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Education

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PROJECT TITLE:

Handwriting and its Effects on Literacy

Handwriting and its Effects on Literacy

Presented by Sarah Jackett





Let's Start With an Activity!

“The quick brown fox jumps over the lazy dog”

1. Write this sentence with your nondominant hand.
2. Write this sentence using the Transpalmer grip.
3. Write this sentence using the Thumb Tuck.

Transpalmer



Thumb Tuck





Time to Reflect

- Using these different pencil grips did you notice a physical difficulty when forming letters? You should have!
- As you continue through the presentation keep in mind how using these ineffective pencil grips was perhaps a bit more painful, and inefficient than your regular pencil grip.
- On the following slide you will see a series of ineffective pencil grips. Try grabbing a pen or pencil from around your work space and testing these grips out!

Ineffective Pencil Grips

Thumb Wrap



Transpalmer



Thumb Tuck



Interdigital Brace



Index Grip



Supinate





Why Are These Grips Considered “Ineffective”?

- If you’ll notice, the majority of these pencil grips involve the thumb crossing over the hand and closing off the palm in some way. This means that writing with one of these grips is much more laborious and painful due to the restrictive movement involved in these grips.
- In general when someone grasps their pencil tightly the muscles in their hand and wrist tighten, causing muscle fatigue much sooner in the writing experience.
- These grips not only involve a tight grasp, but they restrict and tighten muscles, adding to the pain of writing.



Effective Pencil Grips





Why Are These Grips Considered “Effective”?

- If you're like me then right about now you're rethinking your entire childhood literacy experience because you have an ineffective pencil grip. Not to worry, this is an easy thing to adjust, it just takes practice and commitment.
- Now that you're familiar with effective pencil grips, let's talk about why these pencil grips are effective.
 - The basic idea is that these grips are the least restrictive in regards to muscular grasp.
 - With the thumb planted next to the pointer finger, not on top of it, the muscles are allowed to move more freely.
 - This makes for a much more enjoyable writing experience because the muscles do not fatigue as quickly and the writer can write for much longer periods of time with less pain.



My Student

- Throughout my observations earlier in the semester I was given the opportunity to work with a second grade student whose handwriting directly affected his literacy level.
 - This student wrote with a Tripod Grasp, and while this is an effective pencil grip, he consistently gripped the pencil very tightly which caused pain when writing.
 - This meant that he struggled with writing due to the physical pain involved in the task.



My Student's Writing

- This student was below grade level in literacy, and had little to no motivation to grow in literacy.
- Because of this lack of motivation, any interaction with writing was considered a positive interaction because it meant that he was pursuing literacy instead of rejecting it.
- Logistically:
 - He writes outside of the lines
 - His letter formation is choppy
 - He lacks spacing between words unless reminded to find space
 - The only word he can fluently write and spell is his name
 - In class we have adapted assignments for him by having someone write out the sentence he tells us he wants to include in his piece and he will then copy our letter formation and spelling.



Letter-Writing Fluency (LWF)

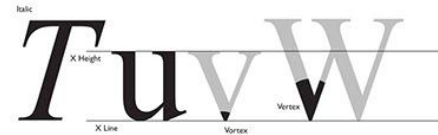
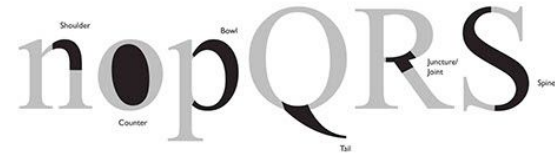
“Neuroscience research indicates that the motoric movements involved in forming letters may solidify the letter-sound correspondences that are foundational to beginning reading” (Jones, Mohr, Reutzal).

- This is a key concept when discussing the development of literacy.
- Students who lack LWF cannot generate and organize text because they are too focused on the motor skills they are needing to use to write.
- LWF involves the fact that letter recognition is not just the recognition of the overall shape of a letter but the distinct features that make it a specific letter.



Type Anatomy and its Impact on LWF

- Type anatomy is simply the breaking down of the different elements of letters to determine what makes the letter distinct as a whole.
- It can be used to teach students who are struggling with letter formation the different parts of letters which helps with recognition as well.
- Type Anatomy and LWF are directly related because they are dependent on one another. If a student struggles with type anatomy they will struggle with LWF and vice versa.





The Most Effective Tools for Handwriting

In a recent study done on literacy training a group of children were trained with 16 letters by handwriting with a pencil on a sheet of paper, by writing with a stylus on a tablet computer, or by typing letters using a virtual keyboard on a tablet across 7 weeks.

- The study found that those handwriting with a pencil had superior letter recognition and visual-spatial skills.
- The reason that this was the result of the study is that utensils that cause higher friction in writing encourage more forced motor movement.
- Take for instance, a crayon, while it is tedious to write with a crayon because it drags across the page and takes more effort to use, it is, at the same time, increasing the muscle memory for these shapes and letters in your brain.



Environmental Print and Handwriting

Environmental Print is simply the print that we see everyday, street signs, restaurant signs, television commercials, etc.

Anytime students are given the opportunity to focus on handwriting or other literacy skills outside of the classroom there are many positive impacts.

During a study conducted by the Journal of Early Childhood Research it was found that students who were involved in a parent-child environmental print program grew in their emergent literacy skills in just 8 weeks.

These students improved greatly their letter knowledge and environmental print reading.

The findings of this study highlight the many potential benefits of teaching parents to use environmental print to support the growth of their child's literacy skills.

Examples of Environmental Print



Environmental Print Signs





My Student's Experience with Environmental Print

- After spending time with my student and talking to him about his home life I have learned that:
 - He does not spend much quality time with his parents
 - He frequently eats McDonalds and rarely has nutritious meals at home
 - He does not have a consistent sleep schedule
 - He has no home routine
 - He frequently misses school because no one will take him
- That being said, he has little to no experience with environmental print
- This also affects his literacy level because he is never exposed to any text or challenged in his reading and writing outside of the classroom



Main Takeaways

- If a student is not physically enjoying the act of handwriting or holding their writing utensil with an effective grip they will not continue to write which affects their literacy level.
- If a student cannot recognize letters or write them in a legible manner this will affect their letter recognition skills which in turn sets them back in developing the ability to recognize words and names, thus affecting their overall literacy level.
- If students get no exposure to print at home or no challenges in their reading and writing their growth in literacy will be much slower which will most likely affect their overall literacy level.

How You Can Adapt Your Classroom or Help Your Own Kids:

First of all remember that students who struggle with handwriting or are lacking in any aspect of literacy do not need a “cop out”, they need adaptations and a little extra help.

- Post pictures of environmental print around your classroom and encourage students to point this print out to each other outside of the classroom or in new settings
- Encourage your students to do their best and stay constantly aware of their mindset and praise growth when it occurs
- Give students the option to write with different tools (crayon, colored pencil, white board, etc.) to increase friction and develop muscle memory
- Provide students who need extra support with different pencil grip tools (pictured)



**Thank you for
your time!**

