

READING PROCESS WORKSHEET

GED0001

NAME: Geronimo, Matt Gabriel A. SECTION: AVII-25
 TEXT TITLE: Handwriting but not Typewriting Leads to Widespread Brain Connectivity... DATE: November 27, 2024
 TEXT TYPE: Expository Academic Article AUTHOR: F.R. (Ruud) Van der Weel & Audrey L.H. Van der Meer

I. PRE-READING (10 POINTS)

A. Complete the table with the headings, subheadings, and visual titles/descriptions from the text. Provide at least 2 entries for each column.

Headings	Subheadings	Title/Description of Visuals
Introduction	Participants	A study on how handwriting, but not typing, leads to brain connectivity.
Methods	Experimental Stimuli and EEG Data Acquisition	
Results	Procedure	An image of the process involved in recording detailed network measures from typing/writing.
General Discussion	Brain Data Pre-Analyses	
	Statistical Analyses	

B. Fill the table with information that you already know about the topic (K), you wonder about the topic (W), and you will learn after reading the text (L). Fill the L Column after reading the text. Provide at least 2 entries for each column.

K	W	L
Writing takes more mental effort than typing	How exactly does handwriting influence brain connectivity compared to typing?	Handwriting grants more widespread and complex brain connectivity compared to typing, particularly in the theta and alpha frequency ranges.
Typing is considerably more convenient compared to writing	What are the practical implications of this study?	The research finds that handwriting is beneficial for learning as it promotes more active brain engagement.

II. READING (30 POINTS)

A. Fill the table with specific details from the text and inferences that can be drawn from it. Provide at least 2 entries for each column.

Details from the Text	Plausible Inferences
The study finds that handwriting activates more extensive theta and alpha brain connectivity patterns in parietal and central regions compared to typing, which involves simpler and less diverse brain activity.	Handwriting provides a deeper memory and learning due to the intricate feedback it provides compared to typing. One obtains a better memory retention and comprehension than typing.
It was noted that the repetitive and mechanical nature of typing doesn't not stimulate the same complex neural networks as handwriting, which involves controlled and varied hand movements.	Typing, while faster and more convenient, is not as effective in learning environments. An over-reliance on typing negatively impacts students' development on info retention.

B. Figure out the meaning of the technical term from the text. Write the technical term, indicate the clue from the text, and use the term in your own sentence. Provide at least 2 entries for each column.

Technical Term	Context Clue (i.e., antonym, synonym, examples, description, word parts, definition or any clues in the text)	Use each technical term in a sentence

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1. <u>Theta/Alpha Connectivity Coherence</u>	<u>Patterns in regions crucial for memory formation and encoding new information.</u>	<u>The EEG showed increased theta/alpha connectivity coherence, indicating active memory engagement.</u>
2. <u>ERS and ERD</u>	<u>Event-Related Synchronization (ERS) and Desynchronization (ERD)</u>	<u>The participant displayed strong event-related synchronization in the alpha band when focusing on handwriting.</u>
3. <u>Functional Connectivity</u>	<u>How brain regions interact during tasks, forming neural networks</u>	<u>Functional connectivity between the parietal and central regions increased significantly during handwriting.</u>
4.		
5.		

C. Supply the missing information below:

1. Topic of the text: A study on how handwriting promotes better information retention compared to typing.
2. Writer's opinion about the text's topic: The writers believe that handwriting is superior to typing/typewriting in the field that allows either to foster cognitive development, learning, and memory retention.
3. Support for writer's opinion (e.g., evidence such as facts, testimonies, examples, etc.):
 - a. This is supported by Theta/Alpha Connectivity Coherence, wherein memory retention is enhanced when writing instead of typing.
 - b. This is reinforced thanks to ERS/ERD because of the strong relation between enhanced brain activity during handwriting, and the absence/lower increase of such during typing.
 - c. The text is further proved by how intricate motor controls required for handwriting activates more brain regions, which fosters stronger neural connections.

III. POST-READING (10 POINTS)

A. Answer the following rhetorical analysis guide questions.

1. What credentials does the author have which give him/her the authority to write about the topic of the text? The authors, Ruud and Audrey, have the credentials to have written the article thanks to both being Professors at the Norwegian University of Science and Technology at Trondheim, Norway.
2. After considering the author's profession and affiliation, what possible biases the author might have about the topic? The writers could have had a preference for the "Traditional" educational practices, as the research advocated for the use (and maintaining of) handwriting in schools and similar academic settings.
3. What is the purpose of the text, and how does the author accomplish that purpose? What evidence does the author use to support the main idea in the text? The purpose of the text is to inform the populace of handwriting's healthy advantage over typing, as it improves memory and learning.
4. What specific idea/information in the text challenges or surprises you? Why? The text surprises me due to the presented concept of how vastly an advantage handwriting has over typing. I'd already known loosely that "because writing takes more time, I'm more likely to remember it", but not how it worked.
5. Is the style of writing suitable for the intended audience? Is it too formal or too casual? Why? I believe the text to be written for the intended audience, which I postulate to be academic researchers, teachers, and professors. As an individual who does not fall into such audience, I struggled to understand the concepts fully. If the writers wish for the intended audience to shift and also involve students such as myself, then the written text as it stands right now, is currently too formal.