Primary Document Analysis

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This is a primary document analysis of the 2017 article "Books or laptops? The effect of shifting from printed to digital delivery of educational content on learning" written by Bando Rosangela, Francisco Gallego, Paul Gertler, and Dario Romero Fonseca. This article reports "results from a randomized controlled trial in which laptops replaced traditional textbook provision in elementary schools in [the] high poverty communities" [1] of Honduras. The study's purpose is to "improve the quality of education" [2] whether it involves books and/or laptops. This essay will analyse this article by looking at: my personal biases versus the biases of the authors, the organization and methodology used, the contributions to the historiography of digital education, how my views have changed, the relation of this topic to my essay and the conclusions found by this study.

Before reading this article I believed that this study would prove laptops are beneficial to the education of children due to the fact they are more adaptable to change; therefore, more likely to pick up on the benefits of laptops than adults. As well there is an increasing amount of technology being used in classrooms and I believe this would not be allowed if there were not any noticeable difference in the learning outcomes. After reading the first page of the introduction section I felt a strong bias from the authors against the use of laptops and other technologies. I feel the authors have this bias due to the fact each time something positive was written in regards to using laptops, it was followed up with a 'however' and something negative. An example of this can be found on the first page where the authors speak to the "10 million laptops [distributed] to public schools" [3] and follow up with a 'however' starting the next paragraph. This emphasis on the negative side of technology shows that the authors view the negative effects of laptops as more important than the positive. This belief may stem from the fear of change itself or because it may change the overall views of education, there is no way to know.

This article is very well organized, it provides headings and a brief summary of what information each section will contain. It also includes numbers such as 'first' 'second' and 'third' which helps identify the exact points the authors are trying to make. This thorough study provided great detail on how it was conducted. The data for this study was taken in March and October of 2013 of the same school year.[4] It involved 4563 grade three students and 5037 grade six students spread out among 271 schools. [5] The process included five modules: standardized mathematics and Spanish tests, a verbal fluency test, a coding test, a digital literacy test and finally a questionnaire aimed to discover the personal characteristics of each child and their involvement with technology and laptops. [6] This study used random selection and tried to account for as many variables as possible such as; if their mother can read, the teaching experience and level of degree held by the teacher and principal, number of students per teacher, and many more.[7] Although this is only a brief description of what this study includes, it is clear that it is quite in-depth. One thing that was not taken into consideration is the fact that these students were not permitted to take their laptops home which serves to be a disadvantage and may have differing results if the students were allowed to bring it home.

This article also discusses the contributions it makes to the overall historiography of the topic in three different regards. First of all, this is "one of the first randomized evaluations to explore the effects of provision of computers with a large sample size within a government program"[8]. Only small sample sizes have been done previously to this study. Secondly, this is the only study that has completely replaced textbooks with laptops in a real setting, instead of just complementing the textbook education. [9] Lastly, this article uses "two separate randomized controlled trials" that allow the authors to "isolate the causal mechanism from selection effects with students given textbooks versus those given laptops". [10] It is clear that this study is new and one of a kind and will provide knowledge that has not yet been discovered.

Reading this article has revealed to me that my views on technology in classrooms have been changing since I have been volunteering in a third grade classroom. I grew up not being very tech savy and therefore have been against the use of technology in school settings my whole life, as it just made school more difficult for me. I now know that my views have changed because I can see the benefit of using ipads to children and knowing that they are starting to use

it at a very young age makes them more adaptable to using technology. I feel this study could be replicated using my classroom but that its results may differ due to many reasons such as: socioeconomic status, resources, previous experience with technology and more. Although the students in Honduras used laptops all year, they are not as adapt to technology as Canadians are for it can be seen in all parts of Canada.

This article relates to my essay for the fact that I wish to look at the innovative growth in classrooms in the 21st century compared to that of schools in the 20th century. Technology is clearly growing within classrooms as books and paper have been the primary tool used since schools began. I want to know if the growing use of technology is beneficial to the education of students or if this innovation is a step in the wrong direction.

The data concludes that "computers and laptops may provide access to more resources… however, laptops may be distracting for learning and may also create harmful effects on social outcomes." [11] It does not prove that laptops are more useful, according to this study they are equally as useful as textbooks. My original belief is that laptops would benefit children education but this was disproven by this study. My belief was primary based off the fact that all around the world we are increasingly using technology in classrooms and therefore it must benefit learning. What I now understand is this is a fairly new concept and teachers may not be aware of it's effects yet so they want to try it out for themselves.

Notes

[1] Bando, Rosangela, et al. "Books or laptops? The effect of shifting from printed to digital
delivery of educational content on learning." *Economics Of Education Review* (July 13,
2017) 1.

[2] Bando, Rosangela, et al. "Books or laptops? The effect of shifting from printed to digital
delivery of educational content on learning." *Economics Of Education Review* (July 13,
2017) 2.

[3] Bando, Rosangela, et al. "Books or laptops? The effect of shifting from printed to digital
delivery of educational content on learning." *Economics Of Education Review* (July 13,
2017) 1.

[4] Bando, Rosangela, et al. "Books or laptops? The effect of shifting from printed to digital
delivery of educational content on learning." *Economics Of Education Review* (July 13,
2017) 5.

[5] Bando, Rosangela, et al. "Books or laptops? The effect of shifting from printed to digital
delivery of educational content on learning." *Economics Of Education Review* (July 13,
2017) 5.

[6] Bando, Rosangela, et al. "Books or laptops? The effect of shifting from printed to digital
delivery of educational content on learning." *Economics Of Education Review* (July 13,
2017) 5.

[7] Bando, Rosangela, et al. "Books or laptops? The effect of shifting from printed to digital
delivery of educational content on learning." *Economics Of Education Review* (July 13,
2017) 6.

[8] Bando, Rosangela, et al. "Books or laptops? The effect of shifting from printed to digital delivery of educational content on learning." *Economics Of Education Review* (July 13, 2017) 2.

[9] Bando, Rosangela, et al. "Books or laptops? The effect of shifting from printed to digital delivery of educational content on learning." *Economics Of Education Review* (July 13, 2017) 2.

[10] Bando, Rosangela, et al. "Books or laptops? The effect of shifting from printed to digital delivery of educational content on learning." *Economics Of Education Review* (July 13, 2017) 2.

[11] Bando, Rosangela, et al. "Books or laptops? The effect of shifting from printed to digital delivery of educational content on learning." *Economics Of Education Review* (July 13, 2017) 10.

<div align="center">Work Cited</div>

Bando, Rosangela, et al. "Books or laptops? The effect of shifting from printed to digital delivery of educational content on learning." *Economics Of Education Review* (July 13, 2017)