

High School Student Responses to the Use of Laptops in Class

A dark blue diagonal graphic that starts from the bottom left corner and extends towards the top right corner, creating a triangular shape on the right side of the slide.

Introduction

- Technology is essential for job preparation
- 70% of students get further education

Background



University Findings

- Multitasking reduced mean score by 11% ¹
- Students in view of multitasking score reduced by 17%¹
- Grade average went from B- to B ²
- 66% responded they learned more ²
- 70% responded class was more enjoyable²

1. Sana, F., Weston, T., & Cepeda, N. J. (2012). Laptop multitasking hinders classroom learning for both users and nearby peers. *Computers & Education*, 62, 24-31. doi:10.1016/j.compedu.2012.10.003
2. Poirier, C. R., & Feldman, R. S. (2007). Promoting Active Learning Using Individual Response Technology in Large Introductory Psychology Classes. *Teaching of Psychology*, 34(3), 194-196. doi:10.1080/00986280701498665

Middle School Findings

- Test results during treatment went up by 4% ³
- 74% of students felt more engaged ³
- Lexical levels, syntax levels, text coherence, cohesion, and semantic levels all decrease ⁴
- After trial period students went from 25% to 5% off topic usage of laptops ³

3. Hults, Jason O. "The Effects of a Paperless Classroom On Student Achievement in the Middle School Science Classroom." ScholarWorks at Montana State University, July 2015, scholarworks.montana.edu/.
4. Aberšek, M. K., Aberšek, B., & Flogie, A. (2018). WRITING VERSUS TYPING DURING SCIENCE TEACHING: CASE STUDY IN SLOVENIA. *Journal of Baltic Science Education*, 17(1), 84-96. Retrieved September 17, 2018, from <http://oaji.net/articles/2017/987-1519060073.pdf>

Gap In Existing Literature

- Lack of Research on High School Students
 - Student Survey

Questions

- Consistent with University and Middle-School responses
- Students who use Laptops differently have different responses
- Do different grades give different responses

Methods

- Survey of 9th and 10th grade students (n= 76)
- Students chosen through teachers to reduce extraneous results
- Likert 5 point scale questions
- T-tests, Mann Whitney-U tests, Chi-Squared tests, Mode, and Interquartile Range

Results

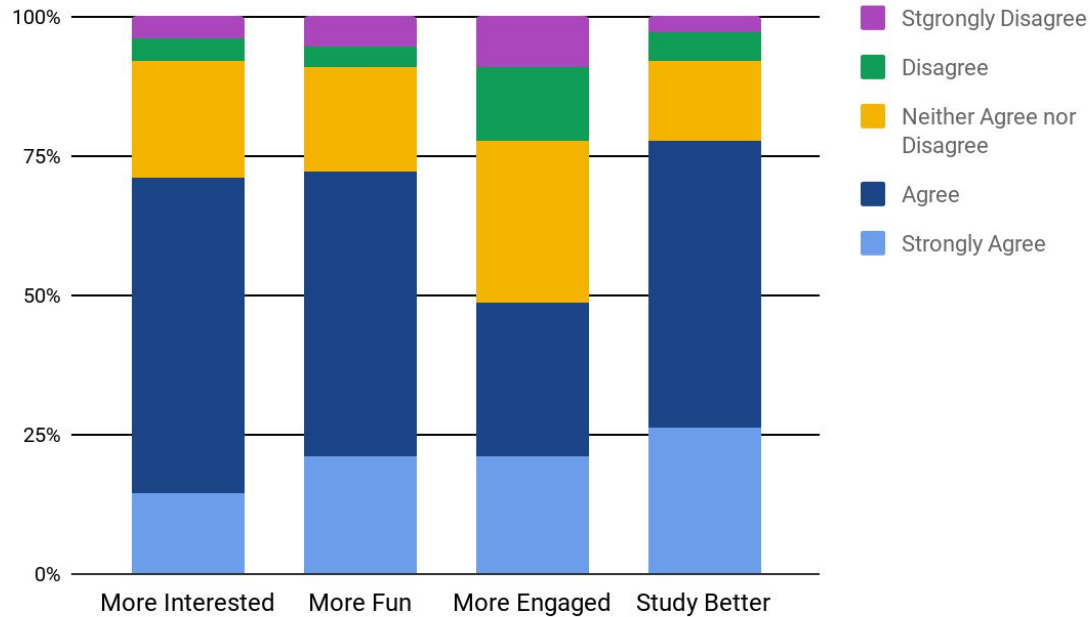


Survey Responses

- Majority preferred studying with laptops (n=56)
- Majority preferred notetaking with paper (n=42)
- 91% of students used laptops out of class for educational purposes (n=69)

Survey Responses

General Responses



Notes Versus Software usage

- 13% more students say they were more engaged in class from the software group.
- 10% more students found class more interesting when using laptops for software.
- 20% more students preferred notetaking with laptops from the note group
- Software group used laptops less often

9th Versus 10th Grade

- 10% more 10th in grade were engaged in classes
- 44% less in 10th grade were distracted with own devices
- 10% more in 10th grade were distracted with others devices
- Same usage types between grades

Discussion

- Results are consistent with those done both with university and middle school students
- If laptops are implemented properly into lessons they can be of aid to student learning
- If not they can become a distraction, but overtime students become less distracted as they are accustomed to the devices

Conclusion

- Teachers can implement lessons based on research to improve class environment as well as improve student achievement