Handwriting Analysis Guide

Protocol for Analyzing Handwriting Samples to Identify Adolescents with Potential Irregularities

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This manual explains the procedures for collecting and scoring middle and high school students' handwriting samples. The information gathered through this process should not be the sole determinant of which students might benefit from tutoring or intervention in handwriting skills. Rather, the information should be used alongside other information about each student's writing skills when making important educational decisions.

Steps for Gathering Handwriting Samples

Select a writing prompt for administering to students that is intended to be answered with at least a paragraph response. This can be a prompt of your choosing, something from your curriculum, or a prompt from released state tests that are available online at the following websites:

- https://www.nysedregents.org/ei/ei-ela.html
- https://oh-ost.portal.cambiumast.com/resources#refine=ELA&refine=Practice
- http://mcas.pearsonsupport.com/student/practice-tests-ela/
- https://www.doe.virginia.gov/teaching-learning-assessment/student-assessment/sol-practice-items-all-subjects/released-tests-item-sets-all-subjects
- https://ed.sc.gov/tests/middle/sc-ready/writing-component/
- https://ky.mypearsonsupport.com/released-items/
- https://www.michigan.gov/mde/services/student-assessment/m-step/content-specific-information/ela-sample-passage-based-writing-prompts

There also are freely available writing prompts on the following websites:

- https://www.misd.net/languageart/grammarinaction/501writingprompts.pdf
- https://www.edutopia.org/article/50-writing-prompts-all-grade-levels-todd-finley/
- https://www.nytimes.com/2024/06/19/learning/176-writing-prompts-to-spark-discussion-and-reflection.html
- https://www.texthelp.com/resources/journal-writing-prompts/
- https://blog.prepscholar.com/creative-writing-prompts
- https://mps.milwaukee.k12.wi.us/MPS-English/CAO/Documents/PBIS/pbis-in-the-curriculum-HS-writing-prompts.pdf
- https://www.blinn.edu/writing-centers/pdfs/Timed-Writing-Practice.pdf

Distribute lined paper and sharpened pencils with erasers to students. Be sure to have extra sharpened pencils ready for anyone who needs a replacement pencil while writing. Ask students to put their names and the date on the top of the paper.

Distribute the prompt and read it aloud to students. Have students handwrite their responses to the prompt on the lined paper. Specify whether you want them to write one paragraph or a full essay.

As students finish their writing, collect their papers and check that their names are on them. The responses may be scored with your state, district, or curriculum rubric if you want to obtain information on students' written expression abilities.

Steps for Scoring Students' Handwriting

In each student's written response, place a mark after the fourteenth word. Only the first 14 words will be scored, regardless of how many full or partial sentences those words form.

General Consideration for Scoring

If the letter formation represents the individual's writing style, then it is not scored as an error. The example below shows consistent formation of the "f" that more closely resembles a capital cursive "F." It also shows a slash consistently drawn through the lowercase letter "o." Therefore, these are considered stylistic.
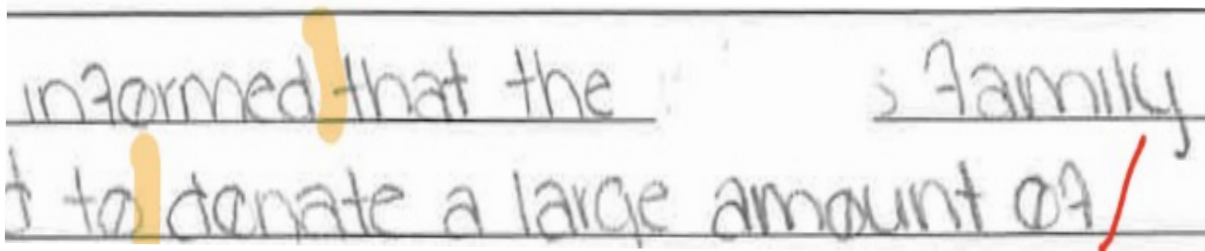
Error Types and Criteria

There are nine types of irregularities that can be identified for each letter, and all letters within a word should be evaluated. However, each word receives only one score per error type. No matter the number of letters in a word, each word can have a maximum score of nine errors: one for each error type. That is, whether one or all of the letters in the word "family" violate the criteria for orientation to baseline (see 4 below), the word still is scored as a single error of that type. The letters of the word also may have other error scores for the remaining eight types.

SCORING

1. Legibility

Letters and words that are legible will meet the following characteristics:
- Letter must be recognizable without using the context of the word to determine the letter
- Letter must be distinguishable from other letters that have similar formation

Assign an error point when a whole word or when one or more letters within a word are illegible. Illegible letters violate one or more of the above characteristics. Examples of illegible letters are shown below.
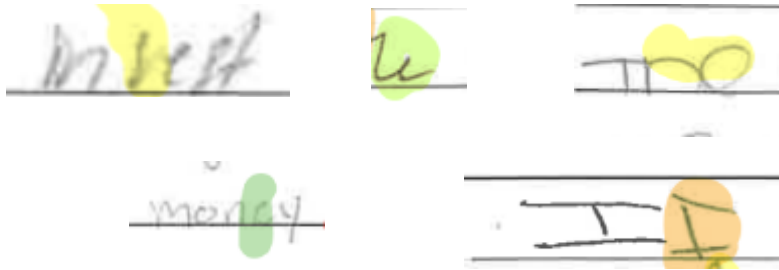

2. Writing Pressure

Letters and words that demonstrate consistent writing pressure will meet the following characteristics:
- Writing that is consistently fine
- Writing that is consistently dark

Assign an error point when a whole word or when one or more letters within a word demonstrate inconsistent writing pressure. Examples of inconsistent writing pressure by word (left image) and letter (right image) are shown below.
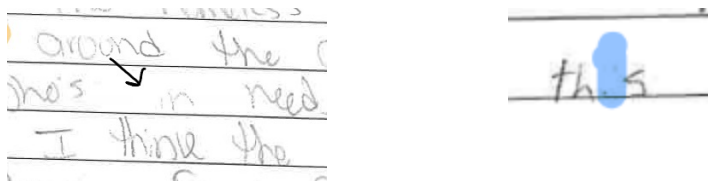
3. Letter Slant

Letters and words that demonstrate consistent letter slant will meet the following characteristics:
- Consistently forward or backward slant when writing is in cursive or a close approximation of cursive
- Consistently upright formation when writing is in print

Assign an error point when a whole word or when one or more letters within a word demonstrate inconsistent letter slant (forward or backward) in comparison to the rest of the writing. Examples of inconsistent letter slant by word (left image) and letter (right image) are shown below.
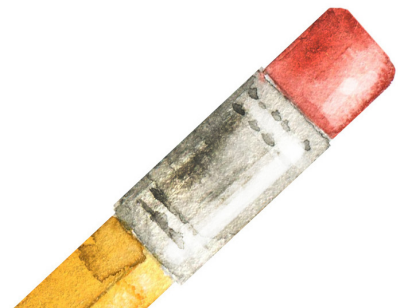
4. Orientation to Baseline

Baseline in the writing samples is represented by the lines on which students wrote their responses. Letters and words that demonstrate orientation to baseline will meet the following characteristics:
- All letters sit at baseline
- Writing 1/16th an inch above or below the baseline is acceptable
- Letters with extensions below the baseline (g, j, p, q, y) are measured at the midpoint of the letter, just before the extension begins

Assign an error point when a whole word or when one or more letters within a word violate the criteria for orientation to baseline. Examples of letters that are not oriented to baseline are shown below.
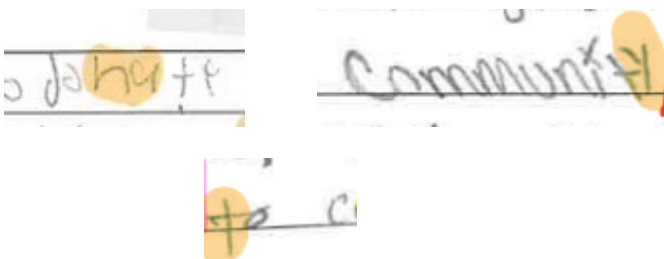
5. Line Strength

Letters and words that demonstrate consistent line strength will meet the following characteristics:
- Lines of letters are consistently solid and smooth
- Letters do not have wavy lines or lines that are not solid

Assign an error point when a whole word or when one or more letters within a word demonstrate inconsistent line strength. Examples of inconsistent line strength are shown below.
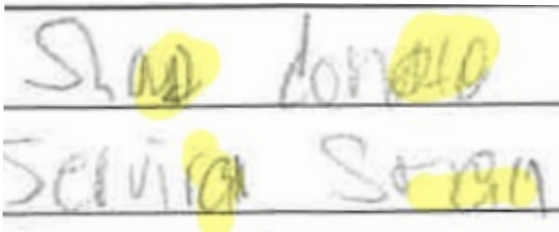

6. Spacing Within Word

Letters within a word that demonstrate appropriate spacing will meet the following characteristics:
- A letter within a word must be written no more than 1/16th an inch from the preceding letter within the same word
- Letters within a word must not be written on top of each other

Assign an error point when one or more letters within a word demonstrate inappropriate spacing. Examples of exceeding the maximum within-word spacing are on the top row, and examples of not meeting the minimum within-word spacing are shown on the bottom row.
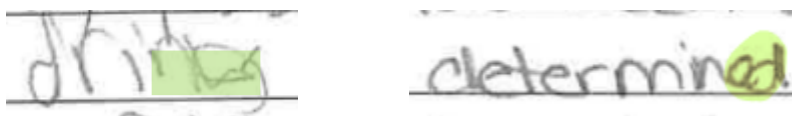
7. Spacing Between Words

Words that demonstrate appropriate spacing between each other will meet the following characteristics:
- There must be a minimum space of at least 1/8th an inch between words
- There must be a maximum space of no more than 3/8th an inch between words

Assign an error point when words demonstrate inappropriate spacing between each other. Examples of not meeting the minimum between-word spacing are shown below on the left, and an example of exceeding the maximum between-word spacing are on the right.
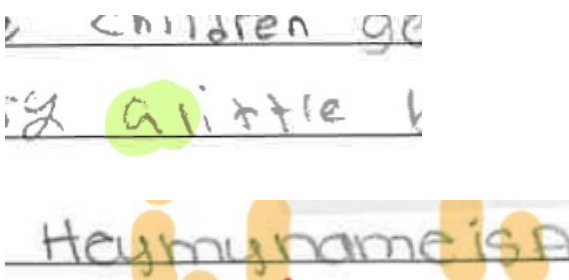
8. Letter Reversal

Letters that demonstrate correct directionality will meet the following characteristics:
- Letter has the correct horizontal direction (b vs. d; p vs. q)
- Letter has the correct vertical direction (p vs. b; m vs. w; u vs. n)
- The letters "u" and "n" must have clear rounding to distinguish them without using the context of the word to determine

Assign an error point when one or more letters within a word are reversed either horizontally or vertically. Examples of letter reversal are shown below.
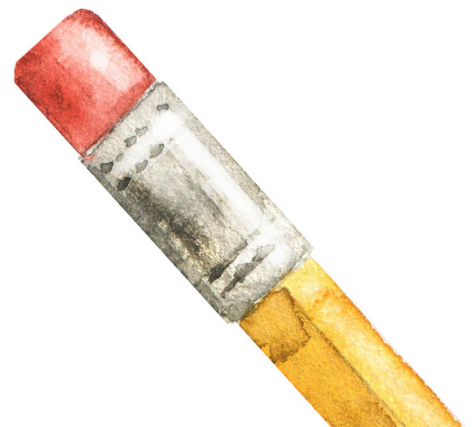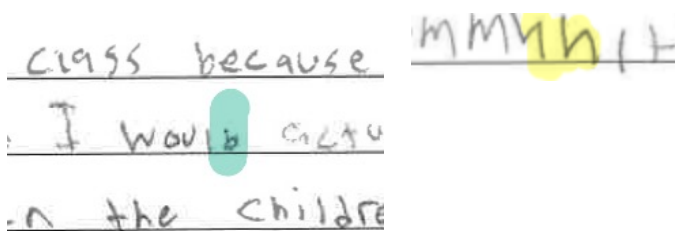
9. Size

Letters that demonstrate correct sizing will meet the following characteristics:
- Uppercase letters are present only at the beginning of the first word in a sentence, with the pronoun "I," or at the beginning of proper nouns
- Letters within a word are around the same size relative to each other
- Letters do not appear to be "uppercase" in relation to the other letters

Assign an error point when one or more letters within a word are an inappropriate size. Examples of letter size irregularities are shown below.
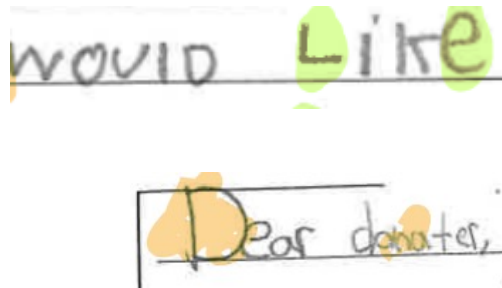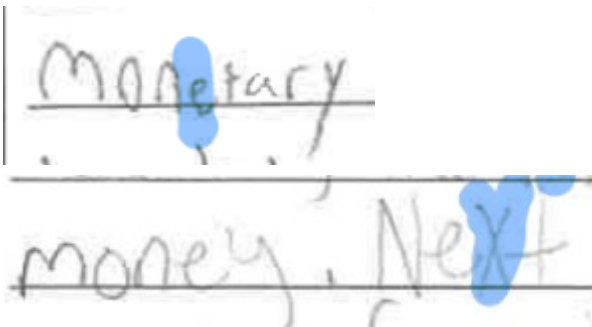
Interpreting the Scores

Tally the number of error points across the 14-word sample. No more than 125 error points are possible (14 words x 9 possible points per word – 1 due to having one less opportunity for between-word spacing on the first word). Compare the summed error score to the table below, which should be used in combination with other information about the adolescent's writing abilities.

Score Total	Interpretation (if consistent with other information)
0-7 error points	Good handwriting ability
8-12 error points	Moderate handwriting ability
13-16 error points	Some risk of handwriting difficulty
17+ error points	Moderate to high risk of handwriting difficulty

SCORING PRACTICE

Follow the steps to practice scoring the following writing samples.
1. Draw a line after the fourteenth word to identify what portion of the response should be scored.
2. Evaluate all letters within the 14-word sample.
3. Assign error scores by word—one per error type per word for a maximum error score of 9 per word.
4. Sum the errors across the 14-word sample.
5. Compare the total to the interpretation chart.

Handwriting Sample 1
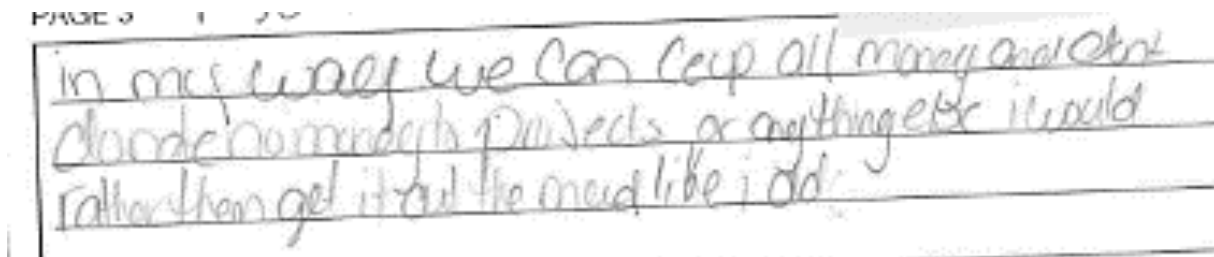
Score Handwriting Sample 1

Error Type	Errors
Legibility	
Writing Pressure	
Letter Slant	
Orientation to Baseline	
Line Strength	
Spacing Within Words	
Spacing Between Words	
Letter Reversal	
Size	

Total Error Score: _____
Interpretation of Score: _____

Handwriting Sample 2

Dear Mom and Dad of the family;

You could spend your money on the donation to help the community build several projects. For example your community may use it for a bridge, a Hospital, a school, etc. That is some example of big projects on your city could do small projects as of, a new park, a new book store, a new gas station, etc.
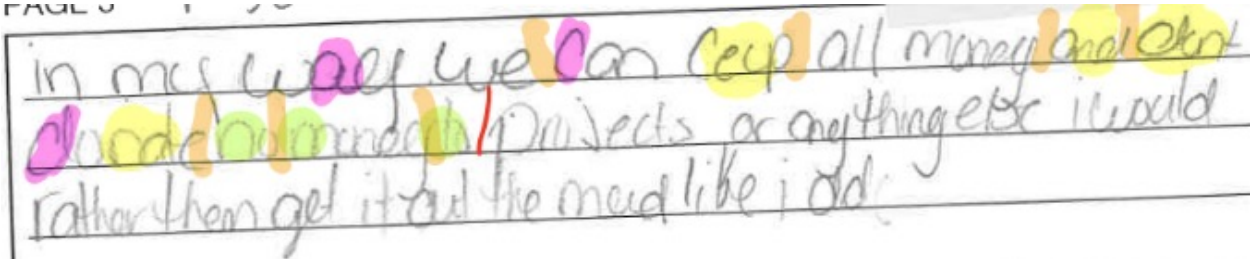
So there is some examples of how your money can be spent. I hope this helps & answers your questions.

Answer Key for Scoring Practice

Handwriting Sample 1

Handwriting Sample 1

Error Type	Errors
Legibility	4
Writing Pressure	3
Letter Slant	0
Orientation to Baseline	0
Line Strength	0
Spacing Within Words	0
Spacing Between Words	7
Letter Reversal	0
Size	3

Total Error Score: ___17___
Interpretation of Score: ___Moderate to high risk of handwriting difficulty___

Handwriting Sample 2

Dear Mom and Dad of the family;

You could spend your money on the donation to help the community build several projects.

Score Handwriting Sample 2

Error Type	Errors
Legibility	0
Writing Pressure	0
Letter Slant	0
Orientation to Baseline	0
Line Strength	0
Spacing Within Words	0
Spacing Between Words	0
Letter Reversal	0
Size	0

Total Error Score: ___0___
Interpretation of Score: ___Good handwriting ability___