Modern Technology VS. Conventional Note Taking

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Introduction
Our experiment is to test how technology (mobile devices) affects our memory when compared to traditional note taking. The result of the experiment will determine the impact that technology has on our explicit memory when challenged by interference.

Research Question
Does our use of handwritten notes increase our academic performance when compared to mobile devices?

Methods & Materials
- Our study included 16 participants, ages 18-20
- To gather diverse data each proctor was required to form a group of four participants. These participants were then divided into two groups, the first group being conventional note takers and the other being mobile device note takers, both of which the proctor assigned.
- These participants were then instructed to take notes the way they were assigned on two videos. The first being Math Video and the other being Quadratic Equations.
- The proctor then administered a ten-question quiz to determine the effect of note taking on explicit memory when challenged by an interference.
- Participants were not tested on the Math content.
- (Maslow’s Hierarchy Of Needs) https://www.youtube.com/watch?v=yM8SwZkycTIY

Findings
- 7 of the 8 participants that took notes conventionally and passed, scored on average 82.9%
- 3 of the 8 participants that took notes on mobile devices and passed, scored on average 66.7%

<table>
<thead>
<tr>
<th>Condition 1: Conventional</th>
<th>Condition 2: Mobile Device</th>
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</thead>
<tbody>
<tr>
<td>P1: 50%</td>
<td>P1: 40%</td>
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<tr>
<td>P2: 90%</td>
<td>P2: 50%</td>
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<tr>
<td>P3: 90%</td>
<td>P3: 30%</td>
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<tr>
<td>P4: 80%</td>
<td>P4: 70%</td>
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<td>P5: 70%</td>
<td>P5: 60%</td>
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<tr>
<td>P6:70%</td>
<td>P6: 50%</td>
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<tr>
<td>P7: 80%</td>
<td>P7:40%</td>
</tr>
<tr>
<td>P8:100%</td>
<td>P8:70%</td>
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</tbody>
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Quiz Questions
- Food, water, air and sleep are all the basics of what need?
- A sense of belonging, love, and affection are all components of what stage in Maslow’s hierarchy of needs?
- What are the five components of Maslow’s hierarchy of needs?
- Morality, creativity, and problem solving are all components of what need?
- When an individual’s social needs are not met, this will lead to?
- What type of theory did Maslow construct?
- When physiological needs are met, people tend to become concerned with?
- What are the components of self-esteem stages?

Participants
- Age range: 18-20
- Gender: Both female and male
- Education: Currently in college

Charts
Conventional VS. Mobile Device

Note Taking
Conventional
Mobile Device
Average Score

82.9
66.7

Acknowledgements

Conclusions
- Based on the data collected, note takers performed better on the questionnaire than those who used their mobile devices.
- This is reflected in the data we collected where 7 of the 8 participants that were conventional note takers passed (60 and above), when compared to the 5 out of 8 mobile device note takers that failed.
- Even with an interference stimulus (math video) conventional note takers were still more effective at the quiz than those with mobile devices.
- This may be in part because mobile device note takers are more susceptible to transcribing the video verbatim.
- In addition, having an interference between the initial video and the quiz, proved to be a distraction for the participants.
- Writing by hand is slower than typing, these students’ brains had to listen, process, and then jot down a summary of the new learning (working memory).