

Which improves student engagement in a social studies inspired classroom –

Laptops or Apple iDevices?

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Introduction

As we better prepared our students as the next generation leaders typical classroom instruction has changed along with the tools to engage our students. Classrooms must be laid out and equipped with the tools which will increase student engagement. An inspired classroom brings technology into the middle of the instruction instead of around the outside edges. This allows students working in collaboratively on problem solving a higher order thinking activities using technology at their fingertips. This technology enhanced learning environment has been assumed to increase student motivation and increase pedagogy.

Today's learners are first generation to be raised in technological simulation society. To increase student engagement we must first ensure the proper tools are incorporated into the classroom. Technology in the past has consisted of desktops in computer lab, computers in classrooms and laptop carts. To integrate an inspired classroom the technology must be sitting on the desktop for all group members to have access. Of the tools previously mention a laptop is the best fit for this learning environment. Mobile devices such as smart phones, portable gaming systems and tablets are part of many students everyday life. In 2007, Apple introduced their iDevices on a larger scale first the iTouch and iPhone then the iPad. These devices along with other smaller devices have been introduced into pedagogical approaches integrating technology.

Research studies have been conducted on the use of technology immersion, laptops and netbooks in regards to student engagement. Limited amount of research has taken place in regards to iDevices to due short amount of time in the educational environment and cost effectiveness. "Currently, there are few research studies documenting the impact of integrating iPads for learning in the social studies. This may be due in part to the relatively recent development of this tool and its adoption by schools. (Berson, Berson & McGlinn Mantra,

2011)”. However, research has not been complete comparing these two types of devices and their impact in increase student engagement.

Purpose

The purpose of this qualitative research study is to test the use of various technology tools used in learning and their impact on student engagement by comparing the use of laptop with an iDevice in a 7th grade in a social studies inspired classroom in one Greater Atlanta middle school.

The following objectives will be addressed:

- Examine student’s viewpoint of what role technology plays in their engagement in the classroom.
- Examine which technology devices are being used in the classroom.
- Examine which technology device has greater student engagement in student learning a laptop or Apple iDevice.
- Examine the reasons why one device would have higher student engagement than other.

Research Questions

Central Question:

- What technology device (laptop or Apple iDevice) improves student engagement in a social studies inspired classroom?

Subquestions:

- What are the student’s viewpoint regarding technology in the classroom?
- What technology devices are being used in the classroom?
- Why does one technology device have a greater impact on student engagement in learning?
- What factors do students believe increases one device impact on engagement in their learning?

Importance of Study

The importance of the study will provide a feedback

Definition of Key Terms:

iDevice: any mobile electronic devices marketed by Apple Inc. operating on an iOS operating system.

iGeneration - refers to a smaller proportion of the Generation Y where by the users actively engage with technology in its development, progression, and its use in the workplace, so that the technology can evolve within the means of the generation. (Whittaker)

Inspired Classroom

Student Engagement: Schlechty (2002) identifies authentically engaged students as those who "see meaning in what they are doing, and that meaning is connected to ends or results that truly matter to the students. Indeed, these authentically engaged students may be willing to do some boring or otherwise meaningless tasks, precisely because they see linkage between what is being done and some task-related end of significant consequence to them."

Laptop – a portable, usually battery-powered microcomputer small enough to rest on the user's lap.

Scope and Limitations

The scope of this research study will encompass 7th grade middle school students in a suburban area of Atlanta, Georgia. The scope of the study could be expanded to include any age students at any school location. In expanding the scope to vary any groups, the study could compare the results based upon the age groups. In expanding the study and based upon the analysis could result in different technology devices having an impact on student engagements.

Since the study has a narrow scope with the participants only includes 14 middle school students at one middle school the study has limitations. While the participants will be diverse the study will be localized to a narrow group of students.

Another potential limitation of the study is the variables which will be measured based upon the students behaviors and not actual behaviors. The study does not address actual student academic achievement but describes the participant's value in the ease or use of the tools.

Literature Review

Student Engagement

“Curiosity can be a powerful motivator of behavior...” (Arnone, Small, Chauncey, & McKenna, 2011). Along with raising student achievement student engagement is one the number one key issues today in education. “Technology can play a role in triggering and addressing personal, situational, and contextual factors that support autonomy and competence and engender active, deep learning”(Arnone et al., 2011, p. 182). Students today have grown in technology persuasive environments, these environment increase students curiosity and interest. Due to this fact, the technology persuasive learning environments are increasing in schools. Along with being a persuasive environment new media technology can lead to greater differentiation which increases motivation, self regulation, and self efficacy. Arnone et al. (2011) states cyber learning can allow learners to engage learners by being driven by the learners’ interest or demands. The introduction of capable handheld devices such as smartphones, iPads and mobile devices lead to further engagement since learning can take place as needed or when it is required at anytime.

The hope would be that higher student engagement would lead to higher student achievement. A study in Taipei in 2007 was conducted in a science classroom in student centered and teacher centered classrooms with technology integration. Previous studies Chang (2003) had shown students in teacher centered performed better than student centered (Wu & Huang, 2007). The study did reflect higher student achievement in teacher-centered classroom especially for low achieving. However in regards to use of technology, the use of technology within the student centered classroom did have an impact on student emotional engagement. But computer based learning did not have an impact on student achievement.

Technology

Since students today are the iGeneration, the use of technology will have various influences in student lives. Mears (2012) believes technology will have numerous affects on curriculum and instruction. The effects from child obesity, social marketing, child nutrition, and teaching and learning. The iGeneration students have a greater level of technology expertise than their teachers. Teachers must understand what they see as innovative is not on the same level as their students. Students are used to information at their fingertips, they are multi takers, believe “googling” is the way to go, and welcome new challenges. Mears (2012) states they need constant motivation and feedback to complete task. They will struggle with research based tasks, since they are used to having the information at their fingertips.

As we look for new innovations to engage teaching and learning, the correct learning environment need to be integrated to improve achievement. “These kinds of experiences are important because research shows that students learn more when they are engaged in meaningful, relevant, and intellectually stimulating work “(Shapley, 2011, p. 299). In Shapley’s research the following research questions were asked: What is the effect of technology immersion on students’ learning opportunities? Does technology immersion affects student achievement? Shapley cites several studies which associated increased student engagement, motivation, and lower student conduct violations due to use of 1:1 computing. The results of Shapley’s study have shown some increase of student achievement in reading; however, there was no significant improvement in math achievement. The researchers speculated that such insignificant might be contributed to uneven implementation undermined larger increase in student achievement (Shapley, 2011, p. 312).

1:1

Studies have suggested that integration of 1:1 computing has impact student academic student engagement in a positive manner. 1:1 computing is the one device for each student. The use of laptops in the classroom have increase student engaged in more diverse writing activities, analysis of reading, and increased privacy in student response. Keengwe, Schnellert, & Mills (2011) conducted a qualitative review on effects of 1:1 laptop initiative has on student academic performance based upon perceptions of the students and the high school faculty. This study concluded that the use of 1:1 laptop increased student engagement, motivation and ability to work individually. This program also increased use of technology at school and at home. The reason from the faculty believed 1:1 computing improved student learning experiences across the board including at risk and high achieving students (Keegwe, Schnellert, & Mills, 2011). The use of technology also increased other areas of education including attendance, parent satisfaction with their students education, meet changing needs of students. 85% of students felted the laptops improved quality of work and 62.5% said this use motivated them to do their work. 76.9 percent of the faculty believed the use of the laptops improved student engagement, and 69.2% saw an improvement in student motivation with laptop use (Keengwe et al., 2011).

The theme of student engagement carries over through many and all contents from “inverted” or “flipped” rooms. This can range from teachers preparing lectures in podcasts for students to review ahead of lectures or after. The use of tablets in math and science classes to increased student centered learning supports students with disabilities by recuing stress and sensory issues along with ease with note taking. This improves performance and retention. Students are able to watch realistics videos of teachers solving math problems also with individual annotation of work (Bangs, 2011)

Larkin (2012) compared 1:1 computing to 1:2, and concluded that 1:1 had a higher balance of student engagement, productivity, and individual learning in a net book environment. Using a varied approach between 1:1 and 1:2 in computer use in the classroom and did different implementation strategies receive the same outcomes. The 1:1 classroom used the net books every day in group work and later moved to more individualized approach. The 2:1 classroom had issues due to availability. The teacher felt she had to plan different activities for the students and was a disruption to classroom instruction. This research did not show an advantage to the 1:1 approach in the terms of engagement but more individualized task oriented activities. Teacher and students felt that 1 1:1 ½ approach was more collaborative. However, the 1:2 approach had increased student involvement, teacher support and social activity (Larkin, 2012).

iDevices.

“The increased affordability and popularity of mobile iDevices, such as smart phones and iDevices, makes them ideal candidates for investigations into the possible applications of emerging technological devices in pedagogical approaches with higher education” (Cruz-Cunha and Moreira cited in Mayberry et al., 2012, p. 203) Affordability is a key factor in the implementation of technology into instruction, school and educators are looking to the best ways to incorporate technology in their schools. When Apple introduced their iDevices the iTouch became a viable solution. Limited research has taken place of the effectiveness of these tools. Mayberry et al. (2012) looked to further review study of Active Learning using Information Processing (IP) model. This theory compares short term memory with prior knowledge using stimulus decides to move the knowledge in to long term memory. The use of blended learning incorporating Internet technology would be the stimulus. Mayberry et al. (2012) incorporates the IP model with an iTouch being the conductor of the stimulus. Using a qualitative and

quantitative methods using student feedback in 8 higher education classrooms, the utilized the iTouch in various ways. Methods of use included YouTube videos, Goggle Docs, Student created videos, email and social media. The outcome reflected the student found the devices to be a helpful supplement to standard teaching methods some students preferred traditional methods (Mayberry et al., 2012). There were some limitations in the research which is lack of uniformity in the methods of use of the iTouch and focusing on a smaller faculty. The research does provide some validity of the use of these devices with student engagement. This use of the items also is beneficial when there is limited availability of funds.

Implementation

To ensure the use of technology meets the needs of students to improve student engagement, implementation of technology in our school must be meaningful, relevant and strategic. Blow and McConnell (2012) Teachers must be commitment to the integration of technology into instruction. As Shapley (2011) mentions the hindrance implementation on student achievement in technology immersion, this is further mention in studies in regards to acceptance of technology tools in the classroom. (Ifenthaler & Schweinbenz, 2013) understand the components of instruction for 21st century learners; use standard based technology instruction, and use technology to engage students with challenge based learning opportunities, and undertakes action research. Teachers must buy into the implementation of technology and integrate it into classroom practice. “Without a clear understanding of how and why teachers accept or reject technology in classroom practice, the full integration of technology as advocated by constructivism” (Ifenthaler & Schweinbenz, 2013, p. 532)

Methodology

Overview of Research Design

The design of this research project will mixed model using both quantitative and qualitative analysis. Participants will take several surveys which will be using the Likert scale with a range of 1 - 5. The numbers in the range will has varies meanings dependent upon the question. The participants will complete tasks during classroom instruction sing both laptops and iDevices. The participants will also take part in semi-structured interviews which will provide researchers ability to gain a new viewpoints or aspects from the participants which could guide implementation of technology devices in classrooms.

Unstructured interviews will take place at the end of the study with questions based upon student response to surveys. The interview will describe their views on different technology devices and their uses in the classroom and how best to integrate into curriculum.

Participants

In the broadest comnpeulation of the study, the outcome would address the population of middle school students in the United States. However, the sampling does not represent the vast diverse of the country.

The setting for this study is a 7th grade social studies classroom in Alpharetta, Georgia. This school is located in suburban area of Atlanta, known as Roswell, Georgia. The middle school is a Title 1 school with over 50 percent of the student population on free or reduced lunch and is a high poverty. The ethnic make- up of school is 42% black, 32% Hispanic, 36% white and 3% multi-racial (<http://reportcard2011.gaosa.org>, 2011). This setting of participants does include a diverse sampling compared to other middle schools in the area.

This middle school has 800 students with 250 students presently in the 7th grade. The students in 7th grade range from 12 to 14 years old. The participants in this study will only include students from one 7th grade social studies class period.

Of the 250 students in 7th grade only 14 of the students are in an advanced social studies class. The samplings of these 14 students in this advanced class are very diverse in gender, ethnic background, and socio-economic status.

Data Sources/Instrumentation Procedures

The instrumentation being used in this study was a combination of both qualitative and quantitative data collection methods. Data collection will be student surveys and student questionnaires. First, a survey, based on a modified version of the Computer Attitude Questionnaire originally created by Dr. Rhonda Christensen and Dr. Gerald Knezek (Christensen & Knezek, 1997),

The project will take place over two weeks. Since the participants are minors, their guardians will provide written consent to their students taking part in the project. The participants and their guardians will also be given the purpose of the study. Participants will answer two surveys at the beginning of the project one which will include questions regarding demographics and access to technology. The second survey will be an attitude survey on using technology in learning. The participants will take the same attitude survey at the end of the project. The research administrator will deliver these instruments to the participants online and the data collected through an online data collection site. Participants will take part in semi-structured interviews after all surveys have taken place and all activities taken place. The interview questions will be guided by the participant's response to the surveys and the interviews will be recorded. The participant's guardians will give written consent for the students to be recorded during the interviews.

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Appendices