**Figure 1**
*Example of Word Copy:*

<table>
<thead>
<tr>
<th>cat</th>
<th>dog</th>
</tr>
</thead>
<tbody>
<tr>
<td>on</td>
<td>here</td>
</tr>
<tr>
<td>find</td>
<td>four</td>
</tr>
<tr>
<td>old</td>
<td>away</td>
</tr>
<tr>
<td>bird</td>
<td>call</td>
</tr>
<tr>
<td>flower</td>
<td>sing</td>
</tr>
</tbody>
</table>
Figure 2

Example of Sentence Copy:

We have one cat.

1. We have four hats.

2. What can I do?

3. Who is he?
Figure 3  
*Example of Story Prompt:*

One day, we were playing outside the school and...
Figure 4
Example of Letter Prompt:

Example:  

<table>
<thead>
<tr>
<th>y</th>
<th>m</th>
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</tbody>
</table>
Figure 5  
Example of Picture – Word Prompt

apple

hat

teacher
<table>
<thead>
<tr>
<th>cake</th>
<th>friends</th>
<th>home</th>
<th>birthday</th>
</tr>
</thead>
</table>

Figure 6
Example of Picture-Theme Prompt
Figure 7
Three Photo Prompts
Figure 8
Word Spelled Correctly on story prompt and photo prompt (5 min)

Story Prompt:

Photo Prompt:
Figure 9
Correct Minus Incorrect Word Sequences (CIWS) on story prompt and photo prompt (5 min)

Story Prompt:

Photo Prompt
Figure 10
WSC on Letter Prompt (5 min)
Figure 11
Mean Growth on Sentence Copy, Story Prompt, Picture-Word Prompt, and Photo Prompt (From the first test in February to the test in May.)
Appendix A.

**DIRECTIONS FOR WORD COPYING TASK**

Materials Needed:
Timer, directions for administration, teacher copy of the task, word copying task for students, pencils for the students

Directions:
Write the two practice items on the board:

<table>
<thead>
<tr>
<th>cat or pig</th>
<th>dog or sun</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Say to the students: “Now you are going to copy some words. The words are listed on your worksheet – but please don’t start until I tell you. You will copy each word onto the line below the word. First you copy the word on the left, then the word on the right. When you are finished with one pair of words, you will move on to the next pair.

If you come to the end of the page, turn the page and go on.

You will keep writing until the timer rings.

When the timer rings I’ll ask you to stop, and raise your hand with your pencil in it, like this (demonstrate), and then I’ll ask you to circle the last letter you just wrote.

Let’s try an example. Look at the two words at the top of your paper. Copy them on the lines below – but stop at the stop sign – do not copy the other words until I tell you to.

When the timer rings (let timer ring), I’ll ask you to raise your hand with your pencil in it. (make sure all students raise their hands holding their pencil.) Then I’ll ask you to circle the last letter you just wrote. (Demonstrate on board, e.g. circle ‘a’ in ‘ca’ and make sure all students circle the last letter written on their paper)

When I say, “Keep writing,” you will continue writing, until the timer rings again.
Prompt students to finish copying the practice items – finish copying the words on the board.

*Now, everyone should point their pencil on the first line.* Make sure all the students are ready to start and say: *When I say “begin”, copy each word on the line below it. If you make a mistake, just cross it out and keep going.*

Ready? Please begin. (set timer for 3 minutes)

Monitor students' participation. If individual students pause for about 10 seconds or say they are done before the three minutes have passed, say to the whole class: *Keep writing until the timer rings.* This prompt can be repeated if students should pause again.

When the timer rings after 3 minutes say: *Stop. Raise your hand with your pencil in it.* Make sure all students have stopped writing and have their hand raised with their pencil in it. *Now, circle the last letter you just wrote* (demonstrate – point to example on board) – and wait until I tell you to keep writing.

Make sure all students circle the last letter they were writing. If they were in the middle of a word, tell them to finish the word when they continue writing.

When all students have circled their letters, say: “*Everybody ready? Now, keep writing until the timer rings again.*” Set timer for 2 more minutes.

When the timer rings after additional two minutes say: “*Stop. Raise your hand with your pencil in it.*” Make sure all students have stopped writing and collect worksheets. Thank you.
Appendix B

Directions for Sentence Copying Task

Materials Needed:
Timer, directions for administration, teacher copy of the task, sentence copying task for students, pencils for the students

Directions:
Write the practice sentence on the board, with a line to copy it on.

“Now you are going to copy some sentences. The sentences are listed on your sheet. Starting from number one, you are going to copy each sentence onto the line below it.”
(Show on sample worksheet).

You will keep writing until the timer rings.

Let’s try an example. Look at the sentence on the top of your paper. Copy it onto the line below. Only copy that one sentence and stop at the stop sign.
Make sure all the students start to copy the sentence correctly on the line below.

When the timer rings (let timer ring before students have finished the sentence), I’ll ask you to raise your hand with your pencil in it. (make sure all students raise their hands holding their pencil.) Then I’ll ask you to circle the last letter you just wrote.
(Demonstrate on board and make sure all students circle the last letter written on their paper)

When I say, “Keep writing,” you will continue writing until the timer rings again.
Prompt students to finish copying the practice sentence and then stop.

Now, everyone should point their pencil on the first line. Make sure all the students are ready to start and say: When I say “begin”, copy each sentence on the line below it. Start at the top, then go down the page. Write each sentence only once. If you come to the end of the page, continue on the next page. (Demonstrate on sample copy).
If you make a mistake, just cross it out and keep going.

Ready? Please begin. (set timer for 3 minutes)

Monitor students' participation. If individual students pause for about 10 seconds or say they are done before the three minutes have passed, say to the whole class: Keep writing until the timer rings. This prompt can be repeated if students should pause again.

When the timer rings after 3 minutes say: “Stop. Raise your hand with your pencil in it. Make sure all students have stopped writing and have their hand raised with their pencil in it. Now, circle the last letter you just wrote” (demonstrate – point to example on board) – and wait until I tell you to keep writing.
Make sure all students circle the last letter they were writing. If they were in the middle of a word, tell them to finish the word when they continue writing.

When all students have circled their letters, say: “Everybody ready? Now, keep writing until the timer rings again.” Set timer for 2 more minutes.

When the timer rings after additional two minutes say: Stop. Raise your hand with your pencil in it. Make sure all students have stopped writing. Thank you.
Appendix C

**DIRECTIONS FOR STORY PROMPT**

Place one packet in front of each student, facing down.
Say to the students:  *I’m going to ask you to write a story today.*

*Before you write, I want you to think about the story. First you will think, then you will write.*
*You will have 30 seconds to think and 5 minutes to write.*

*If you come to the end of the page, turn the page and go on.* (Demonstrate on sample copy).

*You will keep writing until the timer rings.*
*When the timer rings I’ll ask you to raise your hand with your pencil in it, like this* (demonstrate),  *and then I’ll ask you to circle the letter you just wrote.* (Demonstrate on board).  *What will you do when the timer rings?*

(Make sure students understand they are to stop, raise hand, and then circle the last letter they just wrote.

*After making the circle, you will keep on writing until the timer rings again.*  *What will you do when I say, “Keep writing?”* (Students should respond that they will continue writing until the timer rings again.)

*Do your best work. If you do not know how to spell a word, you should guess.*

*Keep your pencils down, your packet faced down and listen.*
*Your story will begin with…READ STORY STARTER*

*Think of a story you are going to write that starts like that.*

After 30 seconds:  *“You have 5 minutes to write. Keep writing until the timer rings. Turn over the sheets in front of you. Please begin.”*

Start the timer set for 3 min. During the administration, if you see a student put their pencil down and stop writing, give the class-wide prompt: *“Please continue writing until the timer rings.”*

After 3 min when the timer rings:  *Stop. Raise your hand with your pencil in it.*  
(Make sure all the students have stopped writing and have their hand raised with the pencil in it).  *Make a circle around the last letter you just wrote* (point to the example on the board).  *Continue writing.*” (Set timer for 2 more minutes)

After 5 min, when the timer rings say:  *Stop. Raise your hand with your pencil in it.*
*Thank you.*
Appendix D

**DIRECTIONS FOR LETTER PROMPT**

Provide each student with a pencil and a letter-prompt worksheet. Place the worksheet face up on the table/desk in front of each student.

Write the following on the board:

```
Y
```

Say to the students:

*In a few minutes, I’m going to ask you to write some words. You will write as many words as you can that start with the letters on this piece of paper* (hold up a sample worksheet). *First, I’ll show you how to do it.*

*Everyone, point to the first letter that you see at the top of the page.*

(Point to the letter on your copy, holding it up so all students can see it, and make sure all students are pointing to the sample letter on their copies.)

**What letter is that?** (Make sure all students respond “y”.)

*Right! That’s a ‘y’. I’m going to try to think of a word that starts with y. I know, ‘yes’!* *Yes starts with a ‘y’, so I’m going to write the word “yes.” Everyone, write the word ‘yes’ under the letter y. I’ll write it on the board.*

(Demonstrate writing “yes” on the board. Check to see that students write the word on their paper.)

**You will write one word under each letter and keep writing until the timer rings.**

*When the timer rings, I’ll ask you to raise your hand with your pencil in it, like this (demonstrate), and then I’ll ask you to circle the last letter you just wrote. After you have circled the letter, you will continue writing one word for each letter.*

*Let’s pretend that the timer rang when you were just finishing writing the word “yes.” When the timer rings* (let timer ring), *I’ll say “Stop. Raise your hand with your pencil in your hand.”* (make sure all students raise their hands holding their pencil.) *Then I’ll say: “Circle the last letter you just wrote,” and you circle the letter “s” because that is the last letter you just wrote.* (Demonstrate on board and make sure all students circle the letter “s”.)
If you were in the middle of writing a word, you are going to circle the letter you were writing when the timer rang. For example, if you had just started writing “yes” when the timer rang (erase last letter from board), like this: “ye” then you would circle the “e”. (demonstrate on board)

When I say, “Keep writing,” you will finish the word you were writing or go on to the next word, until the timer rings again.
Ask: What will you do when I say, “Keep writing?”

(Students should respond that they will continue writing words until the timer rings again.)

Good listening! Now, you’re ready to start writing. Remember to do your best work.
If you don’t know how to spell a word, just make your best guess.
If you can’t think of a word that starts with a particular letter, skip it and try the next one. Start at the top, then go across the page and down the list. When you come to the end of the page, continue on the next page.

(Show the students what you mean with your sample copy).

Now, everyone should point their pencil on the first line. When I say “begin”, start writing one word on the line under each letter.
Make sure all the students are ready to start and say: Ready? Please begin. (Start the timer set for 3 minutes).

Monitor students' participation. If individual students pause for about 10 seconds or say they are done before the three minutes have passed, say to the whole class: Keep writing until the timer rings. This prompt can be repeated if students should pause again.

When the timer rings after 3 minutes say: “Stop. Raise your hand with your pencil in it.
Make sure all students have stopped writing and have their hand raised with their pencil in it. Now, circle the last letter you just wrote” (demonstrate – point to example on board) and wait until I tell you to keep writing.

Make sure all students circle the last letter they were writing. If they were in the middle of a word, tell them to finish the word when they continue writing.

When all students have circled their letters, say: “Everybody ready? Now, keep writing until the timer rings again.” Set timer for 2 more minutes.

When the timer rings after additional two minutes say: “Stop. Raise your hand with your pencil in it. Make sure all students have stopped writing and collect worksheets.
Appendix E

**DIRECTIONS FOR PICTURE-WORD PROMPT**

Draw a picture of a tree/sun/sock, write the name of the object underneath, make two lines next to it on the board and write a sentence containing the word on the board.

Provide each student with a pencil and a picture-word prompt packet. Place the worksheet face up on the table/desk in front of each student.

Say to the students:
*In a few minutes, I’m going to ask you to write some sentences. You will write one sentence for each picture in your packet. First, let’s name the picture on the board.*

*This is a tree/sun/sock.*

(Point to the picture on the board.)

*Say it with me: This is a tree/sun/sock.* (Make sure all students say the word)

*Let’s make a sentence with this word.* (Ask one or more students to make a sentence with this word. Students may say: I saw a tree. Write down this sentence on the two lines next to the picture on the board. Read aloud this sentence to the whole class.)

*You will write one sentence for each picture. Your sentences should each start with a capital letter, and end with a period.* (Point to the example on board) *Start at the top, then go down the page. When you reach the end of a page, continue on the next page.*

(Show the students what you mean with the sample copy).

*Keep writing until the timer rings.*

*When the timer rings I’ll ask you to raise your hand with your pencil in it, like this* (demonstrate), *then I’ll ask you to circle the last letter you just wrote.* (Demonstrate on board)

Ask:* What will you do when the timer rings?*

(Make sure students understand they are to stop, raise their hand, and then circle the letter they just wrote.)

*Remember to do your best work. If you don’t know how to spell a word, just make your best guess. If you make a mistake, just cross it out.*

*Now, everyone should point their pencil to the first line. When I say “begin”, write one sentence for each picture.* Make sure all the students are ready to start and say: *Please begin writing.* (Start the timer set for 3 minutes).
Monitor students' participation. If individual students pause for about 10 seconds or say they are done before the three minutes have passed, say to the whole class: **Keep writing until the timer rings.** This prompt can be repeated if students should pause again.

When the timer rings after 3 minutes say: **“Stop. Raise your hand with your pencil in it.** Make sure all students have stopped writing and have their hand raised with their pencil in it. **Now, circle the last letter you just wrote**” (Point to demonstration on board) – **and wait until I tell you to keep writing.**

Make sure all students circle the last letter they were writing. If they were in the middle of a word, tell them to finish the word when they continue writing.

When all students have circled their letters, say: **“Everybody ready? Now, keep writing until the timer rings again.”** Set timer for 2 more minutes.

When the timer rings after two minutes, say: **“Stop. Raise your hand with your pencil in it.** Make sure all students have stopped writing and collect worksheets.
Appendix F

Directions for Picture-Theme Prompt

Provide each student with a pencil and a picture-prompt packet. Place the packet face up on the table/desk in front of each student.

Say to the students:
*In a few minutes, I’m going to ask you to write a story. You will write about the pictures at the top of the page* (hold up a sample packet and point to the pictures). *First, let’s name each picture.*

*Everyone, point to the first picture that you see at the top of the page.*

(Point to the picture on your copy, holding it up so all students can see it, and make sure all students are pointing to the sample picture on their copies.)

*This is a […]*. Say it with me: […] (Make sure all students say the word).

*Everyone, point to the next picture. […]*. Say it with me: […].. (Continue this process for each picture).

*Now, you will write a story, using the words from these pictures. *

*You will have 5 minutes to write as much as you can.*

*After 3 minutes the timer will ring and I will ask you to raise your hand with your pencil in it* (demonstrate), *and then I’ll ask you to circle the last letter you just wrote.*

Ask: *What will you do when the timer rings?*

(Make sure students understand they are to stop, raise their hands, and then circle the last letter they just wrote.

*When I say, “Keep writing,” you will continue writing, until the timer rings again. What will you do when I say, “Keep writing?”*

(Students should respond that they will continue writing until the timer rings again.)

*Good listening! Now, you’re ready to start writing. Remember to do your best work. If you don’t know how to spell a word, just make your best guess. If you come to the end of a page, continue on the next page.*

*Now, everyone should point their pencil to the first line.* Make sure all the students are ready to start and say: *When I say “begin”, start writing a story with the words from the pictures.*
Ready? Please begin. (Start the timer set for 3 minutes).

Monitor students' participation. If individual students pause for about 10 seconds or say they are done before the three minutes have passed, say to the whole class: Keep writing until the timer rings. This prompt can be repeated if students should pause again.

When the timer rings after 3 minutes say: “Stop. Raise your hand with your pencil in it. Make sure all students have stopped writing and have their hand raised with their pencil in it. Now, circle the last letter you just wrote” (demonstrate – point to example on board) – and wait until I tell you to keep writing.

Make sure all students circle the last letter they were writing. If they were in the middle of a word, tell them to finish the word when they continue writing.

When all students have circled their letters, say: “Everybody ready? Now, keep writing until the timer rings again.” Set timer for 2 more minutes.

When the timer rings after additional two minutes say: “Stop. Raise your hand with your pencil in it. Make sure all students have stopped writing and collect worksheets.”
Appendix G

**Directions for Photo Prompt**

Say to the students: *Now I’m going to ask you to write a story about what is happening in a picture.*

*Before you write, I want you to think about the story. First you will think, then you will write. You will have 30 seconds to think and 5 minutes to write.*

*After 3 minutes, the timer will ring and I will ask you to stop writing, raise your hand with your pencil in it and then circle the last letter you just wrote.*  (Demonstrate on board)

*After making the circle, you will continue writing.*

*Do your best work. If you do not know how to spell a word, you should guess. If you make a mistake, cross it out. If you reach the end of a page, continue on the next page.*

*Now, keep your pencil down and look at the picture in front of you. You have 30 seconds to think of a story about what is happening in the picture or a story about what the picture makes you think of.*

After 30 seconds: *Now, point your pencil to the first line on your sheet of paper. You have 5 minutes to write. Keep writing until I tell you to stop. Ready? Please, begin.*

Start the timer set for 3 minutes. During the administration, if you see a student put their pencil down and stop writing, give the classwide prompt: *Please continue writing until I tell you to stop.*

After 3 minutes, say: *Stop. Raise your hands with your pencil in it.*  Make sure everyone has stopped writing. *Circle the last letter you just wrote and wait until I tell you to continue.*  Make sure every student has made a circle around the last letter and say: *Please continue writing.*  Set the timer for 2 more minutes.

After 5 minutes, say: *Stop, Thank you; put your pencils down.*
Appendix H

Early Writing Scoring Protocol

Materials:
1. Red, Blue and Green colored pencils
2. Pencil sharpener.
3. Scoring sheet and student packet
4. Record student ID on scoring sheet
5. Be sure to record the correct form (A – B) on the correct line on the scoring sheet.
6. Record date student competed exercise on scoring sheet.

**Study 1**

**Word Copying Prompts**
1. Cross off example at the top of page to avoid scoring
2. Find the circled letters indicating the 3 minute and 5 minute ending points. Place red line immediately following the circled letter or punctuation mark.
3. If a circle letter cannot be found for the 3 minute end time only score the 5 minute portion
4. Cross off the IFW section on the score sheet.
5. Find the correct scoring line of the score sheet, enter date student completed prompt.

**Words Written - WW**
1. Count all the words written during the 3 minute timing and the 5 minute timing
2. At the end of each timing interval count the word as written if the last letter is circled.
3. If a letter within the word is circled do not count that word as written.
4. At the end of the 3 minute interval if the last letter of the word is circled count it in the 3 minute time. If a letter in the middle of the word is circle count that word in the 5 minute timing.

**Incorrect words – IW**
1. Underline all incorrect words in red.
2. Words must match prompt exactly to be counted as correct
3. Capital letters – If the first letter of the word is capitalized the word is correct. If any other letter within the word is capitalized the word is incorrect. Use your best judgment in determining if letters are capital or not.
4. Skipped words are incorrect. If an entire page is skipped do not score.

**Correct Letter Sequence – CLS/ Incorrect Letter Sequence - ILS**
1. Place a green carrot before each letter and after the last letter at the top of the letters if the letter sequence is correct.
2. If the letter sequence is incorrect place an upside down green carrot between the letters at the bottom of the letter.
3. For the circled letters (the last letter written for the time) count up to the letter but not past.
4. For the 3 minute scoring only count up to the circle for the 3 minute score anything past is for the 5 minute time.
5. If a letter is incorrect both sequences, the before and after, are incorrect.
6. Reminder – Capital letters at the beginning of the word are incorrect. Capital letters within the word are ignored.

Sentence Copying Prompts
1. Cross off example at the top of page to avoid scoring.
2. Find the circled letters indicating the 3 minute and 5 minute ending points. Place red line immediately following the circled letter or punctuation mark.
3. If a circle letter cannot be found for the 3 minute end time only score the 5 minute portion
4. Cross off the IFW section on the score sheet.
5. Find the correct scoring line of the score sheet, enter date student completed prompt.

Words Written - WW
1. Place a blue line at the beginning of each word and before the end punctuation to separate the individual words written.
2. Count all the words written during the 3 minute timing and the 5 minute timing.
3. At the end of each timing interval count the word as written if the last letter is circled.
4. If a letter within the word is circled do not count that word as written.
5. At the end of the 3 minute interval if the last letter of the word is circled count it in the 3 minute time. If a letter in the middle of the word is circle count that word in the 5 minute timing.
6. If only part of a word is written still count it as a word written.
7. If the prompt is written twice score each of the sentences.

Incorrect Words – IW
1. Any word not matching the prompt is incorrect and should be underlined in red.
2. Capital letters – the first letter of the sentence must be capitalized or the word is incorrect. Other capital letters within the sentence should be ignored.
3. Skipped words are incorrect. Place blue lines where the word(s) should be.
4. If an entire sentence is skipped do not score.
5. Reversals are incorrect.
6. Ignore spacing unless it is very difficult to read.
7. “I” always needs to be capital alone with proper nouns or they are incorrect words.

Correct Word Sequence – CWS/Incorrect Word Sequence – IWS
1. If the word before and after a written word is correct place a blue carrot on top of the blue lines separating the two words indicating a CWS.
2. At the beginning of the sentence the word sequence is correct if the word is correct. Therefore a carrot can be placed on the blue line before the first line of the first word.
3. If the last word is correct and the punctuation is correct this is a CWS and a blue carrot may be placed on the blue line at the end of the sentence.
4. If a word does not match the prompt it is an IWS and a red carrot should be placed on the bottom of the blue line separating the words indicating an IWS.
5. Any word that is underlined in red as an IW is also an IWS.
6. If the punctuation is missing or incorrect that is also an IWS between the word and the punctuation.
7. If a word has a letter circled in the middle, indicating the end of the 3 minute time, count the CWS/IWS within the 5 minute timing.
8. If the word ends in the middle at the end of the 5 minute times do not count the CWS/IWS between that word and the second to last word written.

**Correct Letter Sequence – CLS/ Incorrect Letter Sequence - ILS**
1. Place a *green* carrot before each letter and after the last letter of each word at the top of the letters if the letter sequence is correct.
2. If the letter sequence is incorrect place an upside down *green* carrot between the letters at the bottom of the letter.
3. For the circled letters (the last letter written for the time) count up to the letter but not past.
4. For the 3 minute scoring only count up to the circle for the 3 minute score anything past is for the 5 minute time.
5. If a letter is incorrect both sequences, the before and after, are incorrect.
6. The first letter must be capitalized; capital letters within the word are counted as correct.
7. Do not score past the circled letter at the end of the 5 minute time period.
8. Reversals are incorrect.
9. Ignore spacing unless it is very difficult to read,

**Story Prompt**
1. Read prompt and entire writing sample before scoring.
2. Do your best to decipher what the student is writing.
3. Find the circled letters indicating the 3 minute and 5 minute ending points. Place *red line* immediately following the circled letter or punctuation mark.
4. If a circled letter cannot be found for the 3 minute end time only score the 5 minute portion
5. Cross off the IFW section on the score sheet.
6. Find the correct scoring line of the score sheet, enter date student completed prompt.

**Words Written - WW**
1. Place a *blue* line at the beginning of each word and before the end punctuation to separate the individual words written. Again do your best to separate words.
2. Count all the words written during the 3 minute timing and the 5 minute timing.
3. At the end of each timing interval count the word as written if the last letter is circled.
4. If a letter within the word is circled do not count that word as written.
5. At the end of the 3 minute interval if the last letter of the word is circled count it in the 3 minute time. If a letter in the middle of the word is circled count that word in the 5 minute timing.
6. Repeated words: Ex. It was fun fun fun fun fun fun fun fun fun. Only count the first 3 words then cross the rest out.
7. Count “&” as one correct word.
8. Abbreviations are counted as correct words: ex: min. lb. hr, etc.
9. Numbers used correctly are correct words. Ex: I had 4 toys.
10. Hyphenated words count as 1 written word.

Incorrect Words – IW
1. Score IW the same as a spell checker would and underline incorrect words in red. Just because a word does not make sense does not mean it is an IW. (See IWS)
2. Capital letters – the first letter of the sentence must be capitalized or the word is incorrect. Other capital letters within the sentence should be ignored.
3. Reversals are incorrect.
4. “I” and Proper nouns need to be capital.
5. Ignore spacing unless it is very difficult to read.
6. Do your best to sound out the words the student was trying to write.
7. It may help to write the correct word above the incorrect word.
8. Count the incorrect words for each time period.
9. and, but, and then are incorrect words if they start a sentence. Ex: Then we went fishing. “Then” is incorrect and should be underlined in red.
10. If a student uses and in a sentence more than twice break the sentence up appropriately. Ex. We went to the store and went home and then went to the park and met my friends and they were excited and we played soccer and we have fun. There are 6 “and’s” used in this sentence. Chop it up so only 2 are used per sentence and score appropriately.
11. Numbers used in place of words are incorrect. Ex: We went 2 the pool.

Correct Word Sequence – CWS/Incorrect Word Sequence – IWS
1. If the word before and after a written word is correct place a blue carrot on top of the blue lines separating the two words indicating a CWS.
2. At the beginning of the sentence the word sequence is correct if the word is correct and begins with a capital. Therefore a carrot can be placed on the blue line before the first word.
3. If the last word is correct and the punctuation is correct this is a CWS and a blue carrot may be placed on the blue line at the end of the sentence.
4. If a word has a letter circled in the middle indicating the end of the 3 minute time count the CWS/IWS within the 5 minute timing.
5. If the word ends in the middle at the end of the 5 minute times do not count the CWS/IWS between that word and the second to last word written.
6. For IWS place a red upside-down carrot on the bottom of the blue line separating the two words.
7. An IW has an incorrect word sequence before and after the word.
8. A sentence ending without punctuation or with the incorrect punctuation is an IWS.
9. Compound words that are written as two are incorrect: ex: “home work” should be written “homework” This would be three incorrect word sequences.

Correct Letter Sequence – CLS/ Incorrect Letter Sequence - ILS
1. Place a green carrot before each letter and after the last letter of each word at the top of the letters if the letter sequence is correct.
2. If the letter sequence is incorrect place an upside down green carrot between the letters at the bottom of the letter.
3. For the circled letters (the last letter written for the time) count up to the letter but not past.
4. For the 3 minute scoring only count up to the circle for the 3 minute score anything past is for the 5 minute time.
5. If a letter is incorrect both sequences, the before and after, are incorrect.
6. The first letter of a proper noun must be capitalized; capital letters within the word are counted as correct.
7. Do not score past the circled letter at the end of the 5 minute time period.
8. Reversals are incorrect.
9. Ignore spacing unless it is very difficult to read.

Study 2
All the scoring procedures and dependent variables in study 2 were exactly the same as in study 1.
### Appendix I

#### Interrater Agreement

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Appendix J-1-1: Words Written (3 min) in Word Copy-February

Histogram

Word Copy-Words Written 3 minutes on February-A-Pretest
Mean = 14.80
Std. Dev. = 5.43609
N = 50

Histogram

Word Copy-Words Written 3 minutes on February-A-Posttest
Mean = 20.46
Std. Dev. = 7.08897
N = 50

Histogram

Word Copy-Words Written 3 minutes on February-B-Pretest
Mean = 30.00
Std. Dev. = 6.59511
N = 50

Histogram

Word Copy-Words Written 3 minutes on February-B-Posttest
Mean = 23.24
Std. Dev. = 7.87546
N = 50
Appendix J-1-2: Words Written (5 min) in Word Copy-February

Histogram

WCww5febA1

Histogram

WCww5febA2

Histogram

WCww5febB1

Histogram

WCww5febB2

Box plot

WCww5febA1

WCww5febB1

WCww5febA2

WCww5febB2
Appendix J-1-3: Words Written (3 & 5 min) in Word Copy - May

**Histogram**

Word Copy: Words Written 3 minutes in May

- Mean = 25.0408
- Std. Dev. = 8.15209
- N = 49

**Histogram**

Word Copy: Words Written 5 minutes in May

- Mean = 41.3673
- Std. Dev. = 15.54656
- N = 49
Appendix J-1-4: Words Spelled Correctly (3 min) in Word Copy-February

Histogram

Word Copy-Words Written minus Incorrect Words 3 minutes on Feb-A-Pretest

Mean = 13.14
Std. Dev. = 5.39845
N = 50

Histogram

Word Copy-Words Written minus Incorrect Words 3 minutes on Feb-B-Pretest

Mean = 19.16
Std. Dev. = 6.07222
N = 50

Histogram

Word Copy-Words Written minus Incorrect Words 3 minutes on Feb-A-Posttest

Mean = 18.12
Std. Dev. = 6.59821
N = 50

Histogram

Word Copy-Words Written minus Incorrect Words 3 minutes on Feb-A-Posttest

Mean = 21.22
Std. Dev. = 7.49501
N = 50

Box plot

Word Copy-Words Written minus Incorrect Words 3 minutes on Feb-A-Pretest

Word Copy-Words Written minus Incorrect Words 3 minutes on Feb-B-Pretest

Word Copy-Words Written minus Incorrect Words 3 minutes on Feb-A-Posttest

Word Copy-Words Written minus Incorrect Words 3 minutes on Feb-A-Posttest
Appendix J-1-5: Words Spelled Correctly (5 min) in Word Copy-February

Histograms showing the distribution of words spelled correctly in 5 minutes for pretest and posttest.

Mean and standard deviation are provided for each measurement.

Histograms for:
- Word Copy-Words Written minus Incorrect Words 5 minutes on Feb-A-Pretest
- Word Copy-Words Written minus Incorrect Words 5 minutes on Feb-B-Pretest
- Word Copy-Words Written minus Incorrect Words 5 minutes on Feb-A-Posttest
- Word Copy-Words Written minus Incorrect Words 5 minutes on Feb-B-Posttest
Appendix J-1-6: Words Spelled Correctly (3 & 5 min) in Word Copy-May

**Histogram**

- **Word Copy-Words Spelled Correctly 3 minutes in May**
  - Frequency
  - Mean = 22.7959
  - Std. Dev. = 7.83151
  - N = 49

- **Word Copy-Words Spelled Correctly 5 minutes in May**
  - Frequency
  - Mean = 37.6531
  - Std. Dev. = 14.67928
  - N = 49

**Box Plot**

- **Word Copy-Words Spelled Correctly 3 minutes in May**
- **Word Copy-Words Spelled Correctly 5 minutes in May**
Appendix J-1-7: Correct Letter Sequences (3 min) in Word Copy-February

Histogram
Word Copy-Correct Letter Sequences 3 minutes on February-A-Pretest

Histogram
Word Copy-Correct Letter Sequences 3 minutes on February-B-Pretest

Histogram
Word Copy-Correct Letter Sequences 3 minutes on February-A-Posttest

Histogram
Word Copy-Correct Letter Sequences 3 minutes on February-B-Posttest

Boxplot
Word Copy-Correct Letter Sequences 3 minutes on February-A-Pretest
Word Copy-Correct Letter Sequences 3 minutes on February-B-Pretest
Word Copy-Correct Letter Sequences 3 minutes on February-A-Posttest
Word Copy-Correct Letter Sequences 3 minutes on February-B-Posttest
Appendix J-1-8: Correct Letter Sequences (5 min) in Word Copy-February

Histogram

Histogram

Histogram

Histogram

Word Copy-Correct Letter Sequences 5 minutes on February-A-Pretest

Word-Copy-Correct Letter Sequences 5 minutes on February-B-Pretest

Word Copy-Correct Letter Sequences 5 minutes on February-A-Posttest

Word Copy-Correct Letter Sequences 5 minutes on February-B-Posttest

Mean = 125.40
Std. Dev. = 48.85965
N = 50

Mean = 168.74
Std. Dev. = 55.56603
N = 50

Mean = 168.14
Std. Dev. = 60.01157
N = 50

Mean = 180.60
Std. Dev. = 65.26117
N = 50

Word Copy-Correct Letter Sequences 5 minutes on February-A-Pretest

Word-Copy-Correct Letter Sequences 5 minutes on February-B-Pretest

Word Copy-Correct Letter Sequences 5 minutes on February-A-Posttest

Word Copy-Correct Letter Sequences 5 minutes on February-B-Posttest

Mean = 300.00
Std. Dev. = 50
N = 50

Mean = 300.00
Std. Dev. = 50
N = 50

Mean = 300.00
Std. Dev. = 50
N = 50

Mean = 300.00
Std. Dev. = 50
N = 50

Word Copy-Correct Letter Sequences 5 minutes on February-A-Pretest

Word-Copy-Correct Letter Sequences 5 minutes on February-B-Pretest

Word Copy-Correct Letter Sequences 5 minutes on February-A-Posttest

Word Copy-Correct Letter Sequences 5 minutes on February-B-Posttest

Mean = 300.00
Std. Dev. = 50
N = 50

Mean = 300.00
Std. Dev. = 50
N = 50

Mean = 300.00
Std. Dev. = 50
N = 50

Mean = 300.00
Std. Dev. = 50
N = 50
Appendix J-1-9: Correct Letter Sequences (3 & 5 min) in Word Copy-May

Histogram

Word Copy-Correct Letter Sequences 3 minutes in May

Histogram

Word Copy-Correct Letter Sequences 5 minutes in May

Histogram

Word Copy-Correct Letter Sequences 3 minutes in May

Word Copy-Correct Letter Sequences 5 minutes in May
Appendix J-2-1: Words Written (3 min) in Sentence Copy-February

**Histograms**

- Sentence Copy-Words Written 3 minutes on February-A-Pretest
- Sentence Copy-Words Written 3 minutes on February-B-Pretest
- Sentence Copy-Words Written 3 minutes on February-A-Posttest
- Sentence Copy-Words Written 3 minutes on February-B-Posttest

**Boxplots**

- Sentence Copy-Words Written 3 minutes on February-A-Pretest
- Sentence Copy-Words Written 3 minutes on February-B-Pretest
- Sentence Copy-Words Written 3 minutes on February-A-Posttest
- Sentence Copy-Words Written 3 minutes on February-B-Posttest

**Statistics**

- **February-A-Pretest**
  - Mean = 19.1702
  - Std. Dev. = 7.62809
  - N = 47

- **February-B-Pretest**
  - Mean = 20.4681
  - Std. Dev. = 7.73431
  - N = 47

- **February-A-Posttest**
  - Mean = 21.5957
  - Std. Dev. = 8.31881
  - N = 47

- **February-B-Posttest**
  - Mean = 24.3617
  - Std. Dev. = 9.28633
  - N = 47
Appendix J-2-2: Words Written (5 min) in Sentence Copy-February

- SCww5febA1
  - Mean = 29.86
  - Std. Dev. = 13.31
  - N = 50

- SCww5febB1
  - Mean = 33.38
  - Std. Dev. = 12.946
  - N = 50

- SCww5febA2
  - Mean = 34.54
  - Std. Dev. = 13.23
  - N = 50

- SCww5febB2
  - Mean = 38.02
  - Std. Dev. = 16.56
  - N = 50
Appendix J-2-3: Words Written (3 & 5 min) in Sentence Copy-May

**Histogram**

1. For 3 minutes:
   - Mean = 27.1304
   - Std. Dev. = 12.01038
   - N = 46

2. For 5 minutes:
   - Mean = 45.8261
   - Std. Dev. = 20.33968
   - N = 46
Appendix J-2-4: Words Spelled Correctly (3 min) in Sentence Copy - February
Appendix J-2-5: Words Spelled Correctly (5 min) in Sentence Copy-February

Histogram

Histogram

Histogram

Histogram

Histogram

Histogram
Appendix J-2-6: Words Spelled Correctly (3 & 5 min) in Sentence Copy-May

Histogram

Histogram

Histogram

Boxplot

Boxplot

Boxplot
Appendix J-2-7: Correct Word Sequences (3 min) in Sentence Copy-February
Appendix J-2-8: Correct Word Sequences (5 min) in Sentence Copy-February

Histogram

Mean = 26.86
Std. Dev. = 13.265
N = 50

Histogram

Mean = 30.4
Std. Dev. = 11.985
N = 50

Histogram

Mean = 31.84
Std. Dev. = 12.669
N = 50

Histogram

Mean = 34.7
Std. Dev. = 14.461
N = 50
Appendix J-2-9: Correct Word Sequences (3 & 5 min) in Sentence Copy-May

**Histogram**

**Sentence Copy - Correct Word Sequences 3 minutes in May**

**Histogram**

**Sentence Copy - Correct Word Sequences 5 minutes in May**

**Boxplot**
Appendix J-2-10: Correct – Incorrect Word Sequences (3 min) in Sentence Copy-Feburary

<table>
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<th>Mean</th>
<th>Std. Dev.</th>
<th>N</th>
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<tr>
<td>Sntnce Copy-Correct minus incorrect WS 3 min on Feb-B-Pretest</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Sntnce Copy-Correct minus incorrect WS 3 min on Feb-A-Posttest</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sntnce Copy-Correct minus incorrect WS 3 min on Feb-B-Posttest</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sntnce Copy-Correct minus incorrect WS 3 min on Feb-A-Pretest

Sntnce Copy-Correct minus incorrect WS 3 min on Feb-B-Pretest

Sntnce Copy-Correct minus incorrect WS 3 min on Feb-A-Posttest

Sntnce Copy-Correct minus incorrect WS 3 min on Feb-B-Posttest

49
Appendix J-2-11: Correct – Incorrect Word Sequences (5 min) in Sentence Copy-February
Appendix J-2-12: Correct – Incorrect Word Sequences (3 & 5 min) in Sentence Copy-May

Histogram

Sentence Copy-Correct minus Incorrect Correct Word Sequences

Histogram

Mean = 21.3
Std. Dev = 13.53
N = 46.00

Histogram

Mean = 35.6
Std. Dev = 19.95
N = 46.00

Box plot

Mean = 40.0
N = 46
Appendix J-2-13: Correct Letter Sequences (3 min) in Sentence Copy-February
Appendix J-2-15: Correct Letter Sequences (5 min) in Sentence Copy-May

Histogram

Histogram

Histogram

Histogram
Appendix J-3-1: Words Written (3 min) in Story Prompt-February
Appendix J-3-2: Words Written (5 min) in Story Prompt-February

Histogram

- **SPww5febA1**
  - Mean = 21.85
  - Std. Dev. = 9.184
  - N = 47

- **SPww5febB1**
  - Mean = 24.7
  - Std. Dev. = 11.756
  - N = 47

- **SPww5febA2**
  - Mean = 25.15
  - Std. Dev. = 11.849
  - N = 47

- **SPww5febB2**
  - Mean = 29.23
  - Std. Dev. = 13.627
  - N = 47

Histogram

Boxplot

- **SPww5febA1**
- **SPww5febB1**
- **SPww5febA2**
- **SPww5febB2**
Appendix J-3-3: Words Written (3 & 5 min) in Story Prompt-May

Histogram

Mean: 21.8043
Std. Dev.: 12.9694
N: 46

Histogram

Mean: 36.9783
Std. Dev.: 20.92578
N: 46

Boxplot

Frequency

30005
30006
30005
30006
30005
30006

30005
30006
Appendix J-3-4: Words Spelled Correctly (3 min) in Story Prompt-February

Histogram of Story Prompt-Words Written minus Incorrect Words 3 minutes on Feb-A-Pretest

Histogram of Story Prompt-Words Written minus Incorrect Words 3 minutes on Feb-B-Pretest

Histogram of Story Prompt-Words Written minus Incorrect Words 3 minutes on Feb-A-Posttest

Histogram of Story Prompt-Words Written minus Incorrect Words 3 minutes on Feb-B-Posttest
Appendix J-3-5: Words Spelled Correctly (5 min) in Story Prompt-February
Appendix J-3-6: Words Spelled Correctly (3 & 5 min) in Story Prompt-May
Appendix J-3-7: Correct Word Sequences (3 min) in Story Prompt-February
Appendix J-3-8: Correct Word Sequences (5 min) in Story Prompt-February

![Histogram](image1)

![Histogram](image2)

![Histogram](image3)

![Histogram](image4)

![Boxplot](image5)
Appendix J-3-9: Correct Word Sequences (3 & 5 min) in Story Prompt-May

Histogram

Mean = 12.3261
Std. Dev. = 10.30438
N = 46

Histogram

Mean = 20.9783
Std. Dev. = 16.3673
N = 46

Histogram
Appendix J-3-10: Correct – Incorrect Word Sequences (3 min) in Story Prompt-February

Histogram

Histogram

Histogram

Histogram

Story Prompt-Correct minus incorrect WS 3 min on Feb-A-Pretest

Story Prompt-Correct minus incorrect WS 3 min on Feb-B-Pretest

Story Prompt-Correct minus incorrect WS 3 min on Feb-A-Posttest

Story Prompt-Correct minus incorrect WS 3 min on Feb-B-Posttest

Mean = -0.9318
Std. Dev. = 5.84449
N = 44

Mean = -0.4318
Std. Dev. = 7.7201
N = 44

Mean = -1.25
Std. Dev. = 7.71023
N = 44

Mean = 0.1136
Std. Dev. = 7.7346
N = 44

Story Prompt-Correct minus incorrect WS 3 min on Feb-B-Posttest

Story Prompt-Correct minus incorrect WS 3 min on Feb-A-Pretest

Story Prompt-Correct minus incorrect WS 3 min on Feb-B-Pretest

Story Prompt-Correct minus incorrect WS 3 min on Feb-A-Posttest
Appendix J-3-11: Correct – Incorrect Word Sequences (5 min) in Story Prompt-February
Appendix J-3-12: Correct – Incorrect Word Sequences (3 & 5 min) in Story Prompt-May

**Histogram**

- **Story Prompt-Correct minus Incorrect Word Sequences 3 minutes in May**
  - Frequency
  - Mean = 1.0217
  - Std. Dev. = 10.29453
  - N = 46

- **Story Prompt-Correct minus Incorrect Word Sequences 5 minutes in May**
  - Frequency
  - Mean = 1.1957
  - Std. Dev. = 16.77117
  - N = 46

**Boxplot**

- **Story Prompt-Correct minus Incorrect Word Sequences 3 minutes in May**
- **Story Prompt-Correct minus Incorrect Word Sequences 5 minutes in May**
Appendix J-3-13: Correct Letter Sequences (3 min) in Story Prompt-February

**February A - Pretest**

- **Mean**: 47.50
- **Std. Dev.**: 21.90094
- **N**: 44

**February A - Posttest**

- **Mean**: 57.6364
- **Std. Dev.**: 30.78741
- **N**: 44

**February B - Pretest**

- **Mean**: 50.4318
- **Std. Dev.**: 25.10295
- **N**: 44

**February B - Posttest**

- **Mean**: 65.7045
- **Std. Dev.**: 34.13556
- **N**: 44
Appendix J-3-14: Correct Letter Sequences (5 min) in Story Prompt-February
Appendix J-3-15: Correct Letter Sequences (3 & 5 min) in Story Prompt-May

![Histogram](image1)

- **Story Prompt-Correct Letter Sequences 3 minutes in May**
  - Mean = 79.8043
  - Std. Dev. = 53.33359
  - N = 46

![Histogram](image2)

- **Story Prompt-Correct Letter Sequences 5 minutes (CLS5) in May**
  - Mean = 136.8043
  - Std. Dev. = 87.1325
  - N = 46

![Boxplot](image3)

- **Boxplot**
  - Story Prompt-Correct Letter Sequences 3 minutes in May
  - Story Prompt-Correct Letter Sequences 5 minutes (CLS5) in May
Appendix J-4-1: Words Written (3 min) in Letter Prompt - February

Histogram

Letter Prompt-Words Written 3 minutes on February-A

Mean =12.56
Std. Dev. =4.711
N =36

Letter Prompt-Words Written 3 minutes on February-B

Mean =14.06
Std. Dev. =5.971
N =36

Letter Prompt-Words Written 3 minutes on February-C

Mean =17.22
Std. Dev. =8.309
N =36

Histogram

Letter Prompt-Words Written 3 minutes on February-C

Histogram

Letter Prompt-Words Written 3 minutes on February-B

Histogram

Letter Prompt-Words Written 3 minutes on February-A

Box plots

Letter Prompt-Words Written 3 minutes on February-A

Letter Prompt-Words Written 3 minutes on February-B

Letter Prompt-Words Written 3 minutes on February-C
Appendix J-4-2: Words Written (5 min) in Letter Prompt - February
Appendix J-4-3: Words Written (3 & 5 min) in Letter Prompt - May
Appendix J-4-4: Words Spelled Correctly (3 min) in Letter Prompt - February
Appendix J-4-5: Words Spelled Correctly (5 min) in Letter Prompt - February

<table>
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<td>Histogram</td>
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Appendix J-4-6: Words Spelled Correctly (3 & 5 min) in Letter Prompt - May

Histogram

Letter Prompt-Words Spelled Correctly 3 minutes in May

Histogram

Letter Prompt-Words Spelled Correctly 5 minutes in May

Histogram

Letter Prompt-Words
Appendix J-4-7: Correct Letter Sequences (3 min) in Letter Prompt - February

Histogram

Letter Prompt-Correct letter Sequences 3 minutes on February-A

Frequency

Mean = 47.89
Std. Dev. = 21.898
N = 36

Histogram

Letter Prompt-Correct letter Sequences 3 minutes on February-B

Frequency

Mean = 54.64
Std. Dev. = 27.843
N = 36

Histogram

Letter Prompt-Correct letter Sequences 3 minutes on February-C

Frequency

Mean = 70.86
Std. Dev. = 36.451
N = 36

Boxplot

Letter Prompt-Correct letter Sequences 3 minutes on February-A

Letter Prompt-Correct letter Sequences 3 minutes on February-B

Letter Prompt-Correct letter Sequences 3 minutes on February-C
Appendix J-4-8: Correct Letter Sequences (5 min) in Letter Prompt - February

Histogram

Histogram

Histogram

Histogram

300
250
200
150
100
50
0

Letter Prompt-Correct Letter Sequences 5 minutes on February-A

Letter Prompt-Correct Letter Sequences 5 minutes on February-B

Letter Prompt-Correct Letter Sequences 5 minutes on February-C

Letter Prompt-Correct Letter Sequences 5 minutes on February-C

Letter Prompt-Correct Letter Sequences 5 minutes on February-B

Letter Prompt-Correct Letter Sequences 5 minutes on February-A
Appendix J-4-9: Correct Letter Sequences (3 & 5 min) in Letter Prompt - May
Appendix J-5-1: Words Written (3 min) in Picture-Word Prompt - February

Histogram

- PictureWord Prompt-Words Written 3 Minutes on Feb-A
  - Mean = 16.26
  - Std. Dev. = 7.119
  - N = 42

Histogram

- PictureWord Prompt-Words Written 3 Minutes on Feb-B
  - Mean = 21.62
  - Std. Dev. = 8.082
  - N = 42

Histogram

- PictureWord Prompt-Words Written 3 Minutes on Feb-C
  - Mean = 21.86
  - Std. Dev. = 9.819
  - N = 42

Box Plot

- PictureWord Prompt-Words Written 3 Minutes on Feb-A
- PictureWord Prompt-Words Written 3 Minutes on Feb-B
- PictureWord Prompt-Words Written 3 Minutes on Feb-C
Appendix J-5-2: Words Written (5 min) in Picture-Word Prompt - February

Histogram

Histogram

Histogram

Box plots for Picture Word-Words Written 5 minutes on February-A, February-B, and February-C.
Appendix J-5-3: Words Written (3 & 5 min) in Picture-Word Prompt - May

Histogram

Histogram

Mean = 23.7381
Std. Dev. = 11.18592
N = 42

Mean = 42.00
Std. Dev. = 21.38725
N = 42

Box plot

Mean = 23.7381
Std. Dev. = 11.18592
N = 42

Mean = 42.00
Std. Dev. = 21.38725
N = 42
Appendix J-5-4: Words Spelled Correctly (3 min) in Picture-Word Prompt - February

Histogram

Mean = 14.0714
Std. Dev. = 6.49725
N = 42

Histogram

Mean = 19.119
Std. Dev. = 8.39629
N = 42

Histogram

Mean = 19.0476
Std. Dev. = 9.41963
N = 42

30064
Appendix J-5-5: Words Spelled Correctly (5 min) in Picture-Word Prompt -February
Appendix J-5-6: Words Spelled Correctly (3 & 5 min) in Picture-Word Prompt - May

**Histogram**

- Picture Word-Words Spelled Correctly 3 minutes in May
  - Mean = 21.3571
  - Std. Dev. = 10.28573
  - N = 42

- Picture Word-Words Spelled Correctly 5 minutes in May
  - Mean = 38.0714
  - Std. Dev. = 19.75384
  - N = 42

**Boxplot**

- Picture Word-Words Spelled Correctly 3 minutes in May
- Picture Word-Words Spelled Correctly 5 minutes in May
Appendix J-5-7: Correct Word Sequences (3 min) in Picture-Word Prompt -February

Histogram

Histogram

Histogram

Boxplot

Boxplot

Boxplot

85
Appendix J-5-8: Correct Word Sequences (5 min) in Picture-Word Prompt -February
Appendix J-5-9: Correct Word Sequences (3 & 5 min) in Picture-Word Prompt - May

Histogram

Picture Word-Correct Word Sequences 3 minutes in May

Histogram

Picture Word-Correct Word Sequences 5 minutes in May

Histogram

Picture Word-Correct Word Sequences 5 minutes in May
Appendix J-5-10: Correct – Incorrect Word Sequences (3 min) in Picture-Word Prompt - February

![Histogram of PictureWord Prompt-Correct-IWS 3 Minutes on Feb-A](image1)

- Mean: -2.78
- Std. Dev.: 5.79
- N: 42

![Histogram of PictureWord Prompt-Correct-IWS 3 Minutes on Feb-B](image2)

- Mean: -5.85
- Std. Dev.: 12.72
- N: 42

![Histogram of PictureWord Prompt-Correct-IWS 3 Minutes on Feb-C](image3)

- Mean: -3.05
- Std. Dev.: 9.63
- N: 42

![Box plot of PictureWord Prompt-Correct-IWS 3 Minutes on Feb-A](image4)

- Median: 0
- Lower Quartile: -10
- Upper Quartile: 30
- Outliers: 30073

![Box plot of PictureWord Prompt-Correct-IWS 3 Minutes on Feb-B](image5)

- Median: 0
- Lower Quartile: -10
- Upper Quartile: 30
- Outliers: 30102

![Box plot of PictureWord Prompt-Correct-IWS 3 Minutes on Feb-C](image6)

- Median: 0
- Lower Quartile: -10
- Upper Quartile: 30
- Outliers: 30073, 30102
Appendix J-5-11: Correct – Incorrect Word Sequences (5 min) in Picture-Word Prompt - February
Appendix J-5-12: Correct – Incorrect Word Sequences (3 & 5 min) in Picture-Word Prompt - May

Histogram

Mean = 7.5714
Std. Dev. = 9.82566
N = 42

Histogram

Mean = 14.50
Std. Dev. = 18.42089
N = 42
Appendix J-5-13: Correct Letter Sequences (3 min) in Picture-Word Prompt -February
Appendix J-5-14: Correct Letter Sequences (5 min) in Picture-Word Prompt - February
Appendix J-5-15: Correct Letter Sequences (3 & 5 min) in Picture-Word Prompt - May
Appendix J-6-1: Words Written (3 min) in Picture-Theme Prompt -February

Histogram

Histogram

Histogram

Histogram

Histogram

Histogram
Appendix J-6-2: Words Written (5 min) in Picture-Theme Prompt -February
Appendix J-6-3: Words Written (3 & 5 min) in Picture-Theme Prompt - May

_histogram of words written in 3 minutes in May

Histogram

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Picture Theme-Words Written 3 minutes in May

Mean = 18.10
Std. Dev. = 10.75794
N = 40

_histogram of words written in 5 minutes in May

Histogram

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Picture Theme-Words Written 5 minutes in May

Mean = 30.70
Std. Dev. = 19.12737
N = 40
Appendix J-6-4: Words Spelled Correctly (3 min) in Picture-Theme Prompt - February
Appendix J-6-5: Words Spelled Correctly (5 min) in Picture-Theme Prompt - February

Histogram

Frequency

Mean = 17.50
Std. Dev. = 9.07206
N = 44

Histogram

Frequency

Mean = 21.1136
Std. Dev. = 11.84044
N = 44

Histogram

Frequency

Mean = 25.75
Std. Dev. = 14.12095
N = 44

Histogram

Frequency

Mean = 31.00
Std. Dev. = 17.32053
N = 44

Histogram

Frequency

Mean = 31.00
Std. Dev. = 17.32053
N = 44

Histogram

Frequency

Mean = 31.00
Std. Dev. = 17.32053
N = 44

Histogram

Frequency

Mean = 31.00
Std. Dev. = 17.32053
N = 44
Appendix J-6-6: Words Spelled Correctly (3 & 5 min) in Picture-Theme Prompt - May

Histogram

Picture Theme-Words Spelled Correctly 3 minutes in May

Mean = 14.475
Std. Dev. = 8.93276
N = 40

Histogram

Picture Theme-Words Spelled Correctly 5 minutes in May

Mean = 24.275
Std. Dev. = 15.63197
N = 40

Histogram
Appendix J-6-7: Correct Word Sequences (3 min) in Picture-Theme Prompt - February

Histogram

Picture Theme-Correct Word Sequences 3 Minutes on Feb-A

Mean = 8
Std. Dev. = 5.31
N = 31

Histogram

Picture Theme-Correct Word Sequences 3 Minutes on Feb-B

Mean = 8.9
Std. Dev. = 6.139
N = 31

Histogram

Picture Theme-Correct Word Sequences 3 Minutes on Feb-C

Mean = 11.71
Std. Dev. = 7.263
N = 31

Box plot

Picture Theme-Correct Word Sequences 3 Minutes on Feb-A

Picture Theme-Correct Word Sequences 3 Minutes on Feb-B

Picture Theme-Correct Word Sequences 3 Minutes on Feb-C
Appendix J-6-8: Correct Word Sequences (5 min) in Picture-Theme Prompt - February
Appendix J-6-9: Correct Word Sequences (3 & 5 min) in Picture-Theme Prompt - May

Histogram

Picture Theme-Correct Word Sequences 3 minutes in May

Histogram

Picture Theme-Correct Word Sequences 5 minutes in May

Boxplot

Picture Theme-Correct Word Sequences 3 minutes in May

Picture Theme-Correct Word Sequences 5 minutes in May
Appendix J-6-10: Correct – Incorrect Word Sequences (3 min) in Picture-Theme Prompt - February

Histogram

Picture Theme-Correct - IWS 3 Minutes on Feb A

Histogram

Picture Theme-Correct - IWS 3 Minutes on Feb B

Histogram

Picture Theme-Correct - IWS 3 Minutes on Feb C

Boxplot

Picture Theme-Correct

Picture Theme-Correct

Picture Theme-Correct
Appendix J-6-11: Correct – Incorrect Word Sequences (5 min) in Picture-Theme Prompt - February
Appendix J-6-12: Correct – Incorrect Word Sequences (3 & 5 min) in Picture-Theme Prompt - May

Histogram

Histogram

Histogram

Histogram
Appendix J-6-13: Correct Letter Sequences (3 min) in Picture-Theme Prompt -February

Histogram

Picture Theme-Correct Letter Sequences 3 Minutes on Feb-A

- Frequency
- Mean = 56.26
- Std. Dev. = 29.389
- N = 31

Histogram

Picture Theme-Correct Letter Sequences 3 Minutes on Feb-B

- Frequency
- Mean = 62.61
- Std. Dev. = 29.543
- N = 31

Histogram

Picture Theme-Correct Letter Sequences 3 Minutes on Feb-C

- Frequency
- Mean = 74.35
- Std. Dev. = 42.115
- N = 31

Box Plot

Picture Theme-Correct Letter Sequences 3 Minutes on Feb-A

Picture Theme-Correct Letter Sequences 3 Minutes on Feb-B

Picture Theme-Correct Letter Sequences 3 Minutes on Feb-C
Appendix J-6-14: Correct Letter Sequences (5 min) in Picture-Theme Prompt - February
Appendix J-6-15: Correct Letter Sequences (3 & 5 min) in Picture-Theme Prompt - May

**Histogram**

**Picture Theme-Correct Letter Sequences 3 minutes in May**

- Mean = 69.675
- Std. Dev. = 44.2072
- N = 40

**Histogram**

**Picture Theme-Correct Letter Sequences 5 minutes in May**

- Mean = 118.325
- Std. Dev. = 77.71031
- N = 40

**Box Plot**

**Picture Theme-Correct Letter Sequences 3 minutes in May**

**Picture Theme-Correct Letter Sequences 5 minutes in May**

- 30062
Appendix J-7-1: Words Written (3 min) in Photo Prompt - February

Histogram

Histogram

Histogram

Histogram

Box plot

Box plot

Box plot

Box plot
Appendix J-7-2: Words Written (5 min) in Photo Prompt - February
Appendix J-7-3: Words Written (3 & 5 min) in Photo Prompt – May

Histogram

Photo Prompt-Words Written 3 minutes in May

Histogram

Photo Prompt-Words Written 5 minutes in May

Boxplot

N = 43
Appendix J-7-4: Words Spelled Correctly (3 min) in Photo Prompt - February

![Histogram for Feb-A](image1)

Frequency
Mean = 11.6842
Std. Dev. = 7.55916
N = 38

![Histogram for Feb-B](image2)

Frequency
Mean = 13.7368
Std. Dev. = 8.14956
N = 38

![Histogram for Feb-C](image3)

Frequency
Mean = 12.3947
Std. Dev. = 7.33205
N = 38

![Box plots for Feb-A, Feb-B, Feb-C](image4)
Appendix J-7-5: Words Spelled Correctly (5 min) in Photo Prompt -February
Appendix J-7-6: Words Spelled Correctly (3 & 5 min) in Photo Prompt - May

Histogram

Photo Prompt-Words Spelled Correctly 3 minutes in May

Histogram

Photo Prompt-Words Spelled Correctly 5 minutes in May

Histogram

Photo Prompt-Words Spelled Correctly 3 minutes in May

Histogram

Photo Prompt-Words Spelled Correctly 5 minutes in May
Appendix J-7-7: Correct Word Sequences (3 min) in Photo Prompt - February

Histogram

Histogram

Histogram

Histogram

Frequency

Frequency

Frequency

Frequency

Photo Prompt-CorrectWord Sequences 3 Minutes on Feb-A

Photo Prompt-CorrectWord Sequences 3 Minutes on Feb-B

Photo Prompt-CorrectWord Sequences 3 Minutes on Feb-C

Mean = 7.71
Std. Dev. = 6.637
N = 38

Mean = 9.32
Std. Dev. = 7.025
N = 38

Mean = 7.95
Std. Dev. = 5.918
N = 38

Mean = 7.71
Std. Dev. = 6.637
N = 38

Mean = 9.32
Std. Dev. = 7.025
N = 38

Mean = 7.95
Std. Dev. = 5.918
N = 38

Photo Prompt-CorrectWord Sequences 3 Minutes on Feb-A

Photo Prompt-CorrectWord Sequences 3 Minutes on Feb-B

Photo Prompt-CorrectWord Sequences 3 Minutes on Feb-C
Appendix J-7-8: Correct Word Sequences (5 min) in Photo Prompt - February

![Histogram for February-A](image1)

![Histogram for February-B](image2)

![Histogram for February-C](image3)

![Boxplot for February-A](image4)

![Boxplot for February-B](image5)

![Boxplot for February-C](image6)
Appendix J-7-9: Correct Word Sequences (3 & 5 min) in Photo Prompt - May

Histogram

Photo Prompt-Correct Word Sequences 3 minutes in May

Histogram

Photo Prompt-Correct Word Sequences 5 minutes in May

N = 43
Appendix J-7-10: Correct – Incorrect Word Sequences (3 min) in Photo Prompt - February

Histogram

Mean = -1.6842
Std. Dev. = 7.64095
N = 38

Histogram

Mean = -1.6316
Std. Dev. = 8.99976
N = 38

Histogram

Mean = -3.1316
Std. Dev. = 8.15781
N = 38
Appendix J-7-11: Correct – Incorrect Word Sequences (5 min) in Photo Prompt - February

Histogram

Photo Prompt-correct minus incorrect word sequences 5 min. Feb.-A

Histogram

Photo Prompt-correct minus incorrect word sequences 5 min. Feb.-B

Histogram

Photo Prompt-correct minus incorrect word sequences 5 min. Feb.-C

Boxplot

Photo Prompt-correct minus incorrect word sequences 5 min. Feb.-A

Photo Prompt-correct minus incorrect word sequences 5 min. Feb.-B

Photo Prompt-correct minus incorrect word sequences 5 min. Feb.-C
Appendix J-7-12: Correct – Incorrect Word Sequences (3 & 5 min) in Photo Prompt - May

Histogram

Photo Prompt-Correct - IWS 3 minutes in May

Histogam

Photo Prompt-Correct - IWS 5 minutes in May

N = 43.00

Std. Dev = 8.64

Mean = 4.2

N = 43.00

Std. Dev = 13.16

Mean = 5.7
Appendix J-7-13: Correct Letter Sequences (3 min) in Photo Prompt - February
Appendix J-7-14: Correct Letter Sequences (5 min) in Photo Prompt - February

Histogram

Mean = 93.5652
Std. Dev. = 55.78038
N = 46

Histogram

Mean = 102.2174
Std. Dev. = 57.02277
N = 46

Histogram

Mean = 89.6522
Std. Dev. = 57.82933
N = 46

Boxplot

Photo Prompt-Correct Letter Sequences 5 minutes on February-A

Photo Prompt-Correct Letter Sequences 5 minutes on February-B

Photo Prompt-Correct Letter Sequences 5 minutes on February-C
Appendix J-7-15: Correct Letter Sequences (3 & 5 min) in Photo Prompt - May

Photo Prompt-Correct Letter Sequences 3 minutes in May

Photo Prompt-Correct Letter Sequences 5 minutes in May
Appendix K-1

Distributions of TOWL scores in Study 1 (n = 48)

TOWL subtest 6

Histogram

Frequency

Std. Dev = 2.14  
Mean = 1.7  
N = 48.00

TOWL subtest 7

Histogram

Frequency

Std. Dev = 3.18  
Mean = 8.9  
N = 48.00

TOWL subtest 8

Histogram

Frequency

Std. Dev = 2.96  
Mean = 6.2  
N = 48.00

Total score of TOWL

Histogram

Frequency

Std. Dev = 6.73  
Mean = 16.7  
N = 48.00
Appendix K-2

*Distributions of TOWL scores in Study 2 (n = 44)*

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**TOWLSUB6**

![Histogram of TOWLSUB6](image1)

**TOWLSUB7**

![Histogram of TOWLSUB7](image2)

**TOWLSUB8**

![Histogram of TOWLSUB8](image3)

**Total words in TOWL**

![Histogram of total words in TOWL](image4)