

## **A Systematic Multisensory Phonics Intervention for Older Struggling Readers: Action Research Study**

**Abstract** Upper elementary readers who persist with reading difficulties face both academic and emotional challenges when they do not make reading gains equal to their peers. Decades of research has shown that persistent treatment resisters respond positively to a systematic multisensory phonics intervention. In my action research study, I examined how 5th and 6th grade struggling readers responded to a multisensory phonics intervention. Following the eight-week intervention, students made gains in word reading accuracy and demonstrated increased confidence in word reading skills. Implications of the study bolster the importance of providing phonics instruction to older struggling readers.

Sixth grade students entered the Literacy Lab one at a time and circled up around the rug for a whole group check. I sat on the rug next to my teaching partner, a veteran Special Education teacher who developed this reading class as a Tier 3 intervention for Special Education students with IEP reading goals and for General Education students reading below grade level.

“I have exciting news I’d like to share,” I began. “Just like you, I’m also a student. I’m taking a class and I have a big project.” I explained that I was conducting an action research study and have been thinking about big questions I have as a reading teacher. I looked around the circle and saw all eyes on me and felt very fortunate to work with this group of students. All seven of the students in the class had also been in the Literacy Lab for reading instruction the previous year as fifth graders. I had even worked with some when they had been in second grade, providing one-on-one and small group reading interventions. Several students leaned forward anticipating where this might be going, while out of the corner of my eye, I saw two boys slowly nod their heads and fold their arms in front of them. I have known these boys since they were in second grade and I was used to their playful rapport. I told the class I had written a letter to

inform them and their parents or adults at home that I would be conducting this study because I'm interested in learning more about how they learn to read. I turned to face the boys, and one was grinning widely while the other was scratching his chin in an exaggerated way.

“Soooo,” said the Grinner, “what you’re saying is you want us to be your guinea pigs!”

“Yeah!” added Chin Scratcher, “we get to be your lab rats!”

My teacher partner and I both broke out into laughter because the boys are frequently one step ahead and refreshingly honest in their appraisals of any given situation.

“Excellent inference!” my teaching partner exclaimed.

“Don’t worry,” I explained, “I’m not a mad scientist. I won’t even use your names in my report.”

“Oooh, wait, what are you going to call us?” asked Grinner. “Can I be Lab Rat 1?”

“I wanna be Lab Rat 2,” Chin Scratcher announced.

“I’m Lab Dog!” another declared.

“I’m Lab Unicorn!” another exclaimed. “No wait! I wanna be Lab Unicorn Frog!”

“Nope, I just want to be my initial: T,” said another.

And just like that I was reminded how easily students can veer off topic and how you never can predict what direction the learning might take.

In this class of sixth graders and in the fifth grade Literacy Lab class, the students face significant challenges and reading delays. In a review of their Fall 2017 Northwest Evaluation Association (NWEA) Reading scores, nine out of the 12 fifth graders scored in the single-digit percentile range and only one student scored at grade level; however, that student required three days to complete the assessment. Within the sixth grade class, four of the seven students scored in the single-digit percentile range and only one achieved a grade level score; while this student

was able to read at grade level, severe behavioral challenges delayed his overall academic growth. These upper elementary students have struggled to read since their earliest years in school and have received Tier 3 differentiated instruction through Title IA Reading or Special Education services, yet many are still unable to decode and make reading gains. In the rural school district where I teach, fifth and sixth graders are at the launching point before they “go up the road” to the middle school. It is a crucial time for them to receive intensive reading instruction. As a reading interventionist, I have witnessed firsthand the struggles that students face when they are unable to decode and the frustration students feel when they make their best efforts but remain stuck at a reading level below their peers.

While students typically learn to read from kindergarten through second grade and read to learn beginning in third grade, many students experience reading delays that significantly impact their educational experiences in all subjects. As students grow older and continue to struggle to decode, they can get stuck at a reading level. In order to make gains, readers need consistent and engaging word work to build accuracy and fluency. I wondered *how will 5th and 6th grade struggling readers respond to a systematic multisensory phonics intervention?* My initial wondering led me to ask additional questions:

- How will a multisensory phonics intervention affect accuracy rates?
- How will a multisensory phonics intervention affect strategy use to decode words?
- How will students stay engaged in repetitive word work?

### **Summary of Literature Methods and Findings**

A body of literacy research has shown that students who are delayed in reading fall increasingly behind their peers academically and can experience low self-esteem (Jeffes, 2016). It is imperative that treatment resisters, that is students who have experienced reading interventions yet have not responded significantly, receive instruction that can best help them achieve reading gains that will boost their self-esteem and academic performance. A body of research has shown that struggling readers demonstrate word reading gains when explicitly taught using a systematic multisensory phonics intervention (Chen & Savage, 2014; Duff, Hayiou-Thomas, & Hulme, 2012; Jeffes, 2016; Tilanus, Segers, & Verhoeven, 2016; Wall, Rafferty, Camizzi, Max, & Van Blargan, 2016).

A common theme to emerge from my review of literature on phonics interventions with struggling readers is that phonics instruction is most effective when it is explicit, multisensory and systematic (Chen & Savage, 2016; Duff et al., 2012; Jeffes, 2016; Tilanus et al., 2016; Wall et al., 2016). Researchers have investigated cognitive profiles of students with severe and persistent reading difficulties and note weaknesses in both phonological and nonphonological processing (Duff et al., 2012) and verbal working memory (Tilanus et al., 2016). Systematic phonics interventions that use visual and symbolic cues to simplify letter to sound correspondence are less taxing on memory and help struggling readers make more efficient reading gains (Chen & Savage, 2014; Tilanus et al., 2016; Wall et al., 2016). Students demonstrated gains in phonemic fluency and accuracy, as well as gains in word reading accuracy when the intervention built skill practice in grapheme-to-phoneme correspondence; that is the correspondence between graphemes, the smallest unit of writing (letter or digraph) and phonemes, the smallest unit of sound. Another commonality is that in all studies, the phonics intervention was conducted in a small group or one-on-one instructional setting. Only the action

research study by Wall et al. (2016) was delivered by a classroom teacher, adding to the body of literature for applied practice of phonics instructional interventions to meet the needs of students at-risk for a reading disability. Another important finding is that reading success achieved through the intervention can spur motivation (Chen & Savage, 2014; Jeffes, 2016), and engagement in the phonics activity can foster enjoyment of reading (Wall et al., 2016).

Research has predominantly focused on phonics interventions for early reading instruction, but many students face reading difficulties beyond early elementary grades. Jeffes' (2016) study with older struggling readers examined the viability of implementing a phonics intervention in an upper school setting. Quantitative data from the study showed phonics and word recognition gains, which provides evidence that phonics instruction is effective in older students. Jeffes' study highlights the paradox of interventions for students in upper elementary grades and beyond: Do the benefits of the intervention outweigh the scheduling and curriculum priorities of the classroom setting? Without sufficient reading skills taught through an intervention, can students access the classroom curriculum? It is clear from a review of the literature that further research is needed to explore phonics interventions that can be effectively delivered with an older student population. My own action study is premised on this need to explore ways to help older struggling readers gain accuracy skills to grow their reading.

### **Setting and Participants**

Providing a systematic multisensory phonics intervention can be extremely difficult for a classroom teacher in the upper elementary grades where class time is already fully devoted to Common Core curriculum. I have found even within a Tier 3 pull out small class size setting, it can be problematic to deliver a consistent and systematic intervention with students who have widely varying levels of competency and needs. Through my inquiry I hoped to explore ways to

manage delivery of a consistent phonics intervention within the framework of our Literacy Lab. We have two classes: 12 fifth grade students who meet 5 times a week for 60 minutes and seven sixth grade students who meet four times a week for 60 minutes. Of the 12 fifth grade students, 8 have an Individualized Education Program (IEP) with reading goals; of the seven sixth grade students, six have an IEP with reading goals. All students read below grade level as documented by MEA (Maine Educational Assessment) and NWEA standardized tests.

Both classes follow a rotation schedule with whole group instruction for literacy mini-lessons, independent and partnered book reading and writing, and one-on-one reading and fluency practice with the Special Education teacher. During the 8-week intervention period, I pulled students in groups of two-four to participate in the phonics work. Initially, students were grouped based on their preassessment word reading scores; however, those groupings became problematic because students had self-selected reading partners and those book reading groups did not match with the word reading groups. Thus, we had to be flexible and not entirely consistent in delivering the intervention to meet the routine of the classroom. During the 60-minute class, I was able to meet with one or two groups per day for approximately 20 minutes. During that session, students focused on one vowel team.

### **Intervention Description**

I developed this intervention based on the work of Phyllis Fischer's Concept Phonics (Fischer, 1993), a research-based multisensory phonics program that incorporates a set of vowel team picture cards to help students learn the sound and spelling patterns of each of the vowels utilizing grapheme-to-phoneme correspondence (GPC). The cards provide a visual mnemonic to aid memory strategies. The vowel teams were introduced one at a time and then hung on a bulletin board for reference.

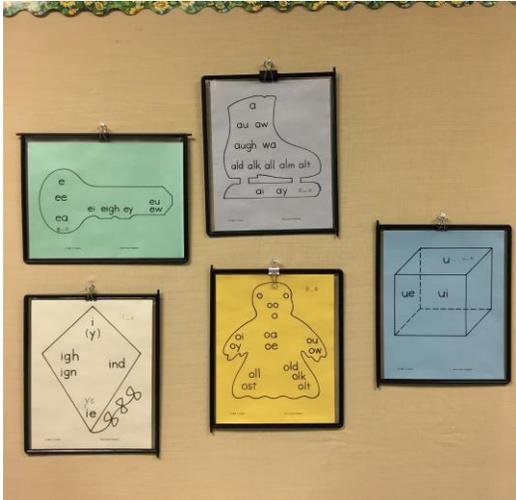


Figure 1

The intervention was designed to be systematic and process oriented. Students received a blank vowel team card. They **wrote** the vowel spelling patterns in red on their card and practiced the sounds of the letter patterns and then placed their card in a plastic sleeve. Next, they were given word cards that had the target vowel team patterns. Students **sorted** the word cards to match the spelling pattern on the card. Students **read**

each of their word cards. Next, students **wrote** the words with dry erase markers directly on their cards using the vowel team spelling patterns. Finally, they **read** their cards again, this time reading from their own writing. After completing a round of practice with the vowel team, the card was added to a folder that each student had for later continued practice.

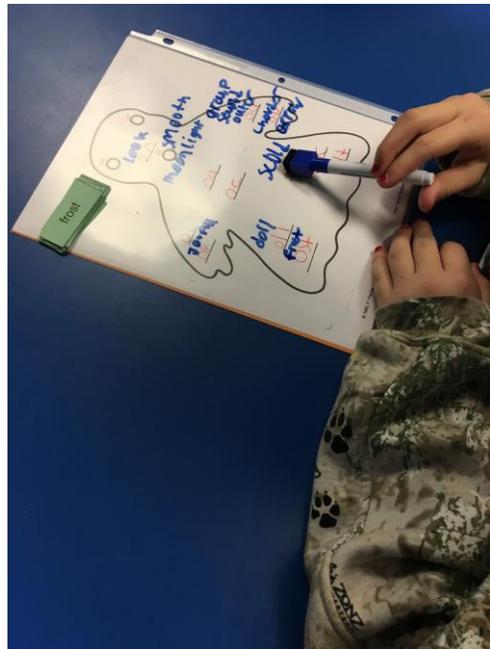


Figure 2

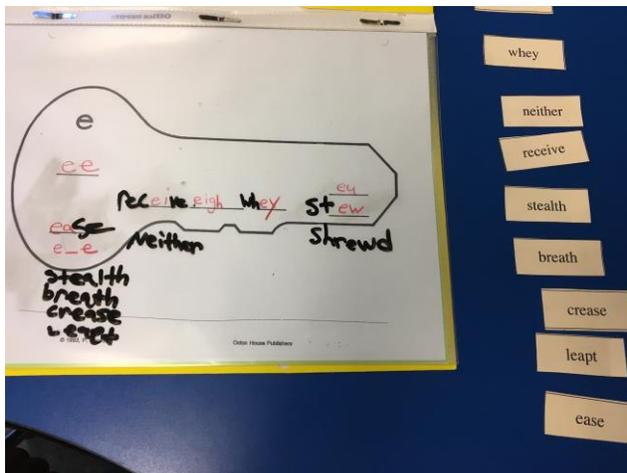


Figure 3

## **Data Collection and Analysis**

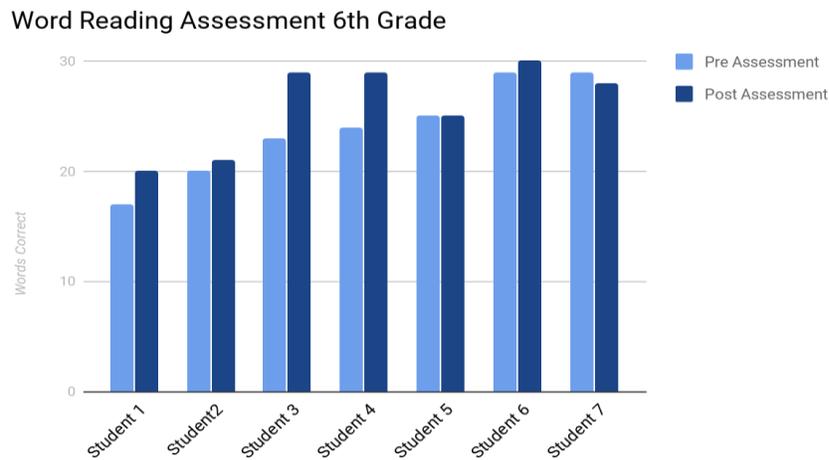
Students took a word reading assessment of vowel team patterns prior to the intervention and at the end of the intervention to measure accuracy (see Appendix). As a second point of data, I maintained a reflective journal, focusing on the essential questions: *What do I notice about strategy use?* and *What do I notice about engagement in the phonics activity?* During the intervention, I noticed patterns of what seemed to work and what was not working to help me tweak my instruction. After the intervention, I analyzed the data from my journal using color coding to note strategies, engagement and corrective behavior. Lastly, I conducted an in-depth open-ended interview with one sixth grade student in which I asked questions about the student's attitude toward reading as well as reading difficulties.

## **Findings**

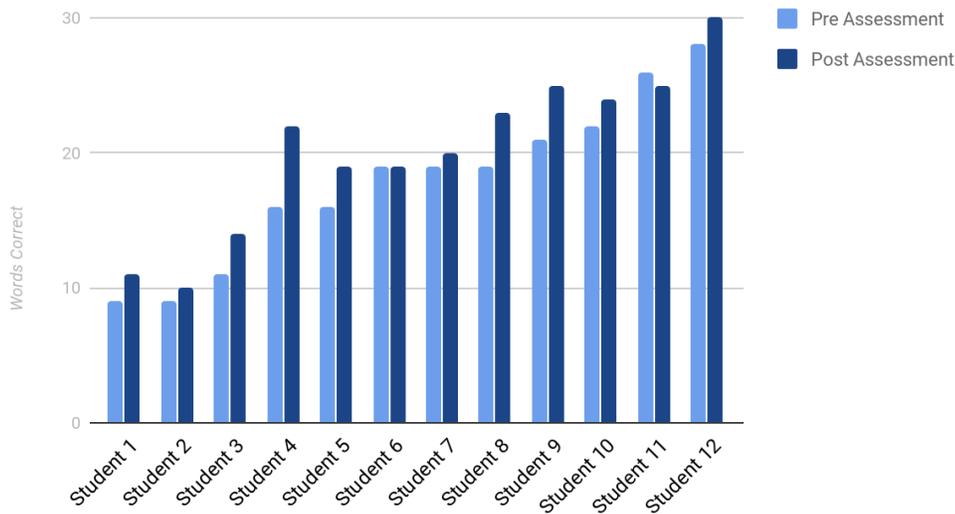
### **Struggling Readers Made Word Reading Gains through a Systematic Multisensory Phonics Intervention**

I developed a word reading assessment based on the vowel team patterns used with Concept Phonics. Accuracy was measured prior to the intervention and after the 8-week intervention period. Because many of the students were strongly challenged by the list of words at preassessment, I offered students the option to skip a word if they found it too difficult to read. Six of the twelve 5th grade students and three of the seven 6th grade students skipped at least one word on the preassessment. When students took the post assessment, I did not offer this option and no student skipped or asked to skip any words. The lowest scoring 6th grade student skipped two words on the preassessment: /tease/ was read as /t / and then "skip"; at post assessment the student read /teams/, showing more flexibility to read past the initial sound and accurately approximate the middle vowel sound. This student also skipped /juice/ on preassessment but

accurately read the word at post assessment. The lowest scoring 5th grade student showed similar gain with the word /clue/; he read /k / and then “skip” at preassessment and accurately read the word at post assessment. In hindsight, I should have been consistent with offering or not offering the option to skip a word. Nevertheless, I found it interesting that after the intervention, students did not balk at making attempts at all the words. Results of the assessments are shown below.



## Word Reading Assessment Grade 5



Fifteen of the total 19 students made word reading gains following the phonics intervention; however, in each class there was one student who did not make any gain, and there was one student who showed a decrease in their word reading. Interestingly, for both the 5th and 6th grade, the students who showed a decrease were the students who scored at the higher end of the scale. Another interesting result is that the 5th grade student who showed the biggest increase (+ 6 words) was the student who presented with oppositional behaviors that frequently interfered with his focus during the intervention. On the other hand, the 6th grade student who showed the biggest gain (+6 words) presented as highly engaged during each intervention session. When I reviewed this student's pre- and post assessment substitutions, I noticed that there were no notations for verbal strategy use on the post assessment, which indicated that he gained an internal transfer of the spelling and sound patterns from the phonics intervention. When I queried this student about what his "go to" strategy is for figuring out unknown words, he said, "I've seen it another way." He was the only student who self-reported using analogy as a strategy; it is

encouraging to surmise that the intervention seemed to help this student transfer the skills to increase his accuracy.

### **Students Used Purposeful Strategies to Sound Out, Segment, Flip the Sound and Recall to Read Unknown Words**

Prior to the intervention, we discussed accuracy strategies that readers use when they come to a word they don't know. I put strategy cards on the table and asked students to talk about the strategy that they use: sound out, chunk up word parts, stretch and blend, and flip the sound. Throughout the course of the intervention, I kept a reflective journal and recorded what vowel team I worked on with each student group as a way to track consistency. I also recorded student strategy use during each session. At the end of the session, I revisited the strategy cards and asked the students to state what strategy they thought they used. Additionally, when a student was successful at decoding a tricky word, I made sure to ask: *How'd you do that?! I was hoping as I asked the student in that moment of success that she or he might gain metacognitive awareness and transfer that strategy use to text reading.* When I did pose the question about strategy use, students reported that they “chunk the parts,” “chunk the sounds,” “chunk it and put it together,” “sound out,” “flip the sound,” “recognize the word,” “remember the word,” “look at the word and know it,” “seen the word a different way,” “blend and reread,” “stretch and blend,” and “use beginning and ending sounds.” I asked one student who struggles more than the others if this word work in which we sort and look for patterns is helpful and she replied, “Yes. It helps me spell the words and then make the sound with my mouth.”

When I analyzed the data of new word acquisition, specifically words that were inaccurate on preassessment and self-corrected on post assessment where there was evidence of strategy use, the majority of self-corrections were made by flipping the vowel sound. The second

most used strategy for self-corrections on the post assessment was to sound out and blend. It's encouraging to see that students in these instances internalized strategy use and transferred that skill outside of the intervention setting. After coding my journal notes to analyze strategy use, I looked for patterns of what I noticed students do as they sorted, read, wrote and reread word cards. I frequently gave verbal prompts to "flip the sound" or "look for parts," but I do not see prompts to blend. Perhaps this was why so many students failed to read through the entire word for accuracy because they did not receive that targeted prompt.

Students who showed strong decoding skills were more likely to say they used memory to help them read a word. Because I designed the intervention to spiral through the vowel teams, students had the opportunity to practice with the words more than once and showed that they could automatically decode the word using memory the second time they saw it. It's interesting to think about memory as a strategy use with struggling readers because research has shown that students with persistent reading difficulties have deficits in verbal short-term memory. This bolsters the importance of finding efficient ways to decode as well as how long-term memory may play a part in word reading acquisition.

### **Students Stayed Engaged in and were Motivated by the Routine and Process of the Multisensory Phonics Intervention**

The limitations of class time and the number of students in the class prevented me from providing the phonics intervention on a daily basis with every student. At the start of each 5th grade class, inevitably students came up to me and asked: *Are you taking me today?* When I replied *Yes*, they hustled over to the word work table and settled in. When I replied *No*, the frequent response was *Aw!* When I asked students what they thought about the word work one girl replied, "I like it cuz it's fun." Another student said, "I like it because we get to use [dry

erase] pens!” The novelty of the materials such as their folders, the pens and the word cards themselves seemed to be a motivator for many of the students. The process of introducing the vowel team, writing the patterns on their vowel cards, sorting word cards, reading the cards, writing the words and reading them again became a predictable routine that many students latched onto and the routine itself became motivating. The routine also helped students stay focused, and I am struck by the number of times I see that I wrote “highly focused” or “worked carefully.” Many of our struggling readers also had difficulties staying focused for their learning, so this was an exciting insight.

However, I must also recognize the notations in my journal where I wrote “disengaged,” “distracted” and “redirects needed.” In some cases, I realized that the grouping of certain students created a personality mismatch and distracted behaviors improved greatly if I mixed up those groups. I learned that four in a group was simply too big because there was too much time between their reading as we went around the group, so I limited the number to no more than three. Still, the intervention provided an intensive opportunity for individual students who have oppositional behavioral issues in school to engage positively. One student who was highly distracted and would pick his fingers was limited in this distractor because of the hands-on activities of sorting the word cards and writing. Another student who typically presents as highly oppositional achieved success in discrete tasks, which seemed to bolster positive participation.

### **A Multisensory Phonics Intervention Creates Engagement through Peer Collaboration**

It was fascinating to notice peer interactions while students worked in small groups. As noted earlier, some groups were not a good mix and their behaviors were distracting to each other. Other groups worked seamlessly, and students in supportive groupings were engaged and eager to participate. Toward the end of the intervention, I was pleasantly surprised to see the

interaction of one fifth grade pairing between a boy who has the most significant difficulties and a boy who was the strongest decoder in the class. When these two boys were paired together, the student who had stronger skills showed patience and understanding for the student who struggled more. The stronger student took on a leadership role and explained how he figures out a word and demonstrated his strategy use on a word that was especially difficult for his reading partner. Additionally, when these students worked together they were both engaged and eager to participate.

Peer collaboration proved to be a significant factor with two sixth grade students who have been longtime reading partners, the same boys mentioned in my introduction. Student 1 and Student 4 (as referenced in the graph above; aka Grinner and Chin Scratcher, respectively) have received pull out reading instruction since 2nd grade. Student 1 received Special Education services for a learning disability that impacted his reading due to processing deficits with visual memory and visual motor integration. He struggled mightily to decode and had not responded significantly to prior word reading interventions, although he had strong auditory recall and comprehension skills. Student 1 and Student 4 were naturally competitive, and since they were in 2nd grade I have noticed that their competitive rapport can be both a blessing and a curse. At times they spurred one another on to try harder. In the course of this intervention, however, the boys began to show a growing gap in ability. Whereas Student 4 was motivated by his success in word reading accuracy, Student 1 grew increasingly frustrated by his inability to decode. During one session, although he began with interest, Student 1 eventually shut down completely and refused to make any verbal attempts, a behavior I had never witnessed from him. It seemed that every easy effort his longtime reading partner made caused him more distress, as if he felt left behind because he didn't "get it." I shifted the instructional target for Student 1 to identify and

pick up the word cards that Student 4 read, and Student 1 was able to quickly and accurately identify all of the cards but he held his lips tightly and refused to speak. This interaction was a wakeup call for me to dig deeper into motivation and attitude toward reading in older struggling readers.

### **Discussion and Implications**

When I set out to develop ways to help older struggling readers gain accuracy in word reading, I had thought that the sorting of word cards would provide a hands-on activity to engage them. I designed the intervention based on what current research has shown to be effective. For the vast majority of students, the multisensory phonics intervention that used visual memory cues, grapheme-to-phoneme correspondences, tactile manipulation and decoding/encoding practice was effective. Many of my students looked forward to the word work and were receptive to corrective cues so they had multiple opportunities to imprint accurate reading and spelling. Not all students engaged fully in the work, and for some, the work was no different from previous interventions: it was hard and frustrating. Despite that reality, I'm certain that it was a useful and productive intervention because students made reading gains and they seem to be more confident readers. Even Student 1 made accuracy gains and, although he experienced frustration, he also had several opportunities to shine throughout the course of the intervention. When his reading partner was having a bad day, Student 1 stepped up and guided the pace, stayed focused and brought his partner around to the task. After my interview during which he talked positively about games and memory, I switched up our session to use the word cards in a game of Concentration in which he could match vowel teams. By the end of the game, he read the words willingly and was excited to count his pairs, especially since he beat me.

As a class, we have laid the groundwork for building accuracy. We've done the hardest part by learning and practicing all of the vowel teams. We can now stretch the routine to include word-building games and memory games because I believe it's important that I consider the frank words from Student 1 to incorporate ways to foster fun in the word work. In the interview with him, he stated:

In general, I despise reading. I hate reading right now. I know you guys [teachers] are trying to help me, but if there is an easier way or a funner way that's more hands-on like outside or games, it'd be really fun. And if you put it into a memory game, that would be, I love memory games. Because it makes you have to use your head and you can do it with your hands.

Additionally, the next step is to expand the work to include fluency practice with poetry. Students can hunt for vowel teams in poems, practice reading the words, write word cards with the words they identify and then practice the entire poem. This fluency work will also serve as a springboard for tuning into interesting words to expand their vocabulary.

When I think of the implications of my study, I hope that students will use the skills they are practicing outside the context of the Literacy Lab and beyond. I hope to help them gain the confidence to advocate for themselves as readers to know that they can access strategies that work for them. I hope to continue to build on the work we have done and foster a positive attitude toward reading and even the smallest success that they achieve. My next steps as a reading teacher will be to keep looking deeper into what works for students and keep them motivated to reach their own next level.

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**Appendix**  
VOWEL TEAM WORD READING ASSESSMENT

Read the words:

paint

cube

light

tease

stalk

poach

spoon

weigh

piece

mice

fought

ploy

clue

woodstove

know

haunt

juice

mind

voice

bread

height

shout

sign

soil

daytime

yolk

eye

flew

obey

group