2015

Teachers' Attitudes Toward Technology

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By

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Submitted to

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4/27/15

Abstract

The purpose of this study was to examine teachers' attitudes toward technology in their classrooms. This study focused on iPads, tablets, smartphone, and Apple TVs. The questions in the survey were designed to investigate teachers' comfort level with using this technology, and to determine teachers' attitudes toward the use of this technology in their classrooms. The majority of the educators reported that the technology was up to date. Next, fifty percent of the educators felt that they were not provided with adequate training prior to the implementation of the technology into the classrooms. Therefore, continuing to provide adequate training to educators is very important.

Keywords: teachers, attitudes, technology, classrooms

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Chapter 1: Introduction

Technology is important for students because it can have an impact on the way that they learn. Lam and Tong (2012), report that technology devices such as tablets and smartphones are common items in education today. Although there are numerous types of technology, this study will focus on iPads tablets, smartphones, and Apple TVs. The purpose of the current study will be to investigate if the placement of iPads, tablets, smartphones, and Apple TVs impact student learning, teachers' comfort level with using this technology, and to determine teachers' attitudes toward the use of this technology in their classrooms.

Statement of the problem

Technology use in educational settings continues to increase. Information and communication technology has been introduced in many schools and countries for the purpose of increasing student learning and changing the way students learn (Gu, Guo, & Zhu, 2013). A study by Chang F, Chang Y, and Yeh (2011), found that the integration of information technology into classroom teaching creates a more interesting way to engage students in learning and increases teacher effectiveness.

Technology use in education has advantages for student learning. Faulkner, Oakley, and Pegram (2013), completed a study of the adoption of mobile handheld technologies in 10 Western Australian schools and found that of the 10 schools that participated in the study the iPads were used the most followed by iPod Touches, and iPhones. The authors reported that motivation and engagement of the students were the main benefits of mobile handheld devices as

gathered from the staff interviews. According to the authors, educators from two of the 10 schools that participated in the study reported that there was an increase in student learning.

The lack of training, ease of use, dependability, and inadequate technical assistance are concerns reported by educators regarding technology. Adiquzel, Capraro, and Wilson (2011), report that educators voiced that it was important for the technological devices to be easy to use and dependable. Wilson and Wright (2011), discuss that educators voiced not having enough time to become familiar with the technology. According to the authors, the barriers that were reported most from the study were equipment and scheduling conflicts.

Purpose of the Study

The purpose of the current study will be to investigate if the placement of iPads, tablets, smartphones, and Apple TVs impact student learning, teachers' comfort level with using this technology, and to determine teachers' attitudes toward the use of this technology in their classrooms. The participants in this study will be educators in a middle school. In this study a survey will be the method used to collect the data. The survey will consist of questions using the Likert Scale with 4) strongly agree, 3) somewhat agree, 2) somewhat disagree, and 1) strongly disagree.

Rational for the Study

Technology use in educational settings has advantages that can impact student learning. Lam and Tong (2012), state that tablets and smartphones provide faster communication between students and their instructors. Faulkner, Oakley, and Pegram (2013), report that a study on the adoption of mobile handheld technologies was completed in 10 Western Australian schools, and found that motivation and engagement of the students were the main benefits reported from the

staff interviews. The integration of technology into educational settings is important because it can foster an environment that has the potential to increase student learning.

Research Question

The purpose of the current study will be to investigate if the placement of iPads, tablets, smartphones, and Apple TVs impact student learning, teachers' comfort level with using this technology, and to determine teachers' attitudes toward the use of this technology in their classrooms. Through the research, the following question will be investigated: What are teachers' attitudes toward technology use in their classrooms?

Chapter 2: Review of Related Literature

Technology is important for students because it can have an impact on the way that they learn. Technology use in educational settings continues to increase. Information and communication technology has been introduced in many schools and countries for the purpose of increasing student learning and changing the way students learn (Gu, Guo, & Zhu, 2013). A study by Lam and Tong (2012), found that technology devices such as tablets and smartphones are common items in education today. Also, technology plays a part with educators in their comfort level using the technology and their attitudes toward technology in the classroom. Although there are numerous types of technology, this study will focus on iPads, tablets, smartphones, and Apple TVs. The purpose of the current study will be to investigate if the placement of iPads, tablets, smartphones, and Apple TVs impact student learning, teachers' comfort level with using this technology, and to determine teachers' attitudes toward the use of this technology in their classrooms.

Impact on Student Learning

Technology in education has advantages for student learning. According to Lam and Tong (2012) mobile devices, such as tablets and smartphones, allow for faster and better communication between the students and their instructors. Faulkner, Oakley, and Pegrum (2013), completed a study of the adoption of mobile handheld technologies in 10 Western Australian schools and found that the iPads were the most used followed by the iPod touches, and iPhones. The authors reported that motivation and engagement of the students were the main benefits of mobile handheld devices as gathered from the staff interviews.

A review by Huseyin (2014), showed that the findings in the study reported that tablets have advantages for teachers. According to the author, one feature of the tablet is a pen that can be used to write on the screen with, and then the writing can be easily erased from the screen. According to Huseyin (2014), educators have reported positive information regarding tablets. The author indicated that educators report that the tablet can create a more enjoyable experience for the students in math class by allowing the students to produce visuals and animations. According to Cuhadar (2014), educators report that the tablets are beneficial because of their wireless internet accessibility and multimedia uses. The author also reported other benefits such as the tablet's light weight, portability, and ease of use.

Increased motivation has been found in studies regarding technology use. Other information supports teachers' interest in technology. A study by Ayas, Cakir, Ergun, Pamuk, and Yilmaz (2013), reported results that teachers feel technology is beneficial to student learning. The review by Chang F, Chang Y, and Yeh (2011), found that introducing technology into classrooms creates a more interesting way to engage students in learning. According to Chang et al., (2011), some of the educators in the study reported an increase in being more effective with communicating the lesson and in increasing student motivation.

The iPad is a device that is also being used in schools. A study by Faulkner, Oakley, and Pegrum (2013), reports on a project in Australia which consisted of distributing over 700 iPads to educational facilities. According to the authors, the researchers found that there was an improvement in student learning and that the educators reported iPads were easy for the students to use.

Students with Special Needs

Students with special needs can also benefit from the use of the iPads. Students who have impairments such as dyslexia or visual impairments can use the features on the iPad to resize the text or to use the text-to-speech apps (Faulkner, et al., 2013).

Distraction to Student Learning

There is a concern of technology distracting students. A study by Lam and Tong (2012), reported that there has been much attention given to the advantages and disadvantages of technology devices in the classrooms. Lam and Tong (2012), report that certain technological devices such as tablets were found to distract students from learning and from paying attention. According to the authors, some students were found to use the tablet to read e-mail, to send e-mail, and to play games during class. Ayas, Cakir, Ergun, Pamuk, and Yilmas (2013), report that students were observed using the tablet during class for things not related to the lesson such as, installing games and other applications to the tablet.

Teachers' Attitudes Toward Technology

Although there is information that indicates that educators support technology, there is also information that shows negative aspects reported by educators. Some of these negative aspects are lack of training, ease of use, dependability, and inadequate technical assistance. Adiguzel, Capraro, and Wilson (2011), report educators conveyed in the study that it was important for the technology to be easy to use and dependable. Kumar and Vigil (2011), report that teachers feel there needs to be more classes on technology in the teacher degree programs. According to the authors, this will better prepare educators to use the technology in their own class. (Wilson & Wright, 2011; Pritchett, Christa, Pritchett, Christo, & Wohleb, 2013), found

that educators reported not having enough time to become familiar with the technology. According to the authors, the barriers that were reported most from the study were equipment and scheduling conflicts.

Preservice Teacher Education

Kajs, Mayo, and Tanguma (2005), report there has been an increase in the education reform movement to provide programs that will prepare teachers on how to implement technology skills into the classroom. A study by An and Reigeluth (2011), reported on K-12 teachers' insights regarding creating technology centered classrooms. The authors discussed barriers that effect implementation of technology enhanced and learner-centered classrooms. Some of the barriers reported by the participants in the study were lack of technology and lack of time. These two factors were reported from 57% of the participants in the study. According to An and Reigeluth (2011), 35% of the participants reported that they lacked the knowledge in knowing how to integrate technology into learner centered instruction.

Professional development programs were discussed by An and Reigeluth (2011). In the study, 70% of the participants reported gaining technology knowledge from the professional development programs. Some participants from the study reported the professional development programs as being too broad and not specifically related to a content subject. Other participants reported that there needed to be more examples in these programs when training educators. Lack of time and too much information in professional program training were concerns reported by participants (An & Reigeluth, 2011). Participants in the study reported that they did not have adequate time to process the large amounts of information presented to them in the programs. Educators need sufficient time to learn about technology related specifically to their subject.

Professional development programs need to strive to address educator's needs. Adequate technology training is important in creating technology centered classrooms.

Topic Statement

Technology devices such as iPads, tablets, smartphones, and Apple TVs are becoming more popular in the educational settings. There are many advantages to integrating technology into the classrooms. The purpose of the current study is to investigate the impact that iPads, tablets, smartphones, and Apple TVs have on student learning, teacher comfort level with using this technology, and teachers' attitudes toward this technology in their classrooms.

Chapter 3: Procedures and Methods

As indicated in the previous chapter, technology is important for educators in their comfort level with using technology and their attitudes toward technology use in their classrooms. Although there are numerous types of technology, this study will focus on iPads, tablets, smartphones, and Apple TVs. The purpose of this study will be to investigate if the placement of iPads, tablets, smartphones, and Apple TVs impact student learning, teachers' comfort level with using this technology, and to determine teachers' attitudes toward the use of this technology in their classrooms.

This study will be designed in an anonymous survey form. The surveys will be given to all the general and special education teachers at a rural middle school in southern West Virginia. Through the research, the following question will be investigated: What are teachers' attitudes toward technology use in their classrooms?

Participants and Setting

The participants in this study will be all the teachers at a middle school. Their teaching experience will vary by their number of years teaching and by general education versus special education. The co-investigator will contact the school's principal and obtain permission to complete the study by means of an anonymous survey. The collected surveys will be reviewed and data analyzed to determine teachers' attitudes toward technology use in their classrooms.

Materials

The materials for this study will be an anonymous paper/pencil survey created by the co-investigator. The survey will have the following sections: The first section will determine demographic information; the second section will determine the types of technology being used

in the classrooms. The third section will rate teachers' comfort level using technology, and also teachers' attitudes toward technology use in their classrooms. The fourth section contains free response questions. A complete survey will be included in the final report.

Procedures

The paper/pencil survey will be placed in each teacher's mailbox along with a manila envelope. The cover sheet will explain instructions on how to complete the survey and where to return it. The returned survey will be placed in the manila envelope and sealed and returned to a designated location in the school. A follow up call will be made by the co-investigator to the principal if a low percentage of surveys have been collected.

The collected data from the survey will be evaluated and the results recorded. The first section of the survey will collect demographic information. The second section will collect information on the types of technology being used in the classrooms. The third section will collect information on teachers' comfort level using technology, and teachers' attitudes toward technology use in their classrooms. The fourth section will collect free response information. A 4- point Likert Scale will be used to rank educators comfort level using technology and their attitudes toward this technology in their classrooms.

Chapter Four: Results

The purpose of this study was to examine teachers' attitudes toward technology in their classrooms. The questions in the survey were designed to gain educators perceptions about the following: iPads, tablets, smartphones, and Apple TVs, to investigate teachers' comfort level with using this technology, and to determine teachers' attitudes toward the use of this technology in their classrooms.

Section 1 of the survey provided demographic information. A total of ten educators returned their surveys providing a 7% return rate. Of these participants the majority, 7% serves in general education classrooms and 2% in special education. Of the participants, eight were female and two males. Teaching experience of the participants ranged from 1-5 years to more than 25 years. Likert scale questions rated the extent to which a participant agreed or disagreed with a particular question or statement, from one for strongly disagree to four for strongly agree.

Section 2 of the survey concentrated on the types of technology the participants were using in their classrooms. Thus, the participants reported using the following technology: The majority, 7% reported using iPads, 8% Apple TVs, and 8% the MacBook Pro. Additionally, some participants reported using a document cam and projector. Table 4.1 shows the types of technology teachers' use in their classrooms.

Section 3 of the survey concentrated on how the participants felt about technology in their classrooms. When participants were asked if they felt that the technology was up to date 7% (7 of 10) agreed. Three percent (3 of 10) strongly agreed. With regard to whether the participants felt they received adequate training to use the technology, 4% (4 of 10) agreed and

1% (1 of 10) strongly agreed. Four percent (4 of 10) disagreed and 1% (1 of 10) strongly disagreed.

Next, when participants were asked if they felt that the technology can be adapted to meet the students' needs, 8% (8 of 10) agreed. Two percent (2 of 10) disagreed. With regard to whether the participants felt that the technology was used by all teachers, 8% (8 of 10) disagreed, 1% (1 of 10) strongly disagreed, and 1% (1 of 10) agreed.

Also, when participants were asked if they feel the technology available to students distracts them, 5% (5 of 10) agreed, 2% (2 of 10) strongly agreed, and 3% (3 of 10) disagreed. With regard to whether the participants felt that the benefit of student technology outweighs the distraction, 6% (6 of 10) agreed, 3% (3 of 10) disagreed, and 1% (1 of 10) strongly disagreed. Table 4.2 shows the results of how educators feel about technology in their classrooms.

Section 4 gained information from free response questions. When participants were asked if they feel the technology available to them was positively impacting student learning, 7% (7 of 10) reported yes, and 3% (3 of 10) reported no. With regards to whether the participants felt that technology available to students increases their learning, 4% (4 of 10) reported yes, and 6% (6 of 10) reported no. In addition, when participants were asked to elaborate on these responses, 8% (8 of 10) responded and 2% did not respond. Furthermore, the responses consisted of the following: some participants reported that there was not enough training for educators, other participants reported that if the technology worked correctly it would be an advantage for the students, some participants reported that technology does not increase student learning and that some students become distracted by it. In contrast, some participants reported

that they feel technology enhances student learning, and that more information can be accessed on many topics. Table 4.3 shows free response questions answered by educators.

Last, when participants were asked to provide any additional comments on this topic, 5% (5 of 10) responded. Thus, the responses consisted of the following: some participants reported that technology can do great things and that the more the educators learn to use the technology the more the students can learn. In contrast, other participants reported that the new technology should be given to educators first, along with training, prior to the students getting the technology. In addition, some participants reported that the iPads can be distracting to some students and that glitches in the initial implementation resulted in time being wasted.

Table 4.1 Types of Technology used in classrooms

Technology	Respondents	iPads		Tablets		Apple TV		Smart phones		MacBook Pro		Document Cam		Projector	
	N	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Q4 iPads	10	10	1												
Q5 Tablets	0														
Q6 Apple TV	8					8	1								
Q7 Smart Phones	1							1	1						
Q8 MacBook Pro	8									8	8				
Q9 other	2											1	0.5	1	0.5

*percents don't go to hundred due to rounding error

Table 4.2 Teachers' Attitudes Toward Technology

Technology	Respondents	Strongly Agree		Agree		Disagree		Strongly Disagree	
	(N)	n	%	n	%	n	%	n	%
Q10 The technology is up to date	10	3	3	7	7				
Q11 I have received adequate training to use the technology	10	1	1	4	4	4	4	1	1
Q 12 The technology can be adapted to meet student needs	10			8	8	2	2		
Q13 Do you feel the technology is used by all teachers	10	1	1	1	1	8	8		
Q14 The technology available to students distracts them	10	2	2	5	5	3	3		
Q15 The benefit of student technology outweighs the distraction	10			6	6	3	3	1	1

*percents don't go to hundred due to rounding errors

Table 4.3 Free Response Questions

Technology	Respondents	Yes		No	
	N	n	%	n	%
Q16 Do you feel the technology available to you is positively impacting student learning	10	7	7	3	3
Q17 Do you feel the technology available to students is increasing their learning	10	4	4%	6	6%
Q18 Write a brief statement explaining why you feel as you do about number 16 and 17	8				
Q19 Please make any additional comments you have about this topic	5				

*percents don't go to a hundred due to rounding errors

Chapter Five: Discussion

This study was designed to gain perceptions from educators at a middle school in Raleigh County about technology in their classrooms. The results of a survey distributed to educators in Raleigh County are discussed here with the study's limitations and further research suggestions. This information was collected to determine how educators feel about technology in their classrooms. The questions in the survey were designed to gain educators perceptions about the following technology: iPads, tablets, smartphones, and Apple TVs, to investigate teachers' comfort level with using this technology, and to determine teachers' attitudes toward the use of this technology in their classrooms.

Interpretation and Implications of Results

The educators in this study were from one middle school in Raleigh County. Their teaching experience ranged from one to five years to more than twenty five years. Of these participants the majority, served in general education classrooms and the remaining in special education classrooms. Likert scale questions rated the extent to which a participant agreed or disagreed with a particular question or statement, from one for strongly disagree to four for strongly agree.

The types of technology educators were using in their classrooms were found to be similar among the participants. First, the majority of the educators reported using the iPads in their classrooms. Second, the Apple TVs were being used by most of the educators. Third, most of the educators were using the MacBook Pro. Last, a small percentage of the educators reported using a document cam and projector in their classrooms.

Next, the educators' opinions varied as to whether they felt that adequate training was provided to them for technology being used in their classrooms. First, some educators reported that they felt there was not enough training for educators prior to the implementation of the iPads into their classrooms. Second, some educators reported that there were technical problems with the initial implementation of the iPads which resulted in time being wasted. In addition, the majority of the educators felt that adequate training should be provided to them prior to the implementation of any technology into the classrooms. Last, training for educators prior to issuing students technology is a concern of most educators indicating an area that needs more attention.

The majority of the educators from this study felt that the technology in their school was up to date. Also, most of the educators felt that the technology could be adapted to meet the students' needs with a small percentage who disagreed. In addition, most educators felt that the technology available to them was not being used by all of the educators.

Equally important, educators reported that they felt the technology available to them was positively impacting student learning. The majority, 7% agreed with this reporting that they feel technology enhances student learning, that more information can be accessed on many topics on-line, and that the more educators learn to use the technology the more the students can learn. In contrast, some educators reported that they felt the technology available to students did not increase their learning and was a distraction to some students. Nevertheless, the majority of the educators felt that the benefit of the student technology outweighed the distractions.

Limitations

There was only one school surveyed in this county which created a significant limitation. Also, this study obtained a low return rate on the surveys which created another limitation on the viewpoints of the educators. In addition, there were over two weeks of school missed due to snow days which impacted this research study.

Viewpoints from this study were limited as a result of only one school in Raleigh County being surveyed. Thus, educator's perceptions of technology could vary depending on the counties and the technology available to them. Therefore, more research would need to be conducted on this topic.

Further Research

There is a need for more research to be done on this topic. First, more schools in the county would need to be surveyed. Next, by doing this more educators' opinions could be collected and analyzed. In addition, other counties should be surveyed to see if comparisons exist. Thus, all of this would need to be done in order to allow for a more accurate viewpoint from educators regarding technology in their classrooms.

Conclusion

In conclusion, educators in this survey have a moderately positive perspective regarding technology in their school. First, most of the educators felt that the technology available to them positively impacts student learning. Therefore, continuing to provide adequate training to the educators is a necessary step in helping to achieve this outcome. In addition, providing sufficient training to educators prior to the implementation of technology into the classrooms should be of

high importance. Finally, providing educators with sufficient training prior to implementing technology into their classrooms will result in the educators being able to better serve the needs of the students.

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Appendix

TECHNOLOGY IN CLASSROOM SURVEY

DEMOGRAPHIC INFORMATION

For each of the following items, put an X beside the choice that best describes you.

1. Gender: Male_____Female_____
2. Total years teaching: 1-5___ 6-10___ 11-15 ___ 16-20___ 21-25___more than 25___
3. Department (please specify)_____

CHECKLIST

Below is a list of technology that is investigated in this study. Put a check in front of each resource that is available to you to use in your classroom.

4. _____ iPads
5. _____ Tablets
6. _____ Apple TV
7. _____ Smart phones
8. _____ MacBook Pro
9. _____ Other (please specify)_____

LIKERT

Following are a number of statements describing the technology of this study. Read each statement and circle whether you Strongly Agree (SA), Agree (A), Disagree (D), or Strongly Disagree (SD) with how the statement describes your school.

10	The technology is up to date	SA	A	D	SD
11	I have received adequate training to use the technology	SA	A	D	SD
12	The technology can be adapted to meet student needs	SA	A	D	SD
13	Do you feel the technology is used by all teachers	SA	A	D	SD
14	The technology available to students distracts them	SA	A	D	SD
15	The benefit of student technology outweighs the distraction	SA	A	D	SD

PLEASE TURN OVER TO COMPLETE PAGE 2 OF THE SURVEY

FREE RESPONSE

16. Do you feel the technology available to you is positively impacting student learning?

YES NO

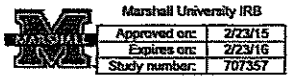
17. Do you feel the technology available to STUDENTS is increasing their learning?

YES NO

18. Write a brief statement explaining why you feel as you do about number 16 and 17?_____

19. Please make any additional comments you have about this topic.

_____



Anonymous Survey Consent

You are invited to participate in a research project entitled *Teachers' Attitudes Toward Technology Survey* designed to analyze *teachers' attitudes toward technology in their classrooms.* The study is being conducted by *Lori Howard Ph. D.* and *Grace Stover/Student* from *Marshall University.* This research is being conducted as part of the requirements for CISP 615 for *Grace Stover.*

This survey is comprised of a brief questionnaire form to be completed by teachers. This form will take only a few minutes to complete. Your replies will be anonymous, so do not put your name anywhere on the form. There are no known risks involved with this study. Participation is completely voluntary and there will be no penalty or loss of benefits if you choose to not participate in this research study or to withdraw. If you choose not to participate you may either return the blank survey or you may discard it. You may choose to not answer any question by simply leaving it blank. Returning the survey in the sealed white envelope to the Special Education Office indicates your consent for use of the answers you supply. If you have any questions about the study you may contact Lori Howard Ph. D. at 614-725-2943, or Grace Stover, student investigator at 304-228-2570.

If you have any questions concerning your rights as a research participant you may contact the University Office of Research Integrity at (304) 696-4303.

By completing this survey and returning it you are also confirming that you are 18 years of age or older.

Please keep this page for your records. Thank you for your time and help with this project.