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Walden University
2019

Abstract

College Teachers' Perceptions of Technology Professional Development

by

Jo-Michele Refe Rymarczyk

MS, Walden University, 2006

BA, Capital University, 1993

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Educational Technology

Walden University

March 2019

Abstract

Community college faculty need to learn and understand the technology that is available in their classrooms so that they can teach students how to use these tools. Professional development workshops are one way that faculty members acquire knowledge of classroom technology. However, little is known about the usefulness of technology professional development workshops using active learning in a community college setting as a development option. The purpose of this qualitative study was to identify faculty members' perceptions and beliefs regarding technology professional development that incorporated active learning as a learning method. The conceptual framework included the concepts of transformative and active learning. Participants for this study included 5 faculty drawn from full-time, part-time, and adjunct faculty who registered for a technology professional development workshop featuring active learning at a community college in the U.S. Midwest. Data sources included interviews conducted before and after the workshop. Data were analyzed using NVivo software and inductive coding to identify patterns and themes. The findings of this study indicated that faculty prefer active learning to self-study or problem-based learning when learning technology because of the collaboration available within the workshop setting. This study contributes to social change because it provides insights on how teachers believe they best learn technology. Educational leaders can use this knowledge to maximize quality in future technology trainings.

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Dedication

This study is dedicated to my mom and dad, Emilda Marie and Cesare Albert Refe. They taught me throughout my life the importance of education. Thank you both for watching over me. Dad, you always wanted a doctor in the family. Dad, this is for you!

Acknowledgments

First, I want to thank God, from whom all blessings flow. God gave me the wisdom, knowledge, and strength to endure and complete this study.

Second, I would like to acknowledge my committee, Dr. Dennis Beck and Dr. Paula Dawidowicz. Drs. Beck and Dawidowicz guided me throughout this study. They helped me through the tears, fears, and joy of completing the study. They are the epitome of master professors in the educational system. Drs. Beck and Dawidowicz, without your help, I would not have made it! A Huge Thank You for your dedication and support!!!

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Last, a special thanks to Sr. Geraldine Sintic, who prayed for me, and gave me continuous encouragement throughout my journey of completing this doctoral study. Thank you for your prayers!

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Chapter 1: Introduction to the Study

Due to the global use of technology, technological skills have become an essential form of literacy in the 21st century (Lee, Longhurst, & Campbell, 2017). Teachers are facing new challenges related to technology integration within the school milieu at a time when information, communication, and technology (ICT) integration and teacher education have become synonymous within technology professional development (Albion, Tondeur, Forkosh-Baruch, & Peeraer, 2015). Technological changes have the potential to transform education and teacher education (Albion et al., 2015). Providing teachers with a meaningful technology education within professional development at the postsecondary level supports the technology push in the 21st century, according to Alexiou-Ray and Bentley (2015).

The goal of this study was to understand the social implications of the active learning component for teachers within a technology professional development workshop at a community college

In this chapter, I will discuss the background, problem statement, and purpose of the study. I will also present the research questions, conceptual framework, nature of the study, and definitions; state the assumptions, scope and delimitations, and limitations; and consider the significance of exploring teachers' perceptions of technology professional development.

Background

With the variety options available to learn technology, technology professional development workshops offer a variety of methods to learn technology. The nature of

professional development offered to teachers has shifted in the past few decades (Goodnough, Pelech, & Stordy, 2014). There is a greater need to support higher education faculty in learning technology (Baran, 2016; Georgina & Hosford, 2009). Educators need to learn technologies to support student learning and contribute to the development of students' technology skills (Ozdamar-Keskin & Kuzu, 2015). Higher education is faced with engaging teachers in technology training. There is a need to prepare teachers through continuing professional development to avoid the challenges that may ensue when incorporating technology in the classroom (Ankiewicz, 2013; Engelbrecht & Ankiewicz, 2016).

Most college and university leaders understand the implications of supporting, developing, and training teachers in technology integration (Murthy, Iyer, & Warriem, 2015). As Motshegwe and Batane (2015) noted, technology integration involves the use of Internet-enabled computers, software, social media, and video conferencing and learning management systems in instructional activities and in course management. Technology is an asset to professional development because it affords easy access to information, follow-up, and support, and because it elicits teacher collaboration (Beach, 2012; Collier, Kingsley, Ovitt, Lin, & Romero-Benavidez, 2017). The advantage of technology professional development is that it strengthens educators' learning experience with technology, curriculum development, teaching methodologies, and pedagogies (Dalal, Archambault, & Shelton, 2017). Furthermore, successful professional development related to technology allows teachers to embrace and incorporate technology into their culture and work life (Motshegwe & Batane, 2015).

In recent years, teachers' technological knowledge has been transformed through the development of subject matter, pedagogy, and didactics within professional development (Makkawi, 2017). Researchers studying technology professional development for teachers have identified effective strategies for learners to engage in meaningful tasks (Knowlton, Fogleman, Frieda Reichsman, & de Oliveira, 2015). ICT is a serious aspect of teacher learning within technology professional development (Wu, Hu, Gu, & Lim, 2016). As technology has been imparted into daily life (Martin, 2018), many educators agree that a professional development curriculum should focus on content-based technology and the improvement of student learning in the classroom (Alexiou-Ray & Bentley, 2015; Deaney, Chapman, & Hennessy, 2009). Technology professional development workshops assist educators in learning technology.

The literature indicates there is a need to study teachers' perceptions of technology professional development with an active learning framework (see Avidov-Ungar, 2016). This study was needed because there is limited research, based on my review of the literature, on technology professional development workshops using active learning in a community college setting. Studying teachers' perceptions of the active learning component for technology professional development will provide an implication for positive social change by empowering faculty with the technology tools that can be used in the classroom. This chapter will describe the problem statement, purpose of the study, research questions, conceptual framework, nature of the study, definitions, scope and delimitations, limitations and significance of the study.

Problem Statement

Universities and colleges upgrade or migrate to new technology based on the evolution of, and need for, educational technology (Rucker & Frass, 2017). As colleges upgrade or migrate to new technology, professional development is a way to support teachers in adapting their pedagogical methods when assisting students in the classroom (AlMutlaq, Dimitriadi, & McCrindle, 2017). The IT movement initiated faculty training in postsecondary education to support faculty in changing traditional classrooms into an enriched learning environment (Baran, 2016; Georgina & Hosford, 2009). Technology professional development provides teachers with the option to accept or reject learning technology and continues to be a complex and challenging issue for colleges and universities (Motshegwe & Batane, 2015). As community colleges provide professional development workshops to educators, college faculty are expected to understand and learn the content to meet the needs of students and communities (Swanger, 2016). In addition, teachers come to technology professional development opportunities with varying backgrounds, confidence levels, and motivation visions (Whitworth & Chiu, 2015). Investigating how teachers learn in technology professional development may further educational leaders' understanding of how best to develop technology professional development workshops (Gurney & Liyanage, 2016).

When implementing new technology within colleges and universities, adequate training and support continues to be one of the major issues for teachers seeking to learn these technologies (Rucker & Frass, 2017). Community colleges' primary mission is to teach students (Rucker & Frass, 2017). Typically, they have a poor framework and weak

structure for supporting technology professional development (Edwards, Sandoval, & McNamara, 2015). To change their technology practices, teachers need to adopt new technology strategies, understand hardware and software, and incorporate these technologies into their course curriculum (Gurevich, Stein, & Gorev, 2017). Professional development offers educators the ability to improve instruction and student learning but depends on teachers' self-motivation (Avidov-Ungar, 2016). However, according to Belland, Burdo, and Gu (2015), much current professional development is not favorable to teacher learning because it is often not based on a proven theoretical framework or model. Related to this, there appears to be a gap in the research on teacher perceptions of theoretical framework-based professional development workshops, particularly workshops based on active learning theory, based on my review of the literature.

Purpose of the Study

The purpose of this qualitative interview study was to explore community college faculty perceptions of participating in a technology professional development workshop using the active learning model. There appears to be a lack of technology professional development workshops based on a theoretical framework (Belland et al., 2015). In conducting this study, I sought to provide guidelines for the development and design of future technology professional development workshops with an active learning framework to increase participation. The information gained from this study may be used

to enhance future development of technology professional development workshops with an active learning framework.

Research Questions

I sought to answer three research questions (RQs):

RQ1. What are teachers' perceptions, assumptions, and experiences when participating in a technology professional development workshop using active learning at a community college?

RQ2.   What are teachers' perceptions of the active learning component in a technology professional development workshop at a community college?

RQ3.   How do teachers' perceptions about technology professional development workshop using active learning at a community college change as a result of their participation in the workshop?

Conceptual Framework

The conceptual framework included elements from Mezirow's (1991) transformative learning theory and Bonwell's active learning theory (Bonwell & Eison, 2017). There are 10 phases within Mezirow's transformative learning theory. These are the disorientating dilemma, self-examination, critical assessment, recognition of the process of transformation, exploration of options, developing a course of action, gaining knowledge and skills, the short-term nature of new roles, building self-confidence, and reintegration of new conditions (Owen, 2016). The 10 phases of Mezirow's transformative learning theory help to explain the adult learners' interpretation or meaning of their experiences within the social context of their environment (Mezirow,

1991). Transformative learning helps individuals to challenge their current assumptions and examine the need to change them (Mezirow, 1991). The focus of Mezirow's theory is individual transformation, though it emphasizes rational and internal dialogue as a means to make a change (Mezirow, 1991). Research Question 1 relates to Mezirow's transformative learning theory because of its focus on how teachers' experiences shape their perceptions when attending a technology professional development workshop using the active learning model at a community college.

Another part of the theoretical framework for this study was Bonwell's active learning theory. According to Bonwell (2017), emerging technologies have increased the work and life pace to develop and implement new educational theories, ultimately this will increase the need to develop the learner's skillsets. As learners develop their cognitive skills through traditional educational theories, active learning provides a constructive approach to enhance their technological skillsets.

The aim of active learning is to be actively involved and engaged in analyzing, synthesizing, and evaluating tasks (Bonwell & Eison, 2012). Active learning provides opportunities for higher education teachers to integrate technology information into courses (Maybee, Doan, & Flierl, 2016; Woods, Paulus, & Macklin, 20; Spence, 2004). This form of learning also empowers learners to become masters of the content based on the strategy designed within the course (Bonwell & Eison, 1991).

Because professional development is based on the technology needs of the school, teachers have an opportunity to build their technology tool kit by participating in such practices (Gurney & Liyanage, 2016). Active learning will transform teachers' current

instruction by providing strategies in the classroom that assist the development and

enhancement of students' technology skills (Bonwell & Eison, 1991). Active learning in

higher education benefits student learning and engagement within the classroom (Maybee

et al., 2016; Michael, 2006; Prince, 2004). Bonwell's (2017) active learning theory was

helpful in understanding teachers' thoughts about learning technology through an active

learning professional development workshop at a community college and, thus, informed

the development of Research Questions 2 and 3.

The conceptual framework--Mezirow's (1991) transformative learning theory and

Bonwell's (2017) active learning theory--addressed teachers' thoughts and perceptions of

technology professional development within a community college and therefore served as

a basis for the research questions. The research questions, in turn, served as a guide for

the development of the interview questions. I also used the conceptual framework to

guide the literature search.

Nature of the Study

The nature of this study was a general qualitative study. I followed the

naturalistic inquiry method, which researchers use to study society in its natural forum

(Beuving & de Vries, 2015). The naturalistic inquiry method allows the educators to be

studied in their natural environment. According to Yin (2017), a researcher will assume

that a particular event resulted from an earlier occurrence, based on interviews. This was

a viable approach for this study, which entailed two rounds of interviewing to understand

educators' thoughts on technology professional development using an active learning

framework. I conducted this study to understand teachers' perceptions of technology

professional development that is offered at a community college. Specifically, I wanted to explore community college teacher perceptions of attending a technology professional development workshop using the active learning model.

The study location was a rural community college in the Midwestern United States, and the period was limited to the second half of the school year. The five participants were full, part-time, and adjunct instructors at the community college who had engaged in technology professional development in the past. I collected data from interviews that were conducted face-to-face and via telephone. I recorded the interviews and took notes during them.

Definitions

The following list includes terms and definitions that are pertinent to this study:

Active learning: Strategies to engage and support students in the learning process, which extends beyond listening, and involves the execution of prescribed procedures (Meltzer & Thornton, 2012; Murthy et al., 2015).

Adult constructive-developmental theory (ACD): A theory based on the presumptions that adults think and act within a complex context to make meaning (Kegan, 1982, 1998; see, also, Stewart & Wolodko, 2016).

Adult learning theory (ALT): The reinterpretation of prior experience through reflection based on childhood and youth experiences. (Taylor, 2017; Mezirow, 1991).

Educators: All education professionals, teachers, paraprofessionals, principals, and professional and support staff who work within school districts (U.S. Department of Education, 2018).

Information and communication technology (ICT): The full range of technology tools used to gather, record, store, exchange, and distribute information to others (Anderson, 2010, p. 4).

Pedagogy: The art and science of teaching children (Ozuah, 2016).

Positive social change: Stakeholders who create and contribute to real change on a global scale (Walden University, 2018).

Professional development: Activities that provides teachers with the knowledge and skills to assist students in the classroom (Learning Forward, 2018).

Project-based learning: A learner-centered approach that is guided by a driving question to promote the development of student understanding (Svihla, Reeve, Sagy, & Kali, 2015).

Technology acceptance model (TAM): "A technology adoption model that predicts end-user acceptance of various technology systems by determining the user's perceived ease of use and perceived usefulness of the system" (Rucker & Frass, 2017, p. 261; see, also, Venkatesh & Davis, 1996, 2000; Venkatesh, Morris, Davis, & Davis, 2003).

Technology-enhanced learning: Learning that occurs through the use of electronic devices and which has multiple content and social interactions (Crompton 2013, p. 4; Crompton, Olszewski, & Bielefeldt, 2016).

Technological pedagogical content knowledge (TPACK): The technology, pedagogy, and content knowledge that affect the teaching and learning experiences of students (Oakley & Pegrum, 2014).

Technology professional development (TPD): Technology-enhanced activities that assist teachers in utilizing the appropriate tool to meet content learning goals (Jaipal-Jamani & Figg, 2015).

Universal design for instruction (UDI): The design of the physical environment, products, and communication tools that are employed by teachers in the design and planning of a course curriculum (Center for Universal Design, 1997; Park, Roberts, & Delise, 2017).

Assumptions

Often times, researchers are concerned with how assumptions affect the validity of the research process (Levitt et al., 2018). For this interview study, the researcher had identified two assumptions. The first assumption is that participants were voluntary and honest with their responses. There were two independent and separate interviews conducted for this study. It was assumed that participants responding in an open and honest demeanor for each interview regarding their perceptions of the technology professional development workshop with an active learning framework. Thus, cultivating a trusting relationship between each participant and myself. The second assumption is that each participant had a basic understanding of the technology terms given within the technology professional development workshop because the community college has required prerequisites for registering for a workshop. This provided a level playing field for participants in understanding the interview questions, thus, creating an open and honest dialogue exchange between the researcher and the participant. The

qualitative approach for this research study will aid the researcher interpreting the data based on the two interviews with the participants.

Scope and Delimitations

According to Levitt et al. (2018), the scope of a research study provides a focus on competency and deep understanding of the topic. The scope of this research study targets community college faculty. The scope of this study does not pertain to staff, assistants, students, President, Provost, administration, or Board of Trustees. This population was not included in this study because they are not instructing students on how to use technology in the classroom. Teachers are the front-runners in learning technology and integrating the learned technology into their course curriculum. In addition, the scope of this study does not include universities, continuing education, technical colleges or K-12 grades.

For this study, there were two delimitations. The first delimitation of this study pertains to college faculty at a rural community college in the Midwest region of the United States. The first delimitation was selected because the researcher is an adjunct faculty member at the community college. This research study will help to enlighten the development of future technology professional development workshops. Another delimitation of this study includes the confinement of the data collection. This delimitation was selected because only part-time and full-time college faculty are invited to participate in technology professional development workshops. The data collection was limited to full -time, part -time and adjunct community college faculty. The interviews were conducted at their community college in the Midwest region of the

United States. For this study, I collected data from part-time, full-time and adjunct

community college faculty to ensure the study is focused on their perceptions of a

technology professional development workshop with an active framework. The

researcher conducted two separate independent interviews with eight to twelve

participants. Triangulation of the data will assist in ensuring reliability and validity of the

data (Levitt et al., 2018). This study will provide potential transferability through rich,

thick descriptions.

Limitations

No proposed research project is without limitations (Marshall & Rossman, 2014).

Limitations may weaken the integrity of a study (Levitt et al., 2018). This qualitative

interview study had five limitations. The first limitation was the location of the study.

The data collection was limited to a community college in a Midwest rural area of the

United States. This limitation was selected because previous literature is limited for

community colleges. The second limitation of the study was confined to a community

college. This limitation was selected because it defines a narrow scope for the study.

Future studies can include universities, technical colleges, continuing education or K-12

grades. The third limitation was confined to part-time, full-time or adjunct teachers. This

limitation was selected because teachers are the developers of integrating technology into

their daily lesson plans. Further studies could incorporate various stakeholders such as

administration, staff, Principal, Provost, or Board of Trustees at universities or K-12

grades. The fourth limitation was the sample size. This limitation was selected because

the sample size selection pertains to teachers who participate in a technology professional

development workshop. This study was conducted during the 2018 school year, thereby

limiting the participants' time and availability for the study. Thus, the reason this

qualitative research study conducted two interviews for participants and seeks to explore

the teachers' perceptions of a technology professional development workshop using an

active framework. The fifth limitation of this study was potential researcher bias for I am

an adjunct employee at the community college where the study took place. To reduce

bias and interpretation of the results, data was triangulated from the two interviews.

Significance

Professional development commonly involves supporting, designing and dialogue

for real world use (Svihla et al., 2015). According to Lee et al. (2017), the objective of

Technology Professional Development (TPD) is to effectively integrate innovative

technology and pedagogy to support student within a meaningful learning environment.

This research study will fill a gap in the use of theoretical framework-based

professional development workshops through an increased understanding of community

college faculty perceptions of technology professional development using the active

learning model. This project is unique because it addresses the framework value and

model based technology professional development for community college faculty, which

typically have poor administrative support for professional development (Edwards et al.,

2015). The results of this study will provide an understanding of college faculty

experiences regarding technology professional development with an active learning

framework. This result may be useful when designing future technology professional

development workshops for community college faculty.

One of the biggest challenges that universities and colleges face when implementing new technology is providing teachers with adequate training and support (Rucker & Frass, 2017). This study will contribute to the literature by addressing teacher perceptions of technology professional development with an active learning framework for colleges. This study will bring about positive social change by assisting teaching with learning these technologies. When teachers learn technology, they become social change agents in the classroom for the student, peers, and community.

Summary

This study addressed the lack of research on the teacher's perceptions and thoughts on technology professional development with an active learning framework within a community college. To address this gap, I used a qualitative research study to explore teachers' perceptions and thoughts of technology professional development with an active learning framework at a community college. The implications for social change will be to provide teachers with learning technology at a professional development workshop with an active learning framework and apply the learned strategies within the classroom. This will ultimately bring about social change by affecting student learning.

In Chapter 1, I presented an introduction to the research problem, purpose and nature of the study and other imperative elements to this research study. Chapter 2 included a literature review addressing technology professional development using a variety of frameworks, teacher pedagogy, self-efficacy and teachers thoughts and perceptions. The literature review supports and validates the need to conduct research for this study.

Chapter 2: Literature Review

Introduction

The purpose of this qualitative study was to explore community college teacher perceptions of attending a technology professional development workshop using the active learning model. The design and delivery of professional development experiences are indicative of an academic institution's culture and commitment to staff development (Gurney & Liyanage, 2016). Design and delivery are especially important for teachers when attending a technology professional development workshop. Researchers have found that teachers come to professional development opportunities with different backgrounds, skill levels, expectations, motivation, and schedules (Whitworth & Chiu, 2015). Ideally, an effective professional development program works around teachers' skill levels, provides continual follow-up professional development activities, fosters collaboration with colleagues, and examines the impact of instruction within the classroom (Jaquith, Mindich, Wei, & Darling-Hammond, 2011; Ross, 2011; Silvia, 2017).

However, much current professional development is not conducive to teacher learning and often is not based in a proven theoretical framework or model (Belland et al., 2015). As a result, there appears to be a lack of well-designed professional development workshops based on a theoretical framework (Belland et al., 2015. I conducted this study to provide insight on community college teachers' perceptions of attending technology professional development workshop using the active learning

model. I used a qualitative paradigm and collected data via two interviews with each participant.

Literature Search Strategy

This literature review is organized in five sections: (a) the conceptual framework of active and transformative learning within technology professional development, (b) definitions of technology professional development, (c) teacher barriers to learning technology, (d) teacher self-efficacy, and (e) teacher perceptions of technology professional development. I examined the literature related to teachers' perceptions of technology professional development to identify the conceptual framework. The literature review included literature gathered from searches using the following databases: ProQuest Central, Thoreau, Education Research Complete, and SAGE Premier. Other literature resources were Google Scholar Search, Google Search, EBSCOhost, and Taylor and Francis. I examined peer-reviewed articles published between 2014 and 2018. Key words included *active learning*, *technology professional development*, *career development*, *vocational education*, *continuing education*, *higher education*, *higher learning*, *teacher training*, *attitude*, *perception*, *belief*, *college*, *universities*, *college faculty*, *college professors*, and *technology acceptance model*. I continued to review sources for technology professional development using active learning. I stopped reviewing the literature until I saw the same literature referenced in each search.

Conceptual Framework

The conceptual framework included active learning and transformative learning theories. Many faculty agree that learning is naturally achieved when students are

actively involved when listening to formal lectures or presentations in the classroom

(Bonwell & Eison, 1991). Analysis of the research literature indicates that "students must

do more than listen: they must be engaged through reading, writing, or discussing to

solve problems" (Bonwell & Eison, 1991 p. 34; Chickering, & Gamson 1987). According

to Bonwell (2017), the continual emergence of technology in the context of current

workplace demands has resulted in the development and implementation of new

educational technology theories designed to increase learners' capabilities. Active

learning involves the use of a more constructive approach while building on traditional

educational theories where leaners develop critical thinking, problem-solving, and

processing skills (Conner, 2012). The aim of active learning is to engage students in

higher-order thinking tasks such as analysis, synthesis, and evaluation (Bonwell & Eison,

2012).

I drew from Bonwell's (2012) active learning theory in developing the research

questions because it helped to understand teachers' perceptions of a technology

professional development workshop at a community college. Active learning theory can

help teachers to understand the connection between interactivity and student learning

when creating various technology-based assignments for students in the classroom (Frey

et al., 2016). Bonwell's research indicates that the involved learner is stimulated when

the active learning constructive approach is applied (Bonwell & Eison, 2012). In

addition, the literature highlights the value of providing interactivity in the learning

process (Cook & Babon, 2017). Active learning promotes strategies for teachers and

students to engage and critically think about required tasks rather than passively

executing them (Bonwell, 2017). The development and refinement of the learner's

higher-order thinking skills through stimulating engagement is a result of an active

learning theory activity, for instance (Bonwell & Eison, 2017). Another valuable aspect

of active learning is the sustainability for learning material (Hedden, Worthy, Akins,

Slinger-Friedman, & Paul, 2017). This research study may influence the development of

future technology professional development workshops using the active learning model.

Transformative learning theory explains how adult learners understand or make

meaning of their experience, how social interaction and collaboration influence the way

they interpret the experience, and how the dynamics involved affect their ability to

process the information (Mezirow, 1991). The goal of transformative learning is to help

individuals challenge their current perceptions and assumptions and assist in making an

effort to change them (Mezirow, 1991). Individual transformation emphasizing rational

and noncoercive dialogue to make a positive change was the basis for Mezirow's theory

(Christie, Carey, Robertson, & Grainer, 2015). The research questions presented in

Chapter 1 were informed by Mezirow's transformative learning theory because it

provided a way to understand how teachers' experiences shape their perceptions.

Teacher reflection is an essential characteristic of professional ability and

competence and is aligned with professional development and support (Leane, 2016;

Mann et al., 2009; Mezirow, 1994; Morrow, 2009). According to Liu (2015), there is a

difference between teacher educators and teachers who teach in the classroom when

understanding critical reflection. Critical reflection involves questioning one's self-

conception and addressing challenges that threaten strong emotions (Liu, 2015; Mezirow,

1991). Critical reflection is part of the transformative learning process in which individuals frame their assumptions and base their thoughts on their experiences (Lundgren & Poell, 2016; Mezirow, 1991). At a time when learning requires autonomy and the ability to adapt to change, learners need to critically examine their experiences (Kitchenham, 2008; Mezirow, 1997; Zanchetta et al., 2017). I conducted this study to fill the gap in the use of professional development workshops based on the active learning theoretical framework (see Belland et al., 2015).

Literature Review Related to Key Variables and/or Constructs

Technology Professional Development

The National Center for Education Statistics defines technological professional development to embody diverse learning activities for school staff that prepare them to use technology (National Center for Education Statistics, 2017). The International Society for Technology in Education (ISTE) Standards (2017) states that educators will continually improve to learn from and with others and explore established and future practices that leverage technology to improve student learning by:

- Set professional technology learning goals, which reflects pedagogy and technology effectiveness.

- Pursue professional technology interests by creating or actively participating in local and global technology learning networks.

- Stay current with technology research, which supports improved student technology learning outcomes.

According to Wu et al. (2016), a technology professional development module may impact teachers' current teaching methods and strategies as well as student learning. An obstacle which prevents teachers from promoting technology in the classroom is lack of training opportunities (Beriswill, Bracey, Sherman-Morris, Huang, & Lee, 2016). Professional development workshops focusing on the use of technology can increase teachers' knowledge, skillsets and ultimately gain confidence and competence in using technology (Beriswill et al., 2016; Shriner, Clark, Nail, Schlee, & Liber, 2010).

Effective professional development programs and their activities should be designed and implemented to cultivate effective learning and teaching with educational technologies (Ng, 2015). According to Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, & Sendurur (2012), technology training offered for professional development should be consistent with the technology tools that teachers use in their classrooms (Albion et al., (2015); Ertmer et al., 2012). "Professional development only takes place through constant theoretical, practical and reflective engagement with experiences in the classroom, through the development of personal constructs and the broadening and deepening of knowledge" (Engelbrecht & Ankiewicz, 2016). Professional development should include activities that provide teachers with practical, theoretical and reflective experiences (Engelbrecht & Ankiewicz, 2016; Stein, Ginns, & McDonald, 2007). A successful technology professional development (TPD) within an university or school district can be designed by setting goals that impact teacher learning, student learning and classroom practices (Winslow, Dickerson, Weaver, & Josey, 2016; Smolin & Lawless, 2011).

"Given the rapid changes occurring in ICT and the relative lack of related transformation in education the need for effective TPD relative to ICT is apparent but it is less clear what TPD would be most beneficial and how it should be most effectively delivered (Albion et al., 2015)." When defining technology professional development, researchers did not indicate how college faculty define an effective technology professional development workshop. This study will help to address college faculty perceptions of effective technology professional development workshops, which may help support and define the development of future technology professional development workshops for college faculty.

Technology Acceptance Model (TAM) framework. Multiple previous studies addressed technology professional development based on the technology acceptance model (TAM) framework (Rucker & Frass, 2017; Wu et al., 2016; Ortactepe, 2016; Motshegwe & Batane, 2015; Melki, Nicolas, Khairallah, & Adra, 2017). The goal of the TAM model is to understand how individual's use and accept the technological processes when implementing new technology or systems (Ortactepe, 2016; Venkatesh & Davis, 2000; Davis, 1989). The general purpose of TAM is to forecast the end-user acceptance of various technologies by determining the users' perceived usefulness of the system (Rucker & Frass, 2017; Zyad, 2016; Venkatesh & Davis, 1996, 2000; Venkatesh, Morris, Davis, & Davis, 2003). As colleges and universities migrate new technology systems, teachers need to attend professional development workshop to learn how to use these systems (Rucker & Frass, 2017; Mallya & Lakshminarayanan, 2017; Wu et al., 2016; Zyad, 2016). The TAM framework assists in investigating the factors affecting the users'

decision to use the technology (Wingo, Ivankova, & Moss, 2017; Mallya &

Lakshminarayanan, 2017; Venkatesh & Davis, 2000; Davis, 1989). Specifically, the

major strengths of TAM is the focus on the perceived usefulness of the technology and

perceived ease of use when learning technology (Mallya & Lakshminarayanan, 2017;

Rucker & Frass, 2017; Wingo et al., 2017; Zyad, 2016; Venkatesh & Davis, 2000; Davis,

1989). This framework was selected because it will assist in understanding how teachers

decide to use one technology over another. The perceived usefulness of technology

affects the users' ability to continue to use the technology on a consistent basis (Mallya &

Lakshminarayanan, 2017; Rucker & Frass, 2017; Wingo et al., 2017; Zyad, 2016;

Venkatesh & Davis, 2000; Davis, 1989). Holistically, the TAM baseline is measured by

subjective rather objective reasoning. The TAM framework was not selected because

most extended TAMs mainly focus on system variables rather than intrinsic individual

perspectives related to the social change process (Wu et al., 2016; Cullen & Greene,

2011; Lee, Cheung, & Chen, 2005).

Adult Constructive Developmental (ACD) framework. Previous studies

addressed the adult constructive developmental (ACD) framework for professional

development (Fellenz, 2016; Stewart & Wolodko, 2016; Trimberger & Bugenhagen,

2015; Taylor & Marienau, 1997). Drawn by Kagan, the adult constructive developmental

(ACD) theory depicts how adults make meaning of their social constructs (Fellenz, 2016;

Stewart & Wolodko, 2016; Trimberger & Bugenhagen, 2015; Taylor & Marienau, 1997;

Kegan, 1982; Kegan; 1994). Traditionally, the ACD framework has four levels:

instrumental, social, self-authoring and transforming. Drawn by Kagan, the adult

constructive developmental (ACD) theory depicts how adults make meaning of their

social constructs (Fellenz, 2016; Stewart & Wolodko, 2016; Trimberger & Bugenhagen,

2015; Taylor & Marienau, 1997; Kegan, 1982; Kegan; 1994). This framework was not

selected because it was not within the scope of this research study. Constructive-

developmental theories shape adult development (Cook-Greuter, 1990, 1999; Kegan,

1982, 1994; Loevinger, 1976) and individual meanings', experience, thoughts, feeling,

and actions (Fellenz, 2016; Stewart & Wolodko, 2016; Trimberger & Bugenhagen, 2015;

Taylor & Marienau, 1997; Kegan, 1982; Kegan; 1994). The ACD theory targets the

teachers' mindset governing the decision making process and the effects of their

development (Fellenz, 2016; Stewart & Wolodko, 2016; Trimberger & Bugenhagen,

2015; Taylor & Marienau, 1997; Kegan, 1982; Kegan; 1994). This framework is relevant

to this research study because it provides insight to how teachers make meaning of a

technology professional development program. The strength of this framework is the

development of teacher's critical thinking and perceptions of a technology professional

development workshop (Fellenz, 2016; Stewart & Wolodko, 2016; Trimberger &

Bugenhagen, 2015; Taylor & Marienau, 1997; Kegan, 1982; Kegan; 1994). The

weakness of the framework are the teachers' prior experiences that affect the way they

make meaning of the technology professional development program (Fellenz, 2016;

Stewart & Wolodko, 2016; Trimberger & Bugenhagen, 2015; Taylor & Marienau, 1997;

Kegan, 1982; Kegan; 1994). The findings of the framework support the connection

between how an adult makes meaning and learn through thinking and feeling from the

content of a technology professional development workshop (Fellenz, 2016; Stewart &

Wolodko, 2016; Trimberger & Bugenhagen, 2015; Taylor & Marienau, 1997; Kegan, 1982; Kegan; 1994). A controversial issue within the framework is the social context where teachers make meaning of the content within the professional development workshop (Fellenz, 2016; Stewart & Wolodko, 2016; Trimberger & Bugenhagen, 2015; Taylor & Marienau, 1997; Kegan, 1982; Kegan; 1994). The ACD framework was not selected because the varying degree of which teachers make meaning of the content of a technology professional development workshop (Fellenz, 2016; Stewart & Wolodko, 2016; Trimberger & Bugenhagen, 2015; Taylor & Marienau, 1997; Kegan, 1982; Kegan; 1994).

Sensemaking framework. Previous studies have utilized the sensemaking framework to understand how teachers interpret professional development content and apply them based on their interpretations (Allen & Penuel, 2015; Esposito & Freda, 2015; Marco-Bujosa, McNeill, Gonzalez-Howard, & Loper, 2017). Originally, sensemaking was intended for organizational studies and is now applied to education (Gherardi, 2017; Li, Lin, & Lai, 2016; Allen & Penuel, 2015; Degn, 2015; Sandberg & Tsoukas, 2015; Weick, 1995). Sensemaking provides insight as to how teachers interpret the elements of a program, surroundings or environment and develop an understanding (Gherardi, 2017; Li, Lin, & Lai, 2016; Allen & Penuel, 2015; Degn, 2015; Sandberg & Tsoukas, 2015; Weick, 1995). This framework was not selected because it explores the ways teachers make sense of training, concepts, vocabulary, surroundings, environment and teacher artifacts were not within the scope of this study (Gherardi, 2017; Li, Lin, & Lai, 2016; Allen & Penuel, 2015; Degn, 2015; Sandberg & Tsoukas, 2015; Weick, 1995).

The strength of this framework is the collaborative environment that provides teachers a comfortable forum to process and develop interpretations from a technology professional development workshop (Gherardi, 2017; Li, Lin, & Lai, 2016; Allen & Penuel, 2015; Degn, 2015; Sandberg & Tsoukas, 2015; Weick, 1995). Another strength of Sensemaking is the social identity that individuals make and act upon (Sandberg & Tsoukas, 2015).

The weakness of the framework is the teachers' interpretation process that teachers use when attending a technology professional development workshop (Gherardi, 2017; Li, Lin, & Lai, 2016; Allen & Penuel, 2015; Degn, 2015; Sandberg & Tsoukas, 2015; Weick, 1995). This framework identifies an important controversial issue regarding sensemaking. Specifically, how are teachers' interpreting the content provided within the program and draw from the idea of sensemaking (Gherardi, 2017; Li, Lin, & Lai, 2016; Allen & Penuel, 2015; Degn, 2015; Sandberg & Tsoukas, 2015; Weick, 1995). Most importantly, this issue remains to be studied. The sensemaking model framework was not selected due to the ambiguity that may exist for teachers when processing a technology program within a professional development workshop (Gherardi, 2017; Li, Lin, & Lai, 2016; Allen & Penuel, 2015; Degn, 2015; Sandberg & Tsoukas, 2015; Weick, 1995).

Universal Design for Instruction (UDI) Framework. Previous studies also addressed technology professional development based on universal design for instruction (UDI) framework. Universal design instruction is based on nine principles: equitable use, flexibility in use, simple and intuitive, perceptible information, tolerance for error, low physical effort, size and space for approach and use, community of learners and

instructional climate (Park, Roberts, & Delise, 2017; Hartsoe & Barclay, 2017; Rodesiler

& McGuire, 2015; Burgstahler & Russo-Gleicher, 2015; McGuire & Scott, 2006).

Previous research conducted on a professional development workshop utilizing the UDI

framework was found to be progressive by self-promotion, self-reflection and goal setting

for teachers during the training regardless of age, ability or situation (Rodesiler &

McGuire, 2015; Kraglund-Gauthier, Young, & Kell, 2014). The central foundation for

the UDI framework is for teachers to adjust their curriculum and instruction based on the

diverse learner population (Park, Roberts, & Delise, 2017; Hartsoe & Barclay, 2017;

Rodesiler & McGuire, 2015). This framework was selected because it provides a

foundation for teachers' self-reflection of the concepts when attending a professional

development workshop. A strength of the UDI workshop is the pedagogical component

for faculty to reflect on their current instructional practice and take appropriate steps to

create a more inclusive curricula and pedagogies (Park, Roberts, & Delise, 2017; Hartsoe

& Barclay, 2017; Rodesiler & McGuire, 2015). A weakness of the UDI workshop is the

'fit' between the technology strategies and design of the curriculum (Park, Roberts, &

Delise, 2017; Hartsoe & Barclay, 2017; Rodesiler & McGuire, 2015). The controversial

issue is the challenge of implementing the nine principles for learners into their course

practice and curriculum (Hartsoe & Barclay, 2017; Park, Roberts, & Delise, 2017;

Rodesiler & McGuire, 2015). Identifying the constructs of engagement and commitment

to UDI remains to be studied within higher education (Park, Roberts, & Delise, 2017;

Hartsoe & Barclay, 2017; Rodesiler & McGuire, 2015; Kraglund-Gauthier, Young, &

Kell, 2014). The UDI framework was not selected because UDI can be used as a

framework that guides curriculum development and improvement, which is not the focus of this study (Park, Roberts, & Delise, 2017; Hartsoe & Barclay, 2017; Rodesiler & McGuire, 2015; Kraglund-Gauthier, Young, & Kell, 2014).

Adult Learning Theory (ALT) Framework. Other previous studies addressed technology professional development based on the adult learning theory (ALT) framework (Arghode, Brieger, & McLean, 2017; Carter, Solberg & Solberg, 2017; Malik, 2016; Psiropoulos et al., 2016; Zepeda, Parylo, & Bengtson, 2014). The premise of the adult learning theory is to identify the age bracket for adults within the educational setting and connect professional development to learning (Arghode, Brieger, & McLean, 2017; Carter, Solberg & Solberg, 2017; Malik, 2016; Psiropoulos et al., 2016; Zepeda, Parylo & Bengtson, 2014). The adult learning theory was founded by Knowles (1973) and attributes nine characteristics to adult learners: control of learning; immediate utility; focus on issues of concern, continuous testing of learning; anticipate how to use learning; increase performance improvement; utilize resources; collaborative format and rely on appropriate information (Malik, 2016; Zepeda, Parylo, & Bengtson, 2014; Knowles, 1973). Professional development utilizing the adult learning framework focuses on a learner's need to understand why, what and how learning will take place (Carter, Solberg, & Solberg, 2017; Psiropoulos et al., 2016; Malik, 2016; Zepeda, Parylo,& Bengtson, 2014). The adult learning theory is pertinent to this research study because it addresses a learning component of how adult teachers learn technology through professional development programs. Although there are many forms of the adult learning theory, traditionally, the adult learning theory has been consistent with andragogy (Malik, 2016;

Zepeda, Parylo, & Bengtson, 2014; Knowles, 1980; Knowles, 1973), Brookfield's theory

of critical reflection (Brookfield, 2012), and transformational learning (Malik, 2016;

Zepeda, Parylo, & Bengtson, 2014; Mezirow, 1991; Knowles, 1973). For this study, the

ALT framework was not selected because the learners' preferred learning styles, prior

learning, motivation and level of readiness are not addressed, as well as, a deeper

understanding the teachers' prior experience and desire to learn (Carter, Solberg, &

Solberg, 2017; Psiropoulos et al., 2016; Malik, 2016; Zepeda, Parylo, & Bengtson, 2014).

The strengths of the adult learning theory is the focus on the adult learner and delivering

technology professional development based on the demands of the audience (Malik,

2016; Zepeda, Parylo, & Bengtson, 2014; Psiropoulos et al., 2016; Knowles, 1980;

Knowles, 1973). The weakness of the adult learning theory is the ambiguous

understanding of technology for the adult learner which hinder the learning capacity for

the teacher (Malik, 2016; Zepeda, Parylo, & Bengtson, 2014; Psiropoulos et al., 2016;

Knowles, 1980; Knowles, 1973).

   Project Based Learning Framework. Previous studies addressed technology

professional development using the project based learning framework (Herro & Quigley,

2017; Tauro, Youngsu, Rahim, Rasul, Osman, Halim, & Porfiri, 2017; Goh & Kale,

2016; Biasutti & EL-Deghaidy, 2015; Cook & Weaver, 2015; Svihla et al., 2015;

Restivo, 2014). Project and problem-Based Learning are synonymous terms where

students learn through problem-solving activities (Tauro, Youngsu, Rahim, Rasul,

Osman, Halim, & Porfiri, 2017; Herro & Quigley, 2017; Biasutti & El-Deghaidy, 2015;

Cook & Weaver, 2015). The goal of project based learning are for teachers to share in

activities that are central to a project which transforms their experiences (Tauro, Youngsu, Rahim, Rasul, Osman, Halim, & Porfiri, 2017; Herro & Quigley, 2017; Goh & Kale, 2016; Biasutti & El-Deghaidy, 2015; Cook & Weaver, 2015). Traditionally, project based learning involves real-world context and promotes the development of coherent understanding (Tauro, Youngsu, Rahim, Rasul, Osman, Halim, & Porfiri, 2017; Herro & Quigley, 2017; Goh & Kale, 2016; Biasutti & El-Deghaidy, 2015; Cook & Weaver, 2015).

Central to project based learning is the collaborative environment that assists teachers in promoting and developing a technological-awareness and critical thinking process (Tauro, Youngsu, Rahim, Rasul, Osman, Halim, & Porfiri, 2017; Herro & Quigley, 2017; Goh & Kale, 2016; Biasutti & El-Deghaidy, 2015; Cook & Weaver, 2015). A strength of project based learning is the careful design of technology professional development which targets key academic content while developing teachers' technology skills (Tauro, Youngsu, Rahim, Rasul, Osman, Halim, & Porfiri, 2017; Herro & Quigley, 2017; Goh & Kale, 2016; Biasutti & El-Deghaidy, 2015; Cook & Weaver, 2015; Mergendoller, Markham, Ravitz, & Larmer, 2006). Another strength of project-based learning is that it has been studied as a sound pedagogical technique that can bridge multiple disciplines which is applicable to technology professional development in a college setting (Herro & Quigley, 2017; Barron, 1998; Thomas, 2000; Krajcik, 2015). A weakness of project based learning is the design structure which is only based on projects or problems (Tauro, Youngsu, Rahim, Rasul, Osman, Halim, & Porfiri, 2017; Herro & Quigley, 2017; Goh & Kale, 2016; Biasutti & El-Deghaidy, 2015; Cook & Weaver,

2015; Mergendoller, Markham, Ravitz, & Larmer, 2006). The project based learning

framework was not selected because the approach is based on a driving question or

project for the technology professional development workshop, which is not the focus of

this study.

Active Learning Framework. This study utilizes the active learning framework.

Active learning is generally defined as any instructional method that requires students to

complete as a meaningful learning activity and to think about what they are doing (van

den Bergh, Ross & Beijaard, 2014; Bonwell & Eison, 1991). Active learning has been

associated with producing a positive effect in enhancing the knowledge and skills of the

learner (Goodnough et al., 2014).

Professional development with an active learning framework is characterized by

physical activity or a hands-on activity with collective participation and a focus on

content knowledge and instructional methods (Valiandes & Neophytou, 2018; Adsit,

2004; Brandt, 2003; Bransford & Schwartz, 1999; Desimone, Smith, & Ueno, 2006;

Garet, Porter, Desimone, Birman, & Yoon, 2001; Ingvarson, Meiers, & Beavis, 2005;

Karagiorgi & Symeou, 2006; Mundry, 2005; Yoon et al., 2007). Goodnough et al.,

(2014), conducted a qualitative research study on technology professional development

with an active learning framework for K-12. The goal of the study was to engage in

meaningful professional development (Goodnough et al., 2014). The strength of the

study was the hands-on activities for teachers to learn technology (Goodnough et al.,

2014). The weakness of the study was a lack of uniformity for the class (Goodnough et

al., 2014). The researchers recognized this issue and placed a greater emphasis on

enhancing knowledge and skills (Goodnough et al., 2014). Developing strategies and

hands-on activities are known variables within the study (Goodnough et al., 2014). They

allotted for teachers to collaborate and share learning with others are unknown variables

within the study (Goodnough et al., 2014). Gathering insights about teachers' definition

of 'effective professional development' remains to be studied (Goodnough et al., 2014).

Although the framework for above noted research study is technology

professional development using an active learning model, it does not meet scope of this

researcher's interest because it targets K-12. The purpose of this researcher's qualitative

study is to explore community college teacher perceptions of attending a technology

professional development workshop using the active learning model at a community

college.

Technological Pedagogical Content Knowledge (TPACK). Another framework

that previous studies use in the design of technology professional development is TPACK

(Dalal, Archambault, & Shelton, 2017; Harris & Hofer, 2017; Koh, Chai, & Lim 2017;

Martin, 2018; Jaipal-Jamani & Figg, 2015; Matherson, Wilson, & Wright, 2014; Mishra

& Koehler, 2006). Technology integration in teaching is a common protocol among

educators (Dalal, Archambault, & Shelton, 2017; Harris & Hofer, 2017; Koh, Chai, &

Lim 2017; Martin, 2018; Jaipal-Jamani & Figg, 2015; Kafyulilo, Fisser, & Voogt, 2015;

Matherson, Wilson, & Wright, 2014; Mishra & Koehler, 2006). The relationship

between content, pedagogy and technology frame the TPACK model (Dalal,

Archambault, & Shelton, 2017; Harris & Hofer, 2017; Koh, Chai, & Lim 2017; Martin,

2018; Matherson, Wilson, & Wright, 2014; Mishra & Koehler, 2006). More explicitly,

TPACK stands for technology, pedagogy, content knowledge (Dalal, Archambault, &

Shelton, 2017; Harris & Hofer, 2017; Koh, Chai, & Lim 2017; Martin, 2018; Jaipal-

Jamani & Figg, 2015; Matherson, Wilson, & Wright, 2014; Mishra & Koehler, 2006).

When applied to a technology professional development workshop, the merge between

these three facets will assist teachers to understand the value of technology integration

(Dalal, Archambault, & Shelton, 2017; Harris & Hofer, 2017; Koh, Chai, & Lim 2017;

Martin, 2018; Jaipal-Jamani & Figg, 2015; Matherson, Wilson, & Wright, 2014; Koehler

& Mishra, 2008; Mishra & Koehler, 2006). The constructs of interest within this study is

consistent with the scope of this research study because it explains the relationship

between technology, content and pedagogy for teachers within a technology professional

development workshop (Dalal, Archambault, & Shelton, 2017; Harris & Hofer, 2017;

Koh, Chai, & Lim 2017; Martin, 2018; Jaipal-Jamani & Figg, 2015; Matherson, Wilson,

& Wright, 2014; Koehler & Mishra, 2008).

  A strength of the TPACK framework is that it provides teachers with

opportunities to develop appropriate strategies that affect student learning in the

classroom (Dalal, Archambault, & Shelton, 2017; Harris & Hofer, 2017; Koh, Chai, &

Lim 2017; Martin, 2018; Jaipal-Jamani & Figg, 2015; Matherson, Wilson, & Wright,

2014; Koehler & Mishra, 2008; Mishra & Koehler, 2006). Another strength of the

TPACK framework is the integration of technology, which links curriculum content and

pedagogy (Dalal, Archambault, & Shelton, 2017; Harris & Hofer, 2017; Koh, Chai, &

Lim 2017; Martin, 2018; Jaipal-Jamani & Figg, 2015; Matherson, Wilson, & Wright,

2014; Koehler & Mishra, 2008; Mishra & Koehler, 2006). A weakness of the TPACK

framework is the teachers' ability to grasp and understand the fusion of these elements and effectively deliver it in the classroom (Dalal, Archambault, & Shelton, 2017; Harris & Hofer, 2017; Koh, Chai, & Lim 2017; Martin, 2018; Jaipal-Jamani & Figg, 2015; Matherson, Wilson, & Wright, 2014, Koehler & Mishra, 2008; Mishra & Koehler, 2006). This approach was not selected because the focus is on pedagogy, content knowledge and technology, which is not part of this research study.

Pedagogy. Technology professional development should incorporate pedagogy into the course curriculum (Baran, 2016; Kozma & Vota, 2014; Matherson, Wilson & Wright, 2014). Pedagogy refers to the methods and strategies for the art of teaching (Harris & Hofer, 2017; McCray, 2016; King, Joy, Foss, Sinclair, & Sitthiworachart, 2015). Teachers' technological and pedagogical beliefs play an important role when using technology in the classroom and should be considered as a major contributor in any approach to teacher professional development (Shernoff, Sinha, Bressler, & Schultz, 2017; Albion et al., 2015; Hermans et al., 2008a; Prestridge, 2010). The demands of the technology challenge teachers' skillsets, and professional development should explore the impact of pedagogy on technology (Harris & Hofer, 2017; Baran, 2016; King, Joy, Foss, Sinclair, & Sitthiworachart, 2015).

Implementing and aligning technology as a pedagogical approach will inspire teachers to use technology to implement specific teaching techniques (Baran, 2016; Crompton et al., 2016; Jaipal-Jamani, Figg, Gallagher, Scott, & Ciampa, 2015). Technology professional development research suggests that professional development initiatives should consider the learner's technology integration attitudes, practices and

skillsets while creating practical activities that focus on technology, pedagogy, and content (Winslow, Dickerson, Weaver, & Josey, 2016; Levin & Wadmany, 2008; Kopcha, 2010; Unger & Tracey, 2013).

Teachers should utilize pedagogical strategies to balance and stimulate technology engagement in the classroom as the main focal point for student learning (Zyad, 2016; Albion et al., 2015). A concern for teachers attending technology professional development will be how educators teach technology in the classroom to improve student learning (Jaipal-Jamani, Figg, Gallagher, Scott, & Ciampa, 2015; King, Joy, Foss, Sinclair, & Sitthiworachart, 2015; Matherson, Wilson, & Wright, 2014). The implementation of pedagogy assist teachers through technology professional development so that technology content is integrated into course curriculum for the transformation of learning environments (Lee et al., 2017; Baran, 2016; Jaipal-Jamani, Figg, Gallagher, Scott, & Ciampa, 2015; King, Joy, Foss, Sinclair, & Sitthiworachart, 2015).

Teachers' Barriers to Learning Technology. According to Albion et al. (2015), numerous research studies have identified and investigated the factors that affect technology integration in education (e.g., Kozma, 2003; Tondeur, Hermans, van Braak, & Valcke, 2008a; Tondeur, Valcke, & Van Braak, 2008b). This study found overarching themes for barriers for technology professional development; lack of time, access, resources or support and flexibility of curriculum. Other studies have described factors that assist or hinder faculty involvement in PD and represent barriers to change (Knowlton, Fogleman, Reichsman, & de Oliveira, 2015; Caffarella & Zinn, 1999; Sunal

et al., 2001). Makkawi (2017) and Ertmer (1999) discussed two types of barriers when discussing teachers' use of technology. First-order barriers are external barriers that are caused by the lack of resources, training or support for teachers (Makkawi, 2017; Ertmer, 1999). Second-order barriers are teachers' attitudes and beliefs towards using technology (Makkawi, 2017; Ertmer, 1999). Both types of barriers are essential and should be addressed to reach an ideal ICT usage. According to Melki, Nicolas, Khairallah and Adra (2017), inferred ambiguity about ICT and the support and training available to the teaching ranks may speak to the lack of IT policy at the institutional level.

Previous research indicated that barriers of effective technology integration in higher education are faculty beliefs, lack of knowledge, limited institutional support, and lack of self-efficacy (Baran, 2016; Kopcha, 2008). According to Albion et al. (2015), major barriers to technology professional development appear to be lack of time, flexibility in curriculum, and access to information communication and technology (ICT) and support. Other main barriers are inadequate training, insufficient resources (hardware or software), limited internal support, ambiguity in understanding the technology role in education, overloaded agenda and insufficient time to learn or practice with technology, and restricted curriculum leaving no room for technology integration (Makkawi, 2017; Wright, & Wilson, 2005). Previous studies found barriers for faculty when using technology to be related to lack of support, poor preparation time, insufficient software and technology, and low technical knowledge .(Rucker & Frass, 2017; Daugherty & Funke, 1998). It was important to note that while teacher beliefs play an important role in determining teacher behaviors, possibly influence student achievement;

it was considered one of the important barriers that must be overcome when teachers are adopting new practices (Lee et al., 2017). Ultimately, teachers may be faced with a degree of ambiguity around instructional goals and adequate resources when technology professional development is implemented (Allen & Penuel, 2015).

Teacher Self-Efficacy

The definition of self-efficacy is one's own belief and ability to reach goals and complete tasks (Motshegwe & Batane 2015; Ormrod, 2006). Teachers' beliefs, knowledge, and practices are predisposed by their life experiences, teacher preparation, and professional learning (Blanchard, LePrevost, Tolin, & Gutierrez, 2016; Ball, 2000; Crawford, 2007; Fullan, 1991; Fullan & Hargreaves, 1996; Smith, 2005). Ertmer and Ottenbreit-Leftwich (2010) claimed that effective teaching with the appropriate use of technology resources requires a change in teachers' knowledge, skills, self-efficacy, pedagogical beliefs, and school culture and their professional development programs (Gurevich et al., 2017). Self-efficacy places an important role in social cognitive theory as it was a precursor to individual's attitudes due to individual experiences (Bandura, 1977, 2001; Motshegwe & Batane, 2015). Traditionally, self-efficacy is described as an individual's judgment on his or her ability to succeed in different circumstances (Sum, Wallhead, Ha, & Sit, 2018).

According to Seferoğlu (2007), technology self-efficacy of teachers has an influence on the learning experiences created for learners and on the learners' perceptions of their own technology self-efficacy. A previous study indicated that participant's self-

efficacy was measured to be 90% with a high confidence level when using technology in the classroom (Motshegwe & Batane, 2015).

Previous studies indicated that self-efficacy was not directly influenced by the participant's attitudes (Motshegwe & Batane, 2015). Another study noted that student achievement was related to the teachers' outcome expectancy. According to Lee et al. (2017), it is suggested that student achievement as more related to the teachers' outcome expectancy of students rather than their self-efficacy.

Teacher Views of Technology Professional Development

Analyzing how teachers' practical knowledge shapes their response to PD requires a focus on how such knowledge develops within the larger group of teachers (Allen & Penuel, 2015; Connelly, Clandin, & He, 1997; Doyle & Ponder, 1977). In this study, I explored college teacher thoughts of technology professional development workshop to understand how college faculty view the active learning framework. Technology integration was the most anticipated professional learning component within professional development (Crompton et al., 2016). Previous research indicates that an expression of innovative technology teaching practices is tied to the faculty's perceptions of their own professional development (Melki, Nicolas, Khairallah, & Adra, 2017). Previous research indicates that teachers' current technology teaching practices are tied to their own perceptions of professional development (Melki, Nicolas, Khairallah, & Adra, 2017). According to Castro-Felix & Daniels (2018), college faculty indicated that dialogue between participants and instructors during professional development was an advantageous opportunity to discuss how professional development can be seen as a

personal resource based on their own experiences and practice. Teachers' feedback

indicated that collaboration was a fruitful avenue that contributed to the success in the

training process (Psiropoulos et al., 2016).

According to Murthy et al. (2015), in a previous study, 89% of the teachers who

participated in a technology professional development workshops strongly agreed or

agreed that they learned from the program and intended to use the knowledge and skills

from the program in their own courses. A number of teachers also felt that opportunities

to share their own learning with others should be an integral part of effective professional

development (Goodnough et al., 2014).

Challenges that teachers faced with technology professional development are

indicative of the changing technology. Teachers must maintain knowledge on existing

technology and understand that technology changes (Schaaf, 2018). According to Rucker

and Frass (2017), as educational technology is always changing it often leads universities

and colleges to install or upgrade to new technologies. Allocating adequate time for

instructors to learn and attend workshops, and practice new skills they acquire is

beneficial to their teaching practice (Psiropoulos et al., 2016; Schuck et al., 2013;

Amburgey, 2007).

Another view indicated by teachers was how to interpret and translate what they

learned from technology professional development workshops. According to Crompton

et al. (2016), teachers had a desire to learn how to effectively incorporate technology into

their existing curriculum. Previous research indicates that each teacher interprets

coursework or professional development through his or own 'filters or lens' (Parker, Morrell, Morrell, & Chang, 2016).

Teacher Perspectives After Attending Technology Professional Development

As changes are made to the teaching and learning processes, educational technology has prompted a variety of teacher perceptions (Pollock & Al-Bataineh, 2018). Teacher perspectives of technology professional development is necessary to help build future technology professional development workshops. According to Winslow, Dickerson, Weaver, & Josey (2016), previous research indicates that recommendations from participants confirmed the need for technology professional development that provided:

- Hands-on activities within professional development activities.
- Topics of practice technology use and immediate application.
- Knowledgeable workshop presenters.
- Active engagement of participants.

It was important to understand teachers' perspectives when attending a technology professional development workshop because it will help shape the curriculum of future technology professional workshops. A previous study indicated 75% of the participants found technology to be useful in their teaching practice, whereas, 48% indicated they found technology was simple to use (Motshegwe & Batane, 2015). Previous research indicated that after technology professional development, teachers believed effective technology integration should focus on technology as a tool to promote student learning rather than technology for instruction (Herro & Quigley, 2017).

Some teachers feel that after attending a technology professional development workshop, they do not apply what they learned in the workshop. According to Copper and Semich, (2014), some teachers forget about what they learned when they get back to school. These findings complement the educator's interest in 'hands-on' training (Crompton et al., 2016)

Teachers have also identified other perspectives of technology professional development. A characteristic that was identified most frequently by the teachers (90 percent) was that professional development had to be connected directly to student learning (Goodnough et al., 2014). Teachers also described the importance of developing strategies and practical activities that would meet curricular outcomes, as well as adopting effective assessment techniques (Goodnough et al., 2014).

Teacher awareness during the technology professional development workshop helps to identify individual learning capabilities. A previous study noted that participants were being particularly sensitive to teachers' differing professional strengths and learning needs (Harris & Hofer, 2017). Therefore, some differentiation within professional development workshops may be needed (Allen & Penuel, 2015). According to Jaipal-Jamani & Figg (2015), a recent case study indicated that teachers' perceptions of a technology-enhanced workshop support transforming theoretical ideas into practical understandings, onsite professional learning supported collaboration and implementation of the material, and just-in-time mentoring attributed to gaining new knowledge. These findings exploit the participants' learning experience within a technology professional development workshop. Teachers indicated that learning comes from interaction and

when the training has a lack of interaction, there is a lack of learning (Castro-Felix &

Daniels, 2018). Another study gives claim to the strength of mediated learning and

experiences which form teachers' perceptions and ideas about the training (Davis et al.,

2015).

Summary and Conclusions

The intention of this literature review was to provide background to the study of

college faculty perceptions of technology professional development with an active

framework. The review of literature provided insight into the various frameworks applied

to technology professional development, what is technology professional development,

teachers barriers to learning technology, teacher self-efficacy and pedagogy, and teacher

perspectives after attending a technology professional development workshop. This

section reviewed literature on the following frameworks: *Technology Acceptance Model*

(TAM), Adult Constructive Developmental (ACD), Sensemaking, Universal Design for

Instruction (UDI), Adult Learning Theory (ALT), Project Based learning (PBL), Active

Learning (AL), and Technology Pedagogical Content Knowledge (TPACK). Also, this

section reviewed literature on teachers' barriers learning technology, teacher self-efficacy

and pedagogy, teacher views of technology professional development and teacher

perspectives after attending technology professional development to provide insight and a

framework to guide this research in analyzing teachers' perception of technology

professional development with an active learning framework. Several themes emerged

from the analysis and synthesis of the literature. Common themes that teachers cited were

barriers to technology professional development, technology support and collaboration

during technology professional development to meet the challenges and demands of the required task (Park, Roberts, & Delise, 2017; Psiropoulos et al., 2016; Stewart & Wolodko, 2016).

     I examined teachers' perceptions about the active learning framework within a technology professional development workshop at a community college. This study will fill the gap to examine teachers' perceptions about the active learning framework within a technology professional development workshop at a community college. Chapter 3 will address the design and rationale of a qualitative interview study method. In addition, Chapter 3 will identify the study population, procedures for collecting and analyzing the data. The Chapter 3 methodology is consistent with a qualitative study seeking to understand the teachers' perceptions and thoughts of a technology professional development workshop within a community college.

Chapter 3: Research Method

Introduction

Currently, U.S. colleges and universities provide teachers with technology professional development opportunities using a variety of frameworks. Researchers have identified that different frameworks used within technology professional development workshops seek to understand teachers' learning of the content (Melki, Nicolas, Khairallah, & Adra, 2017; Motshegwe & Batane, 2015; Rucker & Frass, 2017;Wu et al., 2016). I conducted this study to gain insight on teacher perceptions of technology professional development using active learning in a community college setting. Teachers who participated in the study were asked about their definitions of technology professional development, the strengths and weaknesses of technology professional development, and how the use of an active learning framework in a technology professional development workshop affects their teaching and instruction practices, class curriculum, and student engagement. The conceptual framework of this study included elements of the active learning and transformative learning theories (Bonwell & Eison, 2012; Mezirow, 1991). In this chapter, I will discuss the research design and rationale, role of the researcher, methodology, and issues of trustworthiness that pertain to this research study.

Research Design and Rationale

The research questions for this study were as follows:

RQ1. What are faculty perceptions, assumptions, and experiences when participating in a technology professional development workshop using active learning at a community college?

RQ2. What are faculty perceptions of the active learning component in a technology professional development workshop at a community college?

RQ3. How do faculty perceptions about technology professional development workshop using active learning at a community college change as a result of their participation in the workshop?

The central phenomenon of this qualitative research study was faculty perceptions of a technology professional development workshop using active learning at a community college. I used a qualitative research method to explore faculty perceptions. Qualitative research is a basic approach when conducting research to describe, interpret, and explain how participants process their experiences (Beuving & de Vries, 2015). According to Levitt et al. (2018), qualitative researchers analyze the data in its natural form through words and expressions.

For this qualitative study, I used naturalistic inquiry to explore faculty perceptions of technology professional development using active learning. There was no manipulation or perceived notations from me as the researcher (see McInnes, Peters, Bonney, & Halcomb, 2017). In the community college that served as the study site, technology professional development opportunities are available for faculty and staff. Attendance at technology professional development opportunities were on a voluntary

basis. The technology professional development opportunities were conducted as face-to-face, self-study, online, or hybrid workshops.

Naturalistic inquiry was an appropriate method for this study because participants attended a technology professional development workshop in their natural setting (see Lincoln & Guba, 1985; McInnes et al., 2017; Patton, 2002). Conducting a qualitative study and collecting data via interviews was a valid approach to obtaining the thoughts and perceptions of the participants on the workshop. It also allowed me to identify the strengths and weaknesses of the active learning framework. According to Beuving and de Vries (2015), researchers use the naturalistic inquiry method to ask *How* questions which draw on the thoughts and perceptions of individuals in their natural environment. I expected to provide information that will add, refute, or challenge the existing literature. I opted against conducting a grounded theory study because my focus was on ascertaining the thoughts and perceptions of individuals within their natural environment. Grounded theory draws upon the methods and epistemological position from the participants (Saunders & Townsend, 2016). Another reason was that a grounded theory study involves 20-30 participants (Saunders & Townsend, 2016). My study had five participants.

I chose the qualitative rather than the quantitative and mixed-methods approaches for this research study. Qualitative research is a basic approach that is used to conduct research to describe interpret and explain whereas a quantitative research goal is to conduct research through mathematics (Beuving & de Vries, 2015). Also, researchers using a quantitative or mixed-methods approach seek to verify hypotheses or validate a

theory, neither of which was the goal of this study (Levitt et al., 2018). I sought to neither verify a hypothesis nor validate a theory. In addition, I did not collect demographic or numeric data from the participants. This study was intended to explore faculty thoughts and perceptions of a technology professional development workshop using active learning. I expect this study to be a valuable resource that can be added to the current literature.

Role of the Researcher

I was the sole researcher. My role included contacting the learning resources coordinator at the study site and participants as well as collecting, recording, transcribing, analyzing, and storing the data for this research study. I am a certified English and Computer Applications teacher for Grades 7-12. Also, I am an adjunct faculty member at the community college where the study took place which is in the Midwest part of the United States. I started teaching at the community college, on an ad-hoc basis, in 1995. As an adjunct teacher at the community college, I have striven to maintain a professional relationship of respect, trust, and confidentiality with all faculty and staff.

As the researcher for the study, it was important to recognize bias as an aspect of subjectivity within a study (see Roulston & Shelton, 2015). To alleviate bias in this study, I employed a reflexive practice strategy when selecting participants, communicating with participants, using nonverbal and verbal language, and collecting and analyzing data (Roulston & Shelton, 2015). At the beginning of the study, I documented any bias or preconceived notations regarding the site, participants, and interview questions. This allowed me to conduct the study in a reflexive manner.

My professional relationship with others in the college is limited. I am an adjunct faculty member, and I only teach two classes per year. Traditionally, the classes are in the evening when the majority of the faculty are not at the college. The only contact that I have at the college is with the department chairman via e-mail. When I am at the college, I may see other faculty members, but they usually do not know me. My role at the college is to be friendly and professional and support the mission statement of the college. My goal is for others to respond to me in a positive manner. According to MacNeill, McCambridge, Foley, and Quirk (2016), the researcher's relationship with participants may influence the results of the study. None of the participants in this study were ones with whom I had a relationship with at the college. An anticipated field issue could have been a conflict of interest since I am an adjunct faculty member of the college. The conflict of interest was minimized because I had not participated in any of the technology professional development workshops that were offered at the college. I recognized this during the selection of participants, collection and analysis of data, and documentation of the findings of the results of this research study.

Methodology

The methodology for this study was systematic. The population for this study was full, part-time or adjunct community college faculty located in the Midwest who attend a technology professional development workshop using an active learning model.

Participant Selection Logic

The population for the study was full, part-time or adjunct college faculty who register for a technology professional development class using active learning. This study

will employ a purposeful sampling strategy. The participant site selection was a local community college in the Midwest. The site selection was relevant to the current socioeconomic era for researchers to conduct a qualitative study (Levitt et al., 2018).

Purposeful sampling is commonly used when selecting participants for a qualitative study (Collier, Kingsley, Ovitt, Lin, & Romero-Benavidez, 2017; Gentles, Charles, Ploeg, & McKibbon, 2015). "Patton (2015) provides the following description of purposeful sampling: "The logic and power of purposeful sampling lie in selecting information-rich cases for in-depth study. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry…Studying information-rich cases yields insights and in-depth understanding" (p. 264)." The criteria for selecting participants was full, part-time or adjunct community college faculty with varying degrees of education, training, college degrees, and tenure. The purposeful sampling was used to explore community college faculty perceptions and thoughts of a technology professional development workshop using active learning. The findings of this study may be used to enhance the development of future technology professional development workshops. The purposeful sampling process was voluntary for participants. The justification for the purposeful sampling process was the participants volunteering for the technology development workshop with an active learning framework. To establish how participants are known to meet the criteria, an email communication was sent to the appropriate college contact.

The total number of desired participants for the study was between eight to twelve participants. This number was sufficient to achieve data saturation for the study.

According to Saunders & Townsend (2016), an interview study consisting of six to twelve participants is sufficient to reach data saturation. This study used a similar number of participants to achieve data saturation. This will result in 10% of the participant population based on the total number of participants that attended previous workshops.

Instrumentation

The data collection framework for this study will adhere to Creswell's seven phases of data collection, which are site and individual selections, gaining access and making rapport, sampling purposefully, collecting data, recording information, exploring field issues and storing data (Creswell, 2013). I developed the following instruments to interview participants within the study (Saris & Gallhofer, 2014). The first interview instrument was used prior to the start of the technology professional development workshop (see Appendix B).

Table 1

Research Questions and Interview Questions Prior to Workshop

Research questions	Interview questions
RQ1. What are faculty perceptions, assumptions and experiences when participating in a technology professional development workshop using active learning at a community college?	IQ1 – Do you have any preconceived thoughts to participate in a technology professional development workshop using an active learning framework?
	IQ2 – What are your assumptions and/or perceptions of participating in a technology professional development workshop using the active learning model in a community college?
	IQ3 – Do you understand the technology terms for the technology professional development workshop using an active learning model?
RQ2. What are faculty perceptions of the active learning component in a technology professional development workshop at a community college?	IQ 4 – Please describe your thoughts of the active learning component for a technology professional development workshop.
	IQ 5 – Tell me how your thoughts will affect the experience as a participant in a technology professional development workshop that used an active learning framework.

(table continues)

Research questions	Interview questions
RQ3. How do faculty perceptions about technology professional development workshop using active learning at a community college change as a result of their participation in the workshop?	IQ 6 – Please describe how your thoughts have changed as a result of participating in a technology professional development workshop using an active learning model.
	IQ 6.1 – Follow-up question: What were your thoughts about technology professional development before attending the workshop?
	IQ 6.2 – What were your thoughts about technology professional development after attending the workshop?
	IQ 6.3 – Please explain how your thoughts morphed before and after attending the technology professional development workshop.
	IQ 7 – Is there anything else that you would like to share with me about the technology professional development workshop using the active learning model at a community college?

Note. RQ = Research question; IQ = interview question.

The second interview instrument was used during the technology professional

development workshop via email (see Appendix C).

Table 2

Research Questions and Interview Questions During the Workshop

Research Questions	Interview Questions
RQ1. What are faculty perceptions, assumptions and experiences when participating in a technology professional development workshop using active learning at a community college?	IQ1 – Have your preconceived thoughts to participate in a technology professional development workshop using an active learning framework changed? *(table continues)*
	IQ2 – What are your thoughts and/or perceptions of participating in a technology professional development workshop using the active learning model in a community college?
	IQ3 – What is your perspective on learning technology in a professional development workshop using an active learning model?
RQ2. What are faculty perceptions of the active learning component in a technology professional development workshop at a community college?	IQ 4 – Please describe your experiences when participating in a technology professional development workshop using an active learning model.
	IQ 5 – Tell me about your experience as a participant in a technology professional development workshop that used an active learning framework.
RQ3. How do faculty perceptions about technology professional development workshop using active learning at a community college change as a result of their participation in the workshop?	IQ 6 – Please describe how your thoughts have changed as a result of participating in a technology professional development workshop using an active learning model.
	IQ 7 – Is there anything else that you would like to share with me about the technology professional development workshop using the active learning model at a community college?

Legend: RQ = Research Question; *IQ* = interview question.

The third interview instrument was used after the technology professional

development workshop (see Appendix D).

Table 3

Research Questions and Interview Questions After Workshop

Research Questions	Interview Questions
RQ1. What are faculty perceptions, assumptions and experiences when participating in a technology professional development workshop using active learning at a community college?	IQ1 – What are your thoughts to participate in a technology professional development workshop using an active learning framework?
	IQ2 – What are your thoughts and/or perceptions of participating in a technology professional development workshop using the active learning model in a community college?
	IQ3 – What is your perspective on learning technology in a professional development workshop using an active learning model?
RQ2. What are faculty perceptions of the active learning component in a technology professional development workshop at a community college?	IQ 4 – Please describe your experiences when participating in a technology professional development workshop using an active learning model.
	IQ 5 – Tell me about your experience as a participant in a technology professional development workshop that used an active learning framework.
RQ3. How do faculty perceptions about technology professional development workshop using active learning at a community college change as a result of their participation in the workshop?	IQ 6 – Please describe how your thoughts have changed as a result of participating in a technology professional development workshop using an active learning model.

Research Questions	Interview Questions
	IQ 7 – Is there anything else that you would like to share with me about the technology professional development workshop using the active learning model at a community college?

Legend: RQ = Research Question; IQ = interview question.

The research questions were grounded on the standards of qualitative literature, which are exploratory and explanatory (Marshall & Rossman, 2014). I explored and investigated previous qualitative literature before developing the research questions. Also, the researcher questions were explained through the development of the interview questions. As the sole researcher, I created these interview instruments based on the explanatory standards of qualitative research. The interview questions were reviewed by my Committee members and a college professor, who is versed in instructional design and works at the community college site. Questions were focused on a specific population within the college that attended a technology professional development workshop using active learning (Marshall & Rossman, 2014).

Procedures for Recruitment, Participation, and Data Collection

Before participant recruitment and data collection, I obtained approval from Walden University's Institutional Review Board (IRB). The IRB at Walden University ensures researchers comply with ethical standards in research (Walden University, 2018). The IRB approval number was 09-12-18-0098650.

After receiving IRB approval, I contacted the selected site to ask if I can conduct the study. The site selected provided information that states that they require a conditional IRB approval before I receive their formal approval to conduct the study.

After I received the conditional IRB approval, I submitted it to the site Provost. Gaining access to the participants was fulfilled once a conditional IRB approval is received.

The procedures for how participants were recruited for this study entailed that I contacted the Coordinator within the Learning Resources Center to obtain the names of the upcoming technology professional development workshop opportunities that utilize active learning. Then, I contacted the Coordinator of the Learning Resource Center to obtain a list of teacher names that have signed up to attend an upcoming technology professional development workshop. After obtaining the list of names, I notified each teacher by distributing a notification in each teacher's mailbox and via email, which included my name and contact information, the summary and purpose of the study, as well as, the confidentiality procedures. For this study, I anticipated needing between eight and twelve participants to attain data saturation. The participants who are willing to participate and comply with this study sent me an email via their school's mail email provider with their name and indicating their participation. If the number of interested participants exceeds twelve, I will use random sampling to select participants. After receiving the emails from the interested participants, I contacted each participant via a telephone call and/or email, welcomed them and explained the process of the study and ask if they had any questions. When the study was concluded, participants will receive the following:

- Confidentiality Statement
- Thank You Letter
- Researcher's Contact Information

This study was conducted over a 4-week period. Data was collected from the voluntary participants through two separate interviews which were before and after the workshop. According to Levitt et al. (2018), interviews are part of the data collection strategy for researchers. Interviews played a central role in a qualitative data study (Creswell, 2013). I conducted two individual interviews. The first set of interview questions are available in Appendix B. The first interview was conducted face-to-face with participants at the college prior to the technology professional development workshop. The face-to-face interview provided and established opportunities to develop mutual trust and rapport with participants. Conducting a face-to-face interview provides motivation for an engaging learning experience between participants (Son & Simonian, 2016; Son & Wambalaba, 2008; Son & Goldstone, 2010).

The second set of interview questions are available in Appendix C. The second interview was conducted via telephone while they are attending the technology professional development workshop. The telephone interview provided participants with a fresh response when answering the interview questions because they are still attending the technology professional development workshop. The third set of interview questions are available in Appendix D. The third interview was conducted face-to-face with each participant at the college after the technology professional development workshop is completed. The face-to-face interview for the third round provided the participants with an outlet to develop and maintain a rapport that was previously established with the researcher. This enabled the participants to add personal or professional comments that might affect the development of future technology professional development workshops.

Before each set of interviews, I arrived approximately 15 minutes early to set up my work area at the participant's location at the college. The location was at the participant's discretion at the college. For the participant's convenience, interviews took place at their office, classroom or library at the college. I brought my laptop, recording device, notebook, pencils and pens to take additional notes during each interview. At the start of each interview, I asked each participant if they have any questions regarding the study. Also, I read the introduction to my script as we start the interview process (see Appendix A).

Prior to each interview session, I reminded participants that their participation was voluntary for the study. Also, I asked the participants if they have any questions before we start the interview. All interviews were recorded using the Voice Recorder app from an Android phone. Also, all interviews were transcribed using Microsoft Word©. Then, all transcribed interviews were coded and entered within Microsoft Excel©. I will maintain the confidentiality of the coded data in a locked safe for the next five years. Traditionally, qualitative interviews ask open-ended or semi-structured questions (Beuving & de Vries, 2015). Each interview session began with open-ended questions. There are seven open-ended interview questions for each session (see Appendix A). Each interview session was completed between 30 and 45 minutes. If warranted, I asked probing and clarifying questions to dig deeper and elicit additional data saturation. The interview questions related to each research question which pertained to faculty thoughts and perceptions of technology professional development workshop using active learning. All participants received a consent form to participate in the study and for the audio

recording of the interviews. Prior to participants exiting the interview process, I reviewed that all information is private and confidential, and asked if I may contact them again if follow-up is needed.

For each interview session, the researcher remained unbiased by sitting straight in the chair, maintaining eye contact and responding with an appropriate gesture such as nodding. To manage bias, the researcher conducted a self-reflection when each interview was been completed. This helped me to ensure my personal opinion was not entered into my notes. Also, it helped to categorize themes and phrases for the study.

Each interview session was recorded with the participant's consent. Also, if necessary, I entered pertinent notes, thoughts, and any verbal and non-verbal communications were emitted from the participant in my notebook during each interview session. At the end of the interview, I conducted a member check with each participant to review the questions and answers of the interview. This will allow the participant to clarify, add or remove their answers. Using member checking assists to verify interpretations and conclusions drawn from the researcher (Miles, Huberman, & Saldana, 2014). Also, if needed, I verbally indicated to each participant that I may reach out to the participant for follow-up information, if necessary.

Data Analysis Plan

According to Levitt et al. (2018), data analysis strategies may include interpretation, unitization, coding and eidetic analysis in a qualitative study. Inductive analysis is fundamental to the naturalistic inquiry study (McInnes et al., 2017; Patton, 2002).

The data collection consisted of two interviews with the participants for the study. Each interview question was developed and aligned to the research questions. The connection of the data to each specific research question is outlined in Table 4.

Table 4

Data Analysis Plan

Research Questions	Interview Questions
RQ1. What are faculty perceptions, assumptions and experiences when participating in a technology professional development workshop using active learning at a community college?	IQ1 – Do you have any preconceived thoughts to participate in a technology professional development workshop using an active learning framework?
	IQ2 – What are your assumptions and/or perceptions of participating in a technology professional development workshop using the active learning model in a community college?
	IQ3 – Do you understand the technology terms for the technology professional development workshop using an active learning model?
RQ2. What are faculty perceptions of the active learning component in a technology professional development workshop at a community college?	IQ 4 – Please describe your thoughts of the active learning component for a technology professional development.
	IQ 5 – Tell me how your thoughts will affect the experience as a participant in a technology professional development work that used an active learning framework.
RQ3. How do faculty perceptions about technology professional development workshop using active learning at a community college change as a result of their participation in the workshop?	IQ 6 – Please describe how your thoughts have changed as a result of participating in a technology professional development workshop using an active learning model.
	IQ 6.1 – Follow-up questions; What were your thoughts about technology professional development before you attended the workshop?

Research Questions	Interview Questions
	IQ 6.2 – What were your thoughts about technology professional development after you attended the workshop?
	IQ 6.3 – Please explain how your thoughts morphed before and after attending the technology professional development workshop.
	IQ 7 – Is there anything else that you would like to share with me about the technology professional development workshop using the active learning model at a community college?

Legend: RQ = Research Question; *SQ* = Sub Question; *IQ* = interview question.

The coding of data was the next step. I read each transcribed interview and developed a coding scheme that identifies keywords, themes or phrases to categorize the data (Ranney, Choo, Garro, Meisel, Sasson, & Guthrie, 2015). The coding process took several iterations to produce rich, thematic descriptions for data analysis (Bree & Gallagher, 2016). I documented each coded interview in Microsoft Excel©. The process of coding is iterative, inductive and a nonlinear process which enables the researcher to view the findings in a holistic manner (Chowdhury, 2015; Silverman, 2010). After all interviews were transcribed, I conducted an inductive approach and assign codes to each individual transcribed interview. This helped to identify and group common themes and assist to producing rich, descriptive data analysis (Chowdhury, 2015). The process of coding data within transcribed interviews can be isolated and decontextualized for further analysis (Bree & Gallagher, 2016). The first set of interviews, which were conducted prior to the technology professional development workshop, were coded on paper and then entered into Microsoft Excel©. The second set of interviews, which were conducted

during a break for the technology professional development workshop via telephone,

were coded on paper and then entered into Microsoft Excel©. The third set of interviews,

were conducted after the technology professional development workshop, were coded on

paper and then entered into Microsoft Excel©. This provided triangulation for the data

and verify the validity and reliability of the data for the findings and results (Bree &

Gallagher, 2016; Cohen, Manion, & Morrison, 2011). Then, the researcher sorted the

keywords and phrases into categories and place them in organized themes within

Microsoft Excel. After the codes were established and entered onto each transcribed

interview, I entered them into the Microsoft Excel© spreadsheet. Then, imported the file

into NVivo. The data analysis process began after all of the codes for each transcribed

interview has been entered. I cross checked and reviewed each code on the paper copy of

the transcribed interviews and compared it with the Microsoft Excel© spreadsheet. This

allowed the researcher to note patterns and themes and identify the findings of the study.

Issues of Trustworthiness

Transparency in research provides the reader with an understanding of the content

and increases trustworthiness (Levitt et al., 2018). Trustworthiness supports the validity,

rigor and transparency of a qualitative research study (Chandra & Shang, 2017; Sinkovics

& Alfoldi, 2012; Woods, Paulus, Atkins, & Macklin, 2015a). This study supports

trustworthiness, validity and credibility.

Trustworthiness and Credibility

For this research study, criterion to establish trustworthiness was based on

credibility, dependability, conformability and transferability (Elo, Kääriäinen, Kanste,

Pölkki, Utriainen, & Kyngäs, 2014; Lincoln & Guba, 1985). One method to establish

trustworthiness and credibility will be formed by establishing confidence and truth

between the participants and researcher (McInnes et al., 2017). One way this will occur is

through face-to-face interaction with participants, which will help deepen confidence and

trust. Another strategy to establish trustworthiness within the study, the researcher will

eliminate any facial expressions during the two separate interviews; thereby, alleviating

any perceptions based on each conversation (Schyns, Hall, & Neves, 2017). The

elimination of my facial expressions validated to the participants that I do not hold prior

judgments or bias based on their feedback. This ensured that I conducted a valid and

trustworthy research study.

Credibility assists in building trustworthiness for a study (Elo et al., 2014). A

strategy to address credibility for the study is to conduct reflexivity. Conducting

reflexivity throughout the research study assisted in controlling the researcher's bias and

provided credibility to the study. Reflexivity helped to control any bias the researcher

might have throughout the study. After each interview, I reflected on the interview

questions and responses, and reviewed my notes that were entered throughout the

interview process. This reflection helped the researcher to control and understand any

bias that were given during each interview process. I conducted a reflection after each set

of the two interviews to ensure that my personal history or background did not interfere

with the findings of the study.

Transferability, validity and rigor will be established through the coding of data

(St. Pierre & Jackson, 2014). Transferability is acknowledged through rich, thick

descriptions that are provided to the participants during the study, which assist in the reporting results (Elo et al., 2014). The coding of data needed to be thoroughly reviewed for transferability of the planned research study (Schyns et al., 2017). This technique assisted in providing consistency and maintaining dependability throughout the study.

Dependability was addressed based on the stability of the data. The stability of the data remained consistent throughout the two separate interviews of the participants (Elo et al., 2014). The researcher conducted the same interview procedure and protocol when conducting each set of interviews.

Validity is obtained through the consistent coding, sorting, and sifting through the data (Chowdhury, 2015). Validating the data provides an authentic experience in assessing confirmability (Chowdhury, 2015). The content validity was established through the researcher's unbiased protocol to answer the research questions within this study (Chowdhury, 2015). The actions of the researcher to remove bias are described in the following sections. To establish sufficiency of data collection instruments to answer the research questions are obtained through conducting interview questions. Interview questions is a strategy to obtain data saturation and a means to data collection (Fusch & Ness, 2015). To ensure validity and accuracy, I verified and reviewed there was not a shift in the meaning and definitions of the assigned codes. I conducted a thorough comparison of the codes assigned and reviewing notes entered during the two separate interviews. I performed this review for each of the two separate interviews.

Confirmabilty is achieved through consistent data collection (Ranney et al., 2015). The data collection instrument strategy guides this research study through the triangulation of the data and addresses this study research questions (Ranney et al., 2015).

To ensure credibility and reliability, I conducted two rounds of interviews by analyzing transcripts from in-depth face-to-face interviews. Initial data analysis included inductive coding systems to process the information into meaningful categories for consistent manipulation of data (Frankfort & Nachmias, 2008). The second round of data analysis included clarification of the initial responses to ensure there were no new categories or themes emerging (DiCicco-Bloom & Crabtree, 2006).

Triangulation of the data consisted of conducting two interviews (Merriam & Tisdell, 2015). The study ensured credibility, transferability, dependability, confirmability, and objectivity through the data analysis, documentation of the interview transcript, note taking, member checking and reflexivity of bias concerns from the researcher which were noted above (Merriam & Tisdell, 2015).

Ethical Procedures

To gain access to selected site and participants, a conditional approval consideration was obtained from Walden University's IRB. The researcher received a certification of completion from the Collaborative Institutional Training Initiative (CITI) program that is required to be completed when conducting a Human Research study. The certification number is 21120009, and it will expire on August 22, 2020 (see Appendix E).

Ethical concerns.

As the sole researcher of the study, I conducted the study in an ethical manner and abided by the ethical guidelines to ensure validity and reliability by providing transparency. Providing transparency throughout this study eliminated any ethical concerns from the researcher (Chandra & Shang, 2017; Fang, Steen, & Casaevall, 2012; Gewin, 2014). As an adjunct faculty member at the college, I eliminated any ethical concerns by respecting the rights of the participants, college, and college stakeholders by providing them with written consent forms, temporary IRB approval from Walden University and the format of this study to the appropriate contact person at the community college (Creswell, 2009; Chandra & Shang, 2017).

Treatment of Data

The treatment of the data collected and noted documentation for the study will be locked in a safe in the researcher's home for the next five years. I am the sole person living the house thereby, confidentiality and anonymity will be maintained while the data is stored and locked. According to Miles et al. (2014), privacy, confidentiality and anonymity, traditionally surfaces when visual media is incorporated within a study. This study did not include visual media; therefore, privacy, confidentiality and anonymity will be maintained and honored by the researcher.

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Summary

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In summary, Chapter 3 provided an overview of the research design and rationale, researcher's role, methodology, instrumentation, data collection, and analysis plan, trustworthiness, and ethical procedures for this study. This natural inquiry interview study examined college faculty perceptions of technology professional development

workshop using active learning. This study's location was in a rural area of the Midwest in the United States. Participants were selected using random sampling. This study consisted of conducting two interviews with participants to ensure triangulation, which occurred before, during, and after participants of the workshop. Ethical considerations such as bias, validity, reliability, trustworthiness, member checking, and reflexivity were acknowledged through the data validation and analysis process.

Chapter 4 will address the findings of this research study. This will include a detailed analysis and descriptions of the results of this naturalistic inquiry interview study. This will include the setting, demographics, data collection, and analysis, evidence of trustworthiness, and results.

Chapter 4: Results

Introduction

The purpose of this general qualitative interview study was to explore community college faculty perceptions of participating in a technology professional development workshop using active learning at a community college. This study is significant because the results could help to define future technology professional development workshops using active learning framework at community colleges. The research questions focused on faculty perceptions and experiences of workshop participation, faculty perceptions of the active learning components of the workshops, and how do faculty perceptions about technology professional development using active learning change as a result of participation in the workshop. Chapter 4 includes information on the setting, demographics, data collection, and data analysis; evidence of trustworthiness; results; and a summary.

Setting

This general qualitative research study included five faculty from a community college in the U.S. Midwest. The participant pool included faculty who registered to attend a technology professional development workshop using active learning. The total number of full, part-time, and adjunct faculty who registered for the workshop was 25. Traditionally, the workshops are cancelled if the number of participants who register for the workshop is fewer than six. Due to the low enrollment of participants for the upcoming college workshops, a number of workshops had been cancelled at the time of the data collection. Therefore, the number of participants who enrolled in the active

learning workshop for this study was smaller than expected. The total number of participants who agreed to participate in the study was five. The total number of participants who would not agree to participate in the study were 2. The total number of participants who would not respond to my invitation was 10. This site is valuable for the study because the college offered a technology professional development workshop using an active learning framework was provided for faculty.

Demographics

This study was conducive to purposeful sampling for the selection of the participants. The participants for the study were full, part-time, and adjunct faculty at a community college in the Midwest. The criteria included that all participants were registered to attend a technology professional development workshop using active learning. I excluded administrative staff, secretarial staff, and coordinators. There were five participants in the study: three women and two men. I created the following pseudonyms for participants to protect their privacy: MaryJo, BeckySue, Sally, Craig, and BobbyJoe. The participants taught a variety of subjects at the community college and had diverse educational backgrounds which include master's and doctoral degrees.

Data Collection

The procedures for the data collection were in compliance with the Walden University IRB guidelines (approval number 09-12-18-0098650). I also gained permission from the study site to conduct the study (see Appendix F). The original intent of this study as described in Chapter 3 was to conduct three interviews with each participant. Due to the low number of technology professional development workshops

using active learning being offered and a low number of participants who registered to

attend the workshop, the data collection method was changed to two scheduled

interviews with each participant and a follow-up interview, if needed. I submitted a

change in procedure form to the IRB to have the study consist of two interviews

conducted with each participant: an interview before the workshop and an interview after

the workshop. Therefore, only two interview questionnaires were conducted and

completed before and after attending the workshop. The interview questionnaire that was

to be conducted during the middle of the workshop was eliminated.

The original intent for the number of participants for the study was eight to twelve

participants. Nine participants expressed an interest in the study, but, due to personal

reasons, four participants decided not to participate in the study. The total number of

participants who agreed to participate in the study was five.

I began data collection immediately after obtaining IRB approval. The procedures

for the study included conducting two interviews for each participant and taking notes in

a research journal throughout each interview. An interview was conducted before the

start of the workshop. Also, an interview was conducted after attending the workshop. I

created journal notes throughout each set of interviews. To ensure triangulation

throughout the data collection process, I connected each research question and sub

question to the three data sources.

Another facet of the original intent of the study was to conduct the interviews

face-to-face. Due to faculty scheduling conflicts, some participants were not able to

attend a face-to-face interview as originally intended. Therefore, telephone interviews

were conducted in lieu of face-to-face interviews for the majority (four) of participants. I

interviewed the fifth participant face-to-face. These scheduling issues prompted a change

in the location of the data collection. The location of each interview was recommended

by each participant. Two of the participants conducted the telephone interviews in their

office at the community college while two of the participants conducted the telephone

interviews at their homes. Each telephone interview lasted between 20 to 30 minutes. The

face-to-face interview was conducted at a local library. The face-to-face interview lasted

approximately 30 minutes. With the consent of the participants, I recorded all interviews,

both telephone and face-to-face, using the Voice app on my phone. In addition, I entered

handwritten notes in a steno book throughout each interview. Immediately after each

interview, I transcribed each recorded interview using Microsoft Word.

Interviews

After receiving permission from the site selection to conduct the study, I

contacted the learning coordinator at the site to obtain a list of the participants with e-

mail addresses who had registered for a technology professional development workshop

with an active learning framework. After I received the list, I contacted all participants

via e-mail. A consent form was sent to the participants via e-mail. The study was

conducted during the 2018 fall semester. The interviews were private, confidential, and

recorded. All participants were apprised of the confidentiality of the interview.

Data Analysis

Codes, Categories, and Themes

The data analysis phase consisted of classifying and coding the data after the interviews had been conducted. All transcripts were transcribed using Microsoft Word. I reviewed the participants' responses line-by-line to code the data. The data from the transcripts were broken apart into codes, categories, and themes as illustrated in St. Pierre and Jackson (2014). I identified themes inductively by reviewing the participants' transcripts, listening to the audio recordings, and reviewing the notes I took throughout each interview. Using the highlighter features within Microsoft Word, I applied codes to each transcript using an open coding technique and inductive reasoning. I identified codes by reviewing the interview data and looking for three occurrences of the same word. After all transcripts were coded, I imported the data into Microsoft Excel. After the data were imported into Microsoft Excel, I used an open coding technique to apply themes and categories for each transcript within the transcript as per Neal, Neal, VanDyke, and Kornbluh (2015). Then, I grouped these occurrences together by cutting apart the transcripts from the Microsoft Word documents and organizing them into groups. This allowed me to identify categories. To identify categories, I applied the same inductive process and placed a category name on a Post-It note which was added to the top of the pile. After reviewing the category names, I was able to identify themes. An example of the relationship between a theme, category, and codes is in Figure 1. A list of all themes, categories, and codes is included in the following sections.
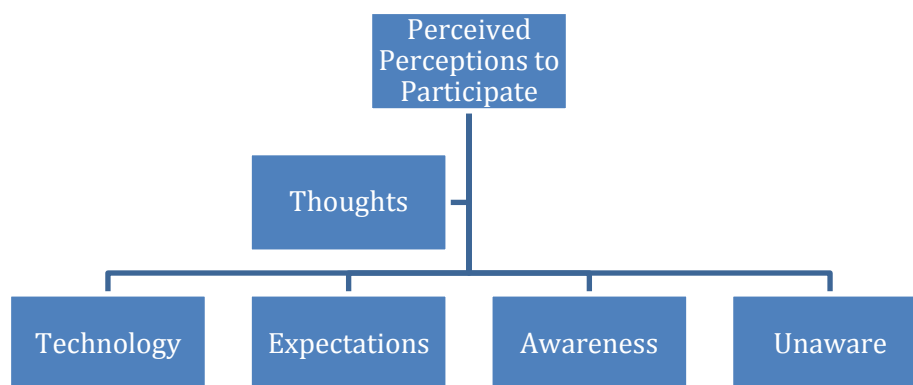
Figure 1. Relationship between theme, category, and codes in Preconceived Perceptions to Participate theme.

I conducted a methodical process to identify patterns within the data. Emergent coding was identified through the analysis of the transcripts as conducted by Blair (Blair, 2016). I looked for the number of occurrences for each word within the transcripts. After the themes, categories, and codes were applied to the spreadsheets, patterns emerged from the transcripts as conducted by Houghton, Casey, Shaw, & Murphy (Houghton, Casey, Shaw, & Murphy, 2013). Then, I reviewed the analysis numerous times for each transcript and the researcher's journal notes to verify content. This allowed for interpretation of the data analysis to be transparent as conducted by Darawsheh (Darawsheh, 2014).

The following themes were identified from the data analysis:

- Faculty preconceived perceptions of technology professional development using active learning.

- Faculty prior experience of technology professional development using active learning.

- Faculty described perceptions of active learning for the workshop.

- Faculty understanding of active learning for the workshop.

- Faculty description of changed/morphed perceptions of technology professional development workshop using active learning.

- Faculty self-understanding of technology professional development using active learning.

- Faculty self-actualization of technology professional development using active learning.

Interview Coding and Linking of Data

Each interview recording was transcribed within five hours of the interview using Microsoft Word©. Codes were created using NVivo. The themes and codes are described in Table 4.

Table 4

Themes and Codes

Themes	Codes
Preconceived Perceptions to Participate	• Technology
	• Perception
	• Expectations
	• Thoughts
	• Awareness
	• Unaware
	• Engagement
	• Assumptions
	• Active Learning
	• Assignments
	• Comfort Level
	• Follow
	• Experience
	• Content
	• Application
	• Workshop
	• Bias
	• Shared
	• Anticipation
	• Deployment
	• Effectiveness
	• Knowledge
	• Lesson
	• Participation
	• Perspective
	• Practice
	• Questions
	• Strategies
	• Teachers
	• Understanding

(table continues)

Themes	Codes
Prior Experience	• Thoughts
	• Application
	• Baseline
	• Belief
	• Concern
	• Idea
	• Interest
Described Perceptions of Active Learning Component for Workshop	• Active Learning
	• Expectation
	• Engage
	• Unaware
	• Class
	• Students
	• Experience
	• Solutions
	• Follow
	• Framework
	• Implement
	• Learning
	• Effective
	• Perceptions
Understanding	• Practice
	• Professional Development
	• Purpose
	• Reflection
	• Self Awareness
	• Self-Bias
	• Technology
	• Thoughts
	• Feelings
	• Usefulness
Changed Perception as a Result of Participating in Workshop	• Technology
	• Students

(table continues)

Themes	Codes
	• Active Learning
	• Expectations
	• Engagement
	• Workshop
Morphed Perceptions	• Anticipation
	• Application
	• Approach
	• Attendance
	• Availability
	• Community
	• Current Practice
	• Education
	• Effective
	• Expectations
	• Experience
Self-Understanding	• Learning
	• Experience
	• Strategy
	• Useful
	• Emotions

Discrepant Cases

This study did not produce any discrepant cases because all participants indicated the same information. Also, all participants indicated their satisfaction with attending previous technology professional development workshops. Therefore, no discrepant cases were factored into the analysis of the data. As indicated in chapter 3, this study employed a purposeful sampling strategy. Participant selection was based on full, part-time or adjunct faculty who registered for a technology professional development workshop using active learning.

Evidence of Trustworthiness

Trustworthiness was evident in the credibility, transferability, dependability, and conformability of the study procedures. Member checks assists the researcher to ensure collaboration and participatory for all participants involved in the study. This study employed a member checking process. Triangulation was implemented through conducting interviews before and after the attendance of workshop, as well as, the researcher's journal notes.

This study employed trustworthiness through the researcher's reflexivity, member checking, and unbiased approach by selecting participants who did not know the researcher. After each interview was transcribed, I submitted a copy of each transcribed interview to the participants for member checking and to ensure reliability and credibility of the analyzed data as conducted by Cope (Cope, 2014). Two participants confirmed the results of the transcribed interviews that were sent to them. One participant made a minor tweak in the transcript which was a typo from the researcher. This edit did not change the

analysis results of the data. Another participant made a clarification on the transcribed interview which did not result in a change in the data analysis. One participant did not respond back to the transcribed interview.

Credibility

I established and maintained credibility throughout the study by identifying and describing the participants accurately as per Elo et al. (2014). After each interview, the researcher reflected on each question and the participants' responses. The researcher entered journal notes throughout each interview. A review of the researcher's journal notes helped to control the researcher's bias throughout the study.

Transferability

The researcher has described the participants' responses in this study, which can be transferable to other individuals or groups in a community college setting as conducted by Cope (Cope, 2014). The participants provided thick, rich descriptions for the interview responses, which assisted in the coding of the data as conducted by Schyns (Schyns et al., 2017). This is supported by the average word count for each interview which was between 1,000 and 1,500 per interview. The number of pages for each transcript was between two and three.

Dependability

I maintained dependability and stability of the data by adhering to the different formats and conditions of the interview process as described by Elo et al. (2014). Throughout each interview, I ensured dependability and confirmability by creating an audit trail through journal notes as demonstrated by Darawsheh (2014) and Houghton et

al. (2013). The audit trail was hand-written into a steno notebook that I used throughout each interview. This allowed me to review my notes after the interviews were completed. After I reviewed my notes and noted the confirmation of the transcripts, I employed a reflexivity strategy. Reflexivity ensures rigor and credibility in this general qualitative research study as conducted by Darawsheh and Houghton (Darawsheh, 2014; Hougton et al., 2013). After transcribing and coding each transcript, I continued to review each transcript, line by line to ensure that the themes, categories, codes, and patterns were captured correctly. I reviewed each transcript multiple times, which confirmed my analysis of the data.

Confirmability

The researcher was objective throughout each interview thereby providing relevance, meaning, and accuracy of the data as conducted by Elo et al. (Elo et al., 2014). The researcher did not know the participants and the participants did not know the researcher. This ensured that study had an unbiased flavor, as well as, the researcher was unbiased when coding and analyzing the data.

Results

Each participant was interviewed before and after they attended a technology professional development workshop using active learning. Each interview was recorded with Voice Recorder app, transcribed using Microsoft Word©, coded in Microsoft Excel© and categorized using NVivo. To streamline the data, Table 5 outlines the results of the data analysis by identifying themes from participants' pre and post workshop attendance.

Table 5

Themes Pre- and Post- Workshop

Theme	Prior to Workshop	After Workshop
Preconceived Perceptions	X	X
Prior Experience	X	X
Preconceived Perceptions to Participate		X
Prior Experience		X
Described Perceptions		X
Understanding	X	X
Described Perceptions of the Active Learning Component		X
Changed Perceptions as a Result of Participating	X	X
Morphed Perceptions	X	X

Preconceived Perceptions to Participate Theme

The first theme identified from the interview data was perceived perceptions to participate. Before the participants attended the workshop, it was necessary to find out if they have any preconceived thoughts/perceptions to participate in a technology professional development workshop uses active learning. Participants addressed their concerns to participate in a technology professional development workshop using active learning. Themes, categories, and codes were derived from the analysis of the data. The major themes derived from the interview data and my journal notes are the participants'

preconceived perceptions to participate in a technology professional development

workshop using active learning and prior experience. Categories are identified as

personal thoughts and reflection. The themes, categories, and codes were identified, as

well as, the number of occurrences within the transcripts from the participants' responses

(see Table 6).

Prior to attending the workshop, the participants' referenced the use of technology

in a technology professional development workshop. The data indicated that four

participants identified technology for technology professional development workshops.

All participants reflected on the need to learn and utilize technology in the classroom.

MaryJo noted, "I do not know what to expect of technology because it hasn't been

explained" like the other professional development workshops. BobbyJoe indicated,

"Typically, I get a computer that does not work well, so that leave me far behind in the

workshop." Craig stated, "I am hoping that it is something that I can use." It should be

noted that one participant was hoping that the workshop was not just technology (Craig).

The understanding of the technology terms is another facet of understanding

technology professional development using active learning. As participants registered to

attend a technology professional development workshop using active learning, it was

important for this study to reveal if the participants understand the technology terms that

are used within the workshop. Four participants referenced technology terms. Participants

discussed their awareness of the technology terms. Sally stated, "From reviewing the

information that was sent out, I believe that I have an understanding." BobbyJoe

indicated "Comfortable with technology and I do understand the terms." An

interpretation of the data revealed that the participants did not know what the technology terms were for the workshop. BeckySue stated, "I have no idea." Sally noted, "I do not know what the terms for the course are." MaryJo summarized, "I don't really know what it means but I am waiting until I get there to see what it is all about."

The interview data indicated there are mixed results for the participants' understanding of technology terms. This could be due to the participants' prior exposure to technology, technology terms, and content of the material.

Another talking point for the participants was their expectations for the workshop. Participants expected to learn concepts and strategies to assist their personal growth with colleagues and student learning in the classroom. From the data, four participants identified their expectations for a technology professional development workshop using active learning. MaryJo stated, "I expect to have more ideas and ways to engage my students or a different way to present things to student." Craig indicated, "I want to be able to pull out what I want to pull out from the workshop" so it can be applied to the classroom. BobbyJoe specified, "I expect to be able to understand the objectives of the course and I expect to have everything available to me when I am in the workshop" which will be helpful to students in the classroom. Sally indicated, "I believe that it will be valuable for everyone in the workshop, including faculty, which are colleagues to share what we learn together in the workshop."

The participants' expectations for a technology professional development workshop using active learning is quite evident for their need for personal growth. One

possibility for this anomaly may the faculty's prior exposure to professional development opportunities.

This theme supports RQ 1 which is the participants' perceived perceptions of a technology professional development workshop using active learning because participants indicated their expectations for technology and the understanding of technology terms for the workshop. This theme also addresses RQ 2 which is the participants' perceived perceptions of the active learning framework of the workshop. The participants' indicated their expectations for active learning within the workshop.

Prior Experience Theme

Another theme from the data analysis was the participants' prior experience of participating in a technology professional development workshop. BeckySue noted, "Previous online workshops provided a positive experience for me to participate." Craig indicated, "Like previous workshops that I attend, I am trying to remain neutral." MaryJo expressed how "the other workshops that I went too, there were very few participants. I am not sure how it is going to work if there are not many people participating." From the interview data and the researcher's journal notes, participants appeared to have an open mind before attending the workshop. An interpretation from the interview data and researcher's journal notes may mean that the participants understand the relationship between open-mindedness and experience before attending the workshop. It was clear that the participants were open to the content before attending the workshop.

The active learning component was another point of concern for the participants. Three participants referenced the active learning component. Participants indicated that

their reverence for active learning was a necessity for self and student learning. BeckySue summarized "this is something that we work very hard with our students." Sally indicated, "I expect the workshop to have participants perform tasks for the workshop that are active for all students." BobbyJoe stated, "I expect to follow along with the instructor." An interpretation from the interview data and researcher's journal notes may mean active learning is necessary for student learning. The participants' reverence for active learning supports student learning and engagement in the classroom.

Participants also summarized the need to be engaged with active learning during the workshop. MaryJo noted, "I assume there would be a hands-on activity" for the workshop. BeckySue indicated, "Looking forward to an active learning environment and a technology-based framework." Craig expressed, "I'm looking forward to guided instruction and hands-on activity, not just here is your assignment and you are required to do it."

Two participants identified awareness and engagement as a perception prior to attending a technology professional development workshop using active learning. The data indicates that two participants were either aware or unaware of the engagement factor within the workshop. This could be due to the advertising of the workshop. Two participants indicated they 'would not be aware until they get there' (MaryJo and Sally).

For the codes in Table 6 which had one occurrence, this indicates that each participant mentioned their thoughts, application, beliefs, concern, idea and interest in perceiving a technology professional development workshop. This was referenced by one participant. This could be due to the faculty perceptions, assumptions and

experiences to participate in the upcoming technology professional development
workshop using active learning at a community college.

The prior experience theme supports RQ 1 and RQ 2 which is the participants'
perceived perceptions of a technology professional development workshops and their
perceptions of the active learning component because participants drew from prior
experience from previous workshops that they attended. The prior experience theme also
addresses the participants' expectations for the active learning component for upcoming
workshops.

Table 6

Prior Experience

Theme	Categories	Codes	No. of Occurrences
Prior Experience		Thoughts	1
		Application	1
		Baseline	1
		Belief	1
		Idea	1
		Interest	1

Preconceived Perceptions to Participate Theme After Attending the Workshop

After reviewing the interview data, the theme of preconceived perceptions was
also identified after the participants' attended the workshop. Participants indicated their
preconceived perceptions to participate in a technology professional development
workshop using active learning throughout each interview. Themes, categories and codes
were derived from the analysis of the data. The major themes derived from the data are
the preconceived perception to participate in a technology professional development
workshop using active learning and prior experience. Categories were identified as

personal and experience. The themes, categories, and codes were identified, as well as, the number of occurrences within the transcripts from the participants' responses (see Table 7).

Table 7

Prior Preconceived Perceptions to Participate

Theme	Categories	Codes	No. of Occurrences
Prior Preconceived Perceptions to Participant	Personal	Expectations	14
		Perceptions	6
		Active Learning	6
		Thoughts	4
		Assumptions	5
		Experience	4
		Content	3
		Application	2

The theme of preconceived perceptions were identified by the participants' expectations of the workshop. The participants discussed their expectations after attending the workshop. Expectations was identified by four participants. MaryJo indicated, "I am hoping there would be some type of interaction within the workshop." BobbyJoe stated, "I expect that the materials will align with the course and the instructor is prepared." The participants' expectations align with student learning the classroom. Sally expected additional engagement for the workshop. Sally stated, "It did not engage me as much as I would have hoped." BobbyJoe noted, "I expect that the activities and/or strategies will be available to help in the classroom."

As the researcher for this study, I was not privy to the workshop objectives or course content. An interpretation from the interview data and researcher's journal notes suggest several possibilities for the variation of expectations. One reason for the

differentiation in the participants' responses may be the structure of the workshop. Another reason may be connected to previous workshop opportunities that participants attended.

The participants' perceptions ranged from peer skillsets, personal growth through the delivery of the content for the workshop. Four participants addressed their perceptions. Craig stated, "It is my perception going into the workshop because I am sitting on a presentation with people who are not always technical literate." Sally noted, "I would perceive how to pull strategies to improve myself and to increase awareness." The length of the workshop appeared to be perception to a participant. BeckySue reported, "In order for the instructor to get through the information, it should like she usually does longer presentations but this one was shorter." Craig viewed the workshop as "good thing."

Adding to the theme of preconceived perceptions, three of the participants referenced active learning, learning, and thoughts for the workshop. After attending the workshop, the participants indicated the need for an activity to learn the content. BeckySue stated, "I think (active learning) is a good way to learn." BobbyJoe notes, "I do hope there is an activity that will engage this class." Another participant indicated a connection between active learning and colleagues. Craig reported, "There are two things for the active learning model for the workshop. One is always be nice with your peers and talk about stuff to get you back excited or motivated."

An interpretation from the interview data and my notes, active learning, workshop content and peer skillsets are predetermined factors that are recognized by the

participants after attending a workshop. One reason for the participant's preconceived perceptions may be the content and delivery of the workshop. Another reason may be the pace of the workshop due to the participants' skillsets which may be to fast or to slow for all participants.

This theme addressed RQ 1 and RQ 2 because the participants' indicated their preconceived perceptions based on attending the workshop. The participants' indicated their need for active engagement during the workshop to advance personal growth and skillset.

Prior Experience Theme

The theme of prior experience was identified through the analysis of the interview data and the researcher's journal notes. The participants discussed their perspective on the experience of participating during the workshop. See Table 8 for a list of the codes for the prior experience theme. A composite of the participants' experience are listed and they are individual statements from the participants. Sally stated, "It did not go into much detail as I would have hoped." MaryJo indicated, "I could apply the concepts that the instructor was talking about" in the workshop. BobbyJoe noted, "This is especially important for student learning." Another aspect is the importance of being open to the content of the workshop. BobbyJoe stated, "I was very open to the content and learning" from the workshop. Craig stated, "With the instructor there, you are actively doing it or trying it and you get multiple collaborations between colleagues and peers." Interestingly, a participant noted a bias before attending the workshop. Craig stated, "I am going into the workshop with a bias."

From the interview data and researcher's journal notes, the participants'

perspectives are subjective to each participant and a variety of indicators may affect their

experience. The participants' perspective on the experience of participating in the

workshop may be based on their exposure to previous technology professional

development opportunities. Another interpretation may be the participants' need to learn

the material based on the exposure of the workshop.

The prior experience theme supports RQ 1 and RQ 2 the participants'

preconceived perceptions to participant and the active learning component of a

technology professional development workshop because the participants drew upon prior

experience after attending the workshop. This is reflected by the participants' responses

and the need to learn the material.

Table 8

Preconceived Perceptions to Participate

Theme	Categories	Codes	No. of Occurrences
Prior Experience		Technology	5
		Workshop	3
		Bias	2
		Shared	2
		Anticipation	1
		Deployment	1
		Effectiveness	1
		Knowledge	1
		Lesson	1
		Participation	1
		Perspective	1
		Practice	1
		Questions	1
		Strategies	1
		Teachers	1
		Understanding	1

Described Perceptions Theme

From the interview data and the participants' journal notes, described perceptions was also identified from analyzing the data. Categories were identified as personal thoughts and prior experience. These categories are consistent with participants' perceptions prior to attending a technology professional development workshop using active learning. Also, themes, categories, and codes were identified, as well as, the number of occurrences with the transcripts from the participants' responses (see Table 9).

Participants described their perceptions of the active learning component for the technology professional development workshop. This resulted in five of the participant responses indicating the need for active learning. BeckySue noted, "I am open to active learning." Sally stated, "I believe that education is active learning." All of the participants understand that active learning is an activity that involves motion. Craig indicated, "Doing something where we are applying our knowledge" should be part of the workshop. MaryJo indicated, "I expected to participate in some type of hands-on activity." BobbyJoe summarized, "I would like to be able to do an activity in order to learn" which should be a component of technology professional development workshops.

An interpretation from the interview data and researcher's journal notes may mean that all participants attended a prior technology professional development workshop with an active learning component which may be the cause for their awareness. Interestingly, all participants' relish active learning when learning new content in a workshop.

Participants discussed how expectations affect their experience as a participant in a technology professional development workshop using active learning. BeckySue indicated, "If you are not open to active learning, it can be a negative perception" for workshop experience. Craig indicated "But what I want to do to participate is either positive and actively participate and give it a true shot." BobbyJoe addressed the need to "Have materials and supplies, which will affect my experience as a participant."

The participants' expectations prior to attending the technology professional development workshop attests to the identified theme for the data analysis. The data indicates that two participants identified the importance of expectations within the workshop. BeckySue noted, "People in the course can give me ideas on what I can do to solve a problem" Craig summarized "Everyone always says that this is the best thing in the world for the seminar when people are teaching each other. This is my expectation." The expectations identified provide insight to the participant's need for learning the material.

Two participants referenced engagement within the technology professional development workshop. Engagement appears to be important for the student's in the classroom, as well as, peers and colleagues within the college. BobbyJoe indicated, "If the class is not engaging, I will not use the strategies in my classroom." Sally noted, "A facilitated discussion and activity to engage students in dialog and talk about the lesson. Also, thought-provoking topics where participants will engage with colleagues and report out ideas." Engagement assists in the development of the individual. This includes

collaboration during the workshop. The interview data and the researcher's journal notes identify the need for collaboration between peers.

The described perceptions from the participants' also mentioned awareness; solutions, framework, implementation, learning, and effectiveness (see Table 9). The identified codes resulted in only one participant mentioning it only one time. This is a minor detail, which attributes to the participants' perceptions of the active learning component of the workshop.

The described perceptions theme addresses RQ 2 which is the participants' perception of the active learning framework for a technology professional development workshop because the participants describe in detail their thought and experiences of the active learning framework for the workshop. Also, participants identify how collaboration with peers enhances their earning which attests to the active learning framework for RQ 2.

Understanding Theme

Participants' understanding was also identified as a theme from the data analysis. The codes identified for understanding were perceptions, practice, professional development, purpose, reflection, self- awareness, self-bias, technology, thoughts, feelings, usefulness (see Table 9). The identified codes resulted in only one participant mentioning it only one time. As these codes are a minor detail, it was important to this study to understand the participants' understanding of the active learning component for the workshop.

A composite of the participants' understanding are listed and they are individual statements from the participants. BobbyJoe stated, "I do not want to see a professional development workshop just as a PowerPoint presentation." Sally indicated, "I am biased. It will help to see how ideas are shared and reflections is conducted with colleagues." Craig summarized, "My thoughts may be a little bit of cynicism. Everyone always says that this is the best thing in the world for the seminar when they are teaching people and especially what the purpose is." MaryJo noted, "I found a lot of useful information." This composite sheds light on the participants' understanding of the active learning component of the workshop.

The theme of understanding also supports RQ 2 because the participants' understanding of active learning component of the workshop is indicated by their need to incorporate technology with a hands-on experience. Also, the participants' understanding of the active learning framework is reflected in their preference to have activities, as well as, technology within the workshop.

Table 9

Described Perceptions of Active Learning Component for Workshop

Theme	Categories	Codes	No. of Occurrences
Described Perceptions of Active Learning Component for Workshop	Personal Thoughts	Active Learning	10
		Expectation	7
		Engage	6
		Unaware	3
		Class	2
		Students	2
	Prior Experience	Experience	2
		Solutions	1
		(table continues)	

Theme	Categories	Codes	No. of Occurrences
		Follow	1
		Framework	1
		Implement	1
		Learning	1
		Effective	1
		Perceptions	1
Understanding		Practice	1
		Professional	1
		Development	1
		Purpose	1
		Reflection	1
		Self-Awareness	1
		Self-Bias	1
		Technology	1
		Thoughts	1
		Feelings	1
		Usefulness	1

Described Perceptions of the Active Learning Component Theme

After attending the workshop, the described perceptions of the active learning component was also identified as a theme from the participants' interview data and the researcher's journal notes. Participants stated their perceptions of the active learning component within the workshop throughout each interview. Categories were identified as understanding, experience, and reflection. The themes, categories, and codes are identified, as well as, the number of occurrences within the transcripts from the participants' responses (see Table 10).

A major category that was identified through data analysis was understanding the active learning component for the technology professional development workshop. Four participants referenced active learning. The participants discussed their perception of active learning after attending the technology professional development workshop.

MaryJo indicated, "I was thinking that it was only an example. In the workshop we were going to do an activity." BobbyJoe noted, "I hoped the activities would meet the objectives of the workshop." Craig indicated, "We all learn stuff from the system by doing it." Sally stated, "It wasn't as active that I would have hoped." From the interview data and my notes, the participants' understood the value of active learning within the workshop.

Another major category that is highlighted from the data is the participants' experience. The participations drew from personal and prior experience when describing their perceptions. Four participants referenced personal and prior experience. BobbyJoe noted, "My thoughts will affect my experience because I am leery in using technology in math classes. I think if I go with a positive attitude and go into thinking that I am going to learn something and it is very valuable" this will help me throughout the workshop. Sally summarized, "We need to have these kinds of conversation on how to do it" for the workshop. MaryJo stated, "I thought there were activities in the workshop that I knew how to do but I didn't know what it was called which influenced my experience." BeckySue noted, "I think I was open to the event because it is something that I am just use to as a way to engage students to make them think." Craig reported, "So I am actively going into it to find something, and try to ask questions, and to look for something that will be beneficial to me." An interpretation from the interview data and researcher's journal notes may mean the participants were expressing how they were transformed during the workshop.

The participants reflected on how their thoughts influenced their perceptions of the workshop. The participants discussed how their thoughts influence their experience as a participant within the workshop. Four participants referenced the importance of thoughts. The data indicates that thoughts varied amongst the participants. MaryJo stated, "I was thinking there was an example within the workshop and that we were going to do an activity. " BobbyJoe noted, "My thoughts will affect my experience because I am leery in using technology for math classes." Craig reported, "Teachers make the worst students." Sally indicated, "It wasn't a full lecture that many of the professional development workshops that I went to. It wasn't as active that I would have hoped."

The theme of described perceptions of the active learning component for the workshop helps support RQ 2 because participants have identified and described their perceptions after attending the workshop. Also, this theme supports RQ 2 because the participants describe in detail the relevance of the active learning component for the workshop.

Table 10

Described Perceptions of Active Learning Component for Workshop

Theme	Categories	Codes	No. of Occurrences
Described Perceptions of Active Learning Component for Workshop	Understanding	Active Learning	12
		Action	5
		Attendance	1
	Experience	Personal	9
		Prior	9
		Perception	1
			(table continues)

Theme	Categories	Codes	No. of Occurrences
	Reflection	Thoughts	25
		Student Learning	2
		Technology	1
		Belief	1

Changed Perception as a Result of Participating in Workshop

Prior to the workshop, the participants' changed perceptions as a result of participating in the workshop was also identified as a theme from the participants' interview data and the researcher's journal notes. Participants stated how their perceptions have changed as a result of participating in a technology professional development workshop with an active learning framework before attending the workshop. Themes, categories, and codes were derived from the analysis of the data. The major themes identified as a result of the data analysis was changed perceptions, morphed perceptions, and self-understanding. Categories are identified as experience, personal, and self-actualization. The themes, categories, and codes are identified, as well as, the number of occurrences within the transcripts from the participants' transcripts (see Table 11).

The first major theme of changed perceptions was identified through the participants' thoughts on technology. Four participants summarized the importance of technology. Technology played an important role for the participants' change in perceptions for technology professional development. BeckySue indicated, "I need technology professional development. I am pretty good but certainly there is so much happening with technology." The participants clearly understand the role that technology plays in the classroom. Craig stated, "Technology is going to be a tool that kids use or see

on a regular basis." It is imperative to understand that technology is just a tool and not the solution (Craig). BobbyJoe noted, "Active learning is important in technology. When I go to a workshop that doesn't have it, I get confused, and try to step back, and try to figure out how to sue those skills."

From the interview data and my notes, it was evident that participants acknowledge technology as a vital tool for their own learning. An interpretation from the interview data and researcher's journal notes may mean the participants understand their own technology skillsets, and the need to learn it for personal, and professional growth.

Another facet to the theme was student learning. Four of the participants' identified student learning. The participants acknowledged technology professional development using active learning would help student learning (BobbyJoe). Sally stated, "I like to engage students from Math to the history of 911." Craig noted, "The question is, especially for kids, they focus on watching the video and they are not interested in reading books." Students in our program go the library for an information literacy sessions so that they know how to use databases related to healthcare (BeckySue). The interview data and my notes indicate the participants' need to learn and understand technology to enhance their skills, as well as, their student's skills in the classroom.

The participants acknowledged active learning as part of the changed faculty perceptions theme. Three participants noted active learning. The participants understand the importance of the active learning component of the workshop. BobbyJoe noted, "My class is involved in active learning. I always think that hands-on is always the best." Craig summarized, "The active learning model component, I believe, is going to be more

important than the technology component." Sally indicated, "I anticipate the class will entail active learning. I will not know until after the workshop has completed. I am a strong believer of active learning."

Previous research indicates that participants recommend active learning as a necessary component for a technology professional workshop because it provides hands-on activities, which elicits active engagement from participants. An interpretation from the interview data and the researcher's journal notes indicate participants welcome the opportunity to conduct a hands-on activity during the workshop. Interestingly, as one participant indicated that active learning is more important than the technology component. This may be due to the participants' preference in learning. Another interpretation may be previous technology professional workshops that the participants' attended which influenced their decision on active learning.

To complete the theme, a composite of the participants' changed perceptions included workshop, anticipation, and application. These are individual statements, which represent two participants. MaryJo stated, "This semester I am a lot more open to any type of workshops to see what else I can learn." Sally indicated, "I anticipate working with other colleagues and share information with each so that I can utilize it in the classroom." BobbyJoe noted, "I am able to apply what I learned in the classroom." Although these statements come from two participants, it was important to note for this study the changed perceptions for these participants. An interpretation from the interview data and researcher's journal notes may mean the participants were not open to previous

technology professional development workshops that were offered by the college which may resulted in not sharing information with others or applying it to their classroom.

The changed perceptions theme supports RQ 3 because participants indicated how their perceptions changed due to an acute awareness of the opportunities available to attend other workshop opportunities. Also, the changed perceptions theme supports RQ 3 because of the participants' need for active learning in a workshop.

Morphed Perceptions Theme

Morphed perceptions was identified as a theme. The code identified for morphed perceptions are approach, attendance, availability, effectiveness, prior experience and learning (see Table 11). A composite of the participant's morphed perceptions are listed and they are individual statements from the participants.

After reviewing the interview data and the researcher's journal notes, it appears the participants' responses are based on their prior experience when attending a technology professional development workshop. Participate 3 noted "I anticipate what the class will entail, I assume active learning, and then wait until the workshop has completed." MaryJo indicated, "I thought the class would be useful or can be useful, and take a chance to attend, and then reflect on the experience." BobbyJoe expressed, "My perceptions morphed because I have the ability to follow along. I am able to apply what I learned in the classroom." Also, BobbyJoe stated "My expectations morphed from high expectations to feeling that those are met and trying to give people the benefit of the doubt." These responses may be interpreted as the participants' need to apply the

activities and techniques that are learned from workshop into their current teaching

practices in the classroom.

The morphed perceptions theme support RQ 3 because the participants' identified

how their perceptions have morphed before and after attending the workshop. Also, this

supports RQ 3 because the participants explained how the morphing process was based

on prior experience.

Understanding Theme

The theme of self-understanding was identified through the data analysis of the

interview data and researcher's journal notes. The codes identified for self-understanding

are experience, strategy, and usefulness (see Table 11). It was important to note this

interpretation because it helps to solidify the research on transformative learning. A

composite of the participant's self-understanding are listed and they are individual

statements from the participants. Sally noted, "I would like to learn more during the

workshop." BobbyJoe stated, "I understand that sometimes you cannot control

everything" to understand the experience in the workshop. Also, BobbyJoe addressed that

"It's really hard to know what you are doing until get in there and I would like to use the

strategies" before I comment on the experience of the workshop.

The understanding theme supports RQ 3 because the participants identified that

they understand the logistics of a workshop. Also, the understanding theme supports RQ

3 because the participants understand how they are transformed through their workshop

experiences.

Table 11

Changed Perceptions as a Result of Participating in the Workshop

Theme	Categories	Codes	No. of occurrences
Changed Perceptions as a Result of Participating in Workshop		Technology	17
		Students	4
		Active Learning	9
		Expectations	4
		Engagement	3
		Workshop	3
		Anticipation	1
		Application	1
		Approach	1
Morphed Perceptions	Personal	Attendance	1
		Availability	1
		Effective	1
		Experience	1
Understanding	Self-Actualization	Learning	1
		Experience	1
		Strategy	1
		Useful	1

Changed Perceptions as a Result of Participating in Workshop

After the workshop, the theme of changed perceptions after attending the

workshop was identified through the transcripts of the interview data and the researcher's

journal notes. Participants discussed how their perceptions have changed when

participating in a technology professional development workshop throughout each

interview. Themes, categories, and codes were derived from the analysis of the data. The

major theme that was derived from the data is a description of the changed perception as

a result of participating in workshop. Categories were identified as self, experience,

personal and social change. The themes, categories, and codes are identified, as well as,

the number of occurrences within the transcripts from the participants' responses (see

Table 12).

The participants identified prior and current experience as an indicator of how the

participants' perceptions have changed as a result of participating in the workshop. Five

participants identified prior and current experience. Interestingly, the participants needed

to elaborate on prior experience and compare it to their current experience in the

workshop to identify the change in perceptions. This interpretation attests to the research

on transformative learning. The analysis of the interview data and my notes support the

participants' process of critically examining their experiences. MaryJo stated, "It was

really good. The presenter did not read all of the sentences on the presentation word for

word but she did summarize it." Craig indicated, "There wasn't a lot of technology

involved in it. It was something that was very interesting and introduced us to some

literature or websites that we can to and delve into it further." Sally commented on the

small size of the class. BeckySue indicated, "I think most of it I probably was aware of,

so I'm not sure if I learned a lot that was new." BobbyJoe summarized, "Before the

workshop, I was hesitant because I was unsure of what the workshop would cover. After

attending, I found to be eager to practice what I learned.

Another discussion point for the participants were how their thoughts changed

during the workshop. Self was identified as a category through data analysis of the

transcripts. Four participants acknowledged their thoughts. Sally noted, "I don't think

that my thoughts have changed as a result of participating in the workshop. MaryJo

summarized "I was thinking it would be something that was too complicated or silly. I

had it in the back of my head that I would be open to it." BobbyJoe stated, "I had an open

mind and it helped me to learn more from the active learning workshop." BeckySue

indicated, "I don't think that my thoughts have changed." From the interview data and

the researcher's journal notes, two participants indicated that their thoughts have not

changed as a result of attending the workshop. This may be due to the clarity of the

content for the workshop that was identified on the literature when the participants'

signed up for the class. Another interpretation could be that it was not a difficult

workshop as the participants' originally thought.

Self-learning was another topic of interest for the participants. Three participants

referenced the topic of learning. MaryJo indicated, "I wanted to learn about it but I

thought it might be difficult." BobbyJoe stated, "I am more open minded about it and it

has helped me to learn and get more out of the workshop." Craig noted, "I actually try to

work in the workshop and I feel that I made a good effort to apply it to what I am doing."

An interpretation of the participants' responses may mean that the participants understand

that they are students in the workshop and they understand the need to learn the content

as a student, as well as, a teacher in the classroom.

Social change was another category that was identified through the analysis of the

data. Two participants referenced social change. Sally stated, "We need to be able to say,

'Hey, this sounds great, this is how I would use it in my area.' This is when I'm going to

use it, and we need time to try it." An interpretation of these responses may be due to two

participants' have doctoral degrees and they understand the importance of being a social

change agent in the classroom.

The theme of participants' changed perceptions as a result of participating in the workshop supports RQ 3 because the participants describe in detail their perceptions have changed after attending the workshop. Also, the participants' changed their perceptions due to participating in the workshop.

Table 12

Changed Perceptions as a Result of Participating in the Workshop

Theme	Categories	Codes	No. of occurrences
Changed Perception as a Result of Participating in Workshop	Experience	Prior and Current	25
		Active Learning	12
		Emotions	2
		Application	1
		Assumption	1
		Community	1
		Continuous	1
		Improvement	1
		Current Practice	1
		Education	1
		Expectations	1
		Materials	1
		Method	1
	Self	Thoughts	13
		Reflection	2
	Personal	Learning	4
		Actualization	3
	Social Change	Technology	5
		Agent	3

Similarities and Differences in Interview Responses

Perceptions and thoughts were the themes that came across all three research questions. Participants had defined perceptions and thoughts before and after attending a technology professional development workshop with an active learning framework. Prior

to attending the workshop, it appeared that the participants were more open regarding their expectations of the workshop. This resulted in participants drawing from their personal experience from attending prior technology professional development workshops. The participant responses were varied and forthright regarding their views on technology professional development using active learning. After attending the workshop, the participants' responses were more focused on the workshop that they attended. Participants' perceptions and thoughts were clear and concise for them during the interview. The participants' common theme of perceptions and thoughts before and after attending a technology professional development workshop using active learning satisfies RQ 1, RQ 2 and RQ 3.

Another theme that was identified through data analysis was experience. Experience was a theme that addresses RQ 1. Participants' explained in detail how their prior experience affected their perceptions, thoughts and assumptions before and after attending a technology professional development workshop. Before attending the workshop, participants drew experiences from attending previous workshops offered by the college. After the workshop, the participants' responses were concise because the interview was immediately after attending the workshop. Therefore, the experience was fresh in their mind.

The participants' described perceptions was a theme that addresses RQ 2. This theme was identified by the participants' responses before and after attending the workshop. Before attending the workshop, the theme of self-understanding was identified for RQ 2. The participants characterized their perceptions through personal thoughts,

prior experience and self-reflection. After attending the workshop, the participants indicated that their described perceptions did not change. This may be due to attending previous technology professional development workshops offered by the college; therefore, they understood the format of the workshop.

Changed and morphed perceptions were themes that was identified through data analysis of the participant's transcripts. These themes address RQ 3. Participants' explained how their thoughts have changed before and after attending the workshop. Participants' identified their thoughts through prior and personal experience, self-actualization and social change. Prior to the workshop, a few participants were unsure of what the workshop would cover. After attending the workshop, the participants' agreed that the workshop was good, although there was not a lot of technology involved. Also, participants indicated that the class size was small which was lower than their expectations.

<div align="center">**Summary**</div>

This intention of this chapter review is to provide a detailed explanation of the setting, demographics, data collection process, data analysis process, evidence of trustworthy, and the results of this study. This study focused on the perceptions, assumptions and thoughts from full, part –time and adjunct faculty members at a community college for a technology professional development workshop using active learning. Data collection for the study started immediately after the site gave approval for the study. Data analysis began with interviewing faculty members before and after attending the workshop, and reviewing the researcher's journal notes throughout each

interview. I entered and identified pattern coding, categories and themes from the data collected.

A summarization of RQ 1 indicates that college faculty identify their perceptions, assumptions and experiences when participating in a technology professional development workshop using active learning is a framework that should be used throughout the workshop. The participants identified their expectations as technology, active learning and experiences before and after attending the workshop. Also, the participants acknowledged engagement as active learning. Also, the participants assume that the workshop will have some type of activity that will be active and engaging.

A summarization of RQ 2 indicate that college faculty perceive the active learning component before and after attending a technology professional development workshop at a community college as a positive experience when learning content. Faculty is in full agreement that they are open to the active learning component. This lends itself to faculty understanding what and how to do it, as well as, apply it their classroom. Another consensus from faculty is they want to participate positively and actively in the workshop.

A summarization of RQ 3 indicate that faculty were cognizant of how their perceptions changed before and after attending the workshop. Faculty compared their prior and current experiences. The majority of the faculty identified a small change in their perception of the workshop. Active learning was identified as a change in the faculty perceptions before and after attending the workshop. Overall, participants found the active learning component an enjoyable activity for learning content in a workshop.

To note, one participant indicated that their perception has not changed as a result of participating in the workshop.

Chapter 5 states the interpretation of the findings, limitations of the study, recommendations, implications, and the conclusion of the study. Chapter 5 connects the current with the literature review from Chapter 2. Also, Chapter 5 addresses implications for social change and future research.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this general qualitative interview study was to explore community college faculty perceptions of participating in a technology professional development workshop using active learning at a community college. I investigated the thoughts, assumptions, and perceptions of the participants before and after attending a technology professional development workshop using active learning. The data gained from this study may provide community college administrative leadership with insight they can use when developing and conducting future technology professional development workshops using active learning.

I based the study on the following research questions:

RQ 1: What are faculty perceptions, assumptions, and experiences when participating in a technology professional development workshop using active learning at a community college?

RQ 2: What are faculty perceptions of the active learning component in a technology professional development workshop at a community college?

RQ 3: How do faculty perceptions about technology professional development workshop using active learning at a community college change as a result of their participation in the workshop?

I used a general qualitative study approach to answer these questions. The approach included two separate interviews, which were conducted before and after the technology professional development workshop, as well as the recording of journal notes throughout

each interview. A general qualitative study based on interviews uses naturalistic inquiry

to ascertain participants' experiences and reflexivity of their surroundings (Beuving & de

Vries, 2015). Using this form of inquiry allowed participants to offer a description of

workshop events. All interviews were recorded using the Voice Record app on my phone.

I transcribed each recording word-for-word using Microsoft Word. After the verbatim

transcription of the interviews, each interview was sent to the participants for member

checking. A few participants returned their transcribed interview with minor changes.

The changes are noted in Chapter 4. After I transcribed the data, I exported the data first

into Microsoft Excel and then into NVivo software, which I used to analyze the data.

Data analysis consisted of direct coding of the audio file and verbatim transcripts, a

technique which provides a detailed level of coding (Neal et al., 2015). The process is

described in more detail in Chapter 4.

The key findings of this study pertained to the faculty's thoughts and perceptions

of technology professional development using active learning. One finding was that the

active learning component of professional development helps faculty learn the content.

Another key finding concerned active learning strategies. The active learning strategies

were identified to assist students in the classroom. Participants addressed the need to be

engaged in the workshop to enhance collaboration with colleagues.

For this chapter, I will interpret the findings based on the themes, categories, and

codes identified in Chapter 4 for the research questions. Also, I will connect the research

questions to the literature review and conceptual frameworks. Last, I will provide

recommendations for future research and practice, consider implications for positive social change implications, and provide a conclusion to the study.

Interpretation of the Findings

This section includes the findings of the study compared to the peer-reviewed literature described in Chapter 2. Chapter 2 also provided insights about the use of an active learning framework for a technology professional development workshop. As stated in Chapter 2, the design and delivery of professional development experiences are indicative of the academic institution's culture and commitment for staff development (Gurney & Liyanage, 2016). This is important for faculty and student learning.

RQ 1

In respect to RQ 1, I found that the participants referenced learning technology with active learning prior to attending the workshop, which confirms results from other research studies. For example, Crompton et al. (2016) indicated that technology integration was the most anticipated professional learning component with a hands-on activity within professional development.

The faculty participants could apply what they learned in the workshop to the classroom in order to benefit student learning. This finding is also supported in the literature. For example, Maybee et al. (2016) indicated that an approach incorporating active learning and technology should be used together to benefit student learning.

Interestingly, the participants' prior experience affected their experience in the workshop, which confirms the results from another research study. For example, Castro-Felix and Daniels (2018) indicated that professional development can be viewed as an

opportunity based on the participants' personal experiences and practice from previous sessions.

The participants expressed a need to be actively engaged in the workshop, which confirms the results from another research study. For example, Frey et al. (2016) indicated that active learning can influence and stimulate the learner's attention in a classroom setting. As the participants are students in the workshop, this I found that it would be beneficial to incorporate active learning techniques in a technology professional development workshop using active learning.

Conversely, one participant in this study did not want technology to be the focal point of the workshop; rather, the participant wanted the focus to be on active learning. This study finding conflicts with the results from other research. For example, Schaaf (2018) stated that teachers must maintain knowledge on existing technology and understand the technology changes through professional development. This finding can be attributed to the participant's learning preference for learning content in a technology professional development workshop.

Another interesting aspect is that the participants' responses warranted collaboration between the instructor and peers and that this collaboration is necessary for a technology professional development workshop using active learning for personal growth. I found that dialogue and engagement between participants and instructors were advantageous in learning and applying what participants had learned in the classroom. This study confirms the results of research from Castro-Felix and Daniels (2018), who found that dialogue between participants and instructors during professional development

was an advantageous opportunity to discuss how professional development can be used as a personal resource for their own experiences and practice.

Lastly, the participants explained the need for additional active learning activities for technology during the workshop. This finding confirms the results of research from Crompton et al. (2016), who indicated that technology integration was the most anticipated professional learning component within professional development.

RQ 2

In respect to RQ 2, I found that before the participants attended the assumed there would be some type of activity for the workshop which confirms the results from Blanchard et al. (2016), who indicated that teachers' beliefs and knowledge are predisposed through professional learning with some type of activity. Additionally, Frey et al. (2016) indicated learning content in a professional development workshop is gained through active learning which includes some form of activity such as listening, answering questions, utilizing technology and group discussions.

Also for RQ 2, this study found that participants' wanted to share and collaborate ideas within the workshop, which confirms the results of Psiropoulos et al., (2016), who indicated that collaboration is a fruitful avenue, which contributes to the success of the training process. Another example, Goodnough et al., (2014) research showed that effective professional development provided teachers with opportunities to share their own learning with others.

For RQ 2, this study also found that participants had an understanding of the active learning component for the professional development workshop, which confirms

another research study. Parker, et al., (2016) research indicated that understanding and interpreting content from professional development is through the 'filters or lens' of the individual.

Also, this study found that participants' prior experience affected their perception of the workshop which confirms Fellenz (2016), who indicated that teachers' prior experience may affect the way teachers makes meaning of technology professional development programs.

RQ 3

In respect to RQ 3, this study found that the participants changed their perceptions as a result of participating in the workshop which confirms Herro & Quigley (2017), who indicated that effective technology professional development changes the teachers' perceptions towards technology in a positive manner. Also for RQ 3, this study found that the participants' perceptions morphed in a positive way after attending the professional development workshop which confirms another research study. For example, Whitworth & Chiu (2014) research indicated that effective professional development can contribute to the participants' morphing process in a positive manner. Additionally, the participants' morphed perceptions are reflective of an effective technology professional development workshop.

Also this study found that the participants' understanding of the content was enhanced by the instructor, strategies, and activities used during the workshop which confirms Jamani & Figg (2015) research which indicated that activities and strategies

utilized in a technology professional development workshop enhances the participants'
understanding while gaining new content information.

Interpretation in Context of Conceptual Framework

Active learning and transformative learning theories provided the framework for
this study. The active learning and transformative learning theories promoted the
development of literature review, research questions, and data analysis. Technology
professional development is meaningful and effective when individuals are engaged in
activities and longer in duration for transformation to be assessed by faculty (Lehiste,
2015).

The findings of this study revealed the participants' perceptions of technology
professional development included the need for peer collaboration and active learning
activities for their content areas. Holistically these elements provided the faculty with an
'experience' during the workshop. Faculty will interpret how they perceive the
experience, which affects their ability to process the information (Mezirow, 1991). This
finding confirms the transformative learning theory because it explains how adult
learners understand through the dynamics involved to make meaning of their experience
(Mezirow, 1991). This supports the transformative learning theory, which is part of the
conceptual framework that is identified in Chapter 1. According to McCray (2016),
transformative learning takes places when individuals makes meaning of their
experience. This is apparent through the participant's need for active learning strategies
for technology.

I also found that participants prefer active learning in technology professional development workshops. This study found that participants prefer active learning activities as a main focal point for the workshop. According to Bonwell & Eison (1991), conducting activities in learning elicits involvement in learning. According to the data, faculty expected to be engaged in activities before and after attending the workshop. This provides applicability and transferability to students in the classroom. This finding confirms the active learning theory because active learning promotes strategies for teaching and students to engage and critically think about required tasks (Bonwell, 2017).

Another finding from this study was faculty indicated that technology should not be the only focus for a technology professional development workshop. According to Lehiste (2015), technology should not be the only focal point of technology professional development, but activities need to be incorporated. The participants' perceptions of technology professional development support the research conducted by Bonwell. This finding suggests that participants use activities as a foundation to support faculty learning. This finding confirms the active learning theory because it assists faculty to understand the connection between interactivity and student learning when creating assignments for students in the classroom (Frey et al., 2016).

This study addressed the effectiveness of the transformative learning theory for participants in a technology professional development workshop. Through data analysis, the transformative learning theory was acknowledged through participants' perceptions and the ability to make meaning of their experience in the workshop (Christie et al., 2015). Participants articulated their perceptions by making meaning of the activities and

content within the workshop. It was imperative to understand the experiences of participants during a technology professional development workshop. This assists in the development of future technology professional development workshops utilizing active learning.

Limitations of the Study

It was important to note, that the same limitations as indicated in Chapter 1 applied throughout the study. As stated in Chapter 1, the limitations are location of the study, confined to a community college, confined to full, part-time and adjunct faculty and potential researcher bias. The additional limitations of the study included the interview method, location, and sample size. The first limitation was the interview method. The original intent of the study was to conduct three interviews with participants. Due to the limited number of technology professional development workshop opportunities being offered, I was unable to interview participants before, during, and after the workshop. Therefore, a change of procedure for the study was submitted to the IRB. For this study, I conducted an interview before and after attendance of a technology professional development workshop. The second limitation was the sample size. Due to low number of participants registered to attend a technology professional development workshop, the sample size was smaller than expected. The third limitation was the type of interview. Due to faculty time constraints, the majority of the interviews were conducted via telephone. Only one interview was conducted face-to-face.

Recommendations

Recommendations for Research

The purpose of this general qualitative research study was to describe community college faculty perceptions of technology professional development workshops with an active learning framework. This study included data from 5 community college faculty members from a rural community college located in the Midwest of the United States. The results of the study provided a generalization of the faculty perceptions of technology professional development with an active learning framework which may be limited to similar community colleges. According to Sadaf & Johnson (2017), faculty perceptions of technology professional development provides insights to future studies.

A future recommendation would be to conduct the same study using a different methodology. For example, by conducting a qualitative case study. A qualitative case study would focus on the college faculty perceptions on technology professional development using a sensemaking framework.

Another future recommendation would be to conduct the same study using a quantitative approach. A quantitative research study utilizing a quasi-experimental approach would have a control group that would not attend the technology professional development workshop and another group that would attend the technology professional development workshop. A quantitative approach would assist in generalizing the results with larger populations.

The following future research recommendations may be used as guidance when developing future technology professional development workshops. The following are recommendations for future studies:

- Replicate the exact study for staff, administrative personnel, and leadership stakeholders at a different community college. This would help to identify how various stakeholders at a different community college perceive active learning in a technology professional development workshop.

- This study can be replicated to include universities and trade schools. This would help to understand how active learning is applied in technology professional development workshops at a university or trade school.

- Replicate the study for community college faculty using a problem-based framework. For example, the focus of the workshop will allow faculty to solve a current problem with the classroom or at the community college.

- Replicate the study and ask the participants to provide a definition for technology professional development. This will assist in understanding the participants' meaning of a technology professional development workshop.

- Replicate the study with a concentration on mathematics or science. This will help faculty who teach mathematics or science who would like to apply technology and active learning in the classroom.

Other recommendations for future studies can include an online learning environment such as learning management system for technology professional

development. Also, another future study can articulate the active learning component by utilizing social media.

Recommendations for Practice

The purpose of the general qualitative research study was to investigate faculty perceptions of technology professional development workshop using active learning in a community college. Themes were revealed and identified through two faculty interviews and the researcher's journal notes throughout each interview. The following recommendations are based on the findings of this study:

Provided additional technology professional development workshop opportunities using active learning to faculty with additional workshop offerings. This study found that some faculty were not available to attend the workshop date and time due to scheduling conflicts. If additional offerings are provided for faculty to attend the workshop, this will assist faculty who may be teaching during the time that the workshop is offered. Also, it may increase enrollment numbers for the workshop.

Provide a broad definition of technology professional development for participants as a baseline for knowledge and understanding. This study found that faculty would benefit from a clearer definition of technology professional development, which affects technology terms. Also, this study found that faculty provided a description of technology professional development based on an assumption. This will assist faculty in understanding the meaning of technology professional development.

Ensure active learning strategies and technology resources are provided as handout materials. This study found that faculty would like materials to be available as a take-

away from the workshop. Handout materials reinforce faculty learning of the content after the workshop. This would assist faculty when developing class assignments and activities for students in the classroom.

Implications

The purpose of this research study is to inform others, enlighten current practices, or add new expectations or perceptions to the existing body of literature. This study contributes to the practices in technology professional development using active learning and positive social change. For this section, I have identified the impending impact to positive social change for stakeholders in education. Also, recommendations have been identified for future research and development of meaningful technology professional development workshops.

Positive Social Change

The findings of this study elicit positive social change for educators in a school system. As faculty are recipients of learning new knowledge through technology professional development workshops, this awareness can be applied when attending meetings and conferences at the college. After the workshop, faculty commented on the impact of learning the content within the workshop, which they can apply in their departmental meetings, which may elicit positive social change through peer socialization and collaboration within and amongst departments within the college.

The findings within this study contributes to the existing body of information on technology professional development using active learning. As knowledge is indicative of the setting in which it is learned, social change is initiated through each interaction

within the setting. For example, faculty welcome learning, collaborating, and interacting within the workshop. Positive social change is affected through each element of the workshop. As other research recognizes the significance of technology professional development using active learning, this study adds a social change perspective through learning, collaborating, and interacting with stakeholders.

The findings of this study will also augment an increased awareness and value of the active learning framework for educators. Positive social change is affected through faculty interactions in and out of the classroom. As faculty understand and learn the context of active learning, they are stakeholders of social change in the educational system for peers, students, and administration at the local, national, and community levels.

The findings of this study confirm the educators' current knowledge of active learning and the benefits when demonstrated in the classroom. For example, faculty indicated the benefits of active learning within the workshop, which can be applied to their classroom content. As faculty teach students, positive social change is initiated in the social context of the classroom.

The findings of this study can be used to design future technology professional development workshops using active learning. For example, when designing future technology professional development workshop, provide interactive activities that address the content of the workshop so faculty can practice during the session. This will allow faculty to become diligent in learning the facets of active learning, which can be added to their repertoire of technology tools. This affects positive social change in the

classroom setting as faculty are leaders of their own learning and motivators of student learning.

The findings indicate that faculty recognize the value of social change through collaboration and the active learning framework. For example, after the workshop faculty discuss and collaborate with peers to discuss the impact of how to apply the learned content to their personal, educational and social settings. This addresses social change because faculty are scholars and representatives of social change at home, school, and social circles.

The goal of this study is to produce social change through one educator at a time. Ultimately, promoting positive social change through collaboration with peers, colleagues, and stakeholders in education.

I will share the findings of this with colleagues and peers who request to review it. Also, the information will be shared at department and staff meetings in the school district. Also, I anticipate distributing the results of the study through peer-reviewed journals. Disseminating the findings of the study provides awareness to a larger audience and thus, in turn, starts the process of social change, one person at a time.

Conclusion

The data analysis from this study indicated that the active learning and transformative frameworks are comparable to the faculty's perceptions of technology professional development workshop using active learning. Faculty clearly understood their perceptions and assumptions before and after attending a technology professional development workshop.

RQ 1 explored faculty perceptions, assumptions and experiences when participating in a technology professional development workshop using active learning at a community college. The study revealed participants' view active learning as a necessary component to the workshop. Also, faculty expect to be engaged in activities and strategies to support student learning. For a technology professional development workshop using active learning to be valuable and credible for participants, hands-on activities and technology need to be available within the workshop.

RQ 2 explored faculty perceptions of the active learning component in a technology professional development workshop at a community college. Faculty expressed the need to utilize active learning in the workshop. The active learning component was a high expectation for faculty. Through the analysis of the interview data and the researcher's journal notes, all participants had the same perceptions, as well as, definition for the active learning component. This suggests faculty is aware of the actively learning component in a workshop. All participants enjoy the activities associated with active learning within a workshop.

RQ 3 explored how faculty perceptions change as a result of participating in a technology professional development workshop using active learning at a community college. The majority of the faculty indicated their perceptions changed as a result of engaging in strategies that utilize active learning within the workshop. A few participants indicated that their perceptions did not change as a result of participating in the workshop. They indicated that they had the same perceptions before and after attending the workshop.

The conceptual frameworks that guided this study was active learning and transformative learning theories. Both frameworks support effective professional development workshop. The transformative learning theory helps define how participants transform their experiences into perceptions when attending a technology professional development workshop. The active learning theory engages participants in the technology professional development workshop. Both concepts are effective in a technology professional development workshop using active learning.

Chapter 5 discussed recommendations for future research, implications for positive social change, and recommendations for practice. The findings of this research study contribute to the literature of technology professional development for community college faculty, active learning, and transformative learning theories. The findings from this study can support and enhance technology professional development workshops by engaging participants. Also, the findings support the quality of technology professional development workshops which can be developed at the local, state, and national levels.

In conclusion, I found that it was imperative to incorporate activities and strategies that engage participants for effective technology professional development workshops. Prior the design of technology professional development workshop using active learning, design standards should be identified and incorporated into the workshop. Design standards may include collaboration, hands-on activities, and follow-up after the workshop. Collaborating with peers is an important factor for the workshop. This will assist in sharing information among colleagues and peers in different content areas. Technology professional development using active learning provides faculty with the

tools and resources to actively engage students in the classroom. According to Herman et al. (2015), the value of teaching and learning through technology professional development is recognized through the tools that we use in the classroom. The findings in this study contributes to the existing body of literature for technology professional development using active learning.

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Appendix A: Alignment of Research Questions to Interview Questions

Research questions	Interview questions
RQ1. What are faculty perceptions, assumptions and experiences when participating in a technology professional development workshop using active learning at a community college?	IQ1 – Do you have any preconceived thoughts to participate in a technology professional development workshop using an active learning framework? IQ2 – What are your assumptions and/or perceptions of participating in a technology professional development workshop using the active learning model in a community college? IQ3 – Do you understand the technology terms for the technology professional development workshop using an active learning model?
RQ2. What are faculty perceptions of the active learning component in a technology professional development workshop at a community college?	IQ 4 – Please describe your thoughts of the active learning component for a technology professional development workshop. IQ 5 – Tell me how your thoughts will affect the experience as a participant in a technology professional development workshop that used an active learning framework.
RQ3. How do faculty perceptions about technology professional development workshop using active learning at a community college change as a result of their participation in the workshop?	IQ 6 – Please describe how your thoughts have changed as a result of participating in a technology professional development workshop using an active learning model? IQ 7 – Is there anything else that you would like to share with me about the technology professional development workshop using the active learning model at a community college?

Note. RQ = Research question; SQ = Subquestion; IQ = interview question.

Appendix B: Interview Questions Prior to Workshop

Interview questions
IQ1 – Do you have any preconceived thoughts to participate in a technology professional development workshop using an active learning framework? IQ2 – What are your assumptions and/or perceptions of participating in a technology professional development workshop using the active learning model in a community college? IQ3 – Do you understand the technology terms for the technology professional development workshop using an active learning model?
IQ 4 – Please describe your thoughts of the active learning component for a technology professional development workshop. IQ 5 – Tell me how your thoughts will affect the experience as a participant in a technology professional development workshop that used an active learning framework.

IQ 6 – Please describe how your thoughts have changed as a result of participating in a technology professional development workshop using an active learning model?
 	
    IQ 6.1 – Follow-up question: What were your thoughts about technology professional development before attending the workshop?
 	
    IQ 6.2 – What were your thoughts about technology professional development after attending the workshop?
 	
    IQ 6.3 – Please explain how your thoughts morphed before and after attending the technology professional development workshop.
 	
IQ 7 – Is there anything else that you would like to share with me about the technology professional development workshop using the active learning model at a community college?

Note. IQ = interview question.

Appendix C: Interview Questions During the Workshop

Interview questions
IQ1 – Do you have any preconceived thoughts to participate in a technology professional development workshop using an active learning framework?
IQ2 – What are your assumptions and/or perceptions of participating in a technology professional development workshop using the active learning model in a community college? IQ3 – What is your perspective on the experience of participating in learning technology in a professional development workshop using an active learning model?
IQ 4 – Please describe your thoughts of the active learning component for a technology professional development workshop. IQ 5 – Tell me how your thoughts will affect the experience as a participant in a technology professional development workshop that used an active learning framework.
IQ 6 – Please describe how your thoughts have changed as a result of participating in a technology professional development workshop using an active learning model? IQ 6.1 – Follow-up question: What were your thoughts about technology professional development before attending the workshop? IQ 6.2 – What were your thoughts about technology professional development after attending the workshop? IQ 6.3 – Please explain how your thoughts morphed before and after attending the technology professional development workshop. IQ 7 – Is there anything else that you would like to share with me about the technology professional development workshop using the active learning model at a community college?

Note. IQ = interview question.

Appendix D: Interview Questions After Workshop

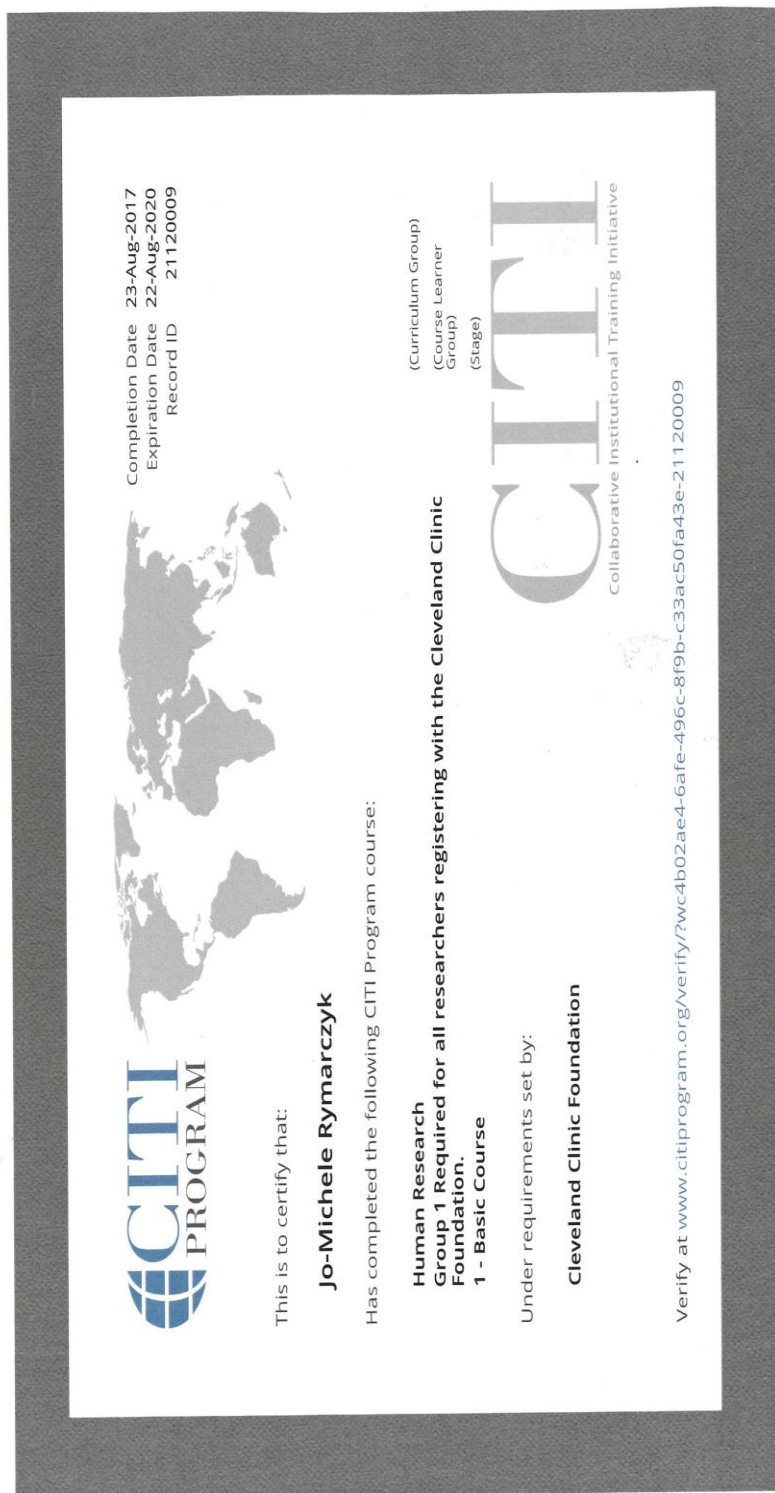| Interview questions |
| --- |
| IQ1 – Do you have any preconceived thoughts to participate in a technology professional development workshop using an active learning framework? |
| IQ2 – What are your assumptions and/or perceptions of participating in a technology professional development workshop using the active learning model in a community college?

 IQ3 What is your perspective on the experience of participating in learning technology in a professional development workshop using an active learning model? |
| IQ 4 – Please describe your thoughts of the active learning component for a technology professional development workshop.

 IQ 5 – Tell me how your thoughts will affect the experience as a participant in a technology professional development workshop that used an active learning framework. |
| IQ 6 – Please describe how your thoughts have changed as a result of participating in a technology professional development workshop using an active learning model?

     IQ 6.1 – Follow-up question: What were your thoughts about technology professional development before attending the workshop?

     IQ 6.2 – What were your thoughts about technology professional development after attending the workshop?

     IQ 6.3 – Please explain how your thoughts morphed before and after attending the technology professional development workshop.

 IQ 7 – Is there anything else that you would like to share with me about the technology professional development workshop using the active learning model at a community college? |

Note. *IQ* = interview question.

Appendix E: CITI Program Certificate

CITI PROGRAM

This is to certify that:

Jo-Michele Rymarczyk

Has completed the following CITI Program course:

Human Research
Group 1 Required for all researchers registering with the Cleveland Clinic
Foundation.
1 - Basic Course

Under requirements set by:

Cleveland Clinic Foundation

Completion Date 23-Aug-2017
Expiration Date 22-Aug-2020
Record ID 21120009

(Curriculum Group)
(Course Learner Group)
(Stage)

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wc4b02ae4-6afe-496c-8f9b-c33ac50fa43e-21120009

Appendix F: College Site Permission to Conduct Study

Provost's Office

October 16, 2018

Jo-Michele Rymarczyk

Dear Ms. Rymarczyk:

Based on my review of your research proposal, I grant permission for you to conduct the study entitled "College Teachers Perceptions of Technology Professional Development" at

As part of this study, you will be performing your research activities at ▮▮▮▮▮ including recruiting faculty participants, communicating, and conducting interviews with the participants. The results of your study will not include any names of participants and the individuals' participation will be voluntary and at their own discretion. In addition, the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University IRB and

I understand that ▮▮▮▮▮ responsibilities include allowing the interviews to be conducted on campus; however, the College reserves the right to withdraw from the study at any time if our circumstances change.

Good luck on your research project.