

Western Governors University Teachers College

Capstone Template

The following pages provide a template for planning and writing the capstone written project. Please adhere to this template to ensure the successful submission of the capstone paper. Capstone tasks 3–5 must align with this template precisely. You are encouraged to copy this document and type your project directly in the template to ensure alignment with capstone requirements.

In addition to populating the template, please provide the appropriate information where text is bracketed and highlighted in yellow.

Training and Teachers' Confidence with Microsoft Applications

Julie Phegley

A Capstone Presented to the Teachers College Faculty

of Western Governors University

in Partial Fulfillment of the Requirements for the Degree

Master of Education, Learning and Technology

January 10th, 2020

Abstract

(This section, which is developed after the written capstone project is completed, consists of one double-spaced paragraph [use 150–200 words] and presents a succinct summary of the project. Include the topic, research questions, participants, methods, results, data analysis, and conclusions. Avoid using indentation.)

Table of Contents

Chapter 1 - Topic and Problem 5

 Topic 5

 Problem Statement 6

 Problem Background and Causes 6

 Research Questions 8

 Topic and Problem Conclusion 8

Chapter 2 - Review of the Literature 9

 Overview of the Literature 9

 Technology Levels of Preservice Teachers 9

 Lack of Training 11

 Lack of Time 12

 Need for Individualized Training 14

 Lack of Confidence 15

 Summary 16

Chapter 3 - Research Methodology 17

 Research Design 17

 Research Questions 17

 Participants 17

 Data Collection Instruments and Methods 18

 Data Security and Confidentiality 18

 Summary 19

Chapter 4 – Results 21

 Results Overview 21

 Data Analysis 21

 Answers to the Research Questions 21

Chapter 5 - Discussion and Conclusion	22
Overview	22
Problem Solutions	22
Strengths and Weaknesses	22
Influential Factors	22
Further Investigation	22
References	23
Appendix A	26
Appendix B	27
Appendix C	28
Appendix D	30

Chapter 1 - Topic and Problem

Topic

The research topic is in regard to educators who are lacking the confidence to use Microsoft Apps to create engaging assignments for virtual learning due to a lack of training. As a middle school teacher who is currently teaching virtually, I have found myself having to figure out most of my technology issues on my own. I am relatively tech saavy and from my conversations with coworkers they are struggling to intergrate technology effectively. My long term professional goal is to move into a technology coach role within my district, making this research topic very relevant. Looking at the greater field of education it is important to investigate the effect of training as we see increasing technology use in K-12 classrooms.

One of the most common assumptions of new teachers is that they are more tech savvy because they have been exposed to technology their entire life. As these digital natives entire the classroom, schools and mentor teachers expect them to have a greater understanding of how to use technology. Swapna Kumar and Katya Vigil surveyed 21 undergrad preservice teachers about their technology use. Their survey findings confirmed that although these students have experience using social media and educational technologies such as blogs, podcasts, videos, and wikis, they lack the practice of creating these online resources (Kumar 2011).

In Northern Cyprus, Begum Cubukcuoglu conducted a case study to identify factors that encouraged teachers to use ICT resources while teaching their content. He interviewed seven teachers over a period of two semesters. One of the main teacher factors he identified was teacher confidence (Cubukcuoglu 2013)".

Research shows that most preservice teachers are not prepared for the type of technology use that is expected of them as a teacher. They know how to use some of it as the

student but lack the training and practice to create using technology as the teacher. Once these preservice teachers begin teaching any training they receive is either from their school or individual training they have sought out on their own. This lack of exposure to the necessary technology leads to avoidance and a lack of confidence.

Problem Statement

Public K-12 teachers in the researcher's social circle lack the confidence and training to effectively use an information and communications technology (ITC), such as Microsoft's Educational Apps, within their virtual classroom. This is a significant problem because it impacts their ability to design assignments and activities that will increase their students' engagement.

Problem Background and Causes

Before successfully implementing any new initiative or strategy in a classroom, teachers need training on the topic. Technology is a quickly changing field and varies from school district to district. When new programs, learning management systems, and technology devices are introduced to schools there is limited training on how to use them prior to implementation in individual classrooms. Most school districts assume that their educators have a thorough understanding of Microsoft Applications because they have used them previously as a student or for casual use. The uses of the applications greatly change when you are developing educational resources in a virtual setting. Too many school districts have not provided the necessary training on these ICTs.

When Dr. Serhat Kurt and Dr. Muhammaed Ciftci completed a mixed methods study attempting to identify the perceived barriers to teachers using technology in elementary schools

in Turkey, they found lack of training to be one of the six major barriers. From their study, 24 out of the 26 teachers acknowledged their own lack of training as a barrier (Kurt 2012).

Trent Grundmeyer and Randal Peters set out to see how effective high school 1 to 1 laptop initiatives were for preparing students to use them in college. As they completed their qualitative study of interviewing college students a common theme was identified. The researchers found that there was an “implementation dip” for most of the programs due to increased availability of technology without increased professional development for teachers on how to use it. The participants shared that they dealt with a lot of trial and error in the first year of implementation which impacted their ability to be successful academically. As the program continued the students commented on how the teachers were able to use the laptops more effectively which in term help them be successful. The researches also acknowledged that when training is provided it needs to be provided continuously so that new teachers can benefit from the training every year (Grundmeyer 2016).

Katherine Fulgence conducted a qualitative study to try to discover how Tanzania’s teacher educators at the university level developed their own digital skills so they can help their students relate to the contemporary world. What she found was that of the 90 participants 60% of them identified that they developed their digital skills by completed individual trainings and that only 31% felt they received training through their job. The researcher concluded that the government needs to invest in instructional designers, content developers and educational technologists who

can provide educators the quality training they need to develop their digital fluency as technology continues to change (Fulgence 2020).

Research Questions

How will educating teachers on Microsoft's Educational Apps affect their confidence in using them to create assignments for their virtual classroom? This question will be approached through action research by administering a pre/post survey identify initial confidence levels prior to providing provide training on Microsoft's Educational Apps and after providing training.

Topic and Problem Conclusion

The purpose of this research is to determine if providing training to educators on how to use Microsoft's Educational Apps (Word, Excel, Forms, PowerPoint, Sway and OneNote) will affect their confidence with creating assignments in a virtual setting. Participants will gain an understanding of Microsoft Educational Apps with the intent to improve teacher confidence. Schools have provided teachers with access to these resources will providing limited or no training on how to effectively use them for their classroom.

Chapter 2 - Review of the Literature

Overview of the Literature

The use of computers and online resources in public k-12 has been increasing consistently but the COVID 19 Pandemic has accelerated the rate at which school districts embraced one to one device for their students. As a student, I was exposed to technology in elementary school and have continued my interest as a teacher. Unfortunately, not all new teachers are as tech savvy, teachers have a lack of training, confidence, and time. That coupled with the need for individualized training have led to teachers struggling to make their teaching engaging in this virtual setting.

When school districts went fully virtual in the Spring of 2020 the focus was on student wellness. Returning in the Fall of 2020, the focus once again returned to academics. Most school districts implemented a learning management system (LMS) and spent their time training their teachers how to manage their chosen site. In my school district most of our training was on how to use Canvas but we received no training on how to use Microsoft Educational Apps, one of our ICTs. The Apps can provide teachers with a variety of ways to create engaging higher-level assignments for students. Research shows that teachers currently are not prepared to use these resources because of the following factors: technology levels of preservice teachers, lack of time, lack of training, a need for individualized training and a lack of confidence.

Technology Levels of Preservice Teachers

One of the most common assumptions of new teachers is that they are more tech savvy because they have been exposed to technology their entire life. As these digital natives enter the classroom, schools and mentor teachers expect them to have a greater understanding of how to use technology. While this may be true for a small portion research shows that most preservice

teachers are not prepared for the type of technology use that is expected of them as a teacher. They know how to use some of it as the student but lack the training and practice to create as the teacher.

Through Swapna Kumar and Katya Vigil research with preservice teachers they found that they lacked the training to create digital content for their future students. Their findings confirmed prior studies findings that preservice teachers have little experience using technology in the role of a teacher. Their exposure to social media and educational technologies such as blogs, podcasts, videos, and wikis, as a student or casual user does not prepare them to use it in their future teaching position. One factor that was identified was that their instructors, do not have the training themselves on how to create these resources, so therefore can not provide training for preservice teachers on creating digital resources (Kumar 2011).

Hicham Zyad wanted to see the impact of Morocco's pre-service training program reform in 2000 when they introduced an ITC requirement into all of their middle and secondary teacher education programs. For his exploratory study he administered a questionnaire to 56 teachers. He found that although participants were satisfied with their programs coverage of basic computer skills the overwhelming majority, 95.65% of males and 87.87% of females, felt their preservice program did not integrate their content pedagogy with the technology. They were assessed on computer skills but were never asked to demonstrate how that technology use could be used for instructional purposes (Zyad 2016).

Stéphanie Simard and Thierry Karsenti wanted to see how preservice programs prepared preservice teachers to use ICT to help their future students develop information literacy skills. Through their sequential mixed methods study they interviewed 413 French Canadian preservice teachers from four universities in Québec. Their findings showed that the preservice teachers felt

they did not have enough training on the use of technology. When asked what their teacher preparation program could do to better prepare them 41.7% suggested that there should be more courses on ICT. One participant was even quoted saying, "It should go beyond just using PowerPoint (Simard 2016)." This study showed that preservice teachers are aware that their surface level understanding of technology is not enough to implement it in their future classroom in a meaningful way.

Lack of Training

Before successfully implementing any new initiative or strategy in a classroom, teachers need training on the topic. Technology is a quickly changing field and varies from school district to district. When new programs, learning management systems, and technology devices are introduced to schools there is limited training on how to use them prior to implementation in individual classrooms.

Dr. Serhat Kurt and Dr. Muhammaed Ciftci's study mixed method study on teachers' technology use in Turkish elementary schools identified perceived barrier to technology use by teachers. The most barrier they found was that the teachers lacked the training to successfully use the provided technology in their school. Of the studies participants 92% of them identified their own lack of training as a barrier (Kurt 2012).

Within the United States, there has been a significant push to move to 1 to 1 devices in public k-12 schools. Researchers Trent Grundmeyer and Randal Peters studied whether high school 1 to 1 laptop initiatives were for preparing students to use them in college through qualitative interviews of college students. From their research a common factor to success was identified. The researchers found that there was an "implementation dip" for most of the programs due to increased availability of technology without correlating increased professional

development for teachers on implementation. The college students discussed how they observed their teachers attempting trial and error methods during the first year of implementation. The students found that this impacted their ability to be successful academically. As their 1 to 1 programs progressed the students observed that their teachers were able to use the laptops more effectively during lessons which in turn help their students be more successful. The researches also acknowledged that when training is provided it needs to be provided continuously so that new teachers can benefit from the training every year (Grundmeyer 2016).

In Tanzania, researcher Katherine Fulgence conducted a qualitative study to try to discover what methods teacher educators at the university level were using to develop their own digital skills so they can help their students. From her findings she discovered that 60% of her participants self identified that they developed their digital skills by seeking out individual trainings and that only 31% felt they received training through their university. The researcher concluded that Tanzania's government needs to invest in instructional designers, content developers and educational technologists who can provide educators the quality training they need to develop their digital fluency as technology continues to change (Fulgence 2020).

Lack of Time

Time is a finite resource, and this is evident in the current expectations of teachers. As a society we have placed increasing roles and responsibilities on teachers. With the movement to fully virtual, teachers are now expected to also be masters of technology in addition to their previous tasks. Even prior to the pandemic, the research shows that teachers had a lack of time to learn the tools necessary to effectively use ICTs.

Atef Abuhmaid completed a mixed methods study attempting to analysis if teachers in Jordan were prepared to use ICTs to support their students' learning and if they were not what

were the factors preventing them. Over a four-year period, he administered his questionnaires to 115 teachers and 15 Principals. His participants all taught at schools that participated in ICT trainings provided by the Ministry of Education in Jordan and 113 of the participants had attended at least one training. Despite receiving training, only 42.6% felt that they had enough time to develop and practice the strategies that they learned in their training session (Abuhmaid 2011).

Marthese Spiteri and Shu-Nu Chang Rundgren conducted a qualitative study to see how elementary school teachers in Malta use technology in their classroom and how training could impact this. After interviewing 26 elementary school teachers, a common theme of lack of time to finding quality ITCs appeared. The participants had to use a significant amount of time searching for online resources such as videos, PowerPoints, and interactive games. They knew they needed more training and stated they were willing to invest their time in professional development. The study reflects that schools need to provide the time and space for these trainings to ensure time is not a barrier preventing all teachers from receiving professional development on necessary technologies (Spiteri 2017).

During the 2013-2014 school year the Bluffton University faculty sought to engage their students through increased technology use in their course. One of their case studies focused on a Computers and Technology class and how the professor provided choice to students to increase engagement. The teacher spent considerable time creating multiple units and assignments so students could pick two assignments and a technology integration unit of their interest. The teacher saw increased engagement in her students but what the study notes that the faculty also voted to have a sabbatical for the majority of their normal faculty governance work for the

school year. This study demonstrated that in order to create and implement engaging digital content that teachers need unencumbered time (Nisly 2015).

Need for Individualized Training

Public education often discusses the importance of making learning individualized to make it more meaningful to the learner. This does not only apply to public school students but also to educators when they are receiving professional development. In order to more effectively, and quickly, implement new technology they need trainings to relate to their subject matter.

In 1997 Mexico implemented ICTs into their public education system and from 2013-2015 gave out various computers and tablets to 5th grade students. Without a federal initiative, changing focus each year, and limited training for educators there was limited success in the implementation of ICTS. At the beginning of the 2016 school year, the Secretary of Public Education arranged for an independent body, the General Coordination of @prene.mx, to design and administer a training and support program that would help schools use the ICT as a learning tool. Due to the wide nature of the program, 13 states, the researchers were able gain insight into a wider pool of participants. Their findings showed that participants that experienced the greatest growth in incorporating ICT were those who were designing materials for their own content matter in their trainings (Franzoni 2020).

Dr. Zeynep Ayvaz-Tuncel and Dr. Fatma Çobanoğlu created a qualitative study that examined the opinions and ideas of new educators on in-service training they participated in. The 494 first year teachers, student teachers and counselors were all new to their schools in Denizli for the 2015-2016 school year. From their questionnaires, the researchers found that most of the participants found the training unenlightening because it was a repeat of what they learned college education courses. Participants also found that the training was a contradiction because

the presenters would lecture on how to embrace a constructivist type of teaching without providing the learners with an opportunity to see it put into practice (Ayvaz-Tuncel 2018).

The University of Lisbon saw the need to encourage their professors to use online learning resources and various technologies. To meet this need they developed an e-learning Lab (e-Lab), whose role would be to create and offer courses to help the university's teachers to design their own e-learning courses for students through improving their ICT skills. Researchers surveyed the 103 professors who attended workshops from 2014 and 2017. Participants were able to select the training that best fit their needs between Moodle (Learning management system), E-learning pedagogy, multimedia creation, e-learning support tools. By providing participants with the ability to attend the training they felt they needed, the e-Lab experienced greater success. Researchers found that participants were highly satisfied with their training because the workshops were designed to address both technical ITC skills and how to integrate them into participants content area (Bastista 2017). This study showed that when training is individualized for the specific needs of the learners, that the learners will be more satisfied and find more value from the training.

Lack of Confidence

Teachers, just like their students, need exposure and practice with a topic before they can confidently use and present it to their students. If schools and society expect teachers to embrace new technology into their instruction, teachers need to have the confidence that they are knowledgeable enough to use the technology devices and ICTs.

Begum Cubukcuoglu conducted a case study to pinpoint the factors that encouraged teachers in Northern Cyprus to use ICT resources while teaching. Through his interviews with seven teachers over a period of two semesters he discovered one of the main factors to use was

teacher confidence. Suzan, one of the participants, was interviewed saying, “The more a person is involved in technology, the more s/he will tend to use it even more and better. A person who does not know how to use technology (computers) will avoid using it... so, having technology (computer) skills is an enabler factor in integrating ICT into teaching. (Cubukcuoglu 2013).”

Charles Buabeng-Andoh, in a non-research article, identified the key factors that influenced whether teachers would use ICTs in their classroom. He discusses the importance of teacher’s computer self-efficacy. Without their own confidence in the ability to use the ICTs, teachers will not be able to successfully use ICTs in their classroom (Buabeng-Andoh 2012).

Kleopatra Nikolopoulou and Vasilis Gialamas, were also interested in identifying teacher’s perceived barriers to computer usage in the classroom. For their quantitative study they interviewed 119 high school teachers from various schools in Athens, Greece. Through their findings they discovered that lack of confidence with technology was higher in female teachers and teachers who did not receive the first level of ICT training. Conversely, teachers with increased exposure to computers and more time with computers expressed greater overall confidence with technology (Nikolopoulou 2016).

Summary

The research shows that these factors are preventing the successfully implementation of various ICTs across multiple levels. There has been much research completed about identifying the factors and barriers to the use but there is little research on how to begin addressing the barriers, especially at the K-12 level. As a current middle school teacher, I was most interested to see if there would be a positive correlation between teacher confidence and training in ICTs. There was no research on training teachers to use Microsoft’s Educational Apps specifically despite its frequent use by school districts.

Chapter 3 - Research Methodology

Research Design

This mixed methods action research study will consist of adult learners completing quantitative pre/post study surveys as well as lesson reflections in order for the researcher to assess their confidence level with Microsoft's Educational Apps.

A pre study survey will be designed and analyzed to gain an understanding of the current technology and confidence levels of the participants. A post survey will be designed and analyzed to compare participants confidence level from before the training to after the training. At the end of each lesson, participants will respond to open ended qualitative reflection questions.

Surveys will be created using Microsoft Forms and linked in the study's OneNote Class Notebook. Once the surveys are received, the data will be organized and coded for anonymity.

Research Questions

How will educating teachers on Microsoft's Educational Apps affect their confidence in using them to create assignments for their virtual classroom? This question will be approached through action research by administering a pre/post survey identify initial confidence levels prior to providing provide training on Microsoft's Educational Apps and after providing training.

Participants

There are four participants in this study. All four participants are teachers in the same middle school in Virginia. The Pre Training Survey shows that the participants currently teach sixth, seventh and eighth grade in a virtual and/or hybrid setting. The participants have a range of teaching experience from one year to twenty-two years. Within the participant group one participant has a endorsement to teach English Second Language Students (ESOL) in a language

arts classroom, one is a librarian who teaches researching and supports all content teachers, another is a math teacher and one is a school counselor responsible for teaching career and social emotional lessons. All of the participants are highly motivated to increase their understanding of technology. The researcher requested volunteers and all four participants expressed interest in the training. From the Pre Training Survey, participants expressed a real desire to improve their understanding so they could help their students more effectively. The school they work for is part of Microsoft Education District and is in its second year of 1-1 devices implementation. A copy of the Pre Training Survey can be found in Appendix B.

Data Collection Instruments and Methods

To address the research questions in this study, participants will complete surveys and end of lesson reflections. They will answer seven Likert questions about their confidence and the effectiveness of the training. Three open ended questions will seek to understand their feelings and opinions about the technology, their confidence and the training. As participants complete each lesson, they will complete a reflection of how they can use the specific Microsoft Education App in their classroom.

Data Security and Confidentiality

The raw data gathered from this research, with any personal identifiers, will be kept private and confidential. Participants information will only be seen by the researcher and individual participant names will not be used in report findings. Data will only be reported in the aggregate. Participants emails will be collected throughout the survey to compare pre and post responses. Once data has been analysed it will be coded to ensure participants anonymity when sharing results of the data.

Summary

Action research will be used to investigate the impact of training on teachers confidence towards education. The training has been broken up into eight self-paced lessons: Microsoft forms, Microsoft word, Microsoft Sway, Microsoft Excel for organization, Microsoft Excel for student work, Microsoft PowerPoint, setting up a Microsoft OneNote Class Notebook, creating pages within Microsoft OneNote Class Notebook.

Participants will work through the self-paced training lessons with support from the researcher through email and videoconferencing over a two week period.

Once participants have agreed to voluntarily participate in this study, the researcher will email them the Informed Consent. Within the Informed Consent participants will be made aware of the types of data that will be collected and how the data will be used. After the Informed Consent is returned, the researcher will send a welcome email with information on how to join the OneNote Class Notebook where all training information will be kept. In the introduction lesson, the researcher will include the pre study survey to assess the current level of participants confidence and technology use. The participants will be informed that they may select to withdraw from participating in the study at any time by notifying the researcher without penalties.

Before the lessons participants will complete an Introduction and at the end of the course participants will complete a Wrap Up. Each App lesson should take participants approximately an hour to complete with the introduction and wrap up taking approximately thirty minutes. For each of the lessons, learners will be provided with example(s) of how the app can be used in a classroom, training videos on how to create their own and then create an assignment or activity using that app for their own classroom. At the end of each lesson, they will complete a reflection

of how they plan on using the app in their classroom. Throughout the training the instructor will be available by email and can schedule Microsoft Teams meetings to provide additional 1-1 support. All of the videos, links, and sample activities will be housed within the Microsoft One Note Classroom for participants to access at their own rate and for other instructors to use as well.

At the end of the study, learners will complete the post study survey. They will be sent a thank you email which includes information about how they can obtain results of the study and that the researcher may contact them after the data has been analyzed for additional feedback. The surveys and the data will be organized in a chart for data analysis.

The data will be coded to support maintain participant anonymity. The data will then be analyzed to identify and explore themes of participants confidence with the specific ICTs. The researcher will use this information to make conclusions about the impact of training has on teachers' confidence with technology. From the pre/post surveys, researchers will be able to see if there was an impact on teachers' confidence by looking at the Likert ratings. From the same surveys, researchers will be able to see if participants found content specific training to be more effective, less effective or no change in effectiveness as opposed to previous trainings. This quantitatively data will be analyzed through descriptive statistics to look for trends in participants responses comparing pre/post survey. By comparing the pre/post survey responses, the researcher can determine if there has been group growth.

Triangulation will occur by using lesson reflection and the open-ended survey questions in order to utilize qualitative data to provide anecdotally evidence that supports the quantitative data collected from the pre/post study survey. Participants will provide feedback at the end of survey, which provides additional validity of the findings.

Chapter 4 - Results

Results Overview

Provide a data-driven summary of the results of the study.

Data Analysis

Provide an analysis for *each* set of data. Include appropriate visual aids such as APA-formatted tables and figures.

Answers to the Research Questions

Discuss the answers to each of the research questions and support the discussion with the data analysis.

Chapter 5 - Discussion and Conclusion

Overview

Provide an overview of the conclusions reached.

Problem Solutions

Explain how your research problem could be solved based on the results of your study.

Strengths and Weaknesses

Discuss both the strengths and weaknesses *of the project* (e.g., research methodology, data tools).

Influential Factors

Discuss any factors that may have skewed the findings (e.g., prior relationship with participants, wording of a questionnaire).

Further Investigation

Recommend areas for further investigation raised by your research and relevant to your topic.

References

- Abuhmaid, A. (2011). ICT Training Courses for Teacher Professional Development in Jordan. Turkish Online Journal of Educational Technology - TOJET, 10(4), 195–210.
<https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ946628&authtype=sso&custid=ns017578&site=eds-live&scope=site>
- Ayvaz-Tuncel, Z., & Çobanoğlu, F. (2018). In-service Teacher Training: Problems of the Teachers as Learners. International Journal of Instruction, 11(4), 159–174.
<https://doi.org/10.12973/iji.2018.11411a>
- Batista, S., Pedro, N., Agonacs, N., Fonte, M., Oliveira, N., & Matos, J. F. (2017). Evaluation of Teacher Training Satisfaction: A Critical Factor for Technology Integration in Higher Education. Proceedings of the European Conference on E-Learning, 580–584.
<https://search.ebscohost.com/login.aspx?direct=true&db=eue&AN=126280719&authtype=sso&custid=ns017578&site=eds-live&scope=site>
- Buabeng-Andoh, C. (2012). Factors influencing teachers' adoption and integration of information and communication technology into teaching: A review of the literature. International Journal of Education & Development Using Information & Communication Technology, 8(1), 136–155.
<https://search.ebscohost.com/login.aspx?direct=true&db=ofm&AN=88933233&site=eds-live&scope=site>
- Cubukcuoglu, B. (2013). Factors enabling the use of technology in subject teaching. International Journal of Education & Development Using Information & Communication Technology, 9(3), 50–60.

<https://search.ebscohost.com/login.aspx?direct=true&db=eft&AN=95745572&authtype=sso&custid=ns017578&site=eds-live&scope=site>

Franzoni Velázquez, A. L., Cardenas Peralta, M. C., & Mandujano Canto, J. Á. (2020). Lessons from the Training and Support of Teachers in the Development of Digital Skills: A case study of @prende 2.0. *Digital Education Review*, 37, 154–171.

<https://doi.org/10.1344/der.2020.37.154-171>

Fulgence, K. (2020). Developing digital fluency among teacher educators: Evidence from Tanzanian Schools of Education. *International Journal of Education & Development Using Information & Communication Technology*, 16(2), 158–175.

<https://search.ebscohost.com/login.aspx?direct=true&db=eue&AN=146115624&authtype=sso&custid=ns017578&site=eds-live&scope=site>

Grundmeyer, T., & Peters, R. (2016). Learning from the Learners: Preparing Future Teachers to Leverage the Benefits of Laptop Computers. *Computers in the Schools*, 33(4), 253.

Kumar, S., & Vigil, K. (2011). The Net Generation as Preservice Teachers: Transferring Familiarity with New Technologies to Educational Environments. *Journal of Digital Learning in Teacher Education*, 27(4), 144–153.

<https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ936543&authtype=sso&custid=ns017578&site=eds-live&scope=site>

Kurt, S., & Ciftci, M. (2012). Barriers to Teachers' Use of Technology. *International Journal of Instructional Media*, 39(3), 225–238.

<https://search.ebscohost.com/login.aspx?direct=true&db=edb&AN=78855034&authtype=sso&custid=ns017578&site=eds-live&scope=site>

- Nikolopoulou, K., & Gialamas, V. (2016). Barriers to ICT use in high schools: Greek teachers' perceptions. *Journal of Computers in Education*, 3(1), 59–75.
https://www.researchgate.net/publication/286394346_Barriers_to_ICT_use_in_high_schools_Greek_teachers'_perceptions
- Nisly, L. L., Cecire, S., Friesen, M., & Sensenig, A. (2015). Creating Engaging Assignments. *National Teaching & Learning Forum*, 24(3), 9–11.
<https://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?vid=27&sid=57598385-9c26-4a04-afb9-9a06b42265a1%40pdc-v-sessmgr06>
- Simard, S., & Karsenti, T. (2016). A Quantitative and Qualitative Inquiry into Future Teachers' Use of Information and Communications Technology to Develop Students' Information Literacy Skills. *Canadian Journal of Learning and Technology*, 42(5).
<https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1130131&authtype=sso&custid=ns017578&site=eds-live&scope=site>
- Spiteri, M., & Chang Rundgren, S.-N. (2017). Maltese primary teachers' digital competence: implications for continuing professional development. *European Journal of Teacher Education*, 40(4), 521–534. <https://doi.org/10.1080/02619768.2017.1342242>
- Zyad, H. (2016). Pre-service training and ICT implementation in the classroom: ELT teachers' perceptions. *International Journal of Education & Development Using Information & Communication Technology*, 12(3), 4–18.
<https://search.ebscohost.com/login.aspx?direct=true&db=eft&AN=120887641&site=eds-live&scope=site>

Appendix A

(Provide the entire curriculum or instructional unit.)

Appendix B

Pre Training Survey

Section 1: Demographic Information

1. What grade(s) do you teach?
2. How many years have you been teaching for?
3. What subject(s) do you teach?
4. How are you currently teaching?

Section 2: Technology Questions

Please evaluate each of the following statements. Select one for each question: strongly agree, agree, neutral, disagree, or strongly disagree

1. I feel confident in my ability to use technology in my classroom.
2. I feel confident in my ability to integrate multiple technologies into my instruction.
3. The amount of time needed to prepare technology-based lessons deters me from creating them.
4. I am aware of the resources available by my district that can help me learn how to integrate technology.
5. I do not have the technology skills to support my students when they use technology for a project.
6. I am familiar with what technology is available to my students in me in our building.
7. Select all the types of training you have received on Microsoft Apps: mandatory district training, optional district training, Microsoft Educator Center courses, no training, other
8. For each Microsoft App rank your own technology skill according to the scale below:
 - a. Unfamiliar: I have never heard of this
 - b. Learner: I am not sure how to use this
 - c. Basic: I have used this before, but might need some help
 - d. Proficient: I can use this without any assistance, or Advanced: I could train staff to use this.
9. How often do you integrate these Apps into your instruction or materials? Please select one for each App.
 - a. Regularly: At least once per week
 - b. Frequently: At least once per month
 - c. Occasionally: At least once per semester
 - d. Rarely: At least once per year
 - e. Never: Never use it
10. What is/are factor(s) that have affected your confidence with technology?
11. How would you describe your relationship with technology?

Appendix C

Informed Consent

Adult Participants

Western Governors University - Teachers College

MED, Learning and Technology

Julie Phegley

Training and Teachers' Confidence with Microsoft Applications

Introduction

Julie Phegley, an a graduate student researcher in the Learning and Technology Program of Western Governors University's Teacher College, is seeking to conduct a research unit for the purpose of determining the impact an 8-hour asynchronous online training course in using Microsoft Applications (Forms, Word, Sway, Excel, PowerPoint, and OneNote Class Notebook) on teacher's confidence in creating engaging assignments for virtual learning. Participants are from the researchers social group so no initial approval to conduct research and gather data for reporting purposes is required. By signing this consent form, you agree to participate in the study. All data collected will be reported as aggregated summaries. Individual names will not be used.

Description of the Project

Adult learners from the researchers social circle will work through an 8-hour online asynchronous training that is broken up into 8 lessons. Participants will have 2 weeks to complete the training. The lessons will cover Microsoft Forms, Word, Sway, Excel, PowerPoint and OneNote Class Notebook. The training will be contained within a Microsoft OneNote Class Notebook and each lesson contains an introduction, examples, training videos, opportunity to practice using the application and a reflection survey. Support from the researcher through email and videoconferencing. Prior to and after the training participants will complete a survey to determine knowledge, perceptions, feelings and thoughts surrounding the content area of the course.

Benefits and Risks of the Study

Some participants may feel a minimal degree of performance anxiety towards using the technology and completing the surveys. A normal amount of anxiety is to be expected and the researcher has addressed this letting participants work at their own pace and providing detailed videos demonstrating how to use each application. Other participants will not be able to see their progress and additional 1-1 training is available to participants. All anticipated risks to participation in this study are minimal and no greater risk than those which are normally encountered in training programs.

A possible benefit to participants include learning more about how to use the different Microsoft Applications. Participants will be informed that the study activities are intended to help them better understand how to use the different Apps, enabling them to be more confident in their ability to create electronic resources for their classroom. The study may help the researcher acquire additional training opportunities to facilitate learning.

Confidentiality

The raw data gathered from this research, with any personal identifiers, will be kept private and confidential. Your information will only be seen by the researcher and individual participant names will not be used in report findings. Data will only be reported in the aggregate.

Voluntary Participation and Withdrawal

Your participation in the study is completely voluntary and you have the right to withdraw at any time. Participants may also submit a request to the researcher that their individual results be excluded from the final report. To withdraw from the study, the participant must notify the researcher.

Questions, Rights and Complaints

Participants have the right to view the results of the study. If you have questions about this study, please contact me, Julie Phegley by calling: (908) 328-8083 or by email: jphegl2@student.wgu.edu.

If you have any unresolved questions or complaints, contact the WGU IRB e-mail: IRB@wgu.edu.

Consent Statement

By signing this document, you agree to participate in the study and have had your study participation questions answered. Participation in the online survey constitutes informed consent. You also acknowledge that you have received a copy of this form.

Participant Signature

Typed/Printed Name

Date

Appendix D

(Include additional supplements as necessary.)