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Professional Development Impact of Integration of Technology in a Charter High School and Middle School

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Abstract

The purpose of this study was to analyze the aspects of professional development that were the most effective in supporting and motivating teachers to integrate technology into the classroom. The participants were twenty-nine teachers from a high school and middle school charter that worked within a 1:1 technology classroom. Twenty-nine participants answered survey questions that gave demographic information and asked them to rate and rank different aspects of professional development in hopes that particular aspects of professional development would be identified as being more effective at supporting and motivating teachers to integrate technology into the classroom. Three of those participants were randomly selected for participating in an interview that asked more specific questions about different aspects of professional development and those aspects’ supporting and motivating qualities. After this data was analyzed and compared, findings indicated which aspects of professional development were the most effective at supporting and motivating teachers to integrate technology into the classroom. Findings indicated that time, information of new technology, and technical support were the most supportive and motivating aspects of professional development while leadership, collaboration, and opportunity to go to off campus conferences were the least. It was also found that the overall culture of the school played a significant role in supporting and motivating teachers to integrate technology into the classroom. Overall, there was a need for more research to be done identifying how these different types of aspects played a role in supporting and motivating teachers to integrate technology into the classroom, and a need for more research to be done looking at how the overall culture of the school contributed to teachers’ success integrating technology into the classroom.
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Definition of Problem

Chapter I

Technology use in the classroom continues to grow around the country. Common Core State Standards and the Smarter Balanced Assessment continue to push the necessity to integrate the use of technology into the classroom. Smarter Balanced Assessment testing is done solely on the computer, making it necessary teachers, parents, and students are technologically literate. Teachers and test proctors need to know how to work the technology to prepare and administer the test, and students need to be able to navigate the technology to answer questions.

Social elements are pushing technology into classrooms. The impact of these new social norms can be seen within classrooms at lower and lower grade levels as mobile technology becomes more prevalent in people’s daily lives. Technology is being used by younger and younger ages. Just think about the first cellphones and what they were used for and compare that to what they are used for now. Many people feel helpless without the use of their cell phones. This societal focus on technology has made keeping up with the new changes a top priority of teachers, parents, and students. Teachers want to brag their schools are the most technologically advanced. Parents want to feel like their children are going to be competent in an ever-changing technological society, and students want to be stimulated while they struggle to manage their academic and social lives.

The challenge lies in the fact that there is research lacking in the following areas regarding the eminent reality that schools are getting more technologically advanced:

- Lack of research showing the correlation between student achievements and technology integration.
• Lack of research concerning impact of student and teacher motivation with integration of technology.

• Lack of research regarding the legal and classroom management concerns that may arise with the implementation of technology.

• Lack of research on effective professional development for teachers regarding 1:1 technology.

With all of these problems that still need to be addressed, federal and state governments often use rhetoric stressing the importance of integrating technology into the classroom.

Historically speaking, the emphasis of integrating technology into education began during the Cold War when the United States was competing for world dominance with the Soviet Union. There was an emphasis on science and math, which went hand-in-hand with technology (Spears, 2012). The Cold War has officially ended, but the focus on integrating technology has not. Federal and state officials have consistently used rhetoric suggesting the importance of technology in education and support educational plans promoting and pointing out the significance of integrating more technology into the classroom. Federal and state officials have set aside monetary sums, adding up into the millions of dollars, for the purpose of meeting these goals. Educational plans have outlined ways for the technology to be implemented into the classroom, identifying the goals and the capital necessary for achieving these expectations.

Barack Obama articulated the importance of technology, addressing future educational goals. Obama emphasized the role technology plays in creating an educational system that focuses on science, technology, engineering, and math (STEM); and he explains the significance of these core subjects:
One of the things that I’ve been focused on as President is how we create an all-hands-on-deck approach to science, technology, engineering, and math... We need to make this a priority to train an army of new teachers in these subject areas, and to make sure that all of us as a country are lifting up these subjects for the respect that they deserve (Obama, 2013, April).

Obama’s statement highlights the national agenda for education and its future focus on technology.

Arnie Duncan (2010), secretary of the Department of Education, outlined the goals for integrating technology into the United States educational system in the National Education Technology Plan (NETP). “The challenge for our education system is to leverage technology to create relevant learning experiences that mirror students’ daily lives and the reality of their futures.” NETP identifies technology as being at the core of students’ everyday lives and work. Implementing technology, and knowing how to use it, creates success for students nationwide and hopes to close the achievement gap. NETP’s goals are to increase student performance and increase graduation rates. NETP suggests technology can help achieve these goals by facilitating easier access and engaging activities for science, engineering, and math. To increase technology in the classroom and support NETP, the Obama Administration and the Department of Education support initiatives for this transition.

The Obama Administration and the Department of Education advocate the Educate to Innovate Initiative, which focuses classroom learning in the following areas: science, technology, engineering, and mathematics (STEM). The initiative’s goals are to achieve higher academic performance, enhance pragmatic skills, and increase graduation rates by integrating technology;
and so far, $700 million has been raised through public and private partnerships to achieve these goals (White House, retrieved 2015, July).

The Obama Administration and the Department of Education believe these focus points will improve student achievement and raise graduation rates across the board. The Department of Education's NETP (2010) assumes that embracing technology in the classroom will "provide engaging and powerful learning content, resources, experiences, and assessment systems that measure student learning in more complete, authentic, and meaningful ways." The Obama Administration and the Department of Education clearly believe technology is a necessary tool for making STEM successful, but neither the Obama administration nor Department of Education has outlined how to get students equal access to the technology necessary for accomplishing these goals.

Similarly to the federal government, state officials have supported the integration of technology into its education system. Governor Jerry Brown and California educational plans have highlighted technology as an important part of attaining higher academic performance and closing achievement gaps across all demographics. State education consultants such as the Empowering Learning, a blueprint for California Education Technology 2014-2017, provides nineteen recommendations for implementing technology into the classroom. Those recommendations include making sure technology resources are available for all students; teachers are well prepared for implementing those technologies into the classroom; technology use is safe; technology is a driver in achieving a better level of student assessment; and the technology allows for better communication between educational institutions, parents, and community members.
EdSource Staff (2015, May 14) reported Brown’s budget gave schools $3.5 billion in a one-time, discretionary funding to school districts, charter schools, and county offices of education for implementing Common Core and new science standards. They invested in professional development, induction programs for beginning teachers and instructional material and technology for students and teachers. Brown’s allocation of $3.5 billion in funding reinforces the seriousness state officials are taking regarding the integration of technology into the classroom.

Besides the politics surrounding technology and education, parents, students, teachers, and administrators value the use of technology, perceiving it to positively impact student performance and motivation. This is so true that money is allocated and educational programs are adopted to meet technology goals. School districts are proud to say they are keeping up with the demands for technology, but being effective and efficient with the implementation of technology into the classroom is easier said than done. There are many hurdles to overcome while integrating technology into the classroom. This fact can be coupled with the truth that there is no evidence to suggest that technology improves students’ achievement.

Technology is expensive, and because it is changing all the time, it is hard to keep up with having the newest and greatest. Once technology is introduced into the classroom, it is often out of date by the time teachers begin to implement the new technology into their classrooms. Other than choosing and integrating the technology, it is important to train teachers on how to use it. This is expensive and takes time. Teachers need to buy into the technology they are being told to use, and a lot of that has to do with their comfort level with the new technology. They need to be given the proper professional development to make it matter, and make it a worthwhile venture for school districts to allocate money into the implementation of technology.
Purpose of Study

This study will look at how professional development motivates teachers to use technology in the classroom. Throughout rhetoric involving education, there is always a conversation about how the education system is keeping up with certain technology trends. The purpose of this study is to identify what types of professional development are effective in helping teachers integrate technology into the classroom. It is not just enough to spend a lot of money on expensive equipment and expect the teaching staff to embrace the technology and use it for instruction. It is important to train teaching staff, so that they feel qualified enough to use the technology, and then, teach students to use it, transforming the academic experience.

This study looks specifically at a high school and middle school charter that has been running a 1:1 technology program for the past six years. Professional development geared towards technology has been tied into the school since its conception. This study will survey teachers in hopes to identify what aspects of professional development have been the most successful in improving teacher motivation for integrating technology into the classroom. In order to further research that has already been conducted, this study will answer the following research question:

- What aspects of professional development are the most successful in supporting and motivating teachers to integrate technology into the classroom?

This research will discuss what a successfully integrated classroom looks like to the teachers participating in the study. To identify the successes and failures of professional development, thirty-three participating teachers were asked to complete a survey and three teachers were randomly selected and interviewed. Since many of the teachers at the school site had more than
one year experience teaching in a 1:1 technology program, they were qualified to identify professional development that helped transform technology use in the classroom.

**Preview Literature**

The problem being addressed by this research is important since the use of technology in the classroom is rapidly expanding and changing. There is a lack of research showing the correlation between student achievement and its relationship with the integration of technology. There is a lack of research concerning the impact technology has on student and teacher motivation. When looking at these two problems, it is necessary to think about and study the challenges the integration of technology pose on the teacher and his or her ability to effectively manage the classroom. The focus of this study is on the data gathered by past research suggesting that technology can increase the motivation of the teachers who have access to it; but the evidence reports that this is only true if there is a considerable amount of time and money proportioned out to professional development to create an effective 1:1 technology program. This can be challenging for smaller school districts or those schools that do not have a lot of extra money in the budget to spend on professional development regarding technology training. This is exactly why it is incredibly important to become efficient and effective with time and money spent on providing technology training for educators.

In order to answer this problem a research question has been formulated and goes as follows:

- What aspects of professional development are the most successful in supporting and motivating teachers to integrate technology into the classroom?

This section will look at the contents of the literature review. Each subsections’ purpose means to describe the different ways other researchers have attempted to answer similar questions. It
will explain how these subsections support the research this study tries to accomplish. It will explain how these key ideas inform this research and study. The subsections of the literature review are as follows: Implementing 1:1 Technology, Impact of 1:1 Technology on Students and Teachers, and Legal and Classroom Management Concerns.

Implementing 1:1 Technology subsection will discuss the resources available for schools to use and accomplish State and federal goals. It will look at different research that shows the best way to support educators. It will briefly describe the research that has already been done looking at different types of professional development. It will point out, however, that research, on the particular types of professional development that created the best results, is missing. It will then look at the time and investment necessary to accomplish the goals of integrating an effective 1:1 technology program. This will describe the appropriate amount of time and investment needed to establish these motivating factors. This section is significant to the research because it identifies that other studies have established a link between professional development and teacher motivation with integrating technology into the classroom.

Impact of 1:1 Technology on students and teachers will explore whether or not research has shown any significant impact technology has had on student and teacher performance and motivation. It will give examples of research showing student and teacher performance and motivation improving and decreasing. It will then conclude on why examples might be suggesting whether or not there is an increase or decrease on performance and motivation.

The final subsection will look at the legal and classroom management concerns of creating a 1:1 technology program. It discusses the legal and classroom management concerns that need to be addressed when implementing an effective 1:1 technology program. It will
explore laws relating to technology use in the classroom. It will look at how technology's use in the classroom has changed the way teachers have to teach in order to manage their classrooms.

All of these topics and subsections support the purpose for the research and research question. They point out what has been done before and how the studies, by most accounts, are inconclusive. Yet the topic is significant because of the political and perceived social importance. It is important because it is the way education is moving. Education is becoming a more technologically integrated one. Teachers and students will continue to immerse more and more technology into the classroom. Lawmakers and community members will always want the school system to be competitive with its use of technology and keeping up with the new trends and standards of industry.

**Preview Methodology**

The methodology that will be used in this study is quantitative and qualitative research. This methodology will be the effective to use because it matches the necessities of the research question posed. The quantitative data will be gathered from a survey, and the qualitative data will be collected from the three interviews for the purpose of getting a deeper understanding of the survey results. It will shed light on whether or not the teachers feel the professional development they are receiving meets their needs. Research activities include developing a survey for participants. The survey will address questions that help answer the research question. Participants will be informed of the purpose of the study. Interviewees will be given and sign an informed consent document. Participants taking survey created on Survey Monkey will read and consent to research at the beginning of survey by continuing to the next page. Answers will be reviewed and analyzed in Chapter IV of the study. Once data is collected and analyzed,
participants will be shown the results at a professional development meeting (Mertler & Charles, 2011).

Significance of Study

The potential individual benefits of this study are that there is going to be a narrowing and refining of the different professional development methods a school or a school district can use when training its staff. Professional development costs money and takes time. It will be beneficial to see what professional development the participants find the most effective towards improving motivation and helping them integrate technology into the classroom. The societal benefit is that schools and school districts will be able to look at the research done in this study and get ideas for the best ways to train and professionally develop staff to improve motivation in the use of technology. Using this study, they will be able to cut down on costs and going through the motions of trial and error discovering the most fitting type of professional development.

The risks of this study are minimal. Inconvenience is the biggest risk because of the time needed to fill out the survey and answer interview questions. There are some issues involving getting people's opinions on how professional development has been done at the school, but those opinions will be protected and kept anonymous. The benefits are that the study will identify types of effective professional development. The most effective aspects of professional development that are discovered through this study will then be able to be used for other schools looking for ways to improve teacher motivation regarding the use of technology. Schools will be more effective in attaining their goals and cost efficient.

Conclusion

This research asked the question what aspects of professional development supported and improved teacher motivation. It looked at the ways teachers feel like they are being supported...
through effective professional development practices. Key literature points out that there is no definitive data suggesting that educational learning and motivation is improved either for teachers or students by integrating technology. Previous research does suggest that in order for teachers to be able to effectively integrate technology into the classroom, they need to be supported by meaningful professional development. The methodology of this study is both quantitative and qualitative to provide supporting data for the research. Participants will be chosen out of convenience because they will all be from the same school.

**Definition of Terms**

- **Motivation**- This term refers to the direction and magnitude of behavior. Motivation includes the choices people make when deciding on goals and actions to take or avoid, as well as the amount of effort people exert to reach their goals.

- **Implementation**- how technology is put into effect by participants in study.

- **Integration**- combining (one thing) with another, so that they become a whole. In this specific case, integration defines technology and educational instruction being merged to transform education.

- **Performance**- the action or process of carrying out or accomplishing an action, task, or function. This will be speaking to how students achieve on high-stake assessments.

- **Professional Development and Technology Training**- will be used interchangeably to define how teachers are receiving different aspects of professional development regarding technology.
Chapter II

Literature Review

Technology is constantly changing. There is a lack of data supporting a positive correlation between student performance and the use of technology. There is little data to support the belief that technology makes teachers and students motivated. This coupled with the fact that adding technology creates legal and classroom management challenges makes it imperative that the benefits of integrating technology be achieved. Peer-reviewed research points out and suggests that the integration of technology may have a positive effect on teacher motivation. For this motivation to be increased, it is important that teachers get the proper professional development regarding technology training. This will increase a teacher's ability to integrate technology into the classroom and improve student performance (Mouza, 2015). The problem lies in the fact that there is a lack of research pointing to specific types of professional development that motivate teachers to effectively integrate technology. The research question for this study is as follows:

- What aspects of professional development are the most successful in supporting and motivating teachers to integrate technology into the classroom?

This chapter looks at the literature pertaining to 1:1 technology and the effect professional development has on the success and motivation of teachers to integrate technology into the classroom. It will review the literature regarding the following areas: implementing 1:1 technology, impact of 1:1 technology on students and teachers, and legal and classroom management concerns. The purpose of each subsection is to create a complete picture of the work that has been done regarding integrating technology into the classroom and make a case that different aspects of professional development may be one of the most important pieces for
creating a school where the culture supports and motivates teachers to use technology in their classrooms.

**Implementing 1:1 Technology**

One of the most important factors for contributing to the success of a school’s technology program is how it is integrated. Starting a 1:1 technology program within a school or school district is challenging. It is expensive and requires a lot of initial investment, continuous maintenance, effective leadership, meaningful professional development, and enough time. There needs to be adequate access to computers or 1:1 devices. Those resources provided need to be maintained for everyday use. Leaders of the school need to be able to support teachers using and implementing the technology. Professional development needs to help teachers become proficient and willing to want to integrate the technology (Stevens, 2014; Miktut, 2012; Grant, 2011; Latio, 2009; Williams 2002). Teachers face the challenge of having the luxury of enough time to spend getting comfortable with technology, collaborating with colleagues for new ideas, and discovering the best fit for using technology in their classrooms (Finger & Houget, 2009). For technology to be implemented effectively, schools and school districts need to be willing to give teachers the resources, effective leaders, professional development, and time.

**Resources**

The literature suggests one of the most fundamental factors teachers need to integrate technology is having enough resources that are continuously updated and maintained. Latio (2009) found that if teachers did not have adequate access to computers and other resources, then their motivation to integrate technology was limited. This is significant because of the new emphasis on Common Core State Standards (CCSS) and science, technology, engineering, and math (STEM). For these new standards and focus subjects to be met, these resources need to be
available. There needs to be the proper investment in the resources for the integration of technology to be successful.

Many schools have plenty of computers, but the technology just sits there because it is not maintained, nor kept up to date, and the teachers do not feel comfortable using it. Adequate resources motivate teachers, and motivated teachers improve the success of integrating technology. Williams (2002) concluded that teachers felt there needed to be more financial investment in order for the technology to be useful. If the investment is lacking, teachers are not going to receive the adequate support they need to create a successful 1:1 technology program. The research, however, lacks data and analysis describing where and how this investment specifically should be used.

Leadership

Smith (2014) found that the most important element for a school to provide is effective leadership for the purpose of implementing a successful 1:1 technology program. The research showed that the success of getting technology into the classroom was dependent on a leader’s style and ability to support teachers integrating technology into the classroom. Smith’s research implicates that leaders need to provide quality training and professional development opportunities so that their teachers can be comfortable integrating technology within their own content areas and grade levels. The leaders should provide professional development that is practical and meet their teachers’ needs (Spears, 2012).

A side note to the conversation Smith and Spears create is that there is no actual requirements put in place by states for administrative candidates to meet, in order to become effective leaders regarding the integration of technology (Grimon & Ebner, 2014). Most likely, this is because of the rapidly changing reality of technology and the amount of resources it takes
for credentialing programs to keep up with trends. This fact places a lot of the responsibility on the leadership itself. Leaders must actively pursue, on their own, the skills necessary to provide effective leadership for teachers to successfully integrate technology into the school.

When the leadership of the school is effective, it makes it easier for teachers to get the professional development they need to reach a comfort level with the technology to try new things and be willing to fail. Where the research falls short is that it does not provide a conversation on what types of leadership create the best results, but rather suggests that it is dependent on the diverse needs of the staff. This could, however, be interpreted to suggest that the best leadership style for a school’s success is to be flexible and perceptive of staff needs. In order to support this theory, more research needs to be done to look at the effectiveness of different leadership styles.

Professional Development

According to Miktut (2012), professional development is one of the most significant factors when creating a successful 1:1 technology program. Miktut (2012) found that schools investing in professional development contributed to the success of the integration of technology. Miktut showed that the types of professional development teachers received either impacted their integration of technology positively or negatively. Miktut further pointed out that the professional development needed to be focused, and that there was a correlation between different types of professional development and the success teachers had within their classrooms using technology. Teachers needed professional development that fit their individual needs. Miktut’s research suggests that tailored professional development makes the transition of using technology easier. To identify these types of professional development, school districts should collect data identifying the different aspects of professional development their teachers find the
most effective. This data collected can be used to drive the different types of professional
development school districts provide their staff in order to increase the school’s chances of
accomplishing its goals of becoming fully integrated.

Though Miktut’s work clearly links professional development to the success of
integrating technology into the classroom, it did not suggest the exact types of professional
development that had the best results. Rather, the research echoed findings regarding effective
leadership in that it recommended that professional development be individualized to staff needs
and flexible to change depending on those factors.

In support of Miktut’s (2012) findings, Grant (2011) suggests the type of professional
development teachers received was significant when realizing the success of integrating
technology. Grant investigated the impact of instructional technology on academic achievement.
The research shows schools meeting achievement goals were supported by professional
development that met teachers’ individual needs. For teachers to be successful integrating
technology, ongoing professional development needed to be given. Mouza (2015) echoed
Grant’s findings by stating, “Teachers enjoyed and believed professional development helped
them in their implementation of technology into the classroom.” Mouza found that teachers
believed professional development was key in helping them implement the technology; and most
teachers enjoyed the initial professional development. Mouza states teachers even liked having
follow-up meetings with support staff and valued being able to collaborate. Mouza further
suggests that collaboration could even be done with students, transforming the traditional roles of
teachers and students within the classroom.

Mouza’s point that collaboration with students could be included in the professional
development process is supported by other academics in the field of technology and education.
November (2016) describes three ways to provide effective professional development regarding technology. November explains that before giving professional development on technology, staff should observe other teachers using technology in their classrooms, ask students for their input on their technology needs, and allow students to lead technology trainings. These ideas, though simple, seem to be revolutionary, in that most teachers probably could not think of a time when their students (the focus of their profession) were involved in professional development provided at school.

Professional development regarding technology is an important piece for integrating technology and can be accomplished in many ways. Some aspects of professional development are more successful than others. The professional development has to meet the needs of the teachers using the technology, and when that is accomplished, teachers feel like they are being successful. The professional development needs to be relevant and ongoing. In some cases, the professional development does not just rest in the traditional teacher, staff development day, but within the classroom where students become collaborators with the teachers. A significant challenge, however, is continuing to develop staff and allow enough time for teachers to integrate technology into their teaching (Grant, 2011; Miktut 2012; Mouza 2015). Once the professional development is identified for a specific teacher and his or her content area, the school needs to dedicate a significant amount of time for allowing teachers to begin using his or her new knowledge.

*Time*

During professional development, the resource of time can be the most challenging for schools to provide staff. Many teachers express fitting in the course content daunting, and that professional development and dealing with new technology can be overwhelming and ineffective
if that time is not allowed. More professional development does not solve the problem that teachers still have with finding enough time to integrate technology into their regular routines. For example, Stevens (2014) found teachers felt they needed at least an hour more for professional development to successfully integrate technology. Teachers reported, through survey, that they spent an average of 55 minutes of their preparation time for integrating technology into their teaching but felt they should be spending at least 131 minutes to do it effectively. Finger and Houguet (2009) identified this lack of time as one of the biggest extrinsic challenges teachers face. Schools should consider building in extra time for professional development for their teachers to have enough time to successfully integrate technology.

How this time should be spent becomes the question administrators need to ask when considering what types of professional development they want to provide staff. Administrators and other school leaders need to contemplate whether or not the professional development should be centered around teachers sitting in a conference room or more time for teachers to investigate their specific needs for integrating technology into their teaching. For example, Mouza (2015) stated that teachers “found it fun and easy to find apps on their own that would be beneficial to use in the classroom.” The answer of where to provide more time could be a combination of different ideas because it is clear teachers need to have a sufficient amount of time to support their goals of integrating more technology into their classroom.

As supported by the findings in the literature, schools successfully integrating technology collaborated with teachers, discussing with them their professional development needs and being flexible to make adjustments. These successful schools invested in the resources to make the professional development worthwhile. The literature suggests integrating technology requires
adequate resources and professional development. The willingness of schools to invest money into technology is a necessary commitment. Schools, investing the money to make the technology available and provide the locations for those technologies to be accessible, see successful implementation of technology. Schools with effective leadership make changes to fit their teachers’ needs, and as a result, show improvement integrating technology. They have better and more effective professional development that meets teachers’ individual needs; and those schools provide ample time for teachers to take the skills learned in professional development and integrate them into their classrooms (Finger & Houguet, 2009; Grant, 2011; Latio, 2009; Miktut, 2012; Stevens, 2014; Williams 2002).

**Impact of 1:1 Technology on Students and Teachers**

Based on the research, the impact of 1:1 technology on student and teacher performance and motivation is mixed. It seems to be dependent on the way the technology is integrated into the classroom and used by the teachers and students. Teachers’ performance seems to be dependent on their willingness to use the technology and their knowledge of different technology tools. Campe (2011) suggests that having technology is not enough, but using it the right way can make impactful learning moments for students. Administrators and teachers believe the impact of technology has a positive effect on student performance, but this seems to be more the perception than reality based off of the data collected. The literature suggests a more complex picture of the effect technology has on teacher and student performance. This disagreement within the literature and politics that surrounds the integration of technology into education suggests there needs to be more research done (Morris, 2010).
Student and Teacher Performance

Berkeley-Jones (2012) did find a correlation between students' performance on English Language Arts and Math scores with teachers who did express a higher use and understanding of technology. Morris (2010) looked at the impact Promethean boards had on the academic performance of elementary school students in third and fifth grade and found administrators and teachers perceived the technology to positively impact student performance, causing the school to have more motivation to use the technology; but many studies found student performance did not correlate with the use of technology.

Burns (2010) studied and explored whether technology enhanced formative evaluation (TEFE). Burns collected data from two similar schools- one using TEFE and the other not, gathering quantitative data. Burns found TEFE did enhance student achievement, reporting that the school using TEFE did have an increase in student performance, implicating that using TEFE increased achievement; however, Burns found that the school not using the TEFE program had similar increases in student performance, suggesting that the technology did not necessarily create a significant difference, and negating the claim that technology was the cause of increased student performance.

Similar studies support Burns findings. Muri-Herzig (2004) studied the effect technology had on at-risk students’ grades and attendance. The study revealed little correlation between higher performance and better attendance with students who had access to technology. Spears (2012) examined the effects 1:1 technology, in the form of handheld devices, had on students’ math performance and motivation. Spears findings indicated that there was no significant difference between those students who used technology and those who did not when it came to students’ performance in the classroom.
Based off of Burns (2010), Muri-Herzig (2004), and Spears (2012) findings, it is hard to claim that the technology transforms student learning and leaves behind teachers and students without access to technology. Their findings implicate that researchers need to do more research collecting data that identifies the impact technology has on student learning. Without this research, it is hard to make a strong case that technology needs to be integrated into the educational system.

Because of this lack of evidence correlating technology with student success, Morris (2010) stated there is room for school districts to look at the future budgeting of technology and examine the appropriate technology useful for increasing student performance; however, this did not lend to answering the question of whether or not technology had the impact on education as is proposed by many controlling the pocket books of the American education system. These findings reveal that just having the access to the technology did not make a significant difference when it seems like it should, considering the amount of focus schools and school districts place on integrating technology. It merely points out that just having the technology did not increase student performance.

Mouza (2015), on the other hand, provided research that was more uplifting with regards to integrating technology into the classroom and its effect on student performance. Mouza found that the use of iPads and educational apps supported student academic growth and empowerment, tying back the success of using technology to the design of professional development. Mouza suggests, “Results have implications for mobile learning researchers, practitioners, and policy makers, particularly those charged with the design and implementation of professional development programs.” Mouza’s research identifies that there is a link between the success of students using technology and the ability and experience their teachers gained
through useful and effective professional development. Mouza further gives support to the benefits of professional development by stating that part of the solution is within the design of the professional development being given within a school regarding technology. Interestingly, Mouza’s idea of design fits well with comments suggesting students should be a part of designing professional development (November 2016).

Student and Teacher Motivation

Integrating technology may not clearly increase student achievement, but it could increase motivation. Though Spears’ research did not link higher student achievement to technology, it did bring up another aspect of the value of integrating technology: motivation. Along with the findings addressing achievement, Spears’ found student motivation did not change; and congruently, Berkeley-Jones (2012) findings express students’ motivation was not affected by the use of technology. Some of the contributing factors for this lack of motivation among students could be a result of a couple of different reasons. Spears’ (2012) explains that for students, it is possible that the novelty of using technology to learn certain disciplines is lost on them. For technology to really change their motivation, students should be reminded of the relevance technology has on their personal and daily lives. Employers who are highly educated value more technology in education, suggesting educators need to do a better job connecting the importance of technology to students’ future success in the real world to improve student motivation (Robinson, 2008).

Berkeley-Jones (2012) looked at the impact technology had on teachers’ motivation and found that teachers’ motivation did not change with the use of technology in the classroom, contradicting the rhetoric many politicians and educators use regarding the integration of technology. Finger and Houguet (2009) state this might have to do with the fact that the teacher
thinks of himself or herself as the sole provider of information, and that the idea of technology taking over his or her role, threatening. In order to remedy and reconcile these feelings, teachers should be taught to look at technology as a partner and a complement to their teaching, but accomplishing this cannot be done without a considerable amount of professional development and a change in teachers’ minds and the culture of education. As Ally, Grimus and Ebner (2014) put it, “If educators are going to integrate technology in their classrooms, they must be willing to change. This process of change will not be easy. The process will be filled with uncertainty, anxiety, and problems.”

Berkeley-Jones’ (2012) research supports that a study should be conducted to find out the different aspects of professional development teachers are receiving to improve motivation. It should examine the effect different types of professional development have on teacher motivation. Finger and Houguet (2009) suggest giving a structure to inform professional knowledge and understanding; providing outlets to create professional adequacy; shaping professional attitudes and values; and providing support methods for helping teachers approach teaching. Professional development needs to support teachers to move towards the opinion that using technology in the classroom is helpful.

Legal and Classroom Management Concerns

The integration of technology into the classroom creates several legal and classroom management concerns. These concerns have a negative effect on teacher’s motivation to integrate technology into the classroom and schools’ willingness to fully jump into implementing a 1:1 technology program. The lack of classroom management strategies regarding technology could explain research illustrating that student achievement did not improve with the use of technology. Schools need to support their teachers with plenty of technical support and
professional development addressing both the legal and classroom management concerns of integrating technology.

Legal

On the legal side, cyberbullying prevention must become a focus. The implications and impact on the school community are endless and unknown. With regards to classroom management, technology can become a distraction and take away from the learning it is supposed to facilitate. Social media and non-academic applications are detrimental to student performance and a concern for teachers, inhibiting schools and teachers willingness to effectively integrate technology. This point illustrates the need to have professional development that can answer and calm these concerns.

The Megan Meier Cyberbullying Prevention Act of 2009 introduced by congress makes it criminal for anyone to “transmit in interstate or foreign commerce a communication intended to coerce, intimidate, harass, or cause substantial emotional distress to another person, using electronic means to support severe, repeated, and hostile behavior.” The bill came about after a 13-year-old student committed suicide when another student created a fake account on the Internet and started a fictitious relationship with Meier. The bill, itself, was not passed, but it illustrates the importance of monitoring school technology uses on and off campus and the impact it may have on the student body (Essex, 2015). It underscores the possible legal implications and schools’ responsibility to be cognizant of those threats. Furthermore, the bill’s rejection shows that not just schools have a hard time understanding the power of the Internet and how to regulate it for students. The government also is trying to catch up with regulating the technology.
Classroom Management

Because of Megan Meier, classroom management is an area schools, administrators, and teachers will have to consider when implementing an effective 1:1 technology program. Use of technology will impact students' performance based on whether it is used correctly or for non-academic purposes. Ravizza, Himbrick, and Fenn (2014) concluded students using non-academic technology in the class resulted in lower test scores. Regardless of the level of students participating across the board, students using technology for non-academic purposes, over the course of the semester, performed significantly lower than those who did not. Gupta and Irwin (2014) showed that students using Facebook while listening to classroom lectures, of high and low interest, were susceptible to being distracted and did not comprehend as much material as those who were not distracted by such social media. This point suggests schools and teachers will need to be prepared to face a variety of challenges. Professional development geared towards classroom management strategies may be the answer.

Studies conclude that there are different techniques to use in order to curb distractions presented by technology. Teachers need to be focused on making activities in the classroom more engaging to avoid students being distracted (Irwin, 2014). The logic here is if the activities are engaging, then students will be less likely to browse the internet and get distracted by other applications. Different measures teachers can take to limit students being off task from using technology include monitoring devices and other strategies. Tagsold (2012) found that it was necessary to implement many different monitoring devices and techniques to limit technological distractions. There are several companies that make software to ensure these goals are accomplished. There are resources online that can be presented at professional development meetings to help teachers with their classroom management. Schools should evaluate different
monitoring devices and classroom management techniques that work best in order to see the full impact of technology on student learning.

Since technology is so unpredictable and can lead students down a dangerous path of cyberbullying, schools need to consider solutions to the challenges caused by integrating technology into the classroom. These concerns point back to the types of professional development a school chooses to implement, and in turn, forces schools to think about which aspects of professional development are going to help teachers the most when it comes to giving them the confidence and ability to monitor their classrooms when integrating technology into the classroom.

**Conclusion**

The literature reveals that there are aspects of professional development that need to be studied in order for teachers to feel supported and motivated to integrate technology into the classroom. The research points to several different considerations a school or school district should take when implementing a successful 1:1 technology program. The school or school district needs to provide enough resources, appropriate leadership, effective professional development, and ample time for teachers to integrate technology. Schools or school districts need to consider how the technology is impacting teachers’ and students’ performance and motivation. They need to consider classroom management and legal concerns created by integrating technology into the classroom. Both can negatively impact the results trying to be achieved through the integration of technology, and it is necessary to train teachers in both aspects in order for them to feel supported integrating technology into the classroom. The research in this study attempts to answer a few of the topics addressed by the literature review through the question:
What aspects of professional development are the most successful in supporting and motivating teachers to integrate technology into the classroom?

The literature supports the validity of this question in several different ways.

State and federal governments have put an emphasis on integrating technology into education. Implementing a 1:1 technology program requires adequate resources for teachers to use. Professional development does impact a teacher's ability to integrate technology into the classroom. The professional development must be tailored to teachers' needs; and teachers must be given adequate time to properly integrate technology into the classroom. The impact of technology integration on student performance has been mixed. Some studies suggest an improvement in student performance while others do not. If teachers' professional needs are met, then 1:1 technology programs can improve teacher motivation. While most of the studies report there is little change in student motivation, they have suggested improved professional development can increase a teacher's effectiveness in integrating technology; and therefore, increase student motivation.

Finally, with the integration of technology into education, there are several factors school districts, schools, administrators, teachers, and even students must be aware of. When integrating technology, it is important for these stakeholders to know the consequences and the potential of cyberbullying. Technological distractions impede overall learning, and teachers must use various strategies to limit distractions. School districts, schools, administrators, and teachers must use monitoring software, different classroom management techniques, and engage students in different and more interesting ways. These techniques and strategies can be achieved through professional development, providing the support teachers need to be motivated to integrate technology into the classroom.
Chapter III

Methodology

The purpose of this study is to look at which aspects of professional development, regarding technology, motivate and support teachers the most to integrate technology into the classroom. Chapter I introduced the study and gave background information on this topic. Chapter II provided a review of the literature that related to this topic and the purpose of this study. Through the review of literature, it was identified that there is a lack of research that suggests how professional development motivates and supports teachers to integrate technology into the classroom. The research question of this study is as follows:

- What aspects of professional development are the most successful in supporting and motivating teachers to integrate technology into the classroom?

This chapter will look at the methodology used to answer the research question. The methodology for this research will include both quantitative and qualitative research. Therefore, this study will use mixed methods. Teachers from a middle school and high school charter will be used to participate in this study. Because the participants are from the researcher's current school site, the participants have been chosen out of convenience for the study. This chapter will look at, in detail, the design of the methodology, the participants of the study, the setting the study took place, the instruments being used in the study, procedures of the study, and analysis of the data from the study.

Design

The design of this study is one that follows mixed methodology because it includes research that has both quantitative and qualitative data. The survey questions and responses provided the quantitative data. The findings from the literature review helped develop the survey
questions. The purpose of the survey questions were to help answer the research question, and fill in the gaps where previous literature has yet to provide information and results regarding aspects of professional development dealing with technology training. The survey was given online and designed on Survey Monkey. The survey was eighteen questions long and asked questions that identified the demographics of the participants, as well as their experience and satisfaction with different aspects of professional development dealing with technology training.

Interview questions were developed to gather the qualitative data. It provided the storyline that linked the quantitative data to the research question and gave insight to the quantitative results. The three teachers who participated in the interview were chosen at random by drawing names out of a hat. The interviews were in the form of a formal setting where questions were prepared and asked to get in-depth responses from the participating teachers. The questions for these three interviews were developed based off of the literature that was reviewed and questions asked by the survey.

Participants

Thirty-three teachers teaching at the middle school and high school level in a 1-1 technology classroom were asked to participate in this research. They had varying degrees of experience teaching and being involved in a 1-1 technology environment. Some of the teachers had taught at the school site for several years, and others had been teaching at the school site for only one year. The participants’ ages varied widely from twenty-three years of age to sixty-five years old. The gender of the participants was be split, roughly fifty-fifty, with women having a slight edge in the population of participants.

The participants were chosen out of convenience. They were all from the same school site and teaching in classrooms that had 1-1 technology. They were informed of the study in two
ways. For teachers only participating in the survey, they were given an informed consent letter outlining the purpose of the study at the beginning of the survey. At the end of the letter, there was a message explaining that by continuing, they were consenting to participating in the study. For the three teachers participating in the interview, they were given an informed consent document to sign. Once the documents were signed, they were asked several focus questions to inform the research and answer the research question (Mertler, C.A. & Charles, C.M., 2011).

Setting

The research took place at a K-12 charter school in Southern California. The school has existed for eleven years and been in its permanent facility for the past three years. The student population was diverse, though not as diverse as other parts of Southern California, with students coming from the surrounding areas. It had a total enrollment of 1,300 students, making it about a hundred students per grade level. Students could be enrolled in three different tracks. There was a blue track for full time students, a red track for students who are homeschooled, and a white track for students who come to school part time. Because only the blue track students in middle school and high school fully participate in the 1-1 technology program, teachers from those grade-spans were chosen for this study.

The school is a STEM school and fully integrated with technology. It has had a robust 1-1 technology program for the middle school and high school levels for six years. Full time students in middle school and high school have been issued Macbooks or Google Chromebooks to use in the classroom. Classroom sizes do not exceed twenty-five students. Teachers teach in a self-contained classroom and are issued Macbook computers to use in class. The school has, for five years standing, participated in STEM Expos, where community members come and see how
the school is using science, technology, engineering, and math. The school uses Project Lead the Way (PTLW) curriculum for engineering and biomedical courses.

Since this school has been working in an integrated technology setting for several years, the school site was well suited for this study. Teachers have been exposed and had access to technology, more so, than many other schools in the area. The setting has lent for teachers to work closely with support staff and receive professional development. Because this setting has provided a lot of experience with technology and is smaller in scale to other school sites, there might be an impact on the feedback teachers give on the survey and interviews. Their level of competency is higher than others, so their feedback may be more critical. They might be more interested in specific aspects of professional development dealing with technology training that teachers at other school sites may not have.

**Instruments and Materials**

The materials and instruments used during this study included a survey created on Survey Monkey, interview questions crafted from peer-reviewed research, computers to take the survey, and an iPhone to record interviews. The survey was eighteen questions long, and certain questions were given a value to create a mean score. Some of the survey questions were for demographic information and information that identified the population taking the survey. The remaining questions were geared around professional development regarding technology training and its motivating qualities. Seven interview questions were asked to the three selected teachers. They were written and recorded to get more in-depth knowledge on teachers' thoughts on the professional development done at the school site. The computers used by teachers to participate in the survey were their personal computers. The iPhone used to record the responses to the interview questions was used to transcribe teacher responses.
Procedures

Procedures for this study included getting permission from the school site administrators. They approved the study by signing a letter, which explained the purpose of the study. Once administrators established school site permission, informed consent forms were distributed to teachers chosen to participate in the study. At the end of the informed consent forms, they were directed to go to a survey that was published on Survey Monkey. Before the survey began, the participants were required to read a message stating that if they continued to take the survey, then they were consenting to participate in the survey and that their answers would be used in the study.

For the teachers participating in the interview portion of the study, the three teachers were chosen at random by pulling names from a hat in effort to make none of the teachers feel coerced to participate. Those teachers were given a letter of informed consent to sign stating that their answers to interview questions would be used in the study. After signing the informed consent letter, which explains the purpose of the study, they were given three days to review the questions that were asked in the interview.

When the teachers were interviewed, they were interviewed individually and asked seven questions that pertain to professional development with technology training. The questioning and answering took about fifteen minutes for each interview. The questions were asked individually in each teacher’s classroom. Their answers were recorded by taking notes and audio recording using an iPhone. Their answers were then be analyzed and used as data to help provide an answer for the research question.

The purpose for these steps were to make sure that the research was taking place on a site that gave permission for the study. It was important to inform teachers of the reason for why they
were participating in the study and informing them on how their answers on the survey would be used. The reason for the survey was to collect data that would be measurable. The survey data applicably gathered demographic information, as well as data that was used to measure the effectiveness of different types of professional development on teacher motivation to integrate technology into the classroom.

The reasoning behind having the teachers participating in the interview randomly chosen by drawing their names out of a hat was to eliminate bias. Those chosen teachers then needed to be given an informed consent document, so that they knew the impact of their statements and its use in the study. Teachers were interviewed in their own classrooms to increase their comfort level and allow for the privacy necessary for collecting useful data. Their data was then analyzed in order to provide qualitative data that would support the quantitative data gathered by the survey.

The researcher of this study is an insider with this school. He is a colleague of the participants. The reason that this is suitable for this particular study is because of the researcher’s familiarity with the interworking of the site, and out of convenience.

Analysis

After all the data was gathered from the survey and interview questions, the responses to the survey were put onto a spreadsheet, and the interview responses were transcribed from notes and audio recordings. The data collected by the survey was categorized into four different groups: (1) demographic information, (2) experience teaching using technology, (3) general experience and motivation using technology, and (4) Impact on motivation of technology training. The responses to the interview were transcribed to find and match similar words and phrases that continued to come up during the interview. For analyzing the survey questions,
several charts were generated to create several visual representations of trends. Discovering if there are particular types of professional development that are most beneficial for motivating teachers to integrate technology into the classroom, responses to the “Impact on motivation of technology training” category were given a value and averaged. Then mean scores were calculated to suggest which types of professional development were the most beneficial. With regards to the interview questions, once the responses were transcribed, the information was analyzed by looking at keywords that consistently came up in several of the interviews.

Conclusion

The purpose of this study is to evaluate the effectiveness of different types of professional development has on teacher motivation on integrating technology into the classroom. In order to accomplish this task, the design of this study uses quantitative and qualitative data, making it a mixed methods study. To collect the quantitative data, a survey was used and distributed to thirty-three teachers to participate. For the qualitative data, three teachers were chosen at random to participate. They were individually asked seven questions related to the survey, and their responses were recorded and transcribed. The participants for this study were chosen mostly out of convenience for the researcher, and all came from the middle school and high school level of a single site. The particular setting was chosen out of convenience and had the criteria necessary for the research question to be answered. The site has been implementing a 1:1 technology program for the past six years and both the middle school and high school level participate in the program, making it suitable for this study. Instruments included a survey, interview questions, computers, and iPhone for recording interview responses. The procedures are those consistent with prior studies and most effective in providing data for the research question. Analysis was done by collecting data and organizing the information by putting it into different categories.
Quantitative data was analyzed by finding mean scores, and the qualitative data was organized by putting key responses into a chart summarizing the findings.

The research question explored in this study is as follows:

- What aspects of professional development are the most successful in supporting and motivating teachers to integrate technology into the classroom?

The methodology in this study provided results that suggest several implications for the research question. Chapter IV will look at the data analysis, and chapter V will explore and address the significant findings of this study.
Chapter IV

Data Analysis

The purpose of this research was to investigate the types of professional development that are the most effective in supporting and motivating teachers to integrate technology into the classroom. The previous chapter described the methodology used to collect data for this study, identifying the design, participants, setting, materials and instruments, procedures, and analysis. Chapter IV provides analysis of the data collected through the survey and interviews used in this study to answer the research question. Data tables and charts will illustrate data collected and be interpreted and analyzed to draw conclusions to answer the research question and create new questions for further research to be done.

The quantitative data collected reflects twenty-nine teachers’ responses to survey questions regarding integrating technology from a middle school and high school that has implemented a 1:1 technology program for the past six years. The survey asked the participants several different questions to help answer the research question. Participants were asked demographic questions including their age, and ethnicity. They were also asked to identify their teaching experience, years at the school site, familiarity with 1:1 technology, ability to integrate technology, percentage of technology use in classroom, and motivation to integrate technology. Participants were then asked to respond to questions regarding professional development, including experience with professional development and its impact on whether or not they felt supported and motivated to integrate technology. Participants evaluated the importance of different aspects of professional development and their belief concerning if the school site was providing them with those different aspects of professional development.
To provide qualitative research, data was collected by way of interview from three randomly selected teachers who participated in the survey. They were asked to respond to questions dealing with their experience of teaching in a 1:1 technology setting and the professional development at the school site. During the interview, participants were asked similar demographic questions as in the survey, but also were asked other questions that inquired them to expand on the following topics of professional development, different aspects of professional development, teacher support for integrating technology, and motivation with integrating technology.

Participants Demographic and Professional Development Information

Figure 1 illustrates that of the twenty-nine participants, fifteen identified as being between the ages of twenty-five and thirty-four, nine identified as being between the ages of thirty-five and forty-four, three between the ages of forty-five and fifty-four, one between the ages of fifty-five and sixty-five, and one identified as being between the ages of sixty-five and seventy-four. This data suggests the teachers participating in the study were fairly young in age with 83% of the participants answering they are under the age of forty-four years old.
Figure 1. Participants' Age (Years)

Figure 1. This graph illustrates the age of participants participating in the study.

Figure 2 illustrates that participants' teaching experience ranged from less than one to ten or more years. Eleven teachers reported having four to six years experience, the largest sampling size. Seven participants identified as having one to three years experience. Five participants reported as having ten or more years of experience. Four claimed to have seven to nine years of experience, and two had less than one year experience. This figure indicates that 52% of participants would be considered veteran teachers or as having four or more years of teaching experience.
Figure 2. Experience (Years)

As Figure 2 illustrates, most participants in this study were veteran teachers—teachers with at least three years experience or more. Of those teachers, however, Figure 3 indicates that a majority of the participants identified themselves as only having one to three years experience teaching within a 1:1 technology classroom. Eleven participants reported that they had been teaching four to six years in a 1:1 technology setting. Four participants answered they had less than one year experience teaching in a 1:1 technology setting, and only one participant reported having taught in a 1:1 setting for seven to nine years.
Figure 3. Participants' teaching experience within a 1:1 technology setting.

This data reflects the setting of the school since it has been implementing a 1:1 technology program for the past six years. As is illustrated in Figure 3, twenty-eight of the twenty-nine participants have the equivalent of six years or less teaching experience in a 1:1 technology classroom. Specifically, 97% of participants have been teaching within a 1:1 technology classroom for six years or less.

When asking about the participants' ability to integrate technology into the classroom before working at the current site, fourteen participants reported that their ability was good while five said excellent, four reported very good, four answered fair, and two said poor. As is illustrated by Figure 4, the data suggests that overall, the participants felt comfortable with integrating technology into the classroom before teaching at the school site; and this data is representative of the fact that many of the teachers surveyed were under the age of forty-four years old, living most of their lives in the modern technology era.
Figure 4. Ability to Integrate Technology before working at the School Site

Figure 4. Ability to integrate technology before working at school site participating teachers expressed.

While many of the teachers had ample teaching experience and for the most part felt comfortable integrating technology into the classroom, the survey gathered information of the number of professional development experiences regarding technology these teachers had received at the school site. Figure 5 illustrates that ten teachers answered that they had attended ten or more technology trainings. Five participants had attended seven to nine. Eight had attended four to six. Five had been to one to three, and one reported they had attended zero. This data suggests that a good percentage of the participants had attended several trainings and had a good amount of experience with the professional development given at the school site.
Figure 5. Professional Development Opportunities Attended

Once these identifying factors were collected, the survey asked more poignant questions that gathered data on how the participants felt about the professional development, and whether or not it impacted their ability to integrate technology into the classroom. For example, Figure 6 shows how participants felt about their experience with attending technology trainings at the school site. As Figure 6 illustrates, most teachers would rate their experience with the technology trainings as positive. Five reported their experience as excellent. Eleven answered as very good. Twelve responded good while only one participant stated fair. There was a choice for poor, but zero participants selected this option.

Figure 6. Experience with Professional Development Technology Trainings
Figure 6 suggests that participants felt the professional development, taking place at the school site, was at the very least a positive experience with 97% of the participants answering that their experience was good, very good, or excellent.

The next question was designed to determine if the participants' ability to integrate technology into the classroom had improved since being at the school site. In comparison to data illustrated in Figure 5, the answer would be that the participants' ability to impact technology did improve. Figure 7 shows that sixteen teachers reported their ability to integrate technology as very good, eight excellent, and five good.

**Figure 7. Ability to Integrate Technology after working at School Site**

The data shows that since working at the school site, three more participants reported having an excellent ability to integrate technology, and twelve more participants answered having a very good ability to integrate technology. The category of good shrank, from fourteen to five participants, and the categories of pretty good and not good shrank from six to zero. This data suggests that since teaching at the school site, teachers felt like their ability to integrate technology into the classroom improved. This change in ability to integrate technology into the classroom after working at the school site is illustrated in Figure 8.
Figure 8. Ability to Integrate Technology before and after working at School Site

![Bar Chart](chart)

Figure 8. Indicates a significance change in teachers’ ability to integrate technology since working at the school site.

When comparing the data collected in Figure 5 and Figure 7 in Figure 8, it is apparent teachers at the school site have experienced a positive increase in their ability to integrate technology into the classroom. For example, the growth of teachers who reported having an excellent ability to integrate technology in the classroom showed a 320% increase, and those who reported having a very good ability to integrate technology into the classroom grew 200%. Those numbers alone are staggering and suggest that support and motivation definitely changed for those teachers since working at the school site. Unfortunately, the data is not able to correlate the participants’ growth with the professional development participants received at the school. It merely correlates that teaching at the school site has improved participants’ ability to integrate technology into the classroom.

When looking at how participants’ motivation had changed since working at the school site, the data suggests that it changed in a positive way as well. For example, Figure 9 illustrates a similar change in motivation, as did Figure 8 with the participants’ ability to integrate technology. As illustrated in Figure 9, data shows that before teaching at the school site, eight
participants felt very motivated, twelve motivated, six pretty motivated, and three not motivated. In comparison, when participants were asked how motivated they felt to integrate technology into the classroom after working at the school site, nineteen participants reported being very motivated, nine motivated, and one pretty motivated while zero participants stated they were not motivated.

**Figure 9. Motivation to Integrate Technology before and after working at School Site**

![Bar chart showing motivation levels before and after working at a school site.]

*Figure 9.* Shows a significant change in teachers' motivation to integrate technology into the classroom since working at the school site.

Similarly to ability to integrate technology, motivation to integrate technology had changed dramatically. The category of teachers very motivated to integrate technology had grown 238% while all other categories shrank to suggest an overall growth in motivation for teachers participating in the survey.

This positive trend continued when participants were asked whether or not they felt the school site supported their use of technology. Nine participants declared they felt the level of support was excellent, and sixteen participants reported the support was very good. Three said the support was good, and only one reported fair. Zero participants reported that the school site
did a poor job supporting their use of technology. These figures conclude that the school site is doing a good job at supporting participants' use of technology in the classroom.

**Figure 10.** Support Participants felt at School Site to Integrate Technology

<table>
<thead>
<tr>
<th>Rating</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>9</td>
</tr>
<tr>
<td>Very Good</td>
<td>16</td>
</tr>
<tr>
<td>Good</td>
<td>3</td>
</tr>
<tr>
<td>Fair</td>
<td>1</td>
</tr>
<tr>
<td>Poor</td>
<td>0</td>
</tr>
</tbody>
</table>

**Rating and Ranking Aspects of Professional Development**

After participants' responses were collected addressing their demographics, ability, motivation, and support, participants were asked to rate the importance of certain aspects of professional development regarding technology, and how they felt the school site was providing these aspects of professional development. This data more directly addressed the research question:

- What aspects of professional development are the most successful in supporting and motivating teachers to integrate technology into the classroom?

Different aspects of professional development participants were asked to rate and rank were time, collaboration, technical support, leadership, new information, and off-campus conferences. Of the six aspects of professional development participants were asked to rate and rank, the data suggests that technical support was the most important aspect of professional development for motivating and supporting teachers to integrate technology into the classroom.
with a weighted average of 3.54. However, the five other aspects of professional development were similarly rated as being as important. Time had a weighted average of 3.43. Information of new technology received a weighted average of 3.25. Leadership earned a weighted average of 3.18. Collaboration received a weighted average of 3.07, and opportunity to go to off campus conferences received a weighted average of 2.46. This data suggests that besides the opportunity to attend off campus conferences, all aspects of professional development are equally important to the participants of this survey. This data is reflected in Figure 11.

**Figure 11. Average Rated Score of Aspects of Professional Development Importance**

![Chart showing average scores for different aspects of professional development](image)

*Figure 11.* Participants were asked to rate the importance of each aspect of professional development with a score of 1-5. These scores were averaged to provide results.

When asked to rank the importance of each aspect of professional development from one to five, one being the best and five being the worst, with regards to motivating their integration of technology into the classroom, similar results were found. Time scored the highest with a score of 4.92. Information on new technology scored a 4.39. Technical support scored a 3.96. Collaboration scored a 3.17. Leadership scored a 3.08, and opportunity to go to off campus conferences scored a 2.17. Since participants were asked to rank the six different aspects of
professional development, and not simply rate their importance, the range varied more than when participants were asked to rate the level of importance of each aspect of professional development. Clearly the top three aspects of professional development the participants identified as creating the most motivation to integrate technology into the classroom were time, information of new technology, and technical support while the bottom three were collaboration, leadership, and opportunity to go to off-campus conferences.

**Figure 12.** Average Ranked Score of Aspects of Professional Development

![Bar chart showing ranked scores of aspects of professional development: Time (4.92), Collaboration (3.17), Technical Support (3.96), Leadership (3.08), Information New Technology (4.39), Off Campus Conferences (2.17).

Figure 12. Participants had to make a choice by ordering which were the most important aspects of professional development. These rankings were then averaged to create these scores.

When asked to identify how the school site was at providing these aspects of professional development, participants answered similarly. Though the weighted averages were not as high as the level of importance of each aspect of professional development or the score received by each aspect when they were ranked, the results of how the school site was doing at providing those aspects of professional development were consistent. For example, participants identified that the school site scored the best in the three most important aspects for motivating the integration of technology into the classroom: time, information of new technology, and technical
support. The school site also scored the lowest in the aspects of professional development the participants identified as the least motivating: collaboration, leadership, and opportunity to go to off campus conferences. Data collected showed technical support's weighted average was 2.55, time 2.3, and information of new technology 2.34. Leadership, collaboration, and opportunity to go to off-campus conferences scored the lowest. Leadership received a weighted average of 2.21, Collaboration 2.17, and off campus opportunities 1.86.

Figure 13. Average Rated Score comparing Importance v. Professional Development

![Graph showing average rated score of importance and professional development](image)

Figure 13. Average rated score of importance of different aspects of professional development compared to average rated score of professional development provided by school site.

As data illustrates, participants of the survey reported that since working and attending professional development trainings in technology at the school site, they experienced an increase in their ability and motivation to integrate technology into the classroom. Participants felt like the school site supported their use of technology in the classroom; and with regards to providing different aspects of professional development participants rated and ranked as the most important and motivating, the school site seemed to be doing an adequate job. However, it is not certain, as
to whether or not, this increase in ability and motivation and feeling of support was related to the professional development the school site was providing.

In order to connect the increase of ability and motivation and feeling of support to the professional development, the question was asked if participants had felt like the school site had given enough professional development opportunities to support and motivate their integration of technology. Interestingly enough, the data collected suggests that the professional development may have not been the main supporting and motivating factor for the change in participants’ ability and motivation and feeling of support to integrate technology into the classroom. Figure 14 shows that while nineteen of the twenty-nine participants felt like they had enough professional development at the school site to support and motivate their integration of technology into the classroom, ten reported it had not.

**Figure 14.** Professional Development supported and motivated Integration of Technology

This data is surprising since a majority of the participants did report having a positive experience with the technology trainings provided by the school site. As well, participants
indicated that they experienced an increase in ability and motivation and felt like they were supported. Keeping this in mind, one would think that the responses would indicate a higher number of participants feeling like the professional development provided by the school site motivated and supported participants' integration of technology into the classroom. The data illustrated in Figure 14, however, implicates that these results had less to do with the professional development and more to do with other factors present at the school site.

To look a little deeper into the findings illustrated by Figure 14, individual responses were looked at to see who was stating they felt motivated and supported by the professional development and who was not. One of the ways this was done was to break it down by age. It was thought that maybe age played a factor into whether or not these participants felt like the school site's professional development supported and motivated their integration of technology into the classroom. As it were, the data suggests that teachers between the ages of twenty-five to thirty-four had the most answers that indicated they felt the school site's professional development did not support and motivate their integration of technology. Similarly, as the ages of the participants increased the number of participants who felt like the professional development did not support or motivate their integration of technology decreased.
Figure 15. Age of Teachers Supported and Motivated by Professional Development

Figure 15. Ages of participants who reported professional development did or did not support and motivated their integration of technology.

It was then looked at if these responses were related to the number of professional development meetings the participants had actually attended. The data suggests that it does not really relate to the number of professional development meetings the participants attended since the participants who said they did not feel supported and motivated by the professional development were about the same regardless of how many professional developments they attended.
Figure 16. Number of Professional Developments Attended

Figure 16. Illustrates how many professional development trainings participants attended and if they felt like the professional development supported and motivated the integration of technology into the classroom.

As can be seen in Figure 16, participants who attended ten or more, seven to nine, four to six, one to three, and no professional developments still had similar opinions with regards to whether or not the technology trainings supported and motivated their integration of technology into the classroom.

Based off of Figures 15 and 16, it could then be said that the age of the participants had more to do with their feelings as to whether or not the professional development supported and motivated their integration of technology. This could be reflective of the different needs of the people within these age groups. It could suggest that since younger groups of teachers feel more comfortable and motivated to integrate technology, the professional development that they are receiving at the school site does not matter as much, and does not play a significant role in the support and motivation they need to integrate technology into the classroom.
Interviews

Since the quantitative data collected suggested teachers did experience a positive change in ability, motivation, and feeling of support while working at the school site, it was hoped the interviews would shed light on the disconnect between these positive changes and the professional development. In order to achieve this goal, three participants of the survey were chosen at random by drawing names out of a hat. The people whose names were selected were then asked if they would like to participate in an interview. The randomly selected participants were gracious and each willingly accepted.

Because the participants were chosen at random, the three interviewees represented a broad sample of the population at the school. Teaching experience, content areas, employment at school site, and professional development opportunities varied. Teaching experience stretched from less than one to fifteen years. Content areas included physics, physical education, and Bio-Med. Employment at the school site ranged from less than one year to five years. Number of professional developments regarding technology varied from two to more than ten.

The interview asked each participant demographic information, experience at the school site, involvement with professional development, and knowledge of teaching within a 1:1 technology classroom. The questions covered what aspects of the professional development motivated them to integrate technology, how their ability to integrate technology had changed, how well they felt supported by the school to integrate technology, and what characteristics or other qualities of the school motivated and supported their integration of technology. The interviews were recorded by iPhone, and then transcribed to a word document. Each interview took about fifteen to twenty-five minutes and completed within a classroom for privacy.
While these questions were designed to determine what aspects of professional development motivated and supported the integration of technology, it became clear, early on in the interviewing process, the wrong questions were being asked. As much as participants were redirected to focus on what aspects of professional development were the most motivating and supporting for the integration of technology, participants often started talking about something else or had a hard time answering the question. It seemed that the answer did not center on the different aspect of professional development, but rather on the overall culture of the school. Participants' responses indicated different aspects of professional development were definitely a part of improving their ability and motivation and feeling of support at the school site to integrate technology into the classroom. It just was not the entire picture. The three participants identified several other reasons for improved ability and motivation and feeling of support.

In efforts to answer the research question, each participant was asked if he or she felt supported by the school. All of the participants responded that since teaching at the school site, they did feel supported. When asked to describe why, their answers varied, but tended to follow similar themes. Two of the participants, who had participated in the BTSA program provided by the school, explicitly cited their experience in BTSA as being one of the reasons they felt supported. All participants said that one of the main reasons they felt supported was because of the individual teachers at the school who had embraced the integration of technology in their classrooms; and one participant cited the administration as being a reason they felt supported integrating technology, stating “I do think the administration here, is very open to using technology, ... open to new ideas about using technology, and getting that technology into the classroom, if it's useful.”
When participants were asked if his or her motivation had changed since teaching at the school site, all participants responded that it had in a positive way for many different reasons. Participants' answers indicated that the availability of the technology was a big part of the change in motivation, correlating with previous research described in the literature review. Other reasons for this positive change in motivation included: leadership, reliability, professional development, and collaboration. For example, one participant addressed the factors of leadership and reliability by stating that before working at the school site they "didn't always feel like it would be reliable" and after coming here, when they did think of new ideas for integrating technology, they are given the "professional consideration for them (administration) to say that's probably a good idea." Another participant addressed this change in motivation by answering, "getting the professional development... and having us go to meetings... has really helped me figure out what I want to do with implementing (technology)."

When asked which aspects of professional development motivated and supported their integration of technology the most, the responses were diverse. For one of the participants, the biggest motivating and supporting aspect was new information. The participant states, "The most useful is information ... and how to use a specific program or app because I can take it directly from my training and put that right into my classroom. So getting that information piece is critical, [and] the most useful part of professional development... If there was professional development that was geared towards something I can integrate into my classroom right away ... not an administrative tool or record keeping tool... but something that applied to my classroom, then that would be important." Another participant stated, "I don't think it would be just one, I think it would be a variety." The third participant stated that they liked the collaboration and new information aspects of professional development, answering that they were "exposed to..."
different ways to integrate technology that (they) hadn’t thought about before, mainly from observing other teachers, and talking to ... teachers about how they integrated technology in their classes,” further adding, they enjoyed going to meetings full of new information about technology that directly applied to their teaching. These responses reflected the research supported and reviewed by the literature, concluding that professional development should fit the individual needs of the educator and be modified and flexible to meet their needs.

After finishing the interviews, it was evident all of the interviewed participants felt like the school site had done an adequate job supporting their integration of technology into the classroom, but professional development seemed to only be a part of this increase in their motivation and feeling of support. For example, when participants were asked how the professional development motivated and supported their integration of technology into the classroom, each participant had differing degrees of its impact or their perception of its impact. Participants revealed that each aspect of professional development had an importance, but that the professional development was limited in motivating and supporting their integration of technology. One participant admitted that they felt the professional development had little impact on their motivation and feeling of support to integrate technology while another said that professional development had motivated them to change the way they assessed their students. The participant, who felt like professional development motivated and supported them most, did not conclude that any aspect of professional development was more important than the other. These answers conclude that the different aspects of professional development analyzed in this study, though play an important part in providing successful professional development as a whole, do little overall to motivate and support the integration of technology into the classroom.
The reason that seemed to overshadow the different aspects of professional development as being the most effective motivating and supporting the integration of technology into the classroom was the culture of the school. When asked what aspects of the professional development motivated the integration of technology into the classroom, one participant responded, “There is a culture of inclusion... as far as technology in the classroom here. It is emphasized a great deal, just in general.” Another participant when asked about this idea of the school having a technology driven culture responded, “In general, the school site has pushed it (technology). Where other schools want to say they do integrate technology, they don’t.” These comments point out that the participants change in ability and motivation and feeling of support is not specifically linked to the different aspects of professional development provided by the school, but rather the fact that the school site always keeps the technology in the forefront of the minds of its educators, and that the administrators and teachers embraced its technology as an important piece of their teaching.

Conclusion

Chapter IV described and analyzed the quantitative and qualitative data collected by the survey and interviews. It pointed out that though the quantitative data suggests participants do feel more motivated and supported since working at the school site to integrate technology, the different aspects of professional development were not the only part of this change. Professional development and the different aspects of it did, however, play a part in creating the overall culture of the school that seems to be the whole reason the participants felt like they are motivated and supported to integrate technology into the classroom. It can be said definitively each aspect of professional development is equally important in creating effective technology training, and those not identifying the professional development at the school site as supporting
and motivating their integration of technology into the classroom were from a younger age group. Chapter V will discuss the limitations, conclusions, and recommendations for this study.
Chapter V

Discussion

The purpose of this study was to look at what aspects of professional development were the most effective at supporting and motivating teachers to integrate technology into the classroom. The research question for this study is as follows:

- What aspects of professional development are the most successful in supporting and motivating teachers to integrate technology into the classroom?

Chapter I provided a statement of the problem, purpose of the study, preview of the literature, preview of the methodology, and significance of the study. Chapter II described previous studies that explored integrating 1:1 technology, impact of 1:1 technology on students and teachers, and legal and classroom managements concerns of 1:1 technology. Chapter III explained the methodology used in this study by detailing the design, participants, setting, instruments and materials, procedures, and analysis. Chapter IV presented the data collected by quantitative and qualitative methods with graphs, and phrase mirroring. Chapter V discusses the limitations of this study, points out the findings that are in relationship with the literature review, makes conclusions about the data collected, and offers recommendations for further research.

Limitations

The goal of this research was to collect thirty-three completed surveys from the teachers who work in a 1:1 technology classroom from a middle school and high school housed at the same site. The target goal was almost met. Twenty-nine of the thirty-three teachers asked to participate responded to the survey, and of those twenty-nine participants, twenty-eight completed all of the questions on the survey. Another goal of the study was to complete three
interviews with three randomly selected teachers. Those three interviews were completed, which met target goals.

Though targets were nearly met, limitations within those circumstances exist. Because the school is unique in that it has been implementing a 1:1 technology program for the past six years, the participants have been exposed to a different level of technology most schools could not claim. Also because the participants of that survey came from both a middle school and high school, their responses to the survey are limited to those settings. Elementary school teachers may have a different outlook on professional development regarding technology training. With regards to the interviews, because of the limited amount of time this study covered, only three participants were chosen to participate and interviewed, making it a narrow sampling of the various responses to selected questions that a larger sampling size could have garnished the study. A more thorough study and analysis of the qualitative data collected could have been done if at least half of those participants were interviewed.

Findings

The findings of this study correlate with the literature reviewed, in that the data collected through the survey and interviews, reflect previous research. For example, the literature suggests teachers’ value resources, effective leaders, professional development, and time when successfully integrating technology. Through the interviews, leadership, professional development, and time were all described as being valuable parts of integrating technology into the classroom. In addition, previous research and data collected by the interviews described that for teachers to feel motivated and supported in integrating technology into the classroom they needed to receive professional development that met their individual needs as educators. Similarly, the literature review correctly suggested that different types of professional
development play a role in motivating and supporting teachers to integrate technology into the classroom. However, where the literature reviewed and data collected differ are the effect aspects of professional development have on the motivation and support of teachers integrating technology into the classroom.

Unlike the literature reviewed, this research focused specifically on what aspects of professional development are the most effective at motivating and supporting teachers to integrate technology into the classroom. None of the literature reviewed focused on this topic, but rather stated broadly, resources, effective leaders, professional development, and time help establish an effective 1:1 technology program. The literature reviewed also focused on how technology impacted teacher and student motivation and performance while the research done in this study focused more specifically on whether or not particular types of professional development played an important role in motivating and supporting teachers to integrate technology into the classroom.

When addressing the research question, specifically, this study found that teachers at the school site experienced a positive change in their ability and motivation to integrate technology into the classroom. They also felt like the school site supported their integration of technology into the classroom. In hopes, then, to tie the professional development provided by the school site to this positive change in ability and motivation to integrate technology and the amount of support they experienced while teaching at the school site, participants were asked to rate and rank the importance of different aspects of professional development. While quantitative data collected suggested that the different aspects of professional development regarding technology training- time, leadership, technical support, new information, collaboration, and opportunity to go to off campus conference- were all important, it did not conclude that these aspects were
related to the positive change in participants' ability and motivation to integrate technology. It was also not able to conclude that these aspects of professional development played a role in the level of support the participants felt at the school site. Of the different aspects of professional development regarding technology training surveyed, the study was able to conclude, however, that the most effective aspects of professional development that motivate teachers to integrate technology into the classroom, were time, new information, and technical support and the least effective were leadership, collaboration, and the opportunity to go to off campus conferences.

The data collected did go further than what the research question asked. While trying to identify the most effective aspects of professional development for motivating and supporting teachers to integrate technology into the classroom, it was found that there were several more factors that played into answering this question. Because the data did show the school site was effective in nurturing teachers' growth in ability and motivation and supporting them to integrate technology into the classroom, the natural curiosity of the researcher was to follow up on these results.

The data from the interviews suggested that though professional development played a part in motivating and supporting the teachers' ability to integrate technology into the classroom, this was not the entire reasoning. The interview participants described that the school site had a culture that was driven by technology and its integration into the classroom. Yes, professional development was adequate, and the different aspects of that professional development that were valued most were being provided by the school site, but the interview participants also suggested the administration's openness to teachers bringing in new technology, other teachers buying into the integration of technology, and the availability of technology in the classroom lent itself to creating a school culture that put a high value on integrating technology into the classroom; and
these other factors, combined with the professional development provided by the school site, created a culture that put high expectations on the integration of technology, increasing teachers' ability and motivation and feeling of support to integrate technology into the classroom.

**Recommendations**

In order for schools to create a successful 1:1 technology program, and increase teacher motivation and support for integrating technology into the classroom, a school or school district needs to create a culture that values the integration of technology. Creating a school culture that values the integration of technology needs to have several different characteristics that go beyond professional development for its staff. It needs to have an administration that is not afraid of change and gives its teachers the freedom to bring in different types of technology for improving their teaching and level of integration of technology. A school needs to provide its teachers and students with the resources to have the technology accessible and available for the integration of technology to be successful. It needs to get buy-in from the teachers working on its campus, and for those teachers to be available for other teachers to get support. These characteristics, however, are not easily realized with the many different challenges that surround integrating technology.

It will be hard for the administration to let go of control and trust teachers enough to allow them to be free and independent to make decisions on the technology resources they find useful and helpful in their content area. It will be difficult to provided enough resources and keep those resources up-to-date for the technology to be accessible and available for staff and students. Money will highlight one of those challenges, but making technology accessible and available will also be labor intensive, and schools will have to take the time and make the investments necessary for that to be possible. As well, getting teachers to buy into to the new
technology will be challenging for schools and school districts. It is going to have to be effectively communicated that the technology is not a replacement for the value of their services, but rather, a complement to their abilities, effectiveness, and success within the classroom.

Finally, if schools are interested in fully engaging in the integration of technology into the classroom, schools are going to have to provide professional development that is useful and meeting the needs of their diverse staff. They are going to have to provide time, leadership, technical support, new information, collaboration, and opportunity to go to off campus conference. Though this is not the only thing that is going to motivate and support their teachers successfully integrating technology into the classroom, it is going to be an important piece along with the aforementioned characteristics of a school that motivates and supports its teachers.

Implications

In order to fully understand what motivates and supports teachers to integrate technology into the classroom, further research should be done looking at schools considered successful in implementing a 1:1 technology program. Research should compare and contrast the different qualities those schools share, and then, determine how those characteristics play into the overall success of a school’s 1:1 technology program. Research should also connect the utility of technology being adopted by different schools. For instance, is the technology being used by these schools successful and worth it? How do we now? These are two questions the researcher of this paper would like to have answered.

Conclusion

This study’s purpose was to determine which aspects of professional development were the most effective at motivating and supporting teachers integrating technology into the classroom. While it was determined that participants of this study felt like all aspects of
professional development surveyed were important, they ranked those aspects of professional development that were the most to the least motivating in the following order: time, information of new technology, technical support, collaboration, leadership, and opportunity to go to off campus conferences. Though this study was able to answer its research question, the researcher felt like the question did not fully answer a broader but simpler question, what motivates and supports teachers to integrate technology into the classroom? Digging a little deeper, by way of interview, the research concludes that there are several different factors that motivate and support teachers' integration of technology into the classroom. For the participants at the school site surveyed, motivation and support comes from more than different aspects of professional development. It comes from the culture of the school, a culture that is immersed with the integration of technology.
References


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Appendix

Survey Monkey Survey Questions
Thank you for participating in our survey. Your feedback is important.

* 1. Consent to Participate in Research

Jason Gaylord, student in the administration credential program and Master's of Education at California State University San Marcos (CSUSM), is conducting a study that seeks to understand what aspects of professional development are the most important in motivating teachers to integrate and use technology in the classroom.

Study Objective: This research is geared to answer the research question, what aspects of professional development are the most successful in supporting and motivating teachers to integrate technology in the classroom?

Procedures: Data will be collected by way of survey. The survey should take about 15 minutes. This survey will have to do with professional development pertaining to technology and motivation.

Risks and Inconveniences: There are minimal risks to participating in this study. Little time will be asked of you. Approximately 15 minutes of your time will be used to collect this data. As a researcher, I use survey responses to answer research question. There may be a possibility of breach of confidentiality.

Safeguards: To minimize risk of confidentiality, all data will be kept private, and only to be used for analysis purposes. It will remain in a password-protected computer and survey database to minimize risk.

Voluntary Participation: Your participation is entirely voluntary, and may be withdrawn by you at any time. There are no consequences if you decide not to participate.

Benefits: Although your participation in the research component of this study will yield minimal or no direct benefits to you, I believe the potential individual benefits of this study are that there is going to be a narrowing and refining of the different professional development methods the school or a school can use when training its staff. The societal benefit is that schools and school district's will be able to look at the research done in this study and get ideas for the best ways to train and professionally develop their staff in the future to improve motivation in the use of technology.

Questions: This study has been approved by the CSUSM institutional review Board (IRB). If you have questions about the study, you may direct those to the researcher, Jason Gaylord, email jgaylord@csusm.edu, or call 760-419-9301 or Carol Van Vooren, Faculty Advisor, email cvanvoor@csusm.edu. Questions about your rights as a research participant should be directed to the IRB at irb@csusm.edu, or 760-750-4029. You will be given a copy of this form for your records.

Do you consent to participate?

☐ Yes
2. What is your age?

- 18 to 24
- 25 to 34
- 35 to 44
- 45 to 64
- 55 to 64
- 65 to 74
- 75 or older

3. What is your ethnicity? (Please select all that apply.)

- American Indian or Alaskan Native
- Asian or Pacific Islander
- Black or African American
- Hispanic or Latino
- White / Caucasian
- Prefer not to answer
- Other (please specify)

4. How many years experience do you have teaching?

- 

5. How many years have you taught at Santa Rosa Academy?

- 

6. How many years of experience do you have working in a 1-1 technology classroom?

- 

7. How would you rate your ability to integrate technology into the classroom prior to coming to Santa Rosa Academy?
- Excellent
- Very good
- Good
- Fair
- Poor

8. Since your time at Santa Rosa Academy, how many times have you attended a technology training?

9. How would you rate your experience with technology training at Santa Rosa Academy?
- Excellent
- Very good
- Good
- Fair
- Poor

10. Since teaching at Santa Rosa Academy, how would you rate your ability to integrate technology into the classroom?
- Excellent
- Very Good
- Good
- Pretty Good
- Not Good

11. How well do you feel supported at Santa Rosa Academy in the use of technology?
- Excellent
- Very good
- Good
- Fair
- Poor
12. Prior to teaching at Santa Rosa Academy, how would you rate your motivation to use technology into the classroom?

- [ ] Very motivated
- [ ] Motivated
- [ ] Pretty motivated
- [ ] Not motivated

13. After teaching at Santa Rosa Academy, how would you rate your motivation to use technology into the classroom?

- [ ] Very motivated
- [ ] Motivated
- [ ] Pretty motivated
- [ ] Not motivated

14. Approximately what percentage of your class time is spent using technology?

[ ]

15. How would you rate the importance of each aspect of technology training?

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<th>Pretty Important</th>
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<td>Opportunity to go to Off Campus Conferences</td>
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16. On a scale of 1-5, 1 being the best and 5 being the worst, how would you rate Santa Rosa Academy's technology training in the following areas?

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17. Please rate 1-5, 1 being the most important and 5 being the least important, the following factors of professional development that motivate you to integrate technology into the classroom.

- Time
- Collaboration
- Technical Support
- Leadership
- Information on new technology
- Opportunity to go to Off Campus Conferences

18. Do you feel like you have had enough professional development opportunities to support and motivate your integration of technology into the classroom?

- Yes
- No