

Writing Notes Is Not Enough

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Common sense seems to dictate that the invention of writing has benefited humanity. However, a deeper consideration, as well as a great deal of research, suggests that this issue has multiple layers and is not the ultimate answer to memory, but rather when something is written down it must then be studied to be memorized. Socrates believed reading lessons without instruction would shorten the memory leading to ignorance and resulting in people who "...are for the most part ignorant and hard to get along with..." (Norman). More recently, a study done by psychologist Zeigarnik proved that once something is written down, test participants were twice as likely to forget the information (Konnikova). While there is compelling evidence to show that committing a lesson to memory is better than taking notes, the evidence instead shows that once a lesson is written it must be studied to truly be remembered.

To question the efficacy of the written word seems like heresy. To clarify, committing something to paper and not then to memory is what Socrates is really denigrating. For now, there is more extensive modern research on memory, taking notes on paper and a computer, and why it is necessary to study notes once they have been recorded. Students should understand that written notes are necessary. But studies show that, more important than writing notes, is paying primary attention to the information presented.

Betsy Sparrow, a researcher with the Columbia University Psychology Department, tested a statement made by Stephen Kosslyn of Harvard University who stated that "The Internet is a kind of collective memory" (qtd. in Jarrett, "Has the Internet become"). Sparrow's research showed that study participants were able to remember where information could be found but not the information itself (Jarrett, "Has the Internet become"). Participants were asked to write notes about trivia questions and then save those notes to a computer. Participants could recall where the notes were saved but could not specifically recall the information. The study's finding was that when information is expected to remain continuously available, study participants were less able to recall that information. There were similar results from other studies when notes had been written on note paper, whereas this study specifically covered typing notes into a computer (Jarrett, "Has the Internet become"). This type of study shows that aides to memory are a crutch and can alter how people think and remember details. The study also shows the importance of referring back to notes rather than only recording them, as any student can attest to.

In addition to remembering learned details, those lessons should also be internalized and understood. Baroness Professor Susan Greenfield writes, "Imagine that in the future people become so used to external access for any form of reference that they have not internalized any facts at all" (qtd. in Jarrett, "The 'Paper Effect'").

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Greenfield is a woman with so many scholarly accolades they should be written down, except then they'd all be forgotten. She warned about this effect in her book, *Mind Change*. She warns that the internet is becoming an external memory bank for humanity and people are less able to recall information without assistance (Jarrett, "The 'Paper Effect'").

Further proof that taking notes without later studying them is detrimental to study habits was provided by Professor Michelle Eskrit and Sierra Ma from Mount St. Vincent University in Canada (Jarrett, "The 'Paper Effect'"). They had students play a game of Pairs, a card-based memory game, where half the students were allowed to take notes on the cards' positions. Those notes were then taken away. The students who did not take notes performed much better at the game than those who did but could no longer access the notes (Jarrett, "The 'Paper Effect'"). The researchers speculated that it seemed like the act of taking notes should have been a form of studying and resulted in those participants outperforming the other group. Instead, their research showed that those students who did not engage their mind in the act of memorizing showed less ability to recall specifics (Jarrett, "The 'Paper Effect'"). Further proving that taking notes alone does not help a student with their memory.

To return to Ziegarnik, she speculated that her research showed that the brain sought finality (Konnikova). When a task is started and then written down the brain believes that task has been finalized, whether that information needs to be referenced later or not. Rather than the brain dumping information, when information is written down the brain finalizes that information (Konnikova). Ziegarnik compares the effect to tension in the brain similar to a cliffhanger ending. When details to a task are written down, the brain perceives an ending to that cliffhanger and the story is finalized (Konnikova).

Ziegarnik eloquently tested an observation that is rather old. Ernest Hemingway observed that taking notes about a creative first draft will excise inspiration from the mind when he said, "Because I had worked on newspapers since I was very young, I could never remember anything once I had written it down; as each day you wiped your memory clear with writing as you might wipe a blackboard clear with a sponge or a wet rag" (qtd. in Konnikova). Socrates is starting to look prescient rather than stodgy and old fashioned. Did Socrates have the right idea? Is all human innovation somewhat questionable because of writing which is a faulty innovation that robs people of their memory? Consider the words of Nicholas Carr: "My mind would get caught up in the narrative or the turns of the argument, and I'd spend hours strolling through long stretches of prose. That is rarely the case anymore. Now my concentration often starts to drift after two or three pages. I get fidgety, lose the thread, begin looking for something else to do."

The subject of whether or not to write something down and the effect that has on memory seems relevant to students today. That is a conversation that has been going on since ancient Greece and has continued to today. Personal habit is an aspect that seems to bear more consideration. Carr used to spend long stretches reading but does not anymore. Why is that no longer his habit? To use a meta reference, all this proof that writing should be used cautiously was provided by researchers who undoubtedly write extensively, and many are, in fact, authors. To make a comparison, when the calculating computer or slide rule were invented, mathematics and physics

were not impacted in a negative way. Katherine Johnson put humanity on the moon with her mind alone, despite the invention of the slide rule and the computer (Stauss). I would attribute that to the personal discipline she displayed that took an African American woman all the way to one of the most prestigious government positions of the time, despite the ongoing civil rights movement. Personal habits and discipline are the true culprits that lead to the mind and memory atrophying, rather than any kind of external assistance from paper, the internet, or calculators.

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