

**The Relationship Between Encoding and Decoding**

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### **Introduction to Topic/Rationale**

Both David and Alexa have diagnosed Specific Learning Disorders, which affect their reading and writing content skills. When speaking with the Reading Specialist at school who works with both students twice a week, she mentioned the words they are able to read they struggle to spell and the words they can spell they struggle to read. As their general education teacher, I agreed with these observations and became intrigued to explore this more.

After looking through previous assessments of each child's reading and spelling, I found data in support of our anecdotal observations. When a week's phonics pattern was digraphs David received a 54% on the end of week spelling assessment. However, on his weekly fluency passage he read 13/17 words which included a digraph correctly; Alexa had similar results. After looking through more data collected I was intrigued if there was a misconception in their phonemic awareness.

Phonemic awareness is a person's "ability to hear and manipulate phonemes – the smallest units of sound in the English language" (Murrow, 2019). Phonetic awareness is a big umbrella to many other ideas, concepts, and skills – all of which are required for students to accurately and precisely decode and encode words. When a child decodes a word, they are looking at the word, already written out, and applying what they know about the different phonemes (letter sounds) to read the word(s). Encoding is when the child hears a word and can break down the phonemes in the word and identify the graphemes (written symbol). A simple way to think of encoding and decoding is when we are reading we are decoding, when we are spelling we are encoding. The purpose of this case study will be to identify each students' errors

in decoding and encoding in the hope a misconception will be identified and addressed in order to decrease the margin of error between the two skills.

### **Introduction to Students**

#### **Student One**

For the purposes of this case study and to protect the identity of the child, student one will be referred to as David. David is seven years and eight months old and is a male student in the second grade. David attends a private, Catholic, elementary school in Chicago. David lives with both his mother and his father, and he has a sister who is in PreK 4 at the same school. David is a club hockey player and his dream is to play in the National Hockey League. Both parents are highly supportive of David's education and work closely with his teachers to ensure his needs are being met.

In the 2020-2021 school year David has only missed one day of school and he has not received any tardy slips. The school David attends allowed parents to select if the child(ren) would learn in person each day or be an eLearner each day. Parents can change the learning option at the end of each trimester. David's parents have elected for him to attend in-person learning for both the first trimester and the second trimester. They have not indicated if the status will change for the third trimester.

David received a Neuro Psych Evaluation in January of 2020 after academic gains were not being made and parents, along with school staff, were concerned. David was diagnosed with ADHD, Dysgraphia, Dyslexia, Specific Learning Disability with Impairment in Mathematics. David is pulled out of the general education classroom three times a week for thirty to forty-five minutes to receive support in both reading and mathematics.

In the classroom David is provided with modified worksheets, does not receive a handwriting or spelling penalty, is allotted 50% extra time on assessments, and has preferential seating. His parents expressed in past school years David was aware of his academic challenges, in comparison to his peers, and was severally depressed as a result. This year, his parents are reporting David loves attending school and his anxiety in the classroom is not present at the current time.

David is a highly social student who does wonderful with peer interaction. He frequently seeks opportunities to include all classmates and is extremely respectful to adults. David is approximately four feet, has shoulder length blonde hair, and wears glasses at all times. A permission form to work with David on this case study was obtained with his mother's signature granting approval (Appendix E).

### **Student Two**

For the purposes of this case study and to protect the identity of the child, student two will be referred to as Alexa. Alexa is eight years and seven months old and is a female student in the second grade. Alexa attends a private, Catholic, elementary school in Chicago. Alexa lives with both her mother and father and is the only child. Alexa loves to draw and do arts and crafts, both at home and at school. She is involved in golf and is eager to participate in softball this spring and summer. Teachers mostly have contact with Alexa's mother and support from home is sporadic.

In the 2020-2021 school year Alexa has missed nine days of school, has been tardy three times, and has left school for unknown reasons four times. The school Alexa attends allowed parents to select if the child(ren) would learn in-person or be an eLearner each day. Parents can

change the learning option at the end of each trimester. Alexa's parents elected for her to eLearn the first and second trimester. Towards the end of the first trimester, and beginning of the second, Alexa began to not complete assignments, skip classes, and teachers noticed a decrease in her daily participation. Teachers and school staff reached out to her parents to see what additional support could be provided. The parents informed the school Alexa was experiencing Zoom fatigue and struggled with navigating Seesaw. Teachers created a modified schedule for her and emailed all classwork to mom at the start of the week to provide aid in the areas of need according to her parents. These efforts did not provide improvements to the areas of concern and the parents requested Alexa return to in-person learning half way through the second trimester, the school allowed. Alexa has been in-person learning since January 15<sup>th</sup>.

Alexa received a Neuro Psych Evaluation in December of 2020. Parents and school staff had expressed concerns and began the process of testing in February of 2020. However, as the process of testing began COVID-19 caused all efforts to end. Testing was picked back up at the start of the second trimester of the 2020-2021 school year. Alexa was diagnosed with Specific Learning Disorder with Impairment in Reading and Written Expression Language Disorder, and Developmental Coordination Disorder. The combination of these functioning difficulties means Alexa requires a higher level of support with academic interventions and consistent feedback in all environments in order to close the gap between her peers academically.

Some of the accommodations in the classroom for Alexa include modified worksheets, she does not receive a handwriting or spelling penalty, is allotted 50% extra time on assessments, preferential seating, and is given visuals to remind her of sequential steps. Alexa is pulled out of

the general education classroom three times a week for thirty to forty-five minutes to receive support in her reading and writing.

Alexa enjoys engaging with her peers and radiates kindness. She enjoys finding ways to make others smile and often makes cards for others who seem down. Alexa is approximately four feet and five inches tall and has long blonde hair. Alexa does not wear glasses. Since becoming an in-person learner teachers and other school staff have noticed Alexa's pupils rapidly shake side to side when trying to concentrate on a task. The school has reached out to her parents to see if they also noticed this but have not received a response. Alexa also walks pigeon toed, toes facing inwards, and has a limp. A permission form to work with Alexa on this case study was obtained with her mother's signature granting approval (Appendix E).

## **Assessment**

### **Introduction to Tools/Rationale**

To gain a uniform baseline for both students I administered the Wilson Assessment of Decoding and Encoding, also known as the WADE. The WADE is used to assess students decoding and encoding skills and includes seven subtests. These subtests break down the different skills which correlate to decoding and encoding and allow for a more detailed insight into the student's areas of strength and areas where growth is needed.

The first subtest is sounds. The purpose of the assessment is to assess "the ability to say the sound(s) of the letter(s) presented in isolation: grapheme (letter) to phoneme (sound) correspondence" (Wilson, 2018). In the sound subtest, a card is placed in front of the student. Pictured on this card are different consonants, digraphs, and trigraphs. Students are instructed by

the examiner to begin at the top of the card and work across. Students are directed to point to the letter on the card and say the name of the letter followed by the sounds of the letter. If a letter makes more than one sound the examiner is able to prompt the student to identify if they know any other sounds the letter makes. If a student correctly identifies the sound of the letter a (+) is marked on the Examiner's Recording Form. If a sound is unknown or mispronounced the manual is marked with a (0). When the student receives five consecutive errors the examiner pauses and asks the student to look over the items on the card to see if they can identify any other letter and sounds. Any item identified correctly at this time is marked with a (+).

The second subtest is Read-High Frequency Words. This subtest "assess the ability to accurately recognize high frequency words with one or more irregular or unexpected sounds" (Wilson, 2018). In this subtest a different card is placed in front of the student. This card displays multiple lists of high frequency words. Students are reminded these words may appear to be tricky, as they do not follow the usual spelling patterns, and are not able to be sounded out. Students start at the top of list one and read the words going down the column. If the student gets to a word they are unsure of, they may say "skip". Students are allotted five seconds on each word. If the word is unknown after five seconds students are encouraged to move on to the next word. This subtest ends when a student makes 5 consecutive errors. When a student correctly reads a word, it is marked in the Examiner's Recording Form with a (+). If a word is skipped or misread it is marked with a (0). If a student makes an error on a word but then self corrects it is marked (O/SC).

The third subtest is Read-Words and the fourth is Read-Pseudo (nonsense) Words. The purpose of both subtests is to assess "word recognition (subtest 3) and the application of

decoding skills (subtests 3 and 4) for specific word patterns” (Wilson, 2018). Both subtest three and four follow the same administering protocol. For each respective subtest a new card is placed in front of the student. On the third subtest, the examiner selects the wordlist they feel the student will be able to pronounce all ten words correctly. Students read the words going. They are given five seconds to read the word. If in students are unable to decode the word the examiner encourages them to say “skip” and move on to the next word. When determining what list to begin at for subtest four, the examiner should begin at the list which corresponds with the list from subtest three which was read with no errors. Both subtests conclude when the student has made five consecutive errors.

The fifth subtest is Spell-Words which “assess the ability to use skills to spell words that follow the English alphabetic system and orthography” (Wilson, 2018). Similar to subtest four, the starting point of this assessment correlates to the Read-Words baseline (subtest three) results. If a student makes one error on a list, the student is stopped and the previous list is used as a starting point. The examiner dictates the word, uses it in a sentence, and then repeats the word. The student is then asked to repeat the word back. Students then encodes (spells) the word dictated to them on a separate sheet of paper. When a student reaches five consecutive errors the assessment for this subtest ends. If the student spells the word correctly a (+) is recorded in the Examiner’s Recording Form. If a word is misspelled a (0) is entered and the examiner writes on the line the specific way the student encoded the word. If a student skips over a word, either purposefully or as an error, it is marked as (0-).

Subtest six is Spell-High Frequency Words. The purpose of this subtest is to assess a student(s) “ability to accurately spell high frequency words with one or more irregular or



unexpected sound” (Wilson, 2018). For this assessment any words decoded (read) correctly during subtest two are now dictated to the student. This is done to determine if the student can also encode (spell) the high frequency words. These words are dictated to the student using the same frame work as the Read-Words (subtest five). When a student makes five consecutive errors the examiner ends the assessment for this subtest.

The final subtest is Spell-Sentence Dictation which “assess application of spelling and basic capitalization and punctuation when writing dictated sentence which have specific word patterns and high frequency words” (Wilson, 2018). To determine where to begin this subtest, the examiner refers back to the results of subtest five. If a student has an error on the first sentence attempted, the examiner uses the previous sentence as a starting point. The examiner will say the sentence to the student. The student then repeats the sentence out loud, the sentence can be repeated by the examiner as many times as necessary. The student records the dictated sentence on a separate piece of paper. The subtest is continued on until the student has three or more errors on a given sentence.

My rationale for selecting this tool relates to the intervention support both students receive. When students are pulled for reading intervention they work with the Wilson Reading System (WRS) phonics curriculum. However, students were never assessed to see where they should be placed to begin their interventions in the Wilson Reading System. My hope is to hone in on a misconception and identify where in the WRS the skill is taught. If it was in a level prior to where the student began I will create multisensory lessons to help the students explore the concept and skill determined.

I also administered the Words Their Way spelling inventory to both David and Alexa. The creator of the Words Their Way Spelling Inventory has a belief which “all effective instruction begins with assessment that tells us what students know, what they’re missing, or what they’re using incorrectly”. The Primary Spelling Inventory is typically used in kindergarten through third grade. The primary inventory consists of twenty-six different words and can be given as a whole class, in a small group, or one on one. For the purpose of this case study I administered the spelling inventory in a one on one setting.

The feature guide makes this inventory easy for teachers to read and understand the results, as well as identify where each student is at with their encoding skills. Each word is clearly broken apart into letter name-alphabetic, within word pattern, and syllables and affixes. An additional categorization is made to show the assessor if students are at an early, middle, or late stage for the encoding skill.

My rationale for selecting this additional assessment tool was to find a more conclusive skill to begin instruction. I selected this inventory because the feature guide allows for the instructor, or assessor, to distinctly see what skill a student is struggling with and at which stage in the skill instruction should begin at.

### **Analysis of Results**

The Wilson Assessment of Decoding and Encoding, also referred to as the WADE, breaks down several tests into three main result categories; sounds, reading, and spelling. The first category, sounds, considers all the sounds of the consonants, vowels, digraphs/trigraphs, welded sounds, and additional sounds. For a detailed breakdown of David's results on the WADE, please see Appendix A. To see a detailed breakdown of Alexa's results on the WADE, please see

Appendix C. In all, both students received an assessment on one hundred five different sounds. David showed mastery of 55% of sounds. The area of greatest strength was consonants (79%), and the area with the most room for growth was vowels (37%). Alexa showed a master of 42% of sounds. Her highest performing area was welded sounds (62%), and the area with the most room for growth was vowels (30%).

The next test was reading. The results in the reading section are broken down into high-frequency words, words, and pseudowords. The maximum amount of words the students could have read was two hundred forty. David showed a mastery of 12% of his reading; high-frequency word 23%, words 11%, and pseudowords 3%. Ava showed a mastery of 24% of her reading; high-frequency words 62%, words 15%, pseudowords 8%.

The final category for testing was spelling. The breakdown for this category was high-frequency words, words, and sentence writing. The maximum number of items students could have spelled correctly was one hundred eighty-four. David showed a mastery of 3% of the spelling items. He scored a 3% for both high-frequency words and words. In the sentence category, he scored an 8%. Alexa demonstrated mastery of 8% of the spelling items; high-frequency word 5%, words 9%, and sentences 8%.

The results of the WADE were baffling. It is known both of these students struggle with literacy. However, for the results to show results under 60% mastery overall was unsettling. After administering the WADE, the Words Their Way Spelling Inventory was used to gain a clearer picture of the skill to begin our intervention.

The Words Their Way Spelling Inventory formatted a much clearer picture of the specific areas of struggle within the WADE categories. For clarity of the individual student, I will discuss each section's results for David and then repeat with the results for Alexa.

To see the detailed feature guided used to assess David's spelling inventory and a copy of his written assessment, please see Appendix B. The first category on the Words Their Way Spelling Inventory is consonants, which are broken down by initial and final. David correctly encoded 13/14 consonants (93%). He missed one of the seven beginning consonants and correctly encoded all seven of the final consonants.

The next category is short vowels. David correctly encoded 6/7 (86%) of the short vowel sounds. The error made in this section was from the same word as his one error in consonant sounds. Following short vowels are digraphs. David correctly encoded 7/7 (100%) of the digraphs. Next on the recording sheet was blends. David correctly encoded 6/7 (86%) of blends. Following blends were long vowel patterns. This section included vowel consonant e and vowel digraphs to form the long vowel sounds assessed. In the long vowel patterns, David correctly encoded 0/7 (0%). Next to be assessed were other vowels; David correctly encoded 3/7 (43%) of the other vowel sounds. The final assessed area was inflected endings; David correctly encoded 2/7 (29%).

The results from the Words Their Way Spelling Inventory for David made it clear where the starting line was for intervention. David's results were above 85% until being asked to encode long vowel sounds, where his accuracy dropped to 0%.

To see the detailed feature guided used to assess Alexa's spelling inventory and a copy of her written assessment, please see Appendix D. In the category of consonants, Alexa correctly

encoded 13/14 consonants (93%). She correctly encoded all seven of the initial consonant sounds and missed one of the ending consonant sounds. In the short vowels category, Alexa correctly encoded 5/7 (71%) short vowels. The following category was digraphs. In this section, Alexa correctly encoded 6/7 (86%) digraphs. In the blends category, Alexa correctly encoded 5/7 (71%). The next category was long vowels. In this section, Alexa correctly encoded 2/7 (29%) of long vowels. Out of the different long vowel patterns assessed, the two Alexa correctly encoded were vowel consonant e. In the preceding section, other vowels, Alexa correctly encoded 1/7 (14%). In the final section, inflected endings, Alexa correctly encoded 1/7 (14%).

Unlike the clarity found in David's results from the Words Their Way Spelling Inventory, Alexa's data showed several different options for intervention. The first category where her mastery dropped below 85% was short vowels. Alexa is in all of my small groups for reading, writing, and phonics, so this data was surprising as she typically excels with decoding and encoding the short vowel sound. I decided it would not be beneficial to devoting all of her interventions to short vowels. The first category which showed the most significant misconception based on the data collected was the long vowel patterns, similar to Duke. I decided to select this as the area of intervention for Alexa as well.

## **Lesson Planning**

### **Description of Lesson One**

To begin the first lesson (Appendix F), I explained to the student I would say a word to them and I would like them to repeat the word back to me. I then explained I would identify one sound in the word stated and a new sound I would like them to change it to, working the students' phoneme manipulation. We began with stating the word box. I asked the student to

repeat the word. I then informed them I would like the /b/ changed to /f/ and to tell me what the new word is (fox). If the student got it the first time successfully, we continued on to another word. If the student struggled with this word, we would tap the sounds of the word out, identify the phoneme being changed, then tap the new word. If this still provided frustration for the student, a sound box was used to visually see the manipulation of the phoneme. If the student required tapping out of the word or using sound boxes, more practice was done to help the student feel more comfortable with the skill. We completed phoneme manipulation eighteen more times (Appendix I).

Next, I asked the student to say the word cat. The student was then asked to tap out the word cat and use a sound box to map out the word. I then asked what the vowel sound in this word was. When it was correctly identified, I then asked how the short vowel a sound is spelled in the word cat. Next, I asked the student to say the word rain. The student then tapped out the word and was asked to identify how many sounds they hear in the word rain. The student then identified which soundbox to use based on the number of sounds they discovered when tapping out the word. I asked the student what the beginning sound in rain was and how we spell the sound. This same process was repeated for the ending sound. The student was then asked to retap the word and identify the middle sound of the word rain. I asked the student if this is a vowel sound or a consonant sound and then if it was a short vowel or a long vowel sound.

At this point, it was explained to the student today we would be learning about a vowel digraph. A moment was taken to reflect on digraphs we already know and to review a digraph is two letters put together to make one sound. I explained a vowel digraph is two vowels put together to make one long vowel sound. I had the student reidentify the long vowel sound heard

in the word rain and informed them this long a sound is spelled with the vowel digraph ai. We then would retap the word and complete the correlating soundbox. The Wilson Reading System sound poster was then taken out, and we looked at the ai vowel digraph. The student said the word bait, identified each sound and how to spell it and then reviewed the ai spells the long a sound heard because it is a vowel digraph.

A list of words containing the new vowel digraph was placed in front of the student. This list contained twenty vowel digraph words for the student to practice their decoding skills. Before beginning, we reviewed how to segment the different sounds in the word we know and then blend them to discover the word. We practiced this skill with the first three words on the list. The student then read the remaining words on the list. I aided the student when needed but marked which word assistance was given.

The student was next asked to use a word map to map out the sounds and the spellings of those sounds for the word cat. Since the start of the school year, we have used word maps, so the student is familiar with this strategy. The student said the word cat, place a chip in a box for each sound hear in the word, and slid the chip up when segmenting the sounds. After sliding the chip up, they identified how to spell the sound. They repeated this for each sound. As they slid the chip up, they colored the box according to its location in the word. The beginning sound was colored green, the medial sound colored yellow, and the ending sound colored red.

Next, we completed a similar process, but with the word rain. The student was asked to tap out the word. Then they identified the beginning sound, sliding the chip, identifying the location of the sound in the word, spelled the sound, and colored the box the appropriate color. The student was then asked to repeat this process with the final sound. We then went back to the

medial sound. The student identified the sound, slid the chip, and identified the location of the sound. We then reviewed we were working on vowel digraphs. The student was asked what two vowels make the long a sound which was learned today. The student then spelled the sound and colored the box the appropriate color. The process stated above was repeated for the words paid, nail, and chain (Appendix G, Appendix H).

The student then used their sound bod box, and dry erase marker to encode the word I dictated. Students were encouraged to tap out the word, identify the soundbox to use, then spell the sounds. I modeled what I would like the students to do with the words pail and trail. I then dictated six other words for them to encode.

To gauge where the student was at for their understanding of the new vowel digraph I had them look at a picture which contained the ai vowel digraph. I then had them tap out the word and fill in how to spell the sounds of the word in the corresponding colored box. This was done independently and for six different words (Appendix G, Appendix H). The lesson then ended.

### **Description of Lesson Two**

To begin the second lesson (Appendix J), the student completed a phoneme manipulation activity. We began by reviewing how we can change the individual sounds of a word or get rid of them to form a new word. After reviewing and the student showing they felt comfortable with this skill, I explained I would say a word and give them a phoneme manipulation to complete. They would say the word and then check a bag of pictures. If they correctly manipulated the phonemes in the word, the picture would be in the bag, and they would glue it next to the starting words picture (Appendix K, Appendix L). There were twelve of these phoneme manipulations altogether.



The student then reviewed the vowel digraph skill we learned in the previous lesson. We looked at the Wilson poster together while the student said the word bait, tapped the word out, mapped the word out in a soundbox, and then explained ai is a vowel digraph and is one way to spell the long a sound. I also challenged the student as to why the ai got one box, but it has two letters, and the student explained a vowel digraph makes only one sound, and these boxes represent a sound.

I then explained we would be learning about another vowel digraph which can make the long a sound. I asked the student to say the word day. The student was then instructed to tap out the word and identify how many sounds they heard in the word. Using the appropriate soundbox, I asked the student to spell the beginning sound. I then asked what the next sound was and if any sounds come after. Next, I will teach the student when we hear the long a sound at the end of a syllable, one way we can spell it is the vowel digraph ay. I will have them finish mapping out the word day using the new vowel digraph learned.

Then the student will look at the Wilson poster of the ay vowel digraph. We read the word and then tapped out the sounds. The student then identified the long vowel sound they heard in the word and how it is spelled. Next, a list of words was placed in front of the student which contained the ay vowel digraph. We reviewed the sound made when a and y are next to each other in a word at the end of a syllable. The student was encouraged to frame the parts of the word they knew while reading if needed.

We then looked at the word day and repeated the same process we did with ai in the previous lesson. The student was asked to use a word map to map out the sounds and the spellings of the sounds for the word day. The student said the word day, place a chip in a box for

each sound heard in the word, and slid the chip up when segmenting the sounds. After sliding the chip up, they identified how to spell the sound. They repeated this for each sound. As they slid the chip up, they colored the box according to its location in the word. The beginning sound was colored green, the medial sound colored yellow, and the ending sound colored red. Since this word only has two sounds, the medial section was left blank. This process was repeated three more times for the words play, tray, and stay (Appendix K, Appendix L).

The student then used their soundbox to map out words which contained the ay vowel digraph as I dictated them. The student was encouraged to repeat the word I said, tap out the sounds, and then use the soundbox. The student completed six different encodings of dictated words.

To gauge where the student was at for their understanding of the new vowel digraph I had them look at a picture which contained the ay vowel digraph. I had them tap out the word and fill in how to spell the sounds of the word in the corresponding colored box. This was done independently and for six different words (Appendix K, Appendix L). The lesson then ended.

### **Description of Lesson Three**

The final lesson (Appendix M) could be thought of as more of an assessment in applying the skills and demonstrating when to use the correct vowel digraph. To warm up, I asked the student to explain what a vowel digraph is and to identify the vowel digraphs we have been working with. I then displayed both Wilson posters for the vowel digraphs and asked them if they could tell about the word bait. I asked where they hear the long vowel sound and one way we can spell the long vowel a in the middle of a syllable. We repeated for the vowel digraph ay. The student was then given a piece of paper with six sets, and each set contained four words.

Three of the words in the set followed the ay vowel digraph, and one word contained the ai vowel digraph. The student was asked to read the words in each set and select the work which did not belong (Appendix N, Appendix O).

I placed a sheet of paper in front of the student, which was split into two columns. One was labeled play, and the other rain. Students were instructed they would take a picture from the provided bag. They would then read the word aloud and tap out the sounds of the word. After identifying the number of sounds, they would then map out the word in a soundbox. I did encourage the students to leave the long vowel sound a blank and then return to it once they determine its location in the syllable. Once they determined which vowel digraph to use, they would glue the picture in the correct column and grab a new picture to repeat the process (Appendix N, Appendix O).

The student continued this process for all of the words in the bag. If they were unsure of what the picture was, they were allowed help identifying it. I also gave them one hint for each word if needed. For example, if they missed an ending sound when tapping out a word, I restated the word or tapped the word out with them. Next, the student used their soundbox to encode different words dictated to them. These words were mixed of ai and ay, and the student needed to identify which pattern to use. I dictated five different words which contained one of the vowel digraphs we had been working on.

To gauge where the student was I gave them a piece of paper numbered to 6. I then told them I would not be able to help them with this activity, but they are free to use any of the strategies we have learned so far. I dictated a word, used it in a sentence, and then repeated it.

After the six words, I dictated a sentence for the student to write (Appendix N, Appendix O). The lesson then ended

### **Rationale**

Based on the results from the students' WADE and the Words Their Way Spelling Inventory, I determined a great place of intervention for both students would be long vowel sounds. The spelling inventory assessed students on all long vowel sounds, which helped decide which long vowel pattern to begin with. To aid in selecting which pattern to work on, I spoke with the reading specialist who works with the students. She informed me they are going to begin working on long vowel sounds soon as well. She and I both agreed the students' knowledge of the vowel consonant e pattern was strong and devoting intervention would not be a beneficial use of time. She stated they would be starting with the ee and ea vowel digraphs. We concluded I should work with the ai and ay vowel digraphs to cover more material but in small group settings (Standard III).

Even though the focus would be on vowel digraphs, I wanted to include phoneme manipulation practice. Phoneme manipulation takes all of the phonemic awareness skills and puts them to the test for students. One article states, "Truly refined phonemic awareness includes even more advanced skills, like phoneme addition, deletion, and substitution, all three of which are considered phoneme manipulation. These are the top three layers of the pyramid... These types of activities are an excellent way to build refined phonemic awareness, particularly for students who may have already mastered phoneme segmentation and blending" (Really Great Reading, 2019).

Each vowel digraph lesson utilized similar tools or strategies. We used sound boxes, colored word mapping, and manipulatives. Each of these lessons took a multisensory approach. Using a multisensory approach in phonics combines the listening, reading, and speaking aspects of literacy and phonics but associates a physical or hands-on activity to relate the skill with (Standard VI). There are several reasons why multisensory approaches to teaching phonics are beneficial. However, they have proven even more helpful to struggling readers, "Multisensory activities provide needed scaffolding to the beginning and struggling readers and include visual, auditory, kinesthetic, and tactile activities to enhance learning and memory" (Center for Effective Reading Instruction, 2016). These multisensory activities were all items the students had been using all year and provided an aspect of familiarity for their intervention work (Standard V).

I decided breaking this intervention into three lessons would allow for focused time on each vowel digraph being studied before working with both of them in the same lesson. Both lessons also followed similar structures and activities. I was shared these activities by a colleague during my student teaching experience in 2017. I do not have the link or know where she got these activities from with certainty; my best guess would be from Teachers Pay Teachers. The activities used follow the multisensory aspect with the shading of different sound colors and sliding chips for sounds.

### **Teaching**

The school I teach at is a private, Catholic grade school in the Archdiocese of Chicago. The Archdiocese of Chicago has its own academic standards for teachers to use as guidelines for their instruction. These three lessons will aid students in standard 2.RF.PWR.3.1.b, which states students will be able to distinguish between long and short vowels in regularly spelled

one-syllable words, and standard 2.RF.PWR.3.2.a, which states students will be able to identify spelling-sound correspondences for common vowel teams. When looking at the Common Core Standards, standard CCSS.ELA-LITERACY.RF.2.3.A and standard CCSS.ELA-LITERACY.2.3.B closely resembles standards by the Archdiocese of Chicago.

For all three lessons, I utilized the same framework I would use when teaching a content lesson to the whole class. I began each lesson with a warm-up activity. I find it beneficial for a student when a warm-up is included because it familiarizes the student with a concept related to the lesson about to be taught. The warm-ups for lessons one and two related to phoneme manipulation and allowed the student to have extra practice working to isolate and identify specific sounds of different words. Doing this successfully allowed them to quickly identify the long vowel in words during the lesson. Vowel digraphs are an end-of-grade-level goal for our students. Both David and Alexa do not receive grades for their spelling, per their accommodations. However, these skills will benefit their ability to read and to comprehend what they are reading.

Following the warm-up, each lesson goes into the main lesson, then an activity, and ends with an assessment of some sort. During each of the three portions just listed, I take the approach I do, we do, you do. I find the scaffolding students towards independence takes away the total frustration on the student end. When I slowly remove assistance, I can gauge when a student is becoming frustrated and what exact task sparks the frustration (Standard I). For instance, David was becoming frustrated with using sound boxes because he could not recall how many sounds he had said were in the word. Taking a scaffolded release allowed me to see this and provided aid to help him keep track. David has fidget tools he brings to the classroom to help me focus. One

of them is a large square which has different circles you can pop. The circles are in a uniform five rows by five rows. Instead of just tapping the sounds on his fingers, David would push a circle on his fidget tool down and use it as a reference tool to decide which soundbox to use and referred back to it frequently (Standard V). I have noticed David similarly using this fidget tool during work time and am glad he found an additional tool to aid him in learning.

During the lessons, both students responded differently. David has a much shorter attention span. I knew going into these interventions, he may need more breaks throughout one lesson and need to find a different environment to work in. During the lessons, when I noticed him becoming wiggly or losing stamina, we stopped immediately and went for a walk around the school or, if the gym was open, he went in and ran around for a few minutes. Each time he returned to our workspace focused and was eager to return to the task at hand (Standard III).

Alexa has high stamina but frequently struggles with executive functioning skills and remembering the steps to complete a task. For this reason, I made her a step-by-step list for each independent activity. If I noticed she was beginning to skip a step or go through the motions, we would also go for a quick walk, or I would pause here, and we would take a few moments to discuss something about her day. After I would remind her of the steps by going through her checklist with her, and she would return to the said activity (Standard III).

### **Reflection**

When reflecting upon the process of this case study, I believe the intervention and instruction to have been effective and beneficial to each student. In the plans for all three lessons, the goal for student mastery at the end of lesson activities to be 75%. Some may think this percentage is relatively low for mastery. However, I selected 75% mastery because this is the

first time each student received tailored instruction on the skills. When we covered vowel digraphs in our whole class instruction earlier in the academic year, David and Alexa showed mastery at 47%. I felt an increase to a 75% mastery would be challenging for the student but still a realistic expectation. In all three lessons, both students' assessment pieces showed 100% mastery of the vowel digraph skill we worked on (Standard II).

Throughout beginning this case study, I have noticed Alexa during independent work times, such as read to self and writing, applying some of the different strategies and skills we worked on. A specific example of this is writing letters to future second graders. Alexa made a soundbox on a blank piece of paper and was mapping out several unknown words. After noticing this, I gave her a dry-erase soundbox to keep in her space to aid her during independent work time.

I believe the data collected in these three lessons primarily demonstrates each student's ability to encode the vowel digraphs. If I were to restructure the intervention, I would add a clear decoding aspect to go along with the brief decoding of word lists each student completed. The intervention times used to complete these lessons were done in addition to the time students are pulled for a guided reading group. During Alexa and David's guided reading groups, I intentionally selected books which had a presence of ai and ay. In my anecdotal notes, I recorded both students framed the portions of the words known and decoded the ai and ay words.

At the start of this study, I explained to the students I would be working with are going to be helping me complete my homework for college. Sometimes students who are frequently pulled out of the room to work in a small group or with resource teachers become hyper-vigilant of their peers' thoughts and ideas about what they are doing. I wanted David and Alexa to



understand they were not in trouble and make them excited about their work with me. Setting our work time up in this manner proved to be incredibly beneficial. I found both students each morning coming to my desk asking if I had any homework we needed to do or telling another teacher who would pass us working they were helping me with the adult school. The excitement both students displayed and their active participation made behavior management simple and created an environment where they felt comfortable enough to take chances without thinking about what others may think if their answer is incorrect (Standard IV).

Due to students coming and going from quarantine, I could not reassess David or Alexa with the WADE or Words Their Way Spelling Inventory. I still do plan to re-administer these for my own measure and notes. The reading specialist is moving on to these vowel digraphs next week with both students. I am intrigued to hear her feedback on their understanding and application.

Before this case study, I had only worked with the Wilson Reading System. After working with it, I would like to explore other multisensory phonics and literacy intervention curriculums. I believe Wilson is beneficial to students, but I do not think it is the easiest to gain base-level data or break down the data into detailed areas of instruction. I have reached out to several teachers and professors to see what other multisensory programs they have had experience with using.

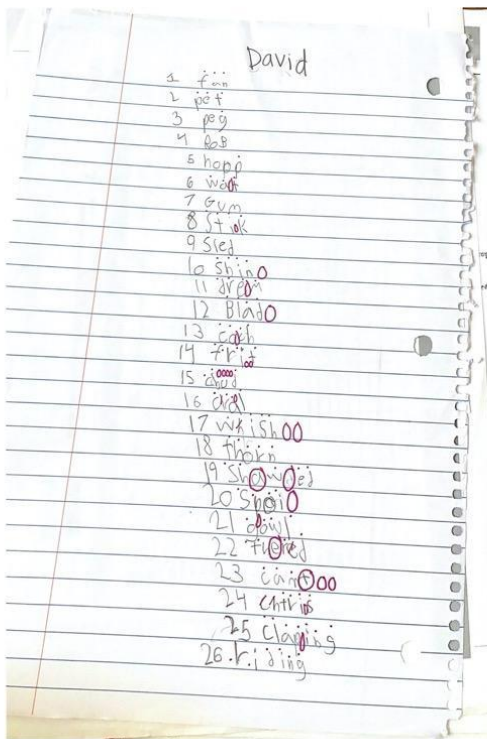
## Appendix A

## David WADE Preassessment Results

Summary of Scores				Level <b>AB</b>
Report of Wilson Reading System® Instruction for _____				(Student Name)
Baseline Assessment and End-of-Year Annual Assessment				
Use Form 1 for Baseline Assessment, then alternate Forms for subsequent assessments.				
Date of Assessment: <u>Pre</u> <u>David</u>		Date of Assessment: <u>Post</u>		
Administered by: _____		Administered by: _____		
SOUNDS	Total Correct (TC)	+ Total Items (TI)	= Total % Correct (%C)	
Consonants (b-z)	<u>19</u>	+ 24	= <u>79</u> %	
Vowels	<u>21</u>	+ 56	= <u>37</u> %	
Additional Sounds	<u>—</u>	+ 15	= <u>—</u> %	
Digraphs/Trigraphs	<u>6</u>	+ 9	= <u>66</u> %	
Welded	<u>12</u>	+ 16	= <u>75</u> %	
<b>TOTAL SOUNDS</b>	<b><u>58</u></b>	<b>+ <u>120</u></b>	<b>= <u>55</u> %</b>	
Notes/Observations				
READING	Total Correct (TC)	+ Total Items (TI)	= Total % Correct (%C)	
HFW	<u>14</u>	+ 60	= <u>23</u> %	
Words	<u>14</u>	+ 120	= <u>11</u> %	
Pseudo Words	<u>2</u>	+ 60	= <u>3</u> %	
<b>TOTAL READING</b>	<b><u>30</u></b>	<b>+ 240</b>	<b>= <u>12</u> %</b>	
Notes/Observations				
SPELLING	Total Correct (TC)	+ Total Items (TI)	= Total % Correct (%C)	
HFW	<u>2</u>	+ 60	= <u>3</u> %	
Words	<u>3</u>	+ 100	= <u>3</u> %	
Sentences	<u>2</u>	+ 24	= <u>8</u> %	
<b>TOTAL SPELLING*</b>	<b><u>7</u></b>	<b>+ 184</b>	<b>= <u>3</u> %</b>	
Notes/Observations				
Formula = Total Correct + Total Items = . _____ x 100 = Total % Correct				
* If administering 1:1, you can score with versus without spell checking technology.				
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## Appendix B

### David Words Their Way Preassessment Results



David

Words Their Way Primary Spelling Inventory Feature Guide

Student's Name: David Teacher: Trimple Grade: 2 Date: 3/10/21

Words Spelled Correctly: 8 / 26 Feature Points: 37 / 56 Rate: 41% / 100 Spelling Stage: early with word patterns

SPELLING STAGES	EMPHASIS	LETTER SOUND-ALPHABETIC				EMERGING WORD PATTERNS			SOUND PATTERNS		Words Spelled Correctly
		Initial	Consonants	Vowels	Final	Short Vowels	Long Vowels	Other Vowels	Inflected Endings	Feature Points	
1. fan	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
2. pot	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
3. bag	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
4. hop	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
5. wet	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
6. gum	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
7. stick	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
8. sled	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
9. shine	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
10. beam	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
11. blade	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
12. beach	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
13. tooth	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
14. chew	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
15. coat	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
16. wish	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
17. think	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
18. soap	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
19. shout	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
20. spot	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
21. third	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
22. clap	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
23. mess	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
24. ring	Initial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
Totals		6 / 17	7 / 17	0 / 17	7 / 17	0 / 17	3 / 17	2 / 17	37 / 56	8 / 26	

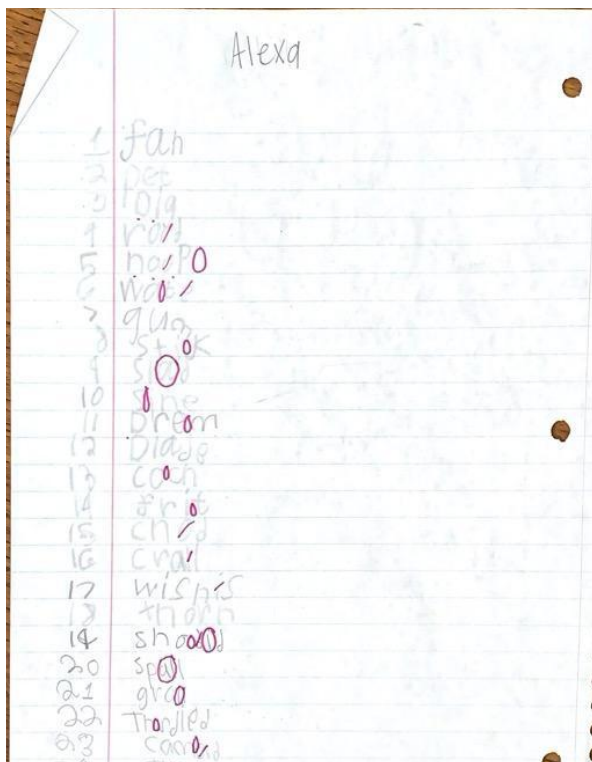
## Appendix C

### Alexa WADE Preassessment Results

Summary of Scores				Level <b>AB</b>
Report of Wilson Reading System® Instruction for _____				(Student Name)
Baseline Assessment and End-of-Year Annual Assessment				
Use Form 1 for Baseline Assessment, then alternate Forms for subsequent assessments.				
Date of Assessment: <u>Alexa</u> <sup>Pre</sup>		Date of Assessment: _____ <sup>Post</sup>		
Administered by: _____		Administered by: _____		
SOUNDS	Total Correct (TC)	+ Total Items (TI)	=	Total % Correct (%C)
Consonants (b-z)	12	24	=	50 %
Vowels	17	56	=	30 %
Additional Sounds	—	15	=	— %
Digraphs/Trigraphs	5	9	=	55 %
Welded	10	16	=	62 %
<b>TOTAL SOUNDS</b>	<b>44</b>	<b>120</b>	<b>=</b>	<b>42 %</b>
Notes/ Observations				
READING	Total Correct (TC)	+ Total Items (TI)	=	Total % Correct (%C)
HFW	37	60	=	62 %
Words	17	120	=	15 %
Pseudo Words	5	60	=	8 %
<b>TOTAL READING</b>	<b>59</b>	<b>240</b>	<b>=</b>	<b>24 %</b>
Notes/ Observations				
SPELLING	Total Correct (TC)	+ Total Items (TI)	=	Total % Correct (%C)
HFW	3	60	=	5 %
Words	9	100	=	9 %
Sentences	3	24	=	12 %
<b>TOTAL SPELLING*</b>	<b>15</b>	<b>184</b>	<b>=</b>	<b>8 %</b>
Notes/ Observations				
Formula = Total Correct + Total Items = _____ x 100 = Total % Correct				
* If administering 1:1, you can score with versus without spell checking technology.				
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## Appendix D

### Alexa Words Their Way Preassessment Results



**Alexa**

**Words Their Way Primary Spelling Inventory Feature Guide**

Student's Name: Alexa Teacher: Trumble Grade: 2 Date: 3/16

Words Spelled Correctly: 6 / 26 Feature Points: 33 / 56 Total: 39 / 82 Spelling Stage: early with word pattern

SPELLING STAGES →	EMERGENT	LETTER NAME-ALPHABETIC				WITHIN WORD PATTERN			SYLLABLES AND AFFIXES		Words Spelled Correctly
		LATE	EARLY	MIDDLE	LATE	EARLY	MIDDLE	LATE	EARLY		
Features →	Consonants		Short Vowels	Digraphs	Blends	Long Vowel Patterns	Other Vowels	Inflected Endings	Feature Points		
	Initial	Final									
1. fan	f ✓	n ✓	a ✓								
2. pet	p ✓	t ✓	e ✓								
3. dig	d ✓	g ✓	i ✓								
4. rob	r ✓	b ✓	o ✓								
5. hope	h ✓	p ✓				o-e ✓					
6. wait	w ✓	t ✓				ai ✓					
7. gum	g ✓	m ✓	u ✓								
8. shed			e ✓		sh ✓						
9. stick			i ✓		st ✓						
10. shine				sh ✓		i-e ✓					
11. dream				dr ✓		ea ✓					
12. blade				bl ✓		a-e ✓					
13. coach				-ch ✓		oa ✓					
14. fright				fr ✓		igh ✓					
15. chewed				ch ✓			ew ✓	-ed ✓			
16. crawl				-ch ✓	cr ✓		aw ✓	-ed ✓			
17. wishes				-sh ✓			er ✓	-es ✓			
18. thorn				th ✓			or ✓				
19. shouted				sh ✓			ou ✓	-ed ✓			
20. spoil							oi ✓				
21. growl							ow ✓				
22. third				th ✓			ir ✓				
23. camped					cr ✓			-ed ✓			
24. tries					tr ✓			-es ✓			
25. clapping								-ing ✓			
26. riding								-ing ✓			
<b>Totals</b>	<b>7 / 17</b>	<b>6 / 17</b>	<b>5 / 17</b>	<b>6 / 17</b>	<b>5 / 17</b>	<b>2 / 17</b>	<b>1 / 17</b>	<b>1 / 17</b>	<b>33 / 56</b>	<b>6 / 26</b>	

## Appendix E

### Parental Consent Letters

Masters of Arts in Education  
Michigan State University

January 29, 2021

Dear Parent/Guardian of \_\_\_\_\_

I am an MSU student enrolled in the TE 846 course, *Accommodating Differences in Literacy Learners*. As part of this course, I am required to work one-on-one with a minimum of two children for instructional lessons to understand them as literacy learners better and engage with them in lessons and activities that will help them grow in their literacy skills. I am writing to request your permission to work with your child.

In a typical session with your child, I would teach your child a brief lesson based on what I am learning in my course and engage your child in a literacy activity. My course instructor will support me as I plan sessions with your child.

I may collect some of the work your child produces during the session. If I do so, I will black out your child's name if it appears. I will also write and present about your child as a literacy learner for course assignments. When I do so, I will always use a pseudonym or fictitious name for your child and will exclude any sensitive information I may have about your child.

My work with your child is not "research," and it will not be used outside of the context of course assignments. By permitting your child to participate, you will enable me to become a better teacher, and provide your child with an opportunity to work one-on-one with me on reading and writing. If you have any questions regarding this request, please do not hesitate to contact me at my school email [ktrimble@icsjschool.org](mailto:ktrimble@icsjschool.org).

Sincerely,  
Kelsey Trimble

As a parent or guardian of the child, I consent my child to participate as described above.  
 As a parent or guardian of the child, I DO NOT consent my child to participate as described above.

Child's Name: \_\_\_\_\_  
 Parent/Guardian's Name (Please Print): \_\_\_\_\_  
 Parent/ Guardian's Signature: \_\_\_\_\_ Date: 1/29/21

Masters of Arts in Education  
Michigan State University

January 29, 2021

Dear Parent/Guardian of \_\_\_\_\_

I am an MSU student enrolled in the TE 846 course, *Accommodating Differences in Literacy Learners*. As part of this course, I am required to work one-on-one with a minimum of two children for instructional lessons to understand them as literacy learners better and engage with them in lessons and activities that will help them grow in their literacy skills. I am writing to request your permission to work with your child.

In a typical session with your child, I would teach your child a brief lesson based on what I am learning in my course and engage your child in a literacy activity. My course instructor will support me as I plan sessions with your child.

I may collect some of the work your child produces during the session. If I do so, I will black out your child's name if it appears. I will also write and present about your child as a literacy learner for course assignments. When I do so, I will always use a pseudonym or fictitious name for your child and will exclude any sensitive information I may have about your child.

My work with your child is not "research," and it will not be used outside of the context of course assignments. By permitting your child to participate, you will enable me to become a better teacher, and provide your child with an opportunity to work one-on-one with me on reading and writing. If you have any questions regarding this request, please do not hesitate to contact me at my school email [ktrimble@icsjschool.org](mailto:ktrimble@icsjschool.org).

Sincerely,  
Kelsey Trimble

As a parent or guardian of the child, I consent my child to participate as described above.  
 As a parent or guardian of the child, I DO NOT consent my child to participate as described above.

Child's Name: \_\_\_\_\_  
 Parent/Guardian's Name (Please Print): \_\_\_\_\_  
 Parent/ Guardian's Signature: \_\_\_\_\_ Date: 1/29/2021

## Appendix F

### Lesson One Vowel Digraph ai

<b>Lesson</b>	Vowel Digraph (ai)
<b>Subject</b>	English Language Arts - Phonics
<b>Grade Level</b>	2nd
<b>Date</b>	4/12/21
<b>Duration</b>	2, 20-minute sessions
<b>Lesson Objectives:</b>	Students will be able to identify when to use the vowel digraph -ai and read words that contain the stated vowel digraph 75% of the time.
<b>Standards</b>	<p><b>2.RF.PWR.3.1.b</b> Distinguish between long and short vowels in regularly spelled one-syllable words found in a text</p> <p><b>2.RF.PWR.3.2.a</b> Identify spelling, sound correspondences for common vowel teams found in a text</p>
<b>Materials</b>	Wilson vowel digraph poster Vowel digraph chart
<b>Resources</b>	Florida Center for Reading Research Wilson Reading Orton Gillingham Reading Instruction
<b>Rationale</b>	I selected these as the base level skills based on the results of the WADE and Words their Way assessments. Both students demonstrated an understanding of phonemes when independent. This lesson will help the students begin to form an understanding of how phonemes can work together, through the warm up activity of phoneme manipulation. The skill of manipulation will also help with their reading of unknown words. I am focusing this lesson on the vowel digraph ai based on the results of their Words their Way assessment.
<b>Warm Up (5 minutes)</b>	<p>To begin I will explain to the student that I am going to say a word. I will then ask them to repeat the word. Then I will identify one sound in the word that I would like the students to change, or manipulate, in order to form a new word.</p> <p>I will give the students an example by saying “Say box. Now change the /b/ to /f/. What is your new word?” If student still appears confused we will practice a few more examples before beginning</p>

	<p>I will discuss that we will now do several of the manipulations verbally together before we add in recording our answers. I will audio record the student during this portion so that I can go back and record anecdotal notes without the student worrying about what I am writing down.</p> <p>Say knee. Now say it with a /t/ at the end.  Say cloud. Now change the /d/ to /n/.  Say steam. Now take out the /s/.  Say bow. Now say it with a /t/ at the end.  Say folder. Now change the /f/ to /sh/.  Say spill. Now take out the /s/.  Say bee. Now say it with a /n/ at the end.  Say handy. Now change the /h/ to a /k/ sound.  Say sway. Now take out the /s/.  Say moo. Now say it with a /n/ at the end.  Say coat. Now change the /t/ to /ch/.  Say crest. Now take out the /k/ sound.  Say me. Now say it with a /t/ at the end.  Say proud. Now change the /p/ to /k/.  Say school. Now take out the /s/.  Say she. Now say it with a /p/ at the end.  Say pie. Now say it with a /p/ at the end.  Say dinner. Now change the /d/ to /w/.</p>
<p><b>Introduction (15 Minutes)</b></p>	<p>I will say the word cat and ask the student to identify the vowel sound in the word. The student is familiar with tapping out words. I will have them tap out cat and then fill in a sound box to identify how to spell each of the sounds in cat. We will have a brief talk about how in cat we hear the short vowel sound for a and that it is spelled with just the letter a.</p> <p>Next, I will say the word rain and have the student repeat it. I will then have the student tap out the word. I will ask the student to identify how many sounds are in the word and identify what sound box we should use. I will have the student retap the word rain and identify the first sound they hear and fill into the sound box how to spell the sound. Next, I will have them identify the final sound in the word rain and have them identify how we spell the final sound by filling it into the sound box.</p> <p>I will have them then say the sound that they hear in the middle (the long a). I will explain to them that today we are going to learn about a vowel digraph. We will reflect on the past digraphs we learned and how they are two letters put together to make one sound, this is the exact same thing, this time both of the letters that will be used are vowels and whichever vowel appears first is the vowel that makes the long sound.</p>



	<p>I will then display the Wilson poster that has the -ai vowel digraph. I will read them the word bait and have them tap it out. I will then ask the student to identify what vowels in bait make the long a sound. I will then tell them it is the same pattern for the word rain. The student will then fill in the missing sound in their sound box for rain.</p>
<p><b>Lesson (10 Minutes)</b></p>	<p>I will place a list of words in front of the student that contain the ai vowel digraph. We will review the sound that is made when these two letters are next to each other in a word. Today I will encourage the student to frame the different parts of the word, or segment it, to help them decode it. Our next lesson I will have them read these same words to check for their fluency.</p> <p>I will then show the student the word cat in one of our word maps that we have used throughout the year. We mark the beginning sound green, the medial sound yellow, and the ending sound red.</p> <p>We will look at the word rain again. If needed the student can retap the word. I will ask the what the beginning sound is and have them slide the chip down to cover that letter and then color the box above it the correct color (green). Next, we will identify the medial sound (long a). I will ask the student to remind me what is unique about the long a sound we are focusing on. If needed I will remind them that we are working on a vowel digraph. They will slide the medial chip down to cover ai, reviewing that even though there are two letters, when together they make one sound. I will then ask the student what color we should shade the box about the ai (yellow). Lastly, I will ask the student to identify the ending sound inn the word rain and have them slide the chip down to cover the letter n and color the box above it the correct color (red).</p> <p>We will then repeat this process of breaking down the sounds of the words three more times for the words paid, nail, and chain. I will then ask the student to teach me by completing the process and explaining to me what they are doing for the words wait and claim.</p>
<p><b>Activity (10 Minutes)</b></p>	<p>Next I will have the student take their sound box and dry erase marker back out. I will explain to them that now I will dictate a word to them and I would like for the to tap the word out, identify which sound box to use, and then fill in the sound box. I will model the words pail and trail. I will then dictate 5-7 different words for the student to fill into their sound box.</p> <p>When they tap the long vowel a and go to spell that sound I will sporadically ask them to remind me what we call ai, a vowel digraph, and to tell me what a vowel digraph is, two vowels put together to make one long vowel sound.</p>
<p><b>Assessment Piece</b></p>	<p>To gauge where the student is at for the vowel digraph ai I will have them look at a picture of a word that contains ai. They will then tap out that word and fill in to corresponding sounds to the corresponding colored boxes (green, yellow, red). Students will complete 6 words independently.</p>

## Appendix G

### David Lesson One Work

Name: David Date: \_\_\_\_\_

Map Sounds and Letters

Directions: 1. Say the word out loud. Color one box for each sound or use colored chips. 3. Trace and spell the word out loud.

Example: rain	paid
nail	chain
wait	clam

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Sounds and Letters AI

Directions: 1. Say the name of each picture.  
2. Color one box for each sound or use colored chips.  
3. Trace and spell the word out loud.

		mail
		jail
		snail

## Appendix H

### Alexa Lesson One Work

Name: Alexa Date: \_\_\_\_\_

Map Sounds and Letters

Directions: 1. Say the word out loud. Color one box for each sound or use colored chips. 3. Trace and spell the word out loud.

Example: rain	paid
r a i n	p a i d
nail	chain
n a i l	c h a i n
wart	claim
w a i t	c l a i m

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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Sounds and Letters AI

Directions: 1. Say the name of each picture.  
2. Color one box for each sound or use colored chips.  
3. Trace and spell the word out loud.

		Word
	m a i l	mail
	J a i l	jail

## Appendix I

## Lesson One Warm Up Results

Lesson 1 Warm Up Recording

Manipulation	David	Alexa
Say knee. Now say it with a /t/ at the end.	✓	✓
Say cloud. Now change the /d/ to /n/.	✓	X
Say steam. Now take out the /s/.	seam, stea (tapped out 3rd try)	X
Say bow. Now say it with a /t/ at the end.	✓	✓
Say folder. Now change the /f/ to /sh/.	✓	✓
Say spill. Now take out the /s/.	✓	ill, ✓
Say bee. Now say it with a /n/ at the end.	✓	✓
Say handy. Now change the /h/ to a /k/ sound.	X	✓
Say sway. Now take out the /s/.	say, sways (tapped out 3rd try)	✓
Say moo. Now say it with a /n/ at the end.	✓	✓
Say coat. Now change the /t/ to /ch/.	X	✓
Say crest. Now take out the /k/ sound.	X	est, brst (tapped out 3rd try)
Say me. Now say it with a /t/ at the end.	✓	✓
Say proud. Now change the /p/ to /k/.	✓	broud, ✓
Say school. Now take out the /s/.	✓	✓
Say she. Now say it with a /p/ at the end.	✓	✓
Say pie. Now say it with a /p/ at the end.	✓	✓
Say dinner. Now change the /d/ to /w/.	✓	✓

## Appendix J

### Lesson Two Vowel Digraph ay

<b>Lesson</b>	Vowel Digraph (ay)
<b>Subject</b>	English Language Arts - Phonics
<b>Grade Level</b>	2nd
<b>Date</b>	4/13/21
<b>Duration</b>	2, 20-minute sessions
<b>Lesson Objectives:</b>	Students will be able to identify when to use the vowel digraph -ay and read words that contain the stated vowel digraph 75% of the time.
<b>Standards</b>	<p><b>2.RF.PWR.3.1.b</b> Distinguish between long and short vowels in regularly spelled one-syllable words found in a text</p> <p><b>2.RF.PWR.3.2.a</b> Identify spelling, sound correspondences for common vowel teams found in a text</p>
<b>Materials</b>	Wilson vowel digraph poster Vowel digraph chart
<b>Resources</b>	Florida Center for Reading Research Wilson Reading Orton Gillingham Reading Instruction
<b>Rationale</b>	I selected these as the base level skills based on the results of the WADE and Words their Way assessments. Both students demonstrated an understanding of phonemes when independent. This lesson will help the students begin to form an understanding of how phonemes can work together, through the warm up activity of phoneme manipulation. The skill of manipulation will also help with their reading of unknown words. I am focusing this lesson on the vowel digraph ay based on the results of their Words their Way assessment.
<b>Warm Up (5 minutes)</b>	<p>We will begin by reviewing phoneme manipulation. To help refresh the student brain of this activity we will do a few of the manipulations they completed yesterday.</p> <p>Then I will explain to the student that now we are going to do a very similar activity. I will verbally give them a manipulation of the word. They will tell me the new word and then find the correct picture to glue next to the word we began with.</p> <p>Say sock. . . . Now change the /s/ to /r/. Say the new word. . . .          Say tree. . . . Now change the /t/ to /th/. Say the new word. . . .          Say cat. . . . Now change the /t/ to /n/. Say the new word. . . .          Say coin. . . . Now change the /oi/ to /a/. Say the new word. . . .          Say bow. . . . Now change the /o/ to /e/. Say the new word. . . .          Say pen. . . . Now change the /e/ to /a/. Say the new word. . . .</p>

	<p>Say kite. . . . Now change the /i/ to /o/. Say the new word. . . .          Say train. . . . Say it without the /t/. . . . Say the new word. . . .          Say snail. . . . Say it without the /n/. . . . Say the new word. . . .          Say block. . . . Say it without the /b/. . . . Say the new word. . . .          Say fork. . . . Say it without the /k/. . . . Say the new word. . . .          Say tie. . . . Say it without the /t/. . . . Say the new word. . . .</p> <p>I will ask the student if there are any words or problems that they would like to be repeated. If so we will go back to any needed. If not, I will collect the students work and have them return to the classroom.</p>
<p><b>Introduction</b>  <b>(15 Minutes)</b></p>	<p>To review the skill we word on yesterday I will display the Wilson poster for the ai vowel digraph. I will ask the student to tap out the word bait. Then the student will write the word bait in a sound box. If they remember that ai are one sound and get one box I will ask them to teach me why they did that. If they do not remember we will review tapping out the word, highlighting that the word only has 3 sounds. We know the first sound and we know the ending and yesterday we learned that ai, when next to each other say the long vowel a sound.</p> <p>I will then tell them that today we will learn about another vowel digraph that can make the long a sound. Before beginning I will have to student tell me what a vowel digraph is (two vowels put together to make one long vowel sound).</p> <p>I will say the word day and have the student repeat the word to me. I will then ask them to tap the word out for me and to identify how many sounds are in the word day (2).</p> <p>On a sound box I will ask them to tell me the beginning sound and then ask what letter spells that sound. Then I will ask them to identify the last sound. We will then talk about how the middle sound is the long vowel a's sound. We will reflect on yesterday when we used ai it was always in the middle of a syllable. Today we will learn what vowel digraph is used at the end of the syllable.</p> <p>I will then display the Wilson poster that has the -ay vowel digraph. I will read them the word pay and have them tap it out. I will then ask the student to identify what two vowels pay make the long a sound. I will then tell them it is the same pattern for the word day. The student will then fill in the missing sound in their sound box for day.</p>
<p><b>Lesson</b>  <b>(10 Minutes)</b></p>	<p>I will place a list of words in front of the student that contain the ay vowel digraph. We will review the sound that is made when these two letters are next to each other in a word. Today I will encourage the student to frame the different parts of the word, or segment it, to help them decode it. Our next lesson I will have them read these same words to check for their fluency.</p>

	<p>We will then review using the three different colors (green, yellow, and red) to help us identify the beginning, medial, and ending sounds.</p> <p>We will look at the word day again. If needed the student can retap the word. I will ask the what the beginning sound is and have them slide the chip down to cover that letter and then color the box above it the correct color (green). Next, I will have the student identify the next sound. I will then ask them if there are any sounds after the long a sound. Since there is not, this is our end sound so we color the box red. Since it is at the end of the word we use our ay vowel digraph.</p> <p>We will then repeat this process of breaking down the sounds of the words three more times for the words play, tray, and stay. I will then ask the student to teach me by completing the process and explaining to me what they are doing for the words way and clay.</p>
<p><b>Activity (10 Minutes)</b></p>	<p>Next I will have the student take their sound box and dry erase marker back out. I will explain to them that now I will dictate a word to them and I would like for them to tap the word out, identify which sound box to use, and then fill in the sound box. I will model the words spray and ray. I will then dictate 5-7 different words for the student to fill into their sound box.</p> <p>When they tap the long vowel a and go to spell that sound I will sporadically ask them to remind me what we call ay, a vowel digraph, and to tell me what a vowel digraph is, two vowels put together to make one long vowel sound.</p>
<p><b>Assessment Piece</b></p>	<p>To gauge where the student is at for the vowel digraph ay I will have them look at a picture of a word that contains ay. They will then tap out that word and fill in to corresponding sounds to the corresponding colored boxes (green, yellow, red). Students will complete 6 words independently.</p>

# Appendix K

## David Lesson Two Work

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Map Sounds and Letters

Directions: 1. Say the word out loud. Color one box for each sound or use colored chips. 3. Trace and spell the word out loud.

Example: play	day
p l a y	d a y
tray	stay
t r a y	s t a y
way	clay
w a y	c l a y

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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Sounds and Letters AY

Directions: 1. Say the name of each picture.  
2. Color one box for each sound or use colored chips.  
3. Trace and spell the word out loud.

			Word
	h	ay	hay
	s	ay	say
	t	ay	tray
	r	ay	ray
	w	ay	way
	p	ay	play

27

Name David

PA.025.SS

Sound Changes

1		2	<b>3</b>
3		4	
5		6	
7		8	
9		10	
11	<b>4</b>	12	

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## Appendix L

### Alexa Lesson Two Work

The image shows three overlapping educational worksheets. The leftmost sheet is titled 'Map Sounds and Letters' and features the word 'play' with colored boxes under each letter. The middle sheet is titled 'Sound Changes' and contains a 4x3 grid of 12 numbered boxes, each with a different illustration. The rightmost sheet is titled 'Sounds and Letters' and has a grid for writing words containing the 'ay' sound, with some words already written in cursive.

## Appendix M

### Lesson Three Vowel Digraph Application

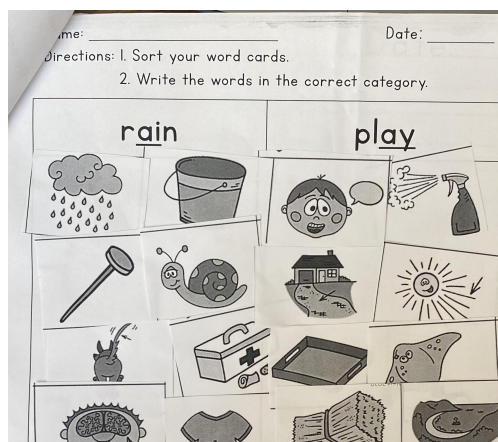
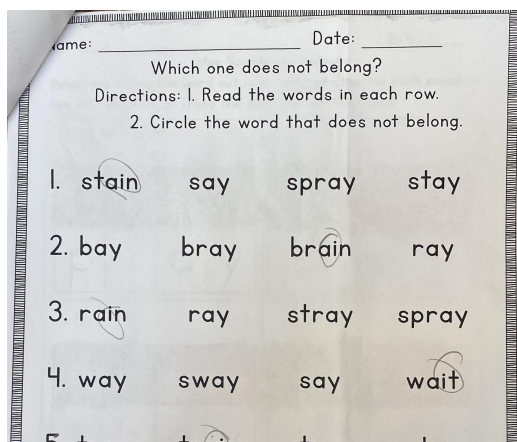
<b>Lesson</b>	Vowel Digraph ai and ay
<b>Subject</b>	English Language Arts - Phonics
<b>Grade Level</b>	2nd
<b>Date</b>	4/15/21
<b>Duration</b>	20 minutes
<b>Lesson Objectives:</b>	Students will be able to identify when to use the vowel digraph -ay and -ai 75% of the time.
<b>Standards</b>	2.RF.PWR.3.1.b

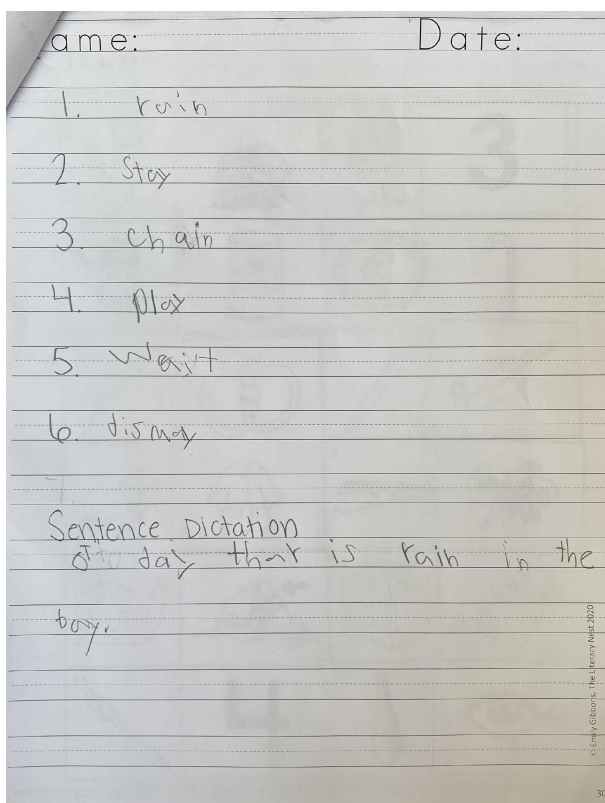
	<p>Distinguish between long and short vowels in regularly spelled one-syllable words found in a text</p> <p><b>2.RF.PWR.3.2.a</b></p> <p>Identify spelling, sound correspondences for common vowel teams found in a text</p>
<b>Materials</b>	<p>Wilson vowel digraph poster</p> <p>Vowel digraph chart</p>
<b>Resources</b>	<p>Florida Center for Reading Research</p> <p>Wilson Reading</p> <p>Orton Gillingham Reading Instruction</p>
<b>Rationale</b>	<p>I selected these as the base level skills based on the results of the WADE and Words their Way assessments. Both students demonstrated an understanding of phonemes when independent. This lesson will help the students begin to form an understanding of how phonemes can work together, through the warm up activity of phoneme manipulation. The skill of manipulation will also help with their reading of unknown words. I am focusing this lesson on the vowel digraph ay based on the results of their Words their Way assessment.</p>
<b>Warm Up (5 minutes)</b>	<p>We will begin by reviewing what a vowel digraph is. I will then ask the student what the vowel digraphs we have been working on are and what sound they make.</p> <p>I will then display both of the vowel digraph anchor charts and ask the student if they can identify for me which vowel digraph I would use if I hear the long a sound at the end of the syllable, like in the word pray.</p> <p>After I will ask the student which vowel digraph I would use if I hear the long a sound in the middle of the syllable, like in strain.</p>
<b>Introduction (15 Minutes)</b>	<p>I will put a piece of paper in front of the student. This paper has 6 rows and each row will have 4 words, 3 of the words contain the ay vowel digraph and the other word uses ai. I will ask the student to read the words going across the line. I will remind them that it is okay if they need to frame the parts of the word they know, or segment the word.</p> <p>After reading the words in the row I will ask the student to select the word that does not belong and then explain to me why it can't be there. If they seem confident I will challenge them to give me another word to use in the set instead.</p>
<b>Lesson (10 Minutes)</b>	<p>Next, I will give the student a sheet that is divided into two groups. At the top of one side is the word rain, the other side play. I will then have the student a bag of different pictures.</p> <p>The student will take one picture out at a time. They will first identify what it is a picture of. They will then tap out the sounds in the word and fill it into a sound box. Once they have identified where the long a sound is they will glue to word under rain or play based on the vowel digraph that should be used.</p>

	The student will continue this process for all of the words in the bag. If they are unsure of what the picture is I will help them to identify it. I will also give them one hint for each word if needed. For example, if they are missing a ending sound when tapping out a word I will restate the word or tap the word out with them,
<b>Activity (10 Minutes)</b>	Next I will have the student take their sound box and dry erase marker back out. I will explain to them that now I will dictate a word to them and I would like for them to tap the word out, identify which sound box to use, and then fill in the sound box. I will then dictate 5-7 different words for the student to fill into their sound box – they will need to identify where in the word they here the long vowel a sound and decide which vowel digraph to use.
<b>Assessment Piece</b>	To gauge where the student is I will give them a piece of paper numbered to 6. I will then tell them they I will not be able to help them on this activity, but they are free to use any of the strategies that we have learned so far. I will dictate a word, use it in a sentence, and then say it again.  After the six words I will dictate a sentence for the student to write and they will then read a sentence to me.

## Appendix N

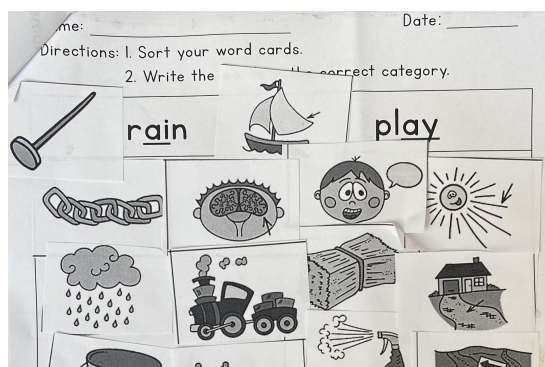
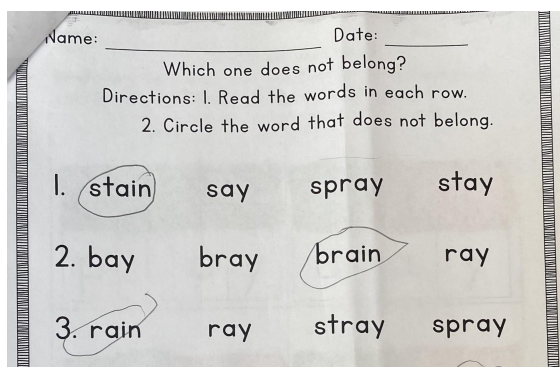
### David Lesson Three Work

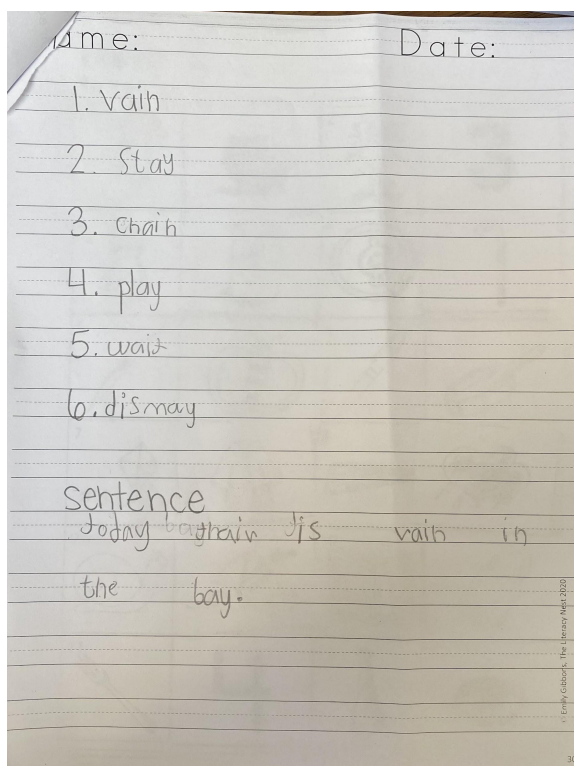




Appendix O

Alexa Lesson Three Work





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