CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY

Name(s)

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Project Number

33698

Project Title

Effect of Online Multitasking on Student Productivity: Study on Social Media's Effect on Student Reading Comprehension

Abstract

Objectives/Goals

How do online task interruptions affect productivity in a learning environment? Does gender, practice, aptitude or music affect efficiency of multitasking?

Methods/Materials

101 students took 2 reading comprehension tests on separate days: one without interruptions (single task) and one with multiple timed interruptions (multi-task). Tests were compiled using Power Point and administered through Promethean board. For Single Task, a passage was shown for 8 minutes followed by questions for 5 minutes. For Multi-task, 1 minute timed interruption slides were for shown every 2 minutes of the passage. Total Passage display time was 8 minutes for both tests followed by questions for 5 minutes. Answer sheets were collected and results for both tests were graded. Students filled survey sheets for data analysis. Avg. % decline in performance for each student and different groupings of students were computed using Excel and pivot tables.

Results

Overall, students lost 27.1% performance efficiency when multi-tasking. Girls avg. performance fell by 22.41% and boys had a decline of 31.37%. Students in advanced math class multitasked better by 23%. (Comparing 18.76% with 41.48%). Habitual multitaskers had a 31.83% avg. fall in performance. Non-multitaskers fell only 15.3%. Grade level math kids who learned music > 4 years fell by 46.03% compared to 26.7% for those with <= 4 years music. Students with grade level math & habitual multi-taskers & <5 years in music fell 52.64 % in performance when asked to multitask.

Conclusions/Discussion

Multitasking caused a considerable decline in efficiency and performance and had an adverse effect on productivity. Girls multitasked better than boys. Practice certainly did not make perfect as habitual multi-taskers performed worse when asked to multitask. Those with music experience were better able to focus when multitasking. Since the passage used here was considerably small, the effect of multitasking could be much worse on larger assignments.

Summary Statement

Effect of Online Multi-tasking (Facebook, Google, Messaging) on Students Work Productivity and how gender, practice, aptitude and music play a part

Help Received

Mother helped with Pivot tables and Excel spreadsheet.

Preliminary