practitioners, this means that lessons incorporating movement, oral language, and hands-on materials can make abstract literacy concepts more concrete and accessible, particularly during initial instruction.

In literacy instruction, multisensory approaches have been shown to support foundational reading skills such as phonological awareness, decoding, and word recognition. Research examining multisensory reading interventions has demonstrated positive effects for students experiencing reading difficulties, including improved letter–sound knowledge and phonemic processing (Joshi et al., 2002; Torgesen et al., 2001b). These findings are especially relevant for classroom teachers working with struggling readers, as multisensory strategies provide additional pathways for students to access and practice essential skills while reinforcing explicit instruction.

Multisensory instruction is also closely associated with structured literacy and Orton–Gillingham–based approaches, which emphasize systematic, explicit teaching paired with multisensory engagement. Reviews of the literature indicate that instruction requiring students to see letters, hear sounds, say responses, and write or manipulate symbols concurrently can strengthen the connection between spoken and written language (Ritchey & Goeke, 2006). For practitioners, this supports the use of routines such as tracing letters while saying sounds, using manipulatives during phoneme segmentation, and integrating oral rehearsal with written practice.

Beyond skill development, multisensory learning has been linked to increased student engagement and instructional responsiveness in diverse classrooms. Sensory-rich instruction can enhance attention and motivation, making literacy tasks more interactive and reducing frustration for students who struggle with traditional print-only approaches (Moats, 2020). Multisensory instructional approaches have been associated with increased student engagement during literacy instruction, particularly in individualized or home-based contexts (Rompas & Recard, 2021; Wulandari & Pujaningsih, 2025). While research suggests that multisensory techniques are most effective when paired with explicit, evidence-based instruction rather than used in isolation, they remain a valuable tool for practitioners seeking to differentiate instruction and support a wide range of learners (International Dyslexia Association, 2019).

Research Questions

Can a multisensory phonics intervention, delivered through) tutoring, improve Jackson's phonological, decoding, and word recognition skills?

Will a struggling student perform at an acceptable level on timed assessments when compared with untimed assessments?

Methodology

Participant Description

Jackson (a pseudonym) is a 10-year-old English-speaking male who has been homeschooled throughout his educational experience. He was adopted in infancy, along with his sister Ava (11 years old), with both adoptions finalized on the same day. Ava was one year old at the time of adoption. Jackson also has a younger brother, Oliver (8 years old), who was adopted at a later time, and two older biological brothers who reside in the home and attend high school.

Jackson's family participates actively in the foster care system. As the only foster family available within an approximately 200-mile radius, the household frequently provides temporary care for foster children, sometimes for periods lasting several weeks. As a result, the home environment is dynamic, with varying numbers of children present at different times.

The family resides in a community with a population of approximately 32,000. Although the community is recognized for having high-quality public schools, Jackson's parents elected to homeschool all five of their children. Jackson's mother has extensive experience homeschooling and reported no difficulty teaching her older children to read. According to parent report, both older brothers are avid readers, and Ava demonstrates strong reading skills and a positive attitude toward reading. In contrast, Jackson experienced persistent difficulty learning to read. His mother reported that she had implemented three different homeschool reading programs without achieving meaningful progress. Jackson's younger brother did not experience difficulty learning to read, though he reportedly shows limited interest in reading.

Prior to the intervention, information obtained through parent report suggested weaknesses consistent with characteristics commonly associated with dyslexia, including difficulty with rhyming and phonemic segmentation. Based on these reported difficulties and the purpose of the study, Jackson was selected as the focal participant. No formal diagnosis of dyslexia had been made at the time of selection.

At the initial instructional meeting, Jackson was enrolled in third grade. Informal assessment and instructional activities revealed limited knowledge of letter–sound correspondences and significant deficits in foundational phonological skills. Despite these reading difficulties, Jackson demonstrated strong oral language abilities, including age-appropriate expressive language and vocabulary. His reading challenges were not attributed to general cognitive ability; however, no formal cognitive assessment was administered. It was later reported by the parent that Jackson takes medication to support attention and focus.

Data Collection

Jackson was assessed approximately every eight weeks to monitor literacy skill development and identify areas requiring additional instruction. This assessment schedule supported systematic tracking of progress across foundational reading domains.

Measures administered included the **Test of Phonological Awareness** (Dougherty Stahl et al., 2019), **Informal Phonics Inventory** (Dougherty Stahl et al., 2019), **Informal Decoding Inventory** (real and nonsense words) (Dougherty Stahl et al., 2019), **Fry Sight Word Inventory** (First 100 Words) Fry, E. B. (1997), **Primary Spelling Inventory (**Bear et al., 2020), and **Dynamic Indicators of Basic Early Literacy Skills** (**DIBELS) 8th Edition Kindergarten Progress Monitoring** (Letter Naming Fluency, Phonemic Segmentation Fluency, Nonsense Word Fluency, and Word Reading Fluency) (Good et al., 2020).

The **Test of Phonological Awareness** assessed a range of phonological and phonemic skills, including rhyming, blending, segmentation, and phoneme manipulation. The **Informal Phonics Inventory** evaluated knowledge of consonant sounds, vowel patterns, blends, digraphs, and common orthographic features. The **Informal Decoding Inventory** measured application of phonics knowledge to both real and nonsense words, including multisyllabic decoding. The **Fry Sight Word Inventory** assessed recognition of high-frequency words, and the **Primary Spelling Inventory** evaluated spelling development across phonetic and orthographic features.

Timed fluency measures from **DIBELS 8th Edition** were administered to assess rapid naming, phonemic awareness, and word-level reading fluency. To examine the potential influence of time constraints on performance, untimed assessments modeled after DIBELS tasks were also administered. It was hypothesized that performance on timed measures would remain below the highest benchmark levels, even when assessments were aligned with the student's instructional reading level rather than chronological grade placement.

Procedures

Participant recruitment was conducted through a post on a community-based social media platform seeking students in third grade or higher who demonstrated reading difficulties. Tutoring services were offered at no cost to participants. Multiple families expressed interest shortly after the recruitment posting.

Jackson was selected as the focal participant based on several considerations. His homeschool status allowed instructional sessions to be scheduled during daytime hours, facilitating consistent attendance. Additionally, his parent demonstrated a strong commitment to participation and follow-through. Initial assessment data further indicated that Jackson exhibited significant reading delays, making him an appropriate candidate for the study's instructional focus.

Instructional sessions were conducted twice per week at a local public library. Sessions were occasionally canceled due to illness or holidays. Although this case study reports findings from the first six months of instruction, intervention continued beyond this period, with the intention of documenting additional outcomes in future analyses.

A structured, multisensory literacy intervention was selected for implementation. Instruction followed the *Connections* program developed by The Apple Group. The program was chosen based on prior professional exposure and familiarity with its instructional framework. The intervention was implemented consistently across sessions in accordance with program guidelines.

The intervention began in March of Jackson's third-grade year and continued through September of his fourth-grade year. Data reported in this study reflect outcomes observed during the initial six-month instructional period.

Case Study Findings

The table below provides a summary of Jackson's performance across each of the assessments described above. Progress monitoring was intended to occur every 16 instructional sessions; however, holidays and illness occasionally disrupted the planned two-month assessment intervals. The scores presented in the table reflect the student's total score for the full assessment. More detailed analyses, including performance by specific skill domains within each assessment, are presented later in the article.

Table 1
Jackson's Assessment Scores Across the Intervention Period

Assessment	March	May	July	September
Letter Naming Fluency (DIBELS; timed, kindergarten)	54	65	95	98
Test of Phonological Awareness (total score)	39/68	49/68	67/68	64/68
Phonemic Segmentation Fluency (DIBELS; timed, kindergarten)	—	41	52	45
Informal Phonics Inventory	19/93	31/93	52/93	74/93
Informal Decoding Inventory (real / nonsense)	8/60, 8/50	7/60, 8/50	11/60, 11/50	34/60, 32/50
Nonsense Word Fluency (DIBELS; CLS / WRC)	27/225, 7/75	41/225, 11/75	77/225, 17/75	58/225, 23/75
Fry Sight Words (First 100)	—	23	46	77
Word Reading Fluency (DIBELS; timed, kindergarten)	4	9	13	15

Phonological Awareness

At baseline, Jackson demonstrated limited performance on measures of phonological awareness relative to grade-level expectations. Results from the Test of Phonological Awareness indicated lower scores on tasks requiring phoneme segmentation and phoneme substitution. Performance across individual phonological awareness skills is presented in Table 2.

Following six months of instruction, Jackson's total score on the Test of Phonological Awareness increased from 39 out of 68 to 64 out of 68, with a peak score of 67 out of 68 at the July assessment. By the September assessment, performance met or exceeded mastery criteria across all assessed phonological awareness skill areas.

Results from the DIBELS Phoneme Segmentation Fluency measure are presented in Table 3. Scores on this timed assessment increased between May and July but declined slightly at the September assessment. Across administrations, performance remained below the benchmark threshold for the highest performance category (blue tier) at both kindergarten and first-grade levels.

Table 2

Test of Phonological Awareness Skill Performance Over Time

Skill	March	May	July	September
Identifying rhyming words	4/5	4/5	5/5	5/5
Generating rhymes	3/5	1/5	2/5	4/5
Phoneme identity	3/5	0/5	1/5	5/5
Phoneme categorization	1/5	4/5	1/5	5/5
Phoneme isolation (initial)	5/5	5/5	5/5	5/5
Phoneme isolation (final)	3/5	4/5	5/5	5/5
Phoneme blending	5/5	5/5	5/5	5/5
Phoneme addition	5/5	5/5	5/5	5/5
Phoneme deletion	4/5	4/5	4/5	5/5
Phoneme substitution	1/6	3/6	3/6	5/6
Segmentation (single consonants)	6/8	7/8	8/8	8/8
Segmentation (initial clusters)	0/12	8/12	10/12	12/12
Segmentation (final clusters)	0/13	8/13	11/13	13/13

Note. Scores reflect number correct over total possible for each skill.

Table 3

DIBELS Phoneme Segmentation Fluency Scores Across the Intervention Period

Measure	March	May	July	September
Phoneme Segmentation Fluency (phonemes per minute)	—	41	52	45

Note. Scores represent the number of phonemes correctly segmented in one minute. The March assessment was not administered. According to the DIBELS 8th Edition benchmark framework, **benchmark (blue) performance indicating negligible risk** is defined as **≥53 phonemes per minute for kindergarten** and **≥61 phonemes per minute for first grade**. Phoneme Segmentation Fluency is assessed only through first grade.

Phonological Awareness Remediation

Phonological awareness instruction occurred at the beginning of each instructional session and was delivered using one of five structured activities included in the Connections program developed by The Apple Group. Instructional materials consisted of manipulatives organized by skill type. Activities addressed rhyming, phoneme segmentation, phoneme identification, and syllable segmentation through hands-on sorting and manipulation tasks. Due to instructional pacing, approximately two sessions were required to complete each lesson, resulting in explicit phonological awareness instruction occurring approximately once per week, consistent with research supporting the use of hands-on materials to strengthen phonological awareness skills (Rule, 2001).

Letter Naming Fluency

Letter naming fluency was assessed using the kindergarten-level DIBELS Letter Naming Fluency measure. At baseline, Jackson correctly named 54 letters in one minute. Subsequent assessment in September yielded a score of 98 letters correct per minute. Scores across assessment points are presented in Table 4.

Table 4
DIBELS Letter Naming Fluency Scores Across the Intervention Period

Measure	March	May	July	September
Letter Naming Fluency (letters per minute)	54	—	—	98

Note. Scores represent the number of letters correctly named in one minute. The kindergarten-level DIBELS Letter Naming Fluency assessment was administered. Dashes indicate assessments not administered. According to the **DIBELS 8th Edition benchmark framework**, benchmark (blue) performance indicating negligible risk is defined as **≥49 letters per minute for kindergarten** and **≥141 letters per minute for third grade.**

Letter Naming Fluency Remediation

Letter naming instruction was embedded within each instructional session through cumulative review. Previously introduced letters were reviewed using letter cards, with practice focused on both letter names and corresponding sounds. Review occurred following the phonological awareness activity and prior to phonics instruction.

Phonics

Baseline assessment data from the Informal Phonics Inventory indicated limited mastery of foundational phonics skills. Performance across phonics skill categories is presented in Table 5. As instruction progressed, additional sections of the assessment were administered to align with the instructional sequence.

Across the six-month period, Jackson's total score on the Informal Phonics Inventory increased from 19 out of 93 to 74 out of 93. Mastery-level performance was observed on consonant sounds, short vowels in CVC words, and beginning consonant blends. Performance on more advanced phonics skills, including vowel teams and r-controlled vowels, remained limited at the conclusion of the intervention period.

Results from the Informal Decoding Inventory are presented in Table 6. Improvements were observed in decoding both real and nonsense words aligned with previously taught phonics patterns. Sections assessing later phonics skills were not administered due to lack of prior instruction.

Table 5
Informal Phonics Inventory Skill Performance Across the Intervention Period

Skill	March	May	July	September
Consonant sounds	18/20	20/20	20/20	20/20
Consonant digraphs	1/5	2/5	4/5	4/5
Beginning consonant blends	—	—	16/20	20/20
Final consonant blends	—	—	2/12	10/12
Short vowels in CVC words	—	9/10	10/10	9/10
Silent *e* pattern	—	—	—	4/4
Long-vowel digraphs	—	—	—	5/10
Diphthongs	—	—	—	0/6
R-controlled vowels	—	—	—	1/6
Total score	**19/93**	**31/93**	**52/93**	**74/93**

Note. Dashes indicate sections not administered due to increasing skill complexity and lack of prior instruction. Assessments were aligned with instructional scope to avoid undue frustration and to ensure meaningful data collection.

Table 6
Informal Decoding Inventory Performance Across the Intervention Period

Skill	March	May	July	September
Short vowels – real words	—	8/10	8/10	10/10
Short vowels – nonsense words	—	7/10	6/10	8/10
Consonant blends & digraphs – real words	—	—	3/10	8/10
Consonant blends & digraphs – nonsense words	—	—	5/10	10/10
R-controlled vowels – real words	—	—	—	7/10
R-controlled vowels – nonsense words	—	—	—	5/10
Vowel–consonant–e – real words	—	—	—	9/10
Vowel–consonant–e – nonsense words	—	—	—	9/10
Vowel teams – real words	—	—	—	—
Vowel teams – nonsense words	—	—	—	—
Multisyllabic words (real words only)				

*Based on Jackson's performance on foundational phonics skills, later phonics skill assessments were not administered, as he had not yet received instruction in those areas. Administration of these sections was therefore unlikely to produce meaningful data.

**Mastery for this assessment was defined as a score of 8 out of 10 on real-word items and 6 out of 10 on nonsense-word items.

Scores from the DIBELS Nonsense Word Fluency assessment are presented in Table 7. Performance on Correct Letter Sounds (CLS) and Words Read Correctly (WRC) increased across assessment points, although scores remained below third-grade benchmark expectations. Performance varied across administrations, with lower CLS scores observed at the final assessment.

Table 7
DIBELS Nonsense Word Fluency Scores Across the Intervention Period

Measure	March	May	July	September
Correct Letter Sounds (CLS)	27	41	77	58
Words Read Correctly (WRC)	7	11	17	23

Note. Scores represent correct responses in one minute. According to the **DIBELS 8th Edition benchmark framework**, **benchmark (blue) performance indicating negligible risk** is defined as **≥49 CLS and ≥13 WRC for kindergarten**, and **≥141 CLS and ≥45 WRC for third grade.**

While Jackson demonstrated substantial progress between March and September, gains in reading speed did not increase at a rate consistent with expectations for a student at the third-grade level. The *Connections* program emphasizes accuracy, skill mastery, and error-free responding rather than rate or automaticity. Although instructors may record and revisit timing on end-of-lesson readings, the instructional activities themselves do not explicitly promote rapid responding. As a result, Jackson's performance on fluency-based assessments remained below third-grade benchmarks. This pattern suggests that improvements in accuracy and foundational skill acquisition may precede gains in speed, particularly for students with significant initial deficits. Relative to baseline performance, however, the data indicate meaningful improvement, with scores exceeding benchmark expectations for kindergarten-level performance.

Phonics Remediation

Each instructional session included explicit phonics instruction aligned with the program's scope and sequence. Instruction was delivered using systematic, multisensory techniques, including tactile letter cards, manipulatives, magnetic letters, textured writing surfaces, and structured oral spelling routines. Emphasis was placed on accurate letter–sound correspondence and cumulative review of previously taught skills, consistent with research supporting the role of explicit, systematic instruction and multisensory approaches in the development of foundational reading skills (Birsh & Carreker, 2018; Foorman et al., 2016).

High-Frequency Words

Performance on the Fry Sight Word Inventory is presented in Table 8. Jackson's total correct responses increased from 23 words in May to 77 words in September. Performance on the DIBELS Word Reading Fluency assessment is presented in Table 9. Scores increased steadily across assessment points but remained below benchmark thresholds for kindergarten and third grade.

Table 8

Fry Sight Word Inventory Performance Across the Intervention Period

Assessment	March	May	July	September
Fry First 100 Words	—	23	46	77

Note. Dashes indicate assessments not administered. Students typically master **20–50 Fry sight words by the end of kindergarten** and the **first 100 words by the end of first grade**, providing a reference point for interpreting growth.

Table 9

DIBELS Word Reading Fluency Scores Across the Intervention Period

Measure	March	May	July	September
Word Reading Fluency (words correct per minute)	4	9	13	15

Note. The kindergarten-level assessment was administered. Within the **DIBELS 8th Edition benchmark framework**, benchmark performance (blue) at the kindergarten level is defined as **≥18 words correct per minute**, while benchmark performance at the third-grade level is defined as **≥70 words correct per minute**.

High Frequency Word Remediation

Instruction targeting irregular words was embedded within each lesson using the Connections program's structured instructional procedures. Target words were introduced through multisensory materials, including raised-letter cards, with students tracing each letter while orally spelling the word. Instruction explicitly drew attention to sound–symbol correspondences by identifying letters or letter patterns that did not represent their expected sounds, reinforcing connections between spoken and written language. Previously introduced irregular words were reviewed cumulatively across lessons to support consolidation and retention, consistent with research on orthographic mapping and the development of automatic word recognition and the language-to-print framework (Ehri, 2014; Moats, 2020).

Discussion

Remediation Results

Jackson demonstrated substantial gains following participation in the structured, multisensory intervention. Prior to intervention, despite more than four years of formal instruction including kindergarten, Jackson had not mastered letter–sound correspondences and exhibited persistent difficulties with phonological awareness. Over the course of six months, he progressed from minimal independent reading ability to reading at a level approaching early first grade. These outcomes suggest that structured, multisensory instruction may be particularly effective for students who have not responded to more traditional instructional approaches.

Notably, none of Jackson's prior homeschool reading instruction incorporated systematic multisensory strategies. The introduction of this instructional framework appeared to support acquisition of foundational literacy skills that had previously remained underdeveloped.

In addition to academic gains, improvements were observed in affective dimensions of reading. Parent report and instructional observations indicated increased confidence and willingness to engage in reading tasks across home and instructional settings. These changes are consistent with existing research demonstrating reciprocal relationships between reading achievement, motivation, and reading self-concept (Malanchini et al., 2017; Marinak & Gambrell, 2007; Retelsdorf et al., 2014).

Timed vs. Untimed Assessments

A notable pattern across outcome measures was a discrepancy between Jackson's performance on untimed skill assessments and timed fluency-based measures, warranting targeted interpretation. Jackson demonstrated weaker performance on the timed DIBELS assessments compared to his performance on comparable untimed measures. While untimed assessments indicated mastery or near-mastery of targeted phonological and decoding skills, his scores on the timed DIBELS measures were consistently lower. This discrepancy suggests that Jackson possessed emerging foundational reading skills that had not yet reached a level of automaticity sufficient to support rapid responding under time constraints.

One plausible explanation for this pattern is that Jackson required additional processing time to access and apply phonological and decoding skills. Research indicates that students with reading difficulties, including those with dyslexia, often demonstrate slower processing speed and reduced automaticity, which can negatively affect performance on timed assessments despite adequate accuracy on untimed tasks (Norton & Wolf, 2012; Wolf & Katzir-Cohen, 2001). The instructional intervention emphasized accuracy, explicit instruction, and multisensory reinforcement rather than speed or fluency. According to Ehri (2014), automatic word recognition develops after repeated accurate decoding experiences; thus, gains in accuracy typically precede gains in fluency.

Furthermore, timed measures may underestimate skill development for students who are still consolidating phonological and orthographic representations. Torgesen et al. (2001a) note that students with significant early reading difficulties often show improvement in untimed decoding tasks before demonstrating comparable gains on fluency-based measures. Collectively, these findings suggest that Jackson's lower performance on timed assessments reflects limited automaticity rather than a lack of underlying reading skills and highlights the need for continued instruction targeting fluency and rapid retrieval.

In addition to academic gains, improvements were observed in affective factors related to reading. At baseline, Jackson demonstrated limited willingness to engage in oral reading activities across instructional and home settings. Following the intervention, parent reports and instructional observations indicated increased confidence and engagement. These findings suggest that effective reading intervention may influence not only literacy development but also students' motivation and self-concept, underscoring the potential social–emotional benefits of structured, multisensory literacy instruction.

Vocabulary and Comprehension Considerations

The *Connections* program primarily targets foundational reading skills and does not explicitly address vocabulary or comprehension. When unfamiliar words arose during instruction, explanations and synonyms were provided informally. Research indicates that explicit vocabulary instruction, including the use of synonyms, supports vocabulary development and comprehension by strengthening semantic relationships (Sotoudehnama, 2013; McKeown et al., 2019).

The program provides limited opportunities for students to demonstrate comprehension, including activities requiring students to act out written phrases. Such activities require comprehension of written language to perform the associated action. Acting-based comprehension strategies, including dramatization and role-play, have been shown to support comprehension and memory retention in educational settings (Alghamadi, 2024; Güngör, 2008; NCDPI Comprehension Guide, 2025).

Each lesson concludes with a personalized reader incorporating previously taught phonics patterns and irregular words. Although comprehension was informally assessed through questioning, no formal comprehension measure was included.

Limitations

Several limitations should be considered when interpreting the findings of this case study. First, the study employed a single-participant design, which limits generalizability. Although the detailed assessment record provides useful evidence of change over time, outcomes observed for one student may not reflect results for other students with reading difficulties or characteristics consistent with dyslexia. Relatedly, the study did not include a comparison condition or control participant; therefore, causal conclusions regarding the intervention's effectiveness cannot be drawn with certainty.

Second, assessment administration occurred in an applied tutoring context, and testing did not always occur at perfectly regular eight-week intervals due to illness, holidays, and scheduling constraints. Additionally, certain subtests within the informal inventories were not administered when targeted skills had not yet been taught. While this decision was intended to reduce frustration and avoid collecting non-informative data, it resulted in missing data points for some skill areas and may limit the completeness of growth documentation across all assessed domains.

Third, some outcomes relied on parent report and instructional observation. For example, changes in confidence and willingness to engage in reading tasks were described based on qualitative reports rather than standardized measures of motivation, self-concept, or engagement. Although these observations are consistent with prior literature linking reading achievement and self-concept, the study did not include validated instruments to quantify social–emotional or motivational change.

Fourth, the study assessed foundational reading skills using a combination of informal inventories and DIBELS 8th Edition progress-monitoring measures. While this combination strengthened triangulation across measures, differences in task demands—particularly the contrast between timed and untimed assessments—complicate direct score comparisons. Timed measures may underestimate performance for students who are still developing automaticity and rapid retrieval, whereas untimed measures more directly reflect accuracy and skill mastery. Future research would benefit from including additional standardized measures of word reading efficiency and oral reading fluency to better capture growth in automaticity.

Finally, the intervention targeted foundational skills and did not include systematic instruction in vocabulary or comprehension, nor did the study include formal outcome measures in these areas. Although comprehension was monitored informally through questioning during decodable reading, conclusions about broader language comprehension or transfer to connected-text understanding are necessarily limited.

Implications for Practice

Recommendations

Multisensory strategies can be effectively integrated into both whole-group and small-group instruction. Simple adaptations—such as having students trace letters while simultaneously articulating corresponding sounds—provide a multisensory component without requiring substantial instructional time. The use of varied tactile materials (e.g., fabric, textured surfaces, sand) allows students to engage multiple sensory pathways during letter and word practice. While students performing at or above grade level may not require multisensory supports, such strategies may enhance engagement and support retention.

Repetition of previously taught skills also emerged as a key instructional component. In this intervention, letter–sound correspondences and irregular words were reviewed cumulatively throughout instruction. Although the intensity of repetition used in this case may exceed the needs of most students, similar approaches may be appropriate for small groups of students with persistent reading difficulties.

Multisensory approaches were also used to reinforce phonics skills through word construction activities. The student used a movable alphabet to spell multiple words per lesson containing target phonics patterns. While this level of practice may not be feasible for whole-group instruction, it may be effectively implemented in intervention or special education settings.

Given the cost and material demands of comprehensive multisensory programs, classroom teachers may benefit from selectively integrating multisensory strategies into existing instructional routines rather than adopting full commercial programs independently. Implementation of such programs is likely more feasible at the school or district level, particularly within intervention or special education frameworks.

School districts should consider adopting structured, multisensory literacy programs as part of their instructional models for struggling readers. Jackson's progress was notable despite limited instructional time, as intervention occurred for only two hours per week. Although he did not have a formal diagnosis, his instructional needs would likely have qualified him for targeted support in a public school setting. Structured, multisensory programs may therefore offer benefits across both special education and general education intervention contexts.

Conclusions

Jackson exhibited substantial improvement in reading performance across the intervention period. At baseline, his skills were consistent with a prekindergarten level, with limited independent reading ability. After six months of instruction, his performance progressed to levels comparable with end-of-kindergarten to early first-grade benchmarks. Considering the modest instructional intensity of approximately two hours per week, these gains indicate that the intervention had a meaningful impact on his reading development. However, a consistent discrepancy was observed between timed and untimed measures assessing similar skills, with Jackson demonstrating stronger performance on untimed assessments and comparatively weaker outcomes on timed tasks. This pattern suggests that, despite improved accuracy and skill mastery, reading automaticity and processing speed remained areas of need.

Targeted literacy skills were acquired efficiently when instruction was delivered within a structured, multisensory framework. Although the individual effects of instructional structure and multisensory techniques cannot be disentangled, the intervention produced measurable progress in areas where prior instructional efforts had been unsuccessful. Parent report indicated that three previously implemented homeschool reading programs did not result in comparable gains.

Beyond academic outcomes, positive changes were also noted in affective dimensions of reading. Initially, Jackson demonstrated reluctance to participate in oral reading activities in both instructional and home contexts. Following the intervention, observational data and parent reports reflected increased confidence and engagement. Collectively, these findings suggest that effective reading intervention may support not only literacy growth but also students' motivation and self-perception as readers, while underscoring the importance of explicitly addressing fluency and automaticity when timed performance is a critical outcome.

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