CLOSING THE DIGITAL DIVIDE

Using Web 2.0 Technology to Improve Academic Performance and Increase Digital Literacy Among Students in Urban Secondary Schools

A brief study proposal by
Thomas Spencer D’Agostino, M.Ed.
E-Mail: spencer.dagostino@gmail.com
Abstract

As Web 2.0 technology continues to play an increasingly important role in teenaged students' lives, so too will it continue to influence their education. While this phenomenon poses many challenges for today’s educators, they are exacerbated for teachers in low-income urban school systems where the digital divide between the socio-economic “haves” and “have-nots” is extremely visible.
Problem Statement

Background:

- 21st Century Skills are crucial for any secondary student and are a part of every states’ standards
- Social technology and Web 2.0 websites like Facebook, Twitter, and YouTube are extremely popular with teens
- Not all social technology is appropriate for the classroom
- Urban public school systems such as the School District of Philadelphia are struggling with cost-effective ways to meaningfully incorporate technology in the classroom
Purpose of Study

The **final** study will aim to:

- Measure use and access to social technology by urban students and their teachers
- Observe student and teacher social technology practices inside and outside of the classroom
- Measure the effectiveness of a digital-literacy course for increasing student academic performance in urban schools

This **preliminary** study aims to:

- Gather foundational data
- Measure the effectiveness of the proposed survey format
Teenagers consume an incredible amounts of social technology (Rideout, 2010; Lenhart, Purcell, Smith, & Zickuhr, 2010)

Older and/or economically disadvantaged populations have less interaction with modern technologies than their younger and/or wealthier counterparts (Hudson, 2011)

This “gap” in technological exposure has been called “The Digital Divide” (Norris & Conceicao, 2004)

Evidence of the digital divide was extremely visible in my classroom among my students, staff, and the school itself
Students should not be passive consumers of technology, but rather, active participants working collaboratively to solve authentic problems via the use of social technologies (Jansen, 2010)

Teachers have used the Technological Pedagogical Content Knowledge framework (a.k.a. TPCK, TPACK) to implement technology into their curricula (Shulman, 1986)

By creating classrooms that embrace the use of computers and Web 2.0 technology within the TPCK framework, students will increase their digital literacy and potentially improve their academic performance (Banister & Reinhart, 2011)
Research Questions

The final study will seek to address the following questions:

- How, and to what extent, do teachers use Web 2.0 technology at home versus in the classroom?
- How, and to what extent, do students use Web 2.0 technology at home versus in the classroom?
- What are the components of an effective digital literacy curriculum?
- Will a curriculum that promotes digital literacy and Web 2.0 technology affect student academic performance?
Method of Proposed Study

Participants

• 120 students from 4 classes in grades 11-12 at 2 Title I secondary schools within the School District of Philadelphia

Procedure

• 1.) Online survey: Gather general information, statistical data on social technology use and access
• 2.) Media Studies course and curriculum: Developed using existing PA standards under the TPCK framework

Purpose:

• 3.) Test/Academic performance: All coursework and standardized test performance data will be monitored
• 4.) Exit interviews: Identify opinions of the course and the technology used
Method of Preliminary Study

Participants

- 36 students (16 males, 20 females) from 2 classes of 12th grade English at a Title I secondary school within the School District of Philadelphia

Design

- All data-gathering tools and results are preliminary and will not be used in the final study
- Results will be used to hone hypothesis and test the data-gathering tools before the final study
- All survey results were gathered online using www.kwiksurveys.com
Preliminary Data, Graph A

How many hours do you use the internet per day?

- 4+ Hours 36.11%
- Less than 2 Hours 22.22%
- 2-4 Hours 41.67%
What technology do you use most to access the internet?

- Cellphone: 55.55%
- Home Computer: 38.89%
- School Computer: 5.56%
Preliminary Data, Graph C

How many times a week do you use computers IN CLASS for assignments?

- **Never**: 30.56%
- **Less than 5 times**: 55.55%
- **5-10 times**: 8.33%
- **More than 10 times**: 5.56%
How many times do you use your phone per class period?

- Never: 13.89%
- Less than once: 5.56%
- 1-2 times: 19.44%
- 3-5 times: 16.67%
- 6-10 times: 11.11%
- 10+ times: 33.33%
Discussion of Preliminary Data

- In Graph A and E, Internet and social media use among the surveyed group was comparable to the averages presented by the Pew Internet & American Life Project, suggesting that the surveyed students use the internet and social media websites like Facebook at similar amounts when compared to their peers in other socio-economic groups.

- In Graph B, it is interesting to note the disproportionately high amounts of students whose primary access to the internet is through their cell phone as compared to the extremely low amounts of students who primarily use the internet on a school computer, a 50% difference.
In Graph C, evidence of the digital divide begins to emerge as less than 14% of the students surveyed reported using computers in school more than five times a week, despite having access to numerous computer labs and technological resources available.

In Graph D, however, cell phone use in school stands in a stark contrast, showing that over 33% of the students surveyed use their phones more than 10 times in a single class period, roughly once every 5 minutes.
Next Steps

- Looking at the possibility of adding non-urban school locations for a control, possibly locally in Iceland
- Continue to improve and modify the Media Studies curriculum with other teachers from other urban school districts
- Develop an interdisciplinary Media Studies curriculum for a possible Social Studies course (the curriculum in its present form is geared towards Language Arts)
- Create a larger, more in-depth student survey
- Create a teacher survey
References


References II


