High School Student Responses to the Use of Laptops in Class

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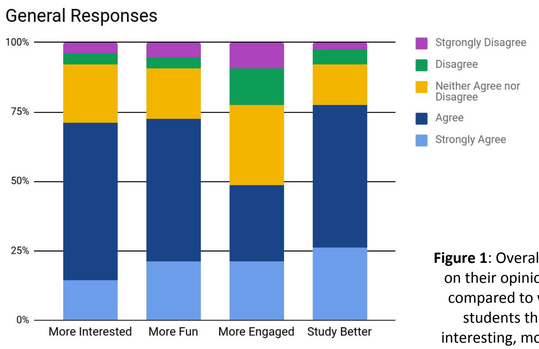


Figure 1: Overall responses from surveyed students on their opinions over the use of laptops in class compared to when paper methods. Majority of students thought laptops made class more interesting, more fun, and allowed them to study better.

Introduction

The use of technology in education is something that has always been present to prepare students for the workplaces they will go into after graduation. For the past two decades, laptops and tablets have been implemented into K-12 classrooms as well as in classes at places of higher education. Because of the widespread implementation of these technologies, it is of the utmost importance to ensure they are having a positive effect on the students using them.

The vast majority of existing literature is on students in universities as well as students in middle/intermediate schools. This study will add to the existing academic literature by conducting a survey of high-school students (age 14-16, Grade 9-10) to ask about their experience with using laptops in class. This will fill the gap in research on high-school aged students as well as on the students perspective, which is nearly absent from the academic discussion.

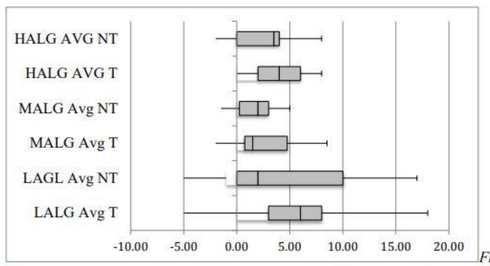


Figure 1. Average percent growth from pretest to posttest by achievement level group, (N=43). *Note.* Avg NT = Average of Non-Treatment Chapters, Avg T = Average of Treatment Chapters, HALG = High Achievement Level Group, (n=14), MALG = Middle Achievement Level Group, (n=12), LALG = Low Achievement Level Group, (n=17).

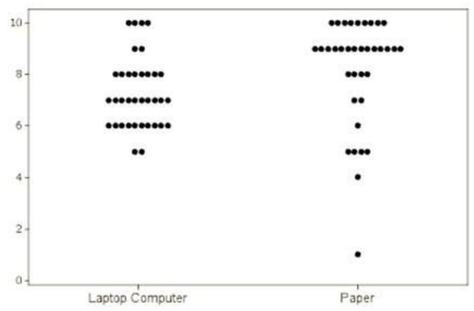
Methods and Materials

A survey was conducted at Thousand Oaks High School in Thousand Oaks, California. The survey replicated the questions in previous post-test surveys. It consisted of 16 question, 5 general boolean scale questions and 11 five-point likert scale questions (making the survey take roughly 3 minutes to take), all of the questions were based on those used in previous surveys of university students, and middle school students alike in order to create the best comparison possible. Subject will be selected by having some 9th and 10th grade general education teachers of the 3rd period distribute the survey to the students to reduce extraneous results and students from taking the survey multiple times. The data was comprised of nominal and interval data which were used to draw comparisons to previous research.

Results

The survey compiled (n=76), in which found that students, based off their responses, studied better with laptops ($p < .01$), found class more interesting while using their laptops ($p < .01$), , found class more enjoyable while using their laptops($p < .01$), and were more engaged in class when using laptops ($p < .01$). Despite trying to data findings to compare to those of Hults to see if there is a consistent consensus, the vast majority of subjects from the survey were in the LALG so comparing the results of different groups to the previous study would not give any statistically significant results as there was too small of a sample size for both the HALG and MALG. Furthermore the majority of students prefered to study using their laptops (n=56), but the majority prefered to take notes using pen/pencil and paper (n=42). Students in 10th grade are off topic less often. Students who use laptops for educational software were more engaged in class when using laptops than the students who used them for note taking.

Figure 2: Number of correct recollations when using laptops comparing to handwritten notes for studying. A significant difference was found between the test scores produced via typed notes vs. written notes ($p = .006$).



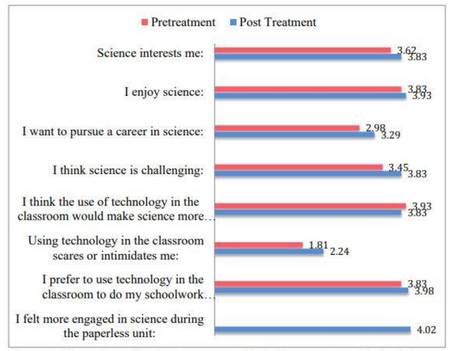


Figure 5. Comparison of student responses to Hults Engagement and Attitude Survey (Pretreatment versus Post Treatment), (N= 42). *Note:* Weighted averages on a 5 point Likert Scale where 1 = Strongly Disagree and 5 = Strongly Agree.

Discussion

Students finding class more interesting when using laptops for educational software is consistent with previous studies. An interesting note is how students who use laptops for educational software use laptops less in classrooms, but can be explained as the group which took notes using laptops more often were allowed or instructed to use their notebook computers by their teacher. These results being consistent with the data the researcher gathered suggests that a similar trend is occurring where students are getting distracted in class from the use of improper laptop usages. Improper use cases are the use of laptops for non-instruction-related activities including: engaging in social networking, reading emails/messages, playing games, and streaming videos and music

Conclusions

With these findings teachers at Thousand Oaks High School can better implements laptops usage into their classes, this will be important for the 11th and 12th grade teachers who in the next two years, all of their students will have chromebooks through the one to one programme, these teachers are unfamiliar in how to teach in a technology based classroom can better be prepared for the years ahead with the help of the information found in this research. A follow up study should be conducted where students who were not experienced with laptops in class were studied to see the results on their performance in class to students who are experienced using laptops in class to see if there is a correlation between time using laptops and off topic usage.

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