The Pen is Mightier than the Keyboard

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Q1

a)

The benefits of long hand note taking can be described through the theories of encoding and external storage. There are two variables that affect the influence of long hand note taking according to the encoding theory. One is a non-verbatim form of note taking in which lectures are summarized and the other is verbatim where the lecture is copied word by word with the former being more effective. Due to faster typing than writing speeds, laptop usage will induce verbatim note taking which would be detrimental to retention.

b)

This study analyses the relative effect on academic performance of longhand note taking versus that of using laptops and explores the potential mechanism of verbatim overlap as a substitute for depth of processing.

Q2

a)

A total of three hundred and twenty five people took part in the studies.

b)

This study was dual purposed. The first was to compare the ease of retention through longhand note taking with taking notes through laptops assuming that laptop usage only provided for verbatim note taking. The second purpose was to assess the superiority or equality of encoding and external storage which acts as restraint on any outside variables such as the internet that would be a cause of distraction and hence distort the calculation of these two variables.

c)

Due to the removal of the internet from laptops it was assumed that students took notes in a distraction free environment. In such an environment the working memory of both types of students would have been equal (Markman, 2014). This may have allowed them to recall factual information with relative ease and manipulate facts to answer conceptual questions due to the short memory retention time required (Baddeley, 1992). Likewise the long term understanding and retention of facts could not have been tested if they were tested immediately after the lecture since long term memory is the retention of data over a prolonged period of time (Mcleod, 2010). Therefore, students having to go through distracting assignments for a lengthy amount of time tested the depth of their retention and understanding in the short and the long run.

Q3

a)

Students using laptops for making notes performed worse than students making written notes on conceptual students while the performance of both groups was equal with regards to fact based questions.

b)

The students were instructed to take notes in a non-verbatim style to isolate the effects of laptop and longhand note taking from the influences of verbatim and non-verbatim note taking since the previous study hand found verbatim note taking to be the main culprit for weak retention. The results were the same as that of study one with minimal variation.

c)

The purpose modifying the third experiment was to discover the effects of longhand note taking versus taking notes with the aid of a laptop with regards to the external storage hypothesis instead of the encoding theory. The importance of this modification was to test whether verbatim note taking through laptops increases external storage due to the availability of more content to review after class.

Longhand note making students who reviewed their notes had higher external storage compared to students who reviewed notes made on their laptops.

Q4

a)

The results derived from the first experiment solidified the hypothesis that longhand note taking assists in better conceptualization of concepts even after isolating the note taking process from any distractions. Furthermore, the results also showed equal capability in terms of factual memory recalling between the two groups of students which shows that long hand note taking and laptop note taking are equally suitable for short memory retention. Hence longhand note taking improves overall academic performance. Due to the set condition of students always taking verbatim notes while using the laptop, these results also show that non verbatim note taking is superior to verbatim note taking in terms of academic performance.

b)

The Levels of Processing theory is a theory related to a person's memory recall. This theory rests on the belief that subjects or concepts that require deep thinking are relatively easy to recall if an effort has been made in the first place to understand those concepts or subjects (Mcleod, 2007). The difficulty of the subjects or concepts is not to be focused upon, only the necessity of the concept to require thinking is important. In short, long term and short term memory recall of mathematical formulae and all of the symbols separately involved will be difficult if the formulae were rote learned. According to the theory this would be because the first two levels of processing namely the structural and phonemic processing levels are weaker as compared to the semantic processing level. This is due to the higher amount of thinking and required and provided when trying to process the content of what is being read rather than

noticing only its form and pronunciation. On the other hand if the person being tested is given a concept he or she has studied and then asked to write the formula for that concept the person would find the task much easier.

Q5

The Abstract of this article fits in the category between excellent and very good placing it somewhere in between four and five. This is due to the abstract's fulfillment of most requirements. Firstly, the abstract explains the importance and relevance of the study in great detail and hints at the incomplete or flawed nature of other studies. Then the abstract also states the general hypothesis of the research along with a summative statement of the results and presents the theoretical implication of the findings. The one area where the abstract falls behind is general idea of the research design, its mode of progression and the a short summary of the superiority of that design over other studies.

References

Baddeley, A., (1992). "Working memory." *Science,* vol. 225, pp.556-559. Data retrieved from http://www.sciencemag.org/content/255/5044/556.abstract, on 8th August, 2014.

Markman, Art., (2014). "How Distraction Can Disrupt You." *Psychology today*. Data retrieved from http://www.psychologytoday.com/blog/ulterior-motives/201403/how-distraction-can-disrupt-you, on 8th August, 2014.

Mcleod, P., (2007). "Levels of Processing." *Simply Psychology*. Data retrieved from http://www.simplypsychology.org/levelsofprocessing.html, on 8th August, 2014.

Mcleod, P., (2010). "Long Term Memory." *Simply Psychology*. Data retrieved from http://www.simplypsychology.org/long-term-memory.html, on 8th August, 2014.

Penn, J., (2014). "The pen is mightier than the keyboard: Advantages of longhand over laptop note taking." *Journalist's Resource.* Data retrieved from http://journalistsresource.org/studies/society/education/longhand-versus-laptop-note-taking#, on 8th August, 2014.