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Note-Taking Method Affects Immediate and Delayed Recall

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Introduction

Note-taking improves performance on tasks (Hegarty, 1997). Because of the frequent and varied use of notes, many studies have been done on the subject of note-taking.

• Most studies examine differences between note-taking methods. For example, a current focus is whether note-taking within a teacher-provided outline yields better test performance than free note-taking (Larson, 2009; Piolat, 2007).

• Other studies examine different note-taking methods used by individuals, i.e. shorthand, diagrams, or graphic organization.

• A literature review found no studies which have examined the separate effect of note-taking on visual or auditory performance. Because note-taking requires the student to look away from a presentation, note-taking could potentially lower visual recall. Contrastingly, visual presentation might distract from auditory intake.

The following study examined the effect of note-taking on both auditory and visual recall, as well as a general effect of note-taking on recall.

Method

Subjects:

• 18 psychology undergraduate students (primarily juniors) participated in the study. Two equal groups, note-takers or non-note-takers, were randomly assigned. All participants were right-handed except for two non-note-takers. All participants spoke English as their first language.

• Students completed two recall tests. Both tests were custom made. Questions with similar subject matter were divided between test forms. Form A, immediate recall, contained 19 visual questions and 10 audio questions. Form B, delayed recall, contained 14 visual questions and 15 audio questions. (One question was eliminated from each test form in statistical analysis because of item weakness.)

Procedure:

• Participants were told about the study and signed an informed consent form. Half were randomly assigned to take notes; the other half took no notes. Seating assignment was also randomized so that distance from the screen would not affect test performance. All participants were simultaneously shown the same five minute movie. Eighteen students completed a 35-item, immediate delayed recall questionnaire, which was then collected. Subjects immediately completed a demographic questionnaire. 48 hours later, the original students completed a similar 30-item delayed recall questionnaire.

Statistical Design:

Data were analyzed with tests in PASW Statistics (Version 18) on a Dell Windows Vista Home Basic system. The independent variable was note-taking method (notes or no notes). The dependent variable was the number of correct answers on a measure of content retention of information observed/heard in viewing/listening to the movie.

Data

• Statistical analysis did not find significant statistical differences between any of the groups.

Immediate Recall:

• Note-takers scored higher than non-note-takers on overall immediate recall, t = 2.02, p = .06.

• Note-takers scored higher than non-note-takers on audio recall questions, t = 2.01, p = .06.

• Note-takers scored higher than non-note-takers on visual recall questions, t = 1.24, p = .23.

Delayed Recall:

• Note-takers scored higher than non-note-takers on overall delayed recall, t = 1.59, p = .45.

• Note-takers scored higher than non-note-takers on audio recall questions, t = 1.9, p = .39.

• Note-takers scored higher than non-note-takers on visual recall questions, t = 1.19, p = .26.

Discussion

Interpretation:

• Though no significant statistical differences were found, scores had consistent trends. All immediate recall findings applied to significance; overall, note-takers performed better than non-note-takers on both immediate and 48-hour delayed recall tests, and also on audio and visual questions.

• 48-hour recall was usually worse than immediate recall. The one exception was the no-note group, which scored higher on delayed audio recall than it scored on immediate audio recall.

• The note-taking group had more identical scores across time. The non-note-taking group had greater variance in scores over time, including a higher delayed audio recall score than immediate audio score.

• Note-takers were expected to do worse on visual recall than non-note-takers, because note-takers would spend more time looking away from the movie screen than non-note-takers. Contrary to expectations, note-takers performed consistently better on visual recall than non-note-takers.

• Overall, the data indicate a possible interaction effect between note-taking method and time on recall.

Limitations of the Study:

• The greatest weakness of this study was its lack of power. The immediate recall test had only 18 participants, and the delayed recall test had only 14 participants. This probably resulted in the greatest contribution to a lack of statistical significance.

• The note-taking group reported higher stress than the non-note-taking group, but the difference was insignificant statistically, as noted in the methods section. It is unknown whether this difference in stress level was due to testing or to life factors for which this study didn't control.

• This study did not control for previous memory ability.

Recommendations for Future Research:

• The greatest weakness of this study would be a larger sample size.

• Also, a different scoring procedure could benefit future study. In this study, demographic information was not connected to individual scores, and individual immediate delayed scores were not connected. This means that within-subjects scores could not be analyzed.

Conclusions:

• Though the study lacked statistically significant findings, the data indicate a possible interaction effect. Because of this, and because of the lack of statistical power in the study, the experimenters believe that the topic merits further study.

References


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