A Case Study Investigating Teachers' Use of Technology in Higher Education Classrooms

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Approval Page

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Abstract

The use of technology has increased in the field of education particularly in the area of post-secondary studies. This qualitative case study focused on investigating factors that affect teachers' use of technology in classrooms of higher education. A case study was used in the research to examine and present a clearer perception of teachers' usage of technology in the classroom. The problem and the factors that affect teachers' confidence in using technology in the classroom is a lack of technical training and technical support in intuitions of higher education while integrating technology tools in the classrooms. The research results of this case study contributed to the findings that pointed out that teachers' confidence in using technology in the classroom was due to a lack of technical training and technical support in intuitions of higher education. The results of the findings showed that educators used technology at a bare minimum in the classroom and that teachers need to be more competent in using technology. The recommendation from this study suggests that teachers need to change their behaviors, increase their capabilities towards the use of computer literacy, and seek professional development training. The data from this research and the analysis were found to reinforce the problem and the purpose of this study.

The participants for this study were recruited from one historically Black university in the southeastern region of the United States and e-mails were sent to 80 faculty members that consented to take the survey for this study based on the criteria of them using technology in the classroom. Twenty-four participants responded to the survey. Data was collected, analyzed, and interpreted based on teachers' use of technology in higher education classrooms.

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Chapter 1: Introduction

The last decade ushered in technology advances for the education arena. The practice of communicating and the use of technology have enhanced education in many areas (Haning, 2016; Safitry et al, 2015). The use of technology and its integration refers to technology resources to include "social media, computers, the Internet, word processing software, projectors, video conferencing, CD/DVD players, television sets, classroom clickers, tablets, mobile telephones, smart classrooms, and learning management systems" (Journal of Educational Technology Development and Exchange, 2015, p. 2). Unlike in a traditional classroom environment where students are face-to-face or in a hybrid setting and are able to communicate and learn regularly there is the distance learning component where learning is orchestrated over the Internet (Farahmand et. al., 2016). Many, if not all, of these instructional tools, can assist teachers with the enhancement and confidence in teaching in traditional settings and through distance learning methods (Motshegwe & Batane, 2015; Ryan & Bagley, 2015).

Some educators struggle with their personal beliefs that can trigger anxiety and fear when confronted when using technology in higher education (Mangan, 2014; Ryan & Bagley, 2015). Researchers indicate that there are internal factors that prevent teachers from using technology in the classroom such as attitudes, fears, and beliefs regarding students' use of technology (Ertmer et al., 2012). There are a few teachers that are inhibited from using technology in their classrooms because they are afraid to try something different (Chametzky, 2013).

Teachers struggle to integrate technology effectively in the classroom due to their own approach to deliver instruction (Haning, 2016). Teachers, who are classified as

Baby Boomers, Digital Immigrants, and Generation X's, unlike their Digital Natives or Millennial students, have not been exposed to the long-term use of technology (Haning, 2016). Some teachers lack the experience of using technology adequately; however, for delivering instructional purposes they still use technology in some form (Haning, 2016; Marshall, 2014; Ryan & Bagley, 2015). This study will help to bridge the technology gap that public school teachers have successfully used in the classrooms and serve as a guide to assist teachers in facing the difficulties of using technology in higher education.

Statement of the Problem

The general problem is that there are factors that affect teachers' confidence in using technology in the classroom such as a lack of technical training and technical support in institutions while integrating technology tools in the classrooms (Green, 2016). The specific problem inducing this research will be to investigate the perception of teachers and how they integrate technology in higher education classrooms, and to further examine the future use of technology along with the endless benefits technology has towards learning.

The problem to be addressed by this study is some teachers at the collegiate level do not adequately use technology as a strategy to deliver instruction (Hsu, 2016; Wohleb, Skinner, & White, 2013). Institutions have to look further into developing a broader curriculum that will complement and engage student learning (Lasley, 2017). Making technology effective is dependent on the use of regular technology support and its use of integration regarding curriculums even though the field of education seems to be behind (Harris, 2016). According to Mac Callum, Jeffrey, and Kinshuk (2014) teachers struggle with the lack of integrating and using various forms of technology in the classrooms, it is

the students who are able to recognize the lack of technological skills that teachers possess in order to maintain a level of adequate learning.

The results of this study will influence the field of higher education by integrating new approaches towards the learning atmosphere in technology (Ozturk & Unlu, 2012). The impact has been both positive and negative regarding the effectiveness of technology in the classroom environment despite the challenges that teachers, students, and Information Technologist face (Fabros-Taylor, 2013).

Purpose of the Study

The purpose of this qualitative case study examined collegiate teachers' perception on the use of technical methods in the classroom. A secondary purpose of the study was to investigate factors that affect teachers' use of technology in classrooms in higher education. The focus of this study is from a historically Black university located in the southeastern region of the United States. As a means to develop this study, 80 participants from the university were e-mailed an electronic survey.

Theoretical/Conceptual Framework

From a behaviorist point of view, there are advantages to learning theories. The first advantage is that learners are considered passive and motivated based on the learners' interpretation and hearing (Sobouti & Amiri, 2014). The skill of being able to listen by hearing and then processing what an individual heard regarding a passive individual or learner that drives a person's motivation is a component of this theory. The second advantage of behaviorism includes learning behaviors that are observable and measurable. Behaviorism is observable and can be clearly controlled from a psychology perspective (Burgess, et. al., 2017). Theorists have proven that behaviorism is

comparative and common in humans and animals, which both can learn with little differences (Cahill, McGuire, Beatriz, Krumdick, & Lee, 2014; Johnson & Thayer, 2016). However, the behavior is predicated upon the environment of the person. Essentially, a person who exemplifies characteristics of behaviorism, their main focus is to steer that manner from the perspective of humans or animals based on the results of motivations determined by the condition or the environment.

Conversely, some theorists indicate that observational learning is acquired from direct experience and knowledge (Mbati, 2013). Additionally, there is the reward of praises as being the reinforcement or the stimuli that coincide with the pleasure of positive learning that is surrounded by specific outcomes based on the stimulus (Clair, Bahr, Quach, & LeDuc, 2018). When learners excel or master some skills, this excites the learner and drives the learner to continue the same process for the same positive result. The choice determines whether the end results will become a type of reinforcement or a punishment.

Just as there is a positive reinforcement to good behaviors, there are poor perceptions to behaviorisms that make individuals have negative self-efficacies. Teachers and individuals possess intrinsic characteristics such as attitudes, fears, anxiety, lack of confidence, and are resistant to change concerning their limited use of technology (Marshall, 2014; Ryan & Bagley, 2015). Sometimes, when there is a deficiency in teacher training there is a lack of confidence (Marshall, 2014). According to research, it is the absence of adequate training, the lack of teachers knowing how to use computers, and the outcome of behaviors that may prevent educators from integrating technology in

the classrooms (Marshall, 2014; Gibson, Stringer, Cotton, Simoni, O'Neal & Howell-Moroney, 2014).

Nature of the Study

The effectiveness and importance of technology use in higher education classrooms are needed for teachers to expand their knowledge by contributing their skills and the utilization of best practices towards student learning (Kisanga, 2016). The use of technology in the classroom is ideal to strengthen pedagogy for the teacher, and for collaboration among teachers and students through the sharing of information. By doing so, this can expand the use of technology through the design of creativity in forms of technological advances such as audio, photographs, magazines, written content, and 2D (2-dimensional) and 3D (3-dimensional) computer-generated images that makes instruction appealing (Heitink, Voogt, Verplanken, van Braak, & Fisser, 2016). Schools are finding ways to use technology differently to improve education to make living more vibrant and to increase instructor performances (Avella, Kebritchi, Nuun, & Kanai, 2016).

This qualitative case study examined the factors that affect teachers' self-confidence in using technology in the classroom. The qualitative design consisted of an anonymous online survey. The unit of data analysis is the teachers as the participants that were gathered from the collection of the survey responses. The method was based on how teachers interested themselves in utilizing technology in the classroom. The data was collected through an online platform such as Google Docs to protect the study and triangulation to ensure the credibility of the study to reduce any biases involved in the case of this qualitative case design.

Research Questions

Q1: What does technology look like in higher education classrooms?

Q2: How do teachers of higher education perceive their ability to use technology as a means to provide communication with students?

Q3: How often do teachers use educational technology in the classroom or for personal use?

Q4: How comfortable are teachers with the use of educational technology in university classrooms?

Significance of the Study

The significance of the study is that the results will assist teachers of higher education with the utilization and integration of technology in the classroom. The study will be the agent that will endorse the factors of teaching experiences by utilizing technology in the classrooms for educational purposes. The use of technology will give teachers the needed confidence in displaying the necessary levels of assurance and courage to affirm their use of educational tools in the classroom (Hsu, 2016). The research findings can be added to the current literature with respect to the integration of technology use in the classroom, that will lead to the advancement as well as heighten teachers' levels of the use of technology in the classroom; and by revealing some of the barriers to teachers in the use of technology and best practices of how to overcome those barriers (Pittman & Gaines, 2015).

The case study will be important and essential to further investigate at this time because the use of technology has endless benefits towards learning. Teachers as well as students, once they become involved in the use of technology, can connect in the many

facets of the learning processes due to the acquired knowledge and the assessment of engagement (Heflin, Shewmaker, & Nguyen, 2017). When teachers demonstrate the use of technology in a classroom, there are numerous options that are made available to students because teachers are confident in using their skills (Willis, Weiser, & Smith, 2016). Teachers are able to assess students' capabilities and know immediately if students are excelling based on learning outcomes (Kim, 2015). The depth of information that is provided through the advancements of technology can transform the world and how people learn (Bennett, Phillips, & Davis, 2016). As an example, and due to technological advancements, an individual in Spain and another person who is in Ukraine can be privy to the same information at the same time through the use of technology.

Definition of Key Terms

The following terms defined are for understanding purposes during this research:

Baby Boomers. Baby boomers are persons born in the mid-1940s through mid-1960 (Lissitsa, 2016).

Barriers. Barriers are obstacles or hindrances to a thing or situation that appears to be unmanageable (Stevens, 2014).

Computer Self-Efficacy. Computer self-efficacy is knowing and having the ability to use a computer (Yesilyurt, Ulas, & Akan, 2016).

Digital Immigrants. Digital Immigrants are people who have embraced technology (Colbert, Yee, & George, 2016).

Digital Natives. Digital natives are individuals who were born utilizing technology and are content with operating using technology (Rosli, Saleh, Aris, Ahmad, & Salleh, 2016).

Distance Learning. Distance learning is the mechanism for delivering instruction through the utilization of the Internet (Krawlzik, 2014).

Educational Technology. Educational technology is the examination of ethical preparation of making learning possible and enhancing the presentation by constructing, using materials and administering suitable technological means and sources (Lakhana, 2014).

Generation X. Generation X is persons born in the 1960s through 1980 (Edge, Descours, & Oxley, 2017).

Millennials. Millennials are individuals who were born in 1980 through the year 2000 and are known as being classified as Generation Y (DeVaney, 2017).

Mobile Technology. Mobile technologies are devices that are not fixed or at a predetermined area and that are conducive for the learner in which the learning process takes place (Reychav, Dunaway, & Kobayashi, 2015).

Self-Efficacy. Self-efficacy is having the confidence, beliefs, and abilities within oneself that are derived from managing the expected result of a task (Chestnut, 2017).

Teacher Self-Efficacy. Teacher self-efficacy is the need of the teachers' purpose to enhance student learning (Turkoglu, Cansoy, & Parlar, 2017).

Technology Integration. Technology integration is the imbuing of technology tools to complement learning (Farsis, 2016**).**

Summary

The use of technology is instrumental in schools and how teachers choose to integrate technology into their classrooms (Jones, 2016). Technology plays an important role in our educational systems and is an integral part of the current day school systems (Kushon, 2016). Teachers must continue to find innovative ways to broaden their knowledge so that factors affecting their inabilities do not convolute negative ways that prohibit them from exercising their best potential (Wang, Hsu, Reeves, & Costner, 2014). There are barriers that make teachers hesitant from integrating technology in the classrooms due to a lack of computer training; furthermore, there is not enough of time to devote to learning computer techniques (Pye, 2013). These deficiencies are some of the base issues that may cause teachers to have anxiety, fear, and ineptitude (Ryan & Bagley, 2015).

Chapter 2: Review of the Literature

This literature review provides specific topics that will support the intended case study on teachers' use of technology in higher education classrooms. The researcher investigated three main sections: (1) fundamentals of technology integration, (2) integration of mobile technology in the classroom, and (3) teachers use of technology in classrooms. Teachers are expected to understand the fundamentals of technology; also, be able to apply the basic principles in order to master the concepts, and to deliver instructions to the learner (Conner & Beard, 2015). In research and in the field of education, technology affects the way teachers use technology regularly and is a topic that is noteworthy for future studies (Akkaya, 2016). Not only is the teacher a part of the integration process, but it is also the teachers' responsibility to facilitate learning through a means of collaboration and instruction through an academic environment (Wang, Hsu, & Green, 2013). Finally, the study emphasized how teachers use technology in the classroom; and how teachers are facilitators to student learning. Inherently, teachers are the guiding entity to student learning by using various forms of technology in the classroom that can be the change agent for students towards academic learning.

The literature search is comprised of current peer-reviewed literature, scholarly journals, published dissertations, and suitable books, within the last five years of the research study that came from Northcentral University's online library and appropriate reliable websites. The database resources and search engines were taken from electronic research articles in Proquest, Roadrunner Search, LearnTechLib, ERIC, Google Scholar, Science Direct, and EBSCOhost. Key terms used in the research study included technology integration, mobile technology, fundamentals, and higher education.

Theoretical/Conceptual Framework

The theories are used as a base for the study and are the vehicles for the initial need to execute the research on constructivism, behaviorism, and multiple intelligence that enhanced individuals socially from their own experiences while being guided as instructors in a classroom environment for educational achievement (al Mahmud, 2013; Butzler, 2014). The social aspect and the experiences that learners utilize in classroom settings are to impact skills and collaborate with others (Kleanthous & Cardoso, 2016). If the instructor wants to reach the masses of students in an educational environment, it is the instructor who needs to adapt his or her instruction to the constructivist approach to raise collaboration between students (Thormann, Gable, Fidalgo, & Blakeslee, 2013).

Theory of constructivism. In the 20th Century, Les Vygotsky, Jean Piaget, John Dewey, and Jerome Bruner all were contributors to the theory of constructivism (Kantar, 2014). Jean Piaget was influential for his theory of constructivist learning and how the theory correlates to the human intellect; and is best known for human learning that directs cognitive progression towards "assimilation and accommodations" (Pardjono, 2016, p 166). Vygotsky concurred with Piaget's initiative regarding knowledge but strongly considered interfacing socially as a vital part of internalizing the processing of knowledge (Lin, Justice, Paul, & Mashburn, 2016).

Jean Piaget affirms that student learning is the active portion of processing knowledge rather than obtaining information from teachers and is recognized as the Piaget's paradigm (Kivunja, 2014). Essentially, learners obtain knowledge as a result of being an active learner rather than the teacher instructing (Evans, Ebrahim, Sheesley, & Foster, 2016). A constructivist's primary goal is to understand the concept behind the

constructivist theory and then create collaborative associations with learners by getting the learner to think deeper (Alberici, 2015). The responsibility of the instructor is to pose questions in a one-on-one setting where collaboration is more intimate, and learners are of free-will to engage in a social environment that makes the discussion more meaningful by modifying the learning experience while in the classroom (Akpan & Beard, 2016; Cardenas, 2016). For example, instructors may post written assignments and students may go about their usual way of researching, writing, and taking quizzes; instructors can use different exercises such as creating blogs on specific topics for learners to respond to as a way for them to develop and display their skills (Alberici, 2015; An & Cao, 2014; Featro & DiGregorio, 2016).

There are characteristics instructors should demonstrate within the parameters of constructivism. Instructors should be accessible, and they should have a strong presence, with a minimal contribution so learners can associate with one another, particularly in an asynchronous or face-to-face environment, and present a rubric for learning intentions (Alberici, 2015). These attributes are important and necessary to effectively assist learners in expanding their learning capabilities through learning experiences (Dullien, 2016). However, learners are expected to possess a certain amount of understanding and be able to produce and maneuver their way through the process of learning from various aspects (Schell & Janicki, 2013).

The constructivist theory adds meaning to the learners understanding and further develops their critical thinking skills in a higher education atmosphere through the forms of distance learning, online learning, hybrid, blended, or face-to-face settings (Dullien, 2016; Georgiou, 2016). Not only does this benefit the student, but also a higher order of

thinking becomes important, at the collegiate level, because this aids to the development of learning and success to basic life skills (Grieco, 2016).

This is important to understand the significance of how theories are applied in classroom settings based on the theories of behaviorism, constructivism, and multiple intelligences and how teachers can effectively direct them towards academic learning (Young, 2016). Essentially, technology-based learning is expanding and new theories are surfacing to improve education for learning as well as prepare individuals for employment (Surber, 2017). As technology continues to advance and improve it is the foundation of theories that make teaching and learning support instruction as to what should be taught and what is to be learned (Matthews, 2015)

The theory of constructivism in distance learning environments. The theory of constructivism enhances distance learning and how learners acquire knowledge socially from their experiences (al Mahmud, 2013). The social aspect and the experiences that learners can employ in an online setting to impact their skills while collaborating with the instructor can support interactions through learning (Moon-Heum & Cho, 2016). If the instructor wants to reach the masses of students in an online environment, it is the instructor who should adapt his or her instruction to the constructivist approach to raise collaboration between students (Thormann, Gable, Fidalgo, & Blakeslee, 2013).

In order for instructors to keep up with ways to engage learners, it will be necessary for them to continue finding new methods of learning for online learners to enhance knowledge (Roach, 2014). Unlike, in traditional face-to-face environments, instructors will have to revamp or rethink best practices of ways to reach the online

learner through engagement (Hess & Greer, 2016). This can happen when instructors become facilitators rather than being the model example of a teacher; and expose learners to online materials rather than having a textbook as the main source (Schell & Janicki, 2013).

The constructivist theory adds to the understanding of distance and online learning and how students benefit from the theory by bringing with them experiences, knowledge, and interaction with their peers (Bryant & Bates, 2015). As instructors take a hands-off approach to teach this method allows learners to notice their intuition by engaging in active learning (Kwan & Wong, 2014). Not only does the method benefit the student it becomes important at the collegiate level because it aids to the development of their learning (Brown, L. 2014). When this type of instruction is given it certainly puts the instructor in a position to be the facilitator and their guide (Ayaz & Sekerci, 2015). The constructivist model suggests to instructors to ask specified questions of learners and it opens the communication path for the learners to get answers (Schell & Janicki, 2013).

Constructivist theory in a distance learning environment has many aspects of how learning is perceived and the relationship to the pedagogy of traditional face-to-face and the online course pedagogy methodologies in which students connect to bring their skills with them (Racine, Holtslander, & Barbara, 2015). Both concepts of face-to-face and online environments have much to do with college students and how they interface with technology (Kauffman, 2015). The research argues that online courses support students and faculty relations and student-to-student contact by allowing students to build upon their knowledge and to discover the latest information (Thomas, Menon, Boruff, Rodriguez, & Ahmed, 2014).

Progression in technology has afforded the transitioning and development of online classes as the exchange of face-to-face settings is increasing (Platt, Raile, & Yu, 2014; Fontenot, Mathisen, Carley, & Stuart, 2015; Wladis, Hachey, & Conway, 2015). A little over a decade ago, institutions have begun to recommend online courses at the post-secondary levels by incorporating standard curriculum by allowing students to engage in an online atmosphere rather than in a setting of a traditional classroom due to the popularity and growth of enrollment (Barbeau, Johnson, Gibson, & Rogers, 2013). When taking online courses, it has been noted by some researchers that students find it easier to enroll in online classes; also, they feel self-sufficient especially for those who live from a distance and are not able to register in a traditional class environment (Otter et al, 2013).

The model of constructivist learning perceives that students gain their learning from their knowledge based upon experiences and from using their intellect (Vijaya kumara, 2014; Ogunyemi & Ragpot, 2015). Unlike traditional classroom settings, it is from this model that proponents agree that students should manage their own progression and ascertain their own abilities towards learning rather than being instructed (Papillion & Aaron, 2017). As this constructivist approach is activated, it places the teacher in a shifting position to become the facilitator and the motivator in the development of student learning and collaboration (Alt, 2015). From this point, the instructor can ask questions of students for the benefit of thinking critically while the instructor is to direct learners on how to use problem-solving skills while evaluating levels of comprehension (Prud'homme-Genereuz, 2017). This technique for learning enables students to learn how to apply education creatively by being able to think on their own; and when students graduate they can utilize their university involvement into the working world by adjusting

to any situation based on self-knowledge (Chandler & Teckchandani, 2015).

Understanding the significance of how theories apply to distance education or distance learning environments based on behaviorism, constructivism, and multiple intelligences, teachers are in a better position today to give newfound information because theories have changed favorably and teachers are in a situation to service the learner (Bair & Stafford, 2016; Hayes, 2016). As technology continues to advance and improve it is the foundation of theories that make teaching and learning applicable to distance education the way it supports instruction (McNiff & Aicher, 2017).

The theory of connectivism is consistent in the form of technology and social structures that form connections through communication (Yumurtaci, 2017). The concept of connectivism is where proper understanding is continually developing, and answers from decision-making can change from moment to moment (Ozturk, 2015). The entire reason behind the theory of connectivism is to collaborate and share with others through social learning by integrating forms of social media to enhance numerous learning styles (Kizito, 2016).

Theory of Behaviorism. The theory of behaviorism as it relates to people and particularly how the behavior is perceived in distance learning or in a classroom denotes that performances are learned from certain stimuli (Mbati, 2013). In the case of online education, the theory of behaviorism is a prime example of how behavior can be used through teaching and learning (Lau, 2014). For example, when learners in an online class receive instructions on an assignment given by a professor and the prompt feedback indicated that the learner received a passing grade relates to the method of behaviorism. Therefore, when positive reinforcement is given based on a condition they will continue

the same action for more rewards as their motivation (Schulz, Henn, Petri, & Huston, 2016).

Specifically, modern technology includes the use of computers and is used in educational environments to enhance the makeup for integrating technology through constructivist theories (Gilakjani, Leong, & Ismail, 2013). As, in a teacher's role, instructors must understand that their purpose and the context in which appropriate learning is meaningful for students to administer the appropriate educational theories based on a constructivist point of view (Shi, 2013). Based on the constructivist's approach, learning and knowledge is derived upon student experiences of real-life situations and what they have encountered (Darby-White, 2015).

The benefits of behaviorism and constructivist learning theories. The theory of behaviorism endeavors to alter the behaviors of humans and studies the former and present surroundings of behavior (Phelps, 2015). This type of theory is better known as the classical condition that was investigated and discovered by Ivan Pavlov, a Russian physiologist (Van Elzakker, Dahlgren, Davis, Dubois, & Shin, 2014). John Watson, an American psychologist, adopted Ivan Pavlov's discovery that was most effective in studying the learning of dogs and how they could become conditioned based on stimulus, transforming behaviors as derived from observations, and the environment in which the outcome of the encounter existed based on impulse reactions (Bodish, 2017). Research depicts that human behavior focuses on attributes that are apparent and quantifiable and teachers in the classroom use this theory of behaviorism to manage student learning and behaviors (Bear, Slaughter, Mantz, & Farley-Ripple, 2017). The behavioral learning theory is a result of human behavior that responds to stimulus-responses that are derived

from the involvement of the people (Henson, Eckstein, Waszak, Frings, & Horner, 2014). Research indicates that the actions of examining behaviors come directly from observed patterns (Railean, 2014). According to some behaviorist, the behavior is learned or acceptable, and the conduct can be unlearned, and become unaccepted or replaced with newer or more suitable actions controlled by the human mind (Olen, 2016).

From a behaviorist point of view, there are advantages and disadvantages that are instrumental to learning theories across the world. One advantage of behaviorism is that some learners are considered to be motivated based upon their interpretation and how they hear based on learning (Sobouti & Amiri, 2014). It is the skill of listening and interpreting that drives a person's motivation (Karimi & Biria, 2014). The second advantage of behaviorism includes learning behaviors that are observable and measurable (Gallagher, 2016). Essentially, the theory of behaviorisms main focus is to steer behavior, whether it is from the perspective of humans or animals based on results from stimuli determined by the condition or environment (Kuhn, 2015).

Students' academic insights regarding instructional strategies are no longer traditional; instead some instruction is exchanging with new innovative methods for using technology for student learning and teaching (Gulnaz, Alfaqih, & Mashhour, 2015). The theory of behaviorism gives learners instantaneous responses through the method of communication (Schnetter, et.al, 2014).

Teachers use the theory of behaviorism in the classroom to reward or to penalize learners' behaviors (Payne, 2015). In education, teachers use this theory as methods for punishment when behavior is unacceptable and to reward behaviors that merit good action (Bear, 2013). Student classroom behavior is another method to sustaining and

abolishing behavior that teachers use to reward or punish students (Perle, 2016).

Next, from a constructivist point of view, the advantage of constructivism relates to learning as being the active process based upon experiences and learning (Keengwe, Onchwari, & Agamba, 2014). When learners are independent of their own knowledge they are then able to preserve that which was attained through real-world experiences (Li, 2015). The theory of constructivism is similar to metacognitive learning, where individuals can think and understand rather than memorizing information as a part of the learning process (Lee & Hannafin, 2016; Aly, 2013). In academia, teachers become facilitators and students take an active part in their own learning (Krahenbuhl, 2016). The classroom is where students learn to disseminate what they have learned by applying those principles to other areas as a way to dialogue (Hye, Park, Yoo, & Kim, 2016). The theory of constructivism and as teachers become facilitators, students get the opportunity to initiate in their planning and can take ownership of their assessment through the mechanism that teachers use to stimulate students' minds (Rahimi, van den Berg, & Veen, 2015). Through this process is when teachers thoroughly use the constructivist method, and students can dispense and absorb current knowledge and be prepared to take on the world (Pizarro, 2014). The constructivist theory places matters into a real-world perspective of activating and involving students to the point that they employ their inquisitiveness by learning to ask questions (Dennick, 2016). Constructivism promotes collaboration in a traditional classroom or in an online environment through social and mutual exchange of information (Bofill, 2013). Students learn to speak their ideas clearly when communicating and sharing ideas among each other and in-classroom projects with groups socially that is adequate through their own experiences (Barker, Quennerstedt, &

Annerstedt, 2015).

The theory of constructivism helps to balance and to develop thinking skills (Ingalls, 2016). Not only are thinking skills an essential factor to the learning process, but reasoning skills or higher order of thinking is an attribute to the theory of constructivism in a classroom (Abbas, Lai-Mei, & Ismail, 2013). In the theory of constructivism, learners formulate their understanding based on their personal interpretation (Badie, 2017). According to the constructivism approach, learners are responsible for their learning, and when a learner internalizes knowledge, they translate or explain what was learned from old and current experiences that made connections from new experiences (Warren & Cottone, 2015). When viewing the overall model or theory of constructivism, ideally learners are considered the center focal point to the model. The inside from the model is where students collaborate and interact with the instructor who becomes the mediator (Watters & Diezmann, 2016).

Intrinsic motivation is another internal factor related to the benefit of constructivist and behavioral theories that advocate the method by acknowledging and confirming a student's perspective on what is right or wrong (Ramnero & Torneke, 2015). Generally, students are able to reassess their understanding which places preeminence on self-esteem while elevating certainty that will inspire them to confront more complicated obstacles and become more socially aware (Gosllin, van Klashorst, Kluka, & van Wyk, 2016). The theory of constructivist learning concepts is correlated to the constructivist method of teaching (Bas, 2015). Research repeatedly indicates that this theory is based on prior knowledge and experiences (Paily, 2013). It is in the classroom where the teacher's focal point is to instruct through activities versus textbooks for

learning purposes to be fulfilled through active techniques that demonstrate knowledge innovations as opposed to passive recognition of information (Buijs & Admiraal, 2013). Teachers that use the method of kinesthetic learning or a hands-on teaching approach in the classroom as a learning style for students tend to have better associations through personal experiences that they can use and apply to their lives to enhance their knowledge (Jepsen, Varhegyi, & Teo, 2015). Professors should attempt to adopt a constructivism curriculum that will contribute to student knowledge; and this type of infusion will encourage teachers to focus more on topics and even some social media that students will enjoy towards learning the subject matter at hand (Espinosa, 2015).

The last advantage from the constructivism point of view is metacognition. Metacognition is the process by which learners critically think about thinking (Moos & Miller, 2015). This process relates to learners taking ownership in their learning abilities and using their cognitive skills (Railean, 2014). Once learners practice these skills their cognitive abilities begin to exercise throughout their processes and the learner is able to think out the process in order to complete a task or solution (Knox, 2017).

Theory of Multiple Intelligences. Psychologist Howard Gardner is responsible for the eight Multiple Intelligences that individuals possess for the purpose of how one ascertain learning skills (Everts, 2015). According to the Multiple Intelligence Theory, it can be used for individuals to understand and to perceive the concept of learning through pedagogical skills (Johnson, 2016). Millennial learners learn differently than those of the baby-boomers era; they desire to be taught according to the learning style that best fit their studying preferences that will display their intellectual skills based on their ethnicity (Hart, 2017). The theory of multiple intelligences implies that teachers in the classroom

should be trained to incorporate methods of multiple intelligences into their lessons the way students are educated to learn most effectively (Martin, Bishop, Ciotto, & Gagnon, 2014). In education, teachers who have been skillfully trained to identify different bits of intelligence can assist students better in aiding them with specific learning styles and techniques for successful learning (Andronic & Andronic, 2016). The theory of multiple intelligences changes the concept of how people use and implement learning strategies in education (Altintas & Ozdemir, 2015).

Multiple intelligences is not only used for learning purposes, but educators can also use the theory directly towards planning instruction and for implementing strategies of learning where both the teacher and the students can benefit from the enhancement of learning styles (Ghamrawi, 2014). The theory of multiple intelligences can aid students by identifying their weaknesses, and with proper instruction can help to develop students' strengths (Joneja, 2016).

The theory of multiple intelligences and their advantages. Psychologist Howard Gardner is responsible for the eight multiple intelligences that individuals use to learn (Tawalbeh, 2016). Learners possess or use one or many bits of intelligence by which they use to gain knowledge in becoming active in their learning (Mudaly & Naidoo, 2015). Nonetheless, the theory of multiple intelligences has changed how people perceive learning styles, along with using their intelligences (Dixon, 2016).

Research indicates that there are some gains to possessing specific bits of intelligence. One advantage and characteristic is that students' activeness promotes in their learning process and improves student achievement (Al-Faoury & Smadi, 2015). As the cognitive theory further develops this causes the activity of the brain to expand and

optimize learning skills (Paas & Ayres, 2014). Another advantage of using multiple intelligences is that it strengthens and motivates and boosts student achievement once the intelligence is recognized (Dickinson & Adelson, 2016).

Controversies and challenges in constructivism theory in a technology environment. There are controversies and challenges related to the constructivist theory in an online environment related to student learning (Boelens, De Wever, & Voet, 2017). From an instructor's perspective and based on the theory of constructivism, in an online environment, it may be challenging to depict when students are not apprehending or facing challenges that surface for any reason (Guo, Xiao, Van Toorn, Lai, & Seo, 2016). If learners portray that they understand materials that are given by their instructors, it does not mean that they know how to apply their experiences and relate them to real-life situations (Dabbagh & Dass, 2013). Essentially, the social aspect of constructivism cannot be substituted by technology rather technology makes it possible (Hickey, 2014). Technology changes rapidly, and this can cause a problem for online learners, especially if learners are not fluent enough to use software and are just learning how to manipulate technology (Schell & Janicki, 2013).

Also, as technology changes, instructors find that the task of creating courses for online learners can be cumbersome when trying to meet the necessities for online students (Taylor, 2013). Correspondingly, as learners have questions, and depending on the size of the online enrollment, it can be overwhelming for teachers to respond or give feedback on time (Wilson & Czik, 2016). Instructors should keep the lines of communication open and be available to learners; also, instructors should provide as much feedback as possible (Schell & Janicki, 2013).

The constructivist theory in an educational environment has been constant in guiding general courses as a means to involve the purpose of student learning (Waddell & Vartuli, 2015). Consequently, online education is on the rise, (Patricia, 2016) and more institutions need to ascend to the occasion by encouraging distance learning facilities. When institutions and teachers realize that the method of online instruction is beneficial to student learning, then teachers will continue to inspire online learners (Allison & Rehm, 2016).

It is pivotal when students can apply and use details from their past experiences to real-life situations while becoming learners for life and use computers and modern technology to bring these experiences to an online environment (Wang, &Torrisi-Steele, 2015). Modern technology, along with the use of education contributes to constructivist learning environments (Khanova, McLaughlin, Rhoney, Roth, & Harris, 2015). Many studies have been explored regarding modern technology to include the use of computers and are used in online environments to enhance the makeup of the constructivist background (Kung-Teck, Mohd Sahandri, Goh Pauline, & Mohd Azli, 2016). Such as, in a teacher's role, instructors must understand that their purpose and the context in which appropriate learning is meaningful for students to administer the appropriate pedagogic theories to learners based on a constructivist point of view (Dorner & Kumar, 2016). The use of modern technology can display certain skills and characteristics within students to enhance students' social learning (Garrity, Jones, Vander, Zwan, & Epstein, 2014).

A different point to consider, regarding challenges, in the theory of constructivism is that in an online environment, instructors are limited in the use of technology and training is recommended (Parise & Crosina, 2012). Due to the limited skills of the

instructor, learners are solely dependent upon themselves to learn from their own experiences (Little, Colligan, & Broyles, 2016). Based upon the constructivism theory some learners cannot interpret real-life situations based on experiences in order to gain the knowledge through theory and practice (Sugar, 2014). It does not mean that learners do not have the knowledge, or what they comprehend is not valid. From the constructivist point of view, learners are accountable for their own knowledge and learning (Kleinsasser & Hong, 2016).

Ultimately, there are advantages and disadvantages to theories of learning in e-Learning environments, and it is through the foundations of behaviorism, constructivism, and multiple intelligences that teach one how to use and apply these theories in the world we live and work in through learned knowledge (Makani, Durier-Copp, Kiceniuk, & Blandford, 2016). Learning theories serve as a guide to direct instruction as the necessary foundations for learners by gaining knowledge towards any given subject and for future studies (Hirumi, 20113). Just as there are advantages and disadvantages to learning theories in e-Learning; methods are indicative to the unknown to enlighten better what happens and to make arguments more compelling ("Learning Theories and," 2014, pg. 15).

Transformational learning theories of andragogy learners in higher education. Transformational learning theories for adults are necessary regarding educational experiences for the process of academic learning (Kumi-Yeboah, 2014). This method of learning applies to the principles that bring steadiness and performance to fruition (Marrocco, Kazer, & Neal-Boylan, 2014). Theorists have studied and researched learning theories for adult learning, and some have concluded that the implications or the

assumptions of andragogy learning are positive and negative (Poupore, 2014). Adult learners are self-directed, are eager to put forth the effort in their education to self-teach themselves because of their past experiences, their maturity, and independence as an individual (Grover, Miller, Swearingen, & Wood, 2014). Currently, adult lifestyles are becoming more demanding, which can sometimes hinder online learning (Stone, O'Shea, May, Delahunty, & Partington, 2016).

In conclusion, learning theories are necessary to build upon one's interactions and experiences that along with student-to-student, teacher-to-student, student-to-teacher, and having the experience of students working in groups to further develop the behaviors of social learning and life skills (Tucker, 2014). It is through collaboration that strengthens develops learning theories (Yucel & Usluel, 2016) when the two come together. Additionally, it is through behaviorism that students are motivated based on their interpretation of what they hear and observe (Sobouti & Amiri, 2014).

Fundamentals of Technology Integration

Technology is an essential tool that society uses every day, whether it is for pleasure, work, or social networking (Skarzaukiene, Tamosiunaite, & Zaleniene, 2013). The technical means are significant to the things of one's environment and how individuals adapt to their surroundings (Riener, 2016). The advancement of technology has assisted people in ways of communicating and has an enormous influence on life and is used globally (Hussain, Cakir, Ozdemir, & Tahirkheli, 2017). Technology has continued to progress, and this has made living suitable for those who have access (Pittman & Gaines, 2015). Technology is unquestionably essential to our daily lives

(Moreira & Reis-Monteiro, 2017). The importance of technology has aided society tremendously while making everyday living more comfortable (Webster, 2017).

The perspective of a teacher is for students to understand the fundamentals of technology so that the learning experience can be enhanced and to know the basic principles to master concepts of coursework (Jarboe, Raman, Brumm, Martin, & McLeod, 2016). Educators that teach technology can relate to the significance of using technical equipment but have issues with imparting the necessary skills in a classroom due to their limited knowledge and how they see it as a threat (Ward & Costello, 2016). Teachers comprehend the use of technology; but, they cannot exercise or reciprocate the needed technical skills due to a lack of knowledge, attitudes towards technology, and the challenges of infusing technology in teaching (Lin, Worch, Zhou, Yu Chun, & Aguiton, R., 2015).

Technological integration began with the process of teachers using learning management systems in higher education to enhance the manner of management of academic content for students' work (Mtebe, 2015). For learning management systems to fulfill its purpose and to be productive for the instructor, teachers should understand the form and use of the application to benefit both the student and the teacher for the delivery and outcome of integrating technology (Coskuncy, & Ozkan, 2013).

Incorporating technology has benefits to both the teacher and the student. Technology integration can strengthen the way students think about using their skills and are found in our communities and throughout the world (Harris, 2016; Powell, 2013). Technologies in some of our institutions are outdated, and as soon as institutions get a clearer understanding of the use of technology and its applications, then the older

versions of the technology can be replaced with newer versions (Kalmykova, Patricio, Rosado, & Berg, 2015).

Teaching and integrating technology into a curriculum or classroom is more than including a basic computer course and using software programs for a class. Institutions have to look further into developing a broader curriculum that will complement learning. Making technology effective is dependent on the use of having regular technical support and its use of integration (Harris, 2016). Technology provides a change in the way teachers instruct by contributing efficient ways to attain learners of different learning types (Kayalar, 2016; Kale & Goh, 2014). This method elevates the teacher-student association and established rapport. Not only does the teacher-student relationship occur, but also other attributes to the teacher's role as facilitator, coach, and advisor as a means for facilitating an active classroom for learning (Kim, Jung, de Siqueira, & Huber, 2016).

The perspective of a teacher is for students to understand the fundamentals of technological skills and to know the basic principles to master concepts of the coursework (Moser & Ivy, 2013). Educators can relate to the significance of using technical equipment but sometimes have problems with the imparting necessary skills in a classroom (Mirzajani, Mahmud, Fauzi, & Wong, 2016). The reason for this is due to limited knowledge of how technology is perceived (Ward & Costello, 2016). Teachers comprehend the use of fundamentals of technology; but they cannot exercise or reciprocate the needed technical skills due to a lack of knowledge, attitudes towards technology, and the challenges of infusing technology in teaching environments (Li, Worch, Zhou, Yu Chun, & Aguiton, 2015).

Teachers must be able to transfer knowledge and not just have the ability to know and understand how to write and read as well as being well versed in other subject matters (Yilmaz, 2016). One of the critical factors is to be able to effectively communicate, which allows the individual to comprehend the subject matters at hand (Uibu, Salo, Ugaste, & Rasku-Puttonen, 2017). Teachers should have the necessary knowledge and awareness of how students learn and grasp information by teaching students to learn properly (Jonsdottir, 2017).

Information technology is vital to the integration of today's educational systems by serving as a valuable instrument and a new approach to education (Al-Alwani, 2014). To some extent, face-to-face or traditional classrooms are being used with digital interactive boards, online libraries, virtual classrooms, online media, and distance education around the world (Amemado, 2014).

Integration of Mobile Technology in the Classroom

Today's students have taken an active approach to utilize technology in various forms and throughout different school environments, particularly in higher education (Echenique, Molias, & Bullen, 2015). Students carry and use smartphones, gaming devices, laptops, and tablets as a means of communication, and to entertain themselves (O'Donnell & Epstein, 2019; Plopper & Conaway, 2013). More importantly, students have the skills in knowing how to operate them, but some older teachers find cell phones a distraction in their classrooms because they lack the knowledge of technology for student learning (Nikolopoulou & Gialamas, 2015).

Research indicates that students' use of technology is a means for collaborating and interacting socially, personally, and in academic environments (Sarah Hsueh-Jui Liu

& Yu-Ju., 2016). Mobile technology is convenient; it is easily accessible and can be carried around (Ch'ng Lay & Samsudin, 2014; Lin & Lu, 2015). In education, apparatuses used as handheld devices as a learning platform helps to develop student participation and engagement in the classroom (Viars, Cullen & Stalker, 2017). The use of modern mobile technologies can allow learning to occur in a real and purposeful world where teachers can implement in an educational environment (Yu-Chang & Yu-Hui, 2012).

Many educators on developmental levels of education continue to use vital technological resources such as smartphones, tablets, and gaming devices to provide effective instruction to students (Stephenson & Limbrick, 2015). By using these technological resources, teachers can engage and improve collaboration among their peers and students, thus making the learning environment inclusive (Lindsay, Lee, & Hope, 2016). Integrating mobile learning technology within the classroom is also crucial because millennial students are familiar with these resources (Merrill, 2015). Ninety-one percent of adults own mobile telephones (Thomas, O'Bannon, & Britt, 2014), and almost a ratio of 2:3 use their smartphones (NHC Horizon Report, 2017). According to the report from eMarketer (2016), 88.3 % of teenagers between 12 to 17 years of ages will use and own mobile phones in the year 2017; and with those users, 84% will have smartphones. Through the use of mobile technologies and educational games, students will enhance their academic maturation and improve other teamwork and life skills such as problem-solving, collaboration, and communication skills (Reychav & McHaney, 2017). These relevant life skills will help to lead students towards adequate preparation

and become successful contributors not only in the classroom but in society (Bursztyn, Walker, Shelton, & Pederson, 2017).

The use of tablets and smartphones in classrooms has enhanced the teaching skills of some teachers of higher learning (Dahlstrom, 2015; Osakwe, Dlodlo, & Jere, 2017). Some teachers are in opposition of letting students bring mobile devices into the classrooms because of potential distractions they pose which is a crucial concern for institutions of higher education (Gao, Yan, Wei, Liang, & Mo, 2017). Other teachers welcome the use of technology in the classroom and see this as a way to encourage student participation while promoting interactive learning (Keller, 2016). Likewise, teachers can prepare student assignments for learning applications that are designed for mobile devices to fulfill specific course work and students in return can upload class projects and homework through the appropriate mobile apps from their devices (Sung, Chang, & Liu, 2016). For mobile learning to be efficient, teachers will need to have the experience to complement student use to influence learning (Loughmiller & Mims, 2015). Mobile learning increases student engagement; students learn on-demand by being able to access their education according to their needs, and teachers can give assessments in smaller increments whereby the learner is involved in taking test and quizzes that will increase the learner's commitment of the content (Frander & Hawkins, 2015; Montrieux, Vanderlinde, Schellens, & De Marez, 2015; Hoglund, 2015).

Using mobile technologies in the classroom can amplify and influence learning when instructors are fully committed to the inclusion of technology use within an academic environment that promotes knowledge (Domingo & Gargante, 2016). Utilizing mobile technologies has become a vital part of everyday life for learners (Roberts &

Rees, 2014). Educators should welcome the opportunity to use mobile learning as a way to help improve student achievement in the classroom (Brown & Mbati, 2015).

In many instances, education is embarking on technology as a way to expand and to further develop student engagement and to make classroom learning more effective (Sawang, O'Connor, & Ali, 2017). Being that technology is essential in everyday life, and particularly in education (Naslund & Gardelli, 2013), it is becoming necessary to embrace technology in our curriculum and school programs (Sarfo, Amankwah, Baafi-Frimpong, & Asomani, 2017).

In more classrooms, teachers are finding ways to include mobile phones as base for educational instruction (Grant, et al, 2015). Mobile devices are being used in traditional classroom settings and are being used at anytime and anywhere for the intent of teaching, and the purpose of student learning (Thomas & Munoz, 2016). To lessen the split, schools need to consider permitting the use of mobile phones for the intent of active learning (Chou, Chang, & Lin, 2017). A possible way for schools to claim popularity among students' by adopting policies whereby students can bring their own mobile devices into the classroom for educational reasons (Shraim & Crompton, 2015). Integrating a plan to bring your tools into educational establishments should be considered (McLean, 2016).

Mobile learning is another form of education that takes place through the utilization of mobile devices (Cakir, 2015), as the educational model of mobile learning came about as a result of formulating mobile technologies (Irby & Strong, 2015). Mobile learning is the premises for learning as more students are beginning to obtain their work by using mobile devices through the medium of a wireless apparatus and the Internet

(Alkahtani, 2017). Educators have started to look closely at mobile telephones as a way to integrate technology in the classroom as well as other devices such as wireless laptops and MP3 portable players (Fructuoso, 2015).

The use of mobile technology allows users the opportunity to access learning materials and to communicate at any time and from any place (Kee & Samsudin, 2014). The practice of exchanging dialogue commits to interactive learning and improves classroom participation and forces students to become self-motivated (Gryczka, Klementowicz, Sharrock, & Montclare, 2016). Studies show that when using technological pieces of equipment in classrooms, these bring about a student-centered manner atmosphere (Alkhezzi, 2016).

Mobile learning is a rewarding experience for learners and teachers (Parajuli, 2016). Some millennial students struggle in a face-to-face environment, and they tend to find class lectures boring, non-engaging, ineffective, and unengrossed (LoPresto & Slater, 2016) versus mobile learning, where students are the active components of their learning environment (Hwang, Wong, Lam, S., & Lam, P., 2015). In cases of mobile learning, the advancement of technology allows for the instructor to converse with learners by sending them a video, text messages, or images that relate to instructional notifications (Alrazeeni, 2016). A study from Alkhezzi (2016) indicates that another advantage of administering mobile learning in education comes from "reachability, motivating features, and social interactivity" (Alkhezzi, 2016, p.78). The use of mobile phones presents students with individualized exposure and the content for mobile learning in education (Baran, 2014). In education, mobile devices are useful in the framework of academics because of its mobility, how people are connected, and how it

relates to the social outlook or view of the learner (Moreira, Ferreira, Santos, & Durao, 2016). More gratification to mobile learning is that educators try and inspire learners to grasp and understand the significance and complexity of the curriculum (Kraft & Seely, 2015). The unification of mobile learning and its nature advocates group conversations and brings responses to enhance learning while raising memory retention (Novak, 2015). Social interaction and mobile learning interactivities benefit timid and shy learners to engage in classroom participation (Chin & Balakrishnan, 2016). The social interactivity aspect of the student strengthens the learner to help communicate and contribute their thoughts in a less exasperating setting (Pavik, 2015). Students feel less intimated in an asynchronous environment when having to ask or give their input in the settings of mobile learning rather than in a face-to-face environment (Irani & Chalak, 2016).

According to Montrieux, Vanderlinde, Schellens, and DeMarez (2015) technology alone is not enough for learning activities to just be digital; however, learning has to do with generating a context for pure learning that will adopt new technologies by incorporating significant ways to add to the preparation of knowledge and the interchange of thoughts (Coskun, Dogan & Uluay, 2017). Without teachers and stakeholders of institutions implementing and facilitating these processes, educational modifications would not take place for adequate learning (Fessehatsion, 2017). Integrating technology and teachers embracing technology is evident in success based on innovations that have become advantageously supported by pedagogical skills from the use of new technologies to better the practices of education (Livingston, 2015).

Gaming is another technological technique that is being used in mobile learning and in education (Cain & Piascik, 2015). Gaming can be utilized by anyone, anywhere

and in any place (Joan, 2013). In and outside of a classroom, gaming can be used for creative purposes to offer fun experiences (De Alencar, 2016). Haddad's (2016) research indicates that more than half of adults in America ages 18 and older play video games and approximately a ratio of 1:5 adults play daily. The mode of gaming is useful and brings several facets to the learning environment (Furio, Juan, Segui, & Vino, 2015).

Educators use the method of gaming as a learning tool where gaming applications can be played on little handheld devices (Merikivi, Tunnainen & Nguyen, 2016). Many studies have been researched and investigated and have concluded that technology-enhanced learning can assist learners in conquering and improving learning performances by developing confidence (Chen, Liu, & Hwang, 2016). As students enjoy the excitement of playing mobile gaming, so it is their internal instincts that motivate them intrinsically to learn from their satisfaction or from their triumphs (Baek, 2017). When some learners indulge in video games it is repeating the same childhood delight and experiences (Cairns, Cox, Day, Martin, & Perryman, 2013). These factors are symbolic to life in the perspective of academics; and the act of engaging prompts optimistic emotional occurrences that are inclusive to the obligation of hard work and eagerness towards learning and their involvement (Pietarinen, Soini, & Pyhalto, 2014). If learning is not enjoyable, it is possible that students will not be easily motivated and could soon give up on themselves (Johnson & Barrett, 2017).

Gaming and the use of mobile learning is a significant key to some aspects of Multiple Intelligences and has some benefits to better one's performance through the manipulation of intelligences that enhances learning through new technologies (Kruger & Bliignaut, 2013). Mainly, in gaming one of the bits of intelligence that works well with

players is the ability to utilize the intelligence of visual-spatial and bodily-kinesthetic; and along with the hand-eye coordination that aid the development of critical thinking are, solving problems, and the boosting of learning (Del Moral-Perez, Fernandez-Garcia, & Guzman-Duque, 2015). Bodily-kinesthetic intelligence in mobile gaming gives an individual the aptitude to employ the body in a clever way (Albilali & Qureshi, 2016). The intelligence of visual-spatial in video gaming allows the individual to differentiate 3D objects and figures to become familiar with maps of virtual environments (Green, Lea, & McNair, 2014). Other multiple intelligences in mobile gaming and linguistic intelligences lead to the quick progression of communication and depicting conclusions that are effective in learning (Sandberg, Maris, & Hoogendoom, 2014). Additionally, there is the naturalistic intelligence that one can understand nature; and there are some videogame platforms filled with nature and species that are used in technology form (Webber, Carter, Smith, & Vetere, 2017). Besides the other multiple intelligences in those mentioned above, it is the musical intelligence in mobile and video gaming where the working of an individual's memory and their cognitive skills are at work once they step away from the game is being used (Liu, Schad, Kuschpel, Rapp, & Heinz, 2016). Likewise, in all of the intelligence, critical thinking skills in mobile gaming are essential to learning styles and items what students remember when playing videogames (Lee, et al., 2016).

A few advantages to gaming and student learning is that this type of mobile learning is creditable to its environment, and online data can be extrapolated from real-world experiences into the virtual world (DaCosta & Seok, 2017). A good example

would be if students are able to use mobile games in a history class and look at geographical sites that might assist the learner with looking at events from the past.

Gaming mobile devices can be used as a collaborating tool through the use of games from many parts of the world (Carrilho, 2015). Connecting with other learners while playing a game online can be as easy as posting one's achievements through the games posting board and revealing tips on a discussion board as the means to a reward (Tu, Yen, Sujo-Montes, & Roberts, 2015). A feature that gaming provides is the mechanism for novice players to ask questions to an advanced player who has mastered the game as a way to work together to understand and collaborate (Jin & Li, 2017). Mobile gaming has collaborative and social tools built-in for commenting as it is the shared grounds for learning while in dialogue that makes gaming interactive, exciting, and fun (Lafon, Graney, Barton, & Kaye, 2016).

Teachers Use of Technology in the Classrooms

The presence of technology can be found nearly everywhere and is used in our homes, public and private schools, corporations, businesses, universities, and colleges (Black & Lassmann, 2016; Harris, 2016; Powell, 2013; Schmid, et. al, 2014). Although technology and its use in the classrooms are debatable, the outcome regarding the use of technology makes it questionable (Brown, H. 2014). Teachers are the individuals who are expected to infuse and use technology in the classroom for effective teaching and to be utilized as a tool for student learning and academic achievement (Brown, 2014; Marshall, 2014).

Many schools provide technological devices for teachers and pupils as a tool for learning and as a way for teachers to integrate skills into the curriculum (Jones, Baek, &

Wyant, 2017). One of many ways teachers use technical skills is the use of the Internet by finding activities to build and encourage teacher confidence while endorsing student learning (Karahan & Roehrig, 2016). There are many innovative ways in which teachers demonstrate the use of technology in the classroom, and one way is to encourage positive learning (Merc, 2015). Research indicates that teachers use technology to assist students by introducing concepts via a way of gaming, online classroom activities, web quest, creating webpages for the class, an email exchange, multimedia presentations, creating blogs and wikis, creating or listening to Podcast, and students can publish their work by utilizing technology (Lebenicnik, Pitt, & Starcic, 2015; Lee & Markey, 2014; Kotevski & Tasevska, 2017; Renau & Pesudo, 2016; Wai, Seng, & Kok, 2015; Wang, 2016). These teaching mechanisms can help teachers integrate technology in the classroom to increase the interest of student learning, along with optimistic student approaches (Izadpanah & Alavi, 2016).

If teachers are going to be able to hold students' attention rather than being at the forefront of the class, instructional change in instruction will have to shift to keep millennial students engaged (Han, 2014). There has to be another prototype for instructional delivery that involves students seeking to advance their academic direction (Baraz, Memarian & van Aki, 2014). The change factor for this to take place should be carefully planned by redesigning the teaching methodology to include the use of specific technology that students can relate to based on their own learning styles (Chen & Manjit, 2015).

Teachers use several methods of technology in the classrooms to assist with the learning processes and the environment in which student learning takes place (Flagg-

Williams & Bokhorst-Heng, 2016). As a result, it is a considerable amount of integrating Information and Communication Technology (ICT) in higher education (Fairchild, Meiners, & Violette, 2016). There have been many efforts to attempt to include ICT in curricula's and the classroom (Reilly, 2014). The uses of technology that will help teachers become more competent and properly instruct and enhance student learning (Pye, 2013). In addition to teachers' competence in using technology and integrating ICT, instructors not only have the skills to educate students but also should attain proficiency in the use of pedagogy and demonstrate those skills instructively (Almerich, Orellana, Suarez-Rodriguez, & Diaz-Garcia, 2016). The use of technology has the potential to influence teaching by giving teachers a sense of connectedness with students and because of the instructors' confidence in using technology the rate of student success increases due to immediate responses (Glover, Parkin, Hepplestone, Irwin & Rodger, 2015; Pye, 2013).

As teachers use technology in the classroom and as students become more reliant on the use of technological devices; consequently, their outcome for success dramatically depends upon teachers' preparation and accurately using technology presently and for student success in the future (Kayalar, 2016). The utilization of technology in the classroom is designed to enhance teachers' skills while assisting student needs (Mitchell, Wohleb, & Skinner, 2016). Furthermore, it is the numerous amounts of technological tools that teachers employ in the classroom that are beneficial for the improvement of student learning and comprehension (Black & Lassmann, 2016). Pye (2013) analyzed that the types of technology used by teachers in many classrooms that include: "e-mail, PowerPoint, and web browsers which can also limit the amount of technology being used

in the classroom" (p. 22). The era of the Millennial students learn about computers and software technology before they start high school; and many of these students carry mobile phones, media players, gaming devices, laptops, and tablets because they have learned how at an early age (Wang, Hsu, Campbell, Coster, & Longhurst, 2014).

In contrast, instructors use social media and theories to introduce instructional strategies for student learning and teaching (Hillen & Landis, 2014). Using mobile learning, distance learning technology-based teaching, the use of social media in formal and informal education, social learning theories, informal digital networks of learners, and online collaboration have evolved as the new cutting-edge to teaching styles (Szeto, Cheng, & Hong, 2016). Accordingly, it is the online collaborative learning tools that are being used to increase and improve communication between the learner and the teacher (Asoodar, Atai, & Vaezi, 2016). In addition, to collaborative learning, social learning theories are where the learner is engaged in collaborative problem-solving that is meticulously monitored by the teacher (Danielewicz-Betz & Kawaguchi, 2015). Research studies have suggested and proved that social learning theories encompass collaborative learning is more effective than individual learning and the learning outcome produces positive social aspects (Alkhathlan & Al-Daraiseh, 2017).

Teachers should recognize the need to embrace and incorporate the integration of technology in classrooms because students are technology driven and compassionate about using technology (Chittleborough, 2014; Mirzajani, Mahmud, Fauzi & Wong, 2016). The change could mean that teachers need to understand more about technology and how to incorporate various technologies into their lessons so that technology works well for both the student and teacher (Thiele & Mai, 2014). Successful learning for the

student does not mean the teacher should dominate the classroom by giving all the lessons; instead, they should support the program of study and be innovative while students learn (Kayalar 2016). Although teachers become facilitators, they still need to remain part of the learning process to help guide, inspire, and energize students (Capp & Swenson, 2013). In essence, students do not know everything; therefore, guidance is recommended to construct dialogue and learning (Prodromou, Lavicza & Koren, 2015). To make technology integration successful, research says that it is dependent upon who is using technology, how it is being used across the world that makes the difference for students' use, and them becoming proficient as the twenty-first-century scholars being prepared for their careers (Puckett, 2013). Likewise, there is a significant difference between teachers' beliefs in the way they use technology in the classroom and their lack of confidence while using technology (Mama & Hennessy, 2013).

Teachers use technology in numerous ways in the classroom to promote learning and a creative tool for student engagement towards learning (Kangas, Siklander, Randolph, & Ruokamo, 2017). Instructors tend to focus on student collaboration rather than just being the center or focal point of the classroom to gain the significant effect of student education (Sibley, Theodorakakis, Walsh, Foley, Petrie, & Raczek, 2017). When teachers use the same traditional methods where they are the primary ones on display, instruction becomes all about the teacher, and less emphasis is on the student (Teo, 2016). The advantage would be for teachers to reverse their roles and broaden their emphasis for dialogue by redirecting their focus toward teaching and become facilitators in the classroom and give guidance (McKnight, O'Malloy, Ruzie, Horsley, Franey &

Bassett, 2015). Teachers' use of technology is to empower the path to an extensive range of learning initiatives that are not otherwise attainable (McKnight, et. al, 2015).

Instructors use specific technology tools to engage students and to support participation in higher education classrooms (Rashid & Asghar, 2016). Computers allow students and teachers to communicate and are used to support the purpose of classroom tools in educational settings for the learning environment (Fan, Radford, & Fabian, 2016). Conversely, social media and podcast are some forms of educational technology that is used in the classroom as tools to endorse learning (Andrejco, 2017). Furthermore, teachers integrate social media platforms such as Facebook to create pages for classroom discussions on specific subjects to substantiate supplemental lessons to encourage meaningful academic achievement (Camus, Hurt, Larson, & Prevost, 2016).

Teachers employ PowerPoint, and Prezi as presentation tools to integrate technology in higher education for instruction, and students use these same methods to present to their peers (Akgun, Babur, & Albayrak, 2016). These features are not limited; but their attributes do encompass videos, text, and pictures without causing formatting issues by disturbing audio and video content unlike PowerPoint and is no cost to the users for shared learning (Clapp & Swenson, 2013). The advantages of integrating these technologies in a classroom environment relate to keeping students interested and engaged in activities while supporting learning (Chou, Chang & Lu, 2015). Educators use educational videos, video clips, and audio MP3 files for instructional purposes to give students feedback through the means of digital technologies that can raise active dialogue between teachers and students (Hung, 2016).

As it relates to the utilization of digital technology, research indicates that this method is used for learning and ways to integrate technology into the classroom (Nehir & Ebru, 2016). Not only is digital technology being employed in the classroom; teachers use other learning methods such as online classroom instruction to support materials for educational programs (Serow, Taylor, Sullivan, Tarrant, Burnett, Smardon, & Angell, 2016). While students of traditional classroom environments experience technology in a face-to-face setting, other students encounter technology integration through online schools (Rehfuss, Kirk-Jenkins, & Milliken, 2015). In some cases, online schools such as virtual schools provide the break those students need when they cannot attend a brick-and-mortar environment to fulfillment the process of learning (Coy, 2014).

Teacher educational technology skills needed in higher education. In the last decade or more, educators have seen technology rapidly change from increments of small to large in the area of educational technology use (Tacy, Northam, & Wieck, 2016). When the learning management system called Blackboard came into existence, teachers began to collaborate with students by sharing information and were used as an instrument to aid students in critical thinking skills (Zanjani, Edwards, Nykvist, & Geva, 2017). Presently, students not only have computers and smartphones, but schools provide tablets and laptops for learning (Pombo, Carlos, & Loureiro, 2016). Technology consists of other technological devices such as the Internet, digital and video cameras, CD/DVD burners, USB drives, and scanners that students use and teachers need for the platform teaching (Song, Watulak, Kritskaya, & Elmendorf, 2013). Educators are using an assortment of technology tools to enhance instruction such as email, WebCT, videos,

Learning Management Systems, video conferencing, and online programs to teach as the bases for collaborative initiatives (James, 2014).

Educators should have a plethora of technology skills because knowledge relative to knowing how to perform a skill and knowing that technology will change; thus, instructors need to provide quality teaching in other ways by demonstrating innovative pedagogies to students (Gil-Flores, Rodriguez-Santero, & Torres-Gordillo, 2017). For that reason, educators should keep on expanding and developing their technological skills by staying abreast of any changes and participating in any on-going training for instructional delivery (Wei-Chieh & Okojie, 2016).

Computer self-efficacy and teacher self-efficacy in the use of technology. Computer self-efficacy are the behaviors, the knowledge, the skills, the capabilities, and the confidence that one has in using computers without having any reservations towards computer literacy (Lee & Huang, 2014; Bozdogan & Ozen, 2014). Teachers that possess these attributes are more likely to demonstrate these qualities in their teaching while using forms of technology to assist in learning and student motivation (Conradty & Bogner, 2016). Research on teachers' ownership of computer self-efficacy skills and the integration of technology is based upon their knowledge, abilities, and their competence which makes using technology more manageable (Scherer & Siddiq, 2015). The integration and use of technology in the classroom for teachers are similar to the millennial students' use; it is self-efficacy that brings levels of confidence in teachers' abilities to instruct better and to deliver content with ease (Kavanoz, Yuksel, & Ozcan, 2015). As teachers struggle with the lack of integrating and using various forms of technology in the classrooms, it is the students who can recognize the lack of

technological skills that teachers possess to maintain a level of adequate learning (Mac Callum, Jeffrey, & Kinshuk. (2014).

Barriers to integrating technology. Research does speak to the fact that barriers do exist in technology because of the consistent changes and often in the hardware and software and its value is inadequate, it is incompatible software and ongoing support for professional development are scarce (Ostrowski, 2016). Additionally, educators experience internal barriers when using technology. Educators struggle with their personal beliefs that trigger anxiety, fear, age, and even a lack of self-reliance in using technology in the classroom (Friemel, 2016; Kiser & Washington, 2015; Perry, 2014; Ryan & Bagley, 2015). Their concept for using technology, even in older faculty, is due to the many changes and being able to keep up with new technology is challenging. A barrier to teachers' perceptions regarding technology is the lack of their abilities, skills, opposition to change, and their adverse disposition that causes insecurities (Reilly, 2014). There are some barriers and advantages that teachers experience in integrating technology. One disadvantage that teachers experience in using technology is that it can be terrifying and astounding to teachers and students; and especially if equipment malfunctions happen unexpectedly (Alawad, 2013). A lack of training is also a factor in integrating technology for teachers (Brown, 2014; Reilly, 2014). Sometimes, when there is a deficit in teacher training, there is a lack of confidence (Marshall, 2014). Ineffective training and organizational support limits exploring new ideas or concepts for learning outcomes (Harris, 2016; Pye, 2013). Studies indicate that there is a need or some urgency for training and a means to use educational technologies in education adequately (Nguygen, Zierler, Nguygen, 2011; Abouelenein, 2016). It would be beneficial if

institutions would offer technology training programs to enhance teachers' skills and to aid student needs toward preventing the many barriers that teachers encounter (Johnston, 2015).

Summary

Distance learning environments and the theory of constructivism supports online learning socially and through one's knowledge and experiences (Schuh, Yi-Lung, & Knupp, 2013). Collaboration or dialogue is vital in the interfacing of distance learning and how communication is established for students to focus on a higher order of thinking skills to uphold the success of distance learning (Lee, 2017). Teachers are instrumental in students being able to answer questions in a one-on-one synchronous or asynchronous environment and not feel confined or timid due to the social aspect of distance learning and in the privacy of their settings to freely express themselves (Kim, Park, Yoon, & Jo, 2016). Student engagement is socially acceptable due to its presence, and the use of technology has become meaningful in the distance learning atmosphere (Martinez & Barnhill, 2017).

Challenges and technological barriers exist among teachers use of integrating technology in the classrooms, whether it is internal or external (Ruggiero & Mong, 2015). Rapidly as technology changes, teachers should stay abreast of current technology trends for the online and classroom environments, especially for best practices and meeting the needs of the student to transmit instruction (Krause, Franks, & Lynch, 2017). In some instances, instructors self-teach themselves based upon their experiences, but this method can be unsuccessful (Hodge, Schmidt, & Tschida, 2013).

The theories of multiple intelligences and constructivism in traditional classes and online environments are both noted from the aspect of the learners' behaviors and how students associate learning from former insight (Vinson, Beeching, Morgan, & Jones, 2017). Student learning can be efficient through their learning styles by applying bits of intelligence to strengthen and improve student achievement (Sheahan, While, & Bloomfield, 2015). Teacher recognition of students' intelligence a classroom can further aid students in capitalizing their learning styles by detecting the particular intelligence for better learning (Adcock, 2014). The theory of constructivism in the classroom or a distance learning environment depicts how individual learners acquire knowledge from their personal experiences, social influences (Booyse & Chetty, 2016). Socially, students learn from each other through collaborating and sharing of information based on relationships and ways of thinking (Arpaci & Baloglu, 2016).

Fundamentally, it the use of technology in the classroom that both teachers and students will utilize to enhance technological skills through the mechanisms of basic computer knowledge and skills, mobile technology, and gaming to support the use of technology in the classroom as a means for development and pleasure (Martin, Ameluxen-Coleman, & Heinrichs, 2015). It is the effective use of technology in the classroom that educators need to provide students with positive student learning and academic achievement (Eyyam & Yaratan, 2014).

Chapter 3: Research Method

The general problem is that there are factors that affect teachers' self-confidence in using technology in the classroom, such as a lack of technical training and technical support in institutions while integrating technology tools in the classrooms (Green, 2016). Teachers should be skillful in using technology and be able to troubleshoot minor problems related to technology in the classroom (Grashel, 2014). Some teachers lack technological skills and find using technology in the classroom challenging to apply instruction due to their technological inexperience (Derbel, 2017). Teachers who lack knowledge and skills in using technology in the classroom should seek professional development and the necessary training from their institutions to assist them in using technology properly for the use of instruction (Renuga & Ezhilan, 2014). In some instances, teachers have used technology for personal social reasons rather than for educating students (Bartels, 2014). A lack of confidence, hinder teachers in thoroughly engaging and integrating technology from using educational practices in the classroom (Hsieh, 2015). Sometimes, there is a problem where teachers do not feel confident or content to offer quality instruction for successfully integrating technology in the classroom (Telese & Butler, 2015) and will merit additional thought. The specific problem that prompted this research for investigation was primarily because of teachers' perceptions and how they integrate technology in higher education classrooms, and to further investigate the future use of technology along with the endless benefits technology has towards learning.

The purpose of this qualitative case study examined collegiate teachers' perception on the use of technical methods in the classroom. A secondary purpose of the

study is to investigate factors that affect teachers' use of technology in classrooms in higher education. The study's focus was with a historically Black university in the southeastern region of the United States. The instrument used in this research study was an anonymous online survey that investigated teachers' use of technology being in higher education classrooms. The information will assist school administrators and Information Technology personnel to inform and better equip teachers with the necessary training in how to use and infuse technology in the classroom. The study will be the best match to supply data from the collection of the online survey to assess teachers' confidence in using technology in higher education classrooms. The data collected will ensure that trustworthiness is carried out properly to prevent unbiased objectives towards the research in the qualitative case study.

The research questions from the anonymous online survey were collected and analyzed for detailed information related to the study on the use of teachers utilizing technology in the classroom. Eighty survey samples were emailed to university teachers' emails along with a consent form that asked participants two questions.

The following research questions are addressed in this study:

Q1: What does technology look like in higher education classrooms?

Q2: How do teachers of higher education perceive their ability to use technology as a means to provide communication with students?

Q3: How often do teachers use educational technology in the classroom or for personal use?

Q4: How comfortable are teachers with the use of educational technology in university classrooms?

Research Methods and Design

The purpose of this qualitative case study was to examine collegiate teachers' perception on the use of technical methods in the classroom. A secondary goal of the study was to investigate the factors that affect teachers' use of technology in classrooms of higher education. A qualitative research approach was used to investigate and identify the fundamental nature of human experiences from participants in the study (Creswell, 2014). Qualitative research is to understand the denotation of a person's problems, perceptions, and behaviors relative to a particular dilemma intensively (Barnham, 2015). This study abided by the guidelines of the research study while adhering to investigating factors that affected teachers' use of technology. The researcher made sure that the committee approved the research ethics for this study before conducting any research for the gathering of data and consent forms were sent with the survey. Also, faculty e-mails were sent electronically, and flyers were distributed throughout the campus. Additionally, the analysis of the collected data came from each respondent's answers from the survey. Lastly, the data was then placed in a Microsoft Excel spreadsheet using formulas to obtain the study's results.

Population and Sample

The population for this study derived from teachers who were full-time instructors, assistant professors, and professors and part-time employees at a historically Black university in the southeastern region of the United States. The university is predominately Black and has approximately 750 faculty members (full-time and part-time) with an estimation of over 9,614 students. The teaching staff consists of both male and female with educational backgrounds ranging from a master's degree to a doctoral

degree. The population was important to the research study because the researcher investigated the significance of how technology was used and how teachers will integrate new approaches towards the learning atmosphere in the classroom. The problem is some factors that affect teachers' self-confidence, lack of training, and technical support that prohibit the integration of technology in the classrooms. Mainly, this study's purpose was to investigate and determine factors that affect teachers' use of technology in classrooms in higher education; and the research questions will help to address the bridge of the technology gap between the successes of public school teachers that use technology to assist teachers in higher education that face difficulties in using technology in the classroom.

The importance of the sample is appropriate for this study and is based upon teachers that demonstrated or did not demonstrate the use of integrating technology in the classroom. University settings best represent whether technology was or was not being used in institutions of higher learning. The problem and purpose statements of this study detected the existence of teachers' self-efficacy, and at some levels, the degree of their assurance can be negative based on a lack of training and technical support. The research from this study addressed outcomes that teachers have in using technology and reveal the ways teachers use technology in their educational environments. The researcher obtained a list of university faculty members' email addresses from the university's website by college and school departments. A sample of 80 faculty members from the establishment was randomly selected and emailed to participate in the study.

Materials/Instruments

In this qualitative case study, teachers' use of technology in classrooms of higher education was used for a case study design. An online survey was offered to the participants to take the survey from Google Docs. The collection of data provided accuracy of the study to validate the study's analysis, the validity, and credibility and to confirm that the questions generated intricate responses for an efficient investigation.

Data Collection, Processing, and Analysis

The researcher conducting this case study identified one source of evidence from the anonymous online survey that consisted of 24 participants and their consent. The participants were to be given a time frame to answer the survey to complete the data analysis. The length of the survey was approximately 15-20 minutes long. The results of the survey provided insight into higher education faculty members using technology in the classrooms.

In this study, data was collected, analyzed, and graphs were used to extract the themes. The analysis from the data included Microsoft Excel was used to obtain the survey results for the qualitative research (Wilke & Morton, 2015). The collected data, along with the graphs, further explained the findings of the research questions and the research study.

Assumptions

A few assumptions are the bases of this case study. The first assumption was how teachers used technology in the classrooms of higher education. The second assumption was that participants were familiar with vocabulary terms within the questions to the survey. The last assumption was that faculty members of the institution were able to categorize themselves as non-users or users of technology in the classroom. Finally, the

data analyzed from the investigation imparted intuitive information concerning instructors' willingness, views, and mannerisms regarding the use of technology in the classrooms.

Limitations

Potential limitations to this case study and methodology concerning this research and data were interpreted. Using a single researcher means that the researcher used one point of view in collecting and analyzing the data. To decrease biases in the research, the researcher took careful consideration not to place personal preferences to this study. Another factor regarding the limitations of this study is that there is only one historically Black public institution of higher education in the area in which the research was conducted. Due to the only Black institution of higher education, in the northeast region of the United States, the collection of data was narrower.

Delimitations

This study's delimitation was limited to one public institution of higher learning in the Northeastern region of the United States. The participants came from the same state and had essential knowledge in common. There was a minimum of 24 participants for this study, and the sample size can delimit the results. The respondents in this study were a result of one institution within the State of Florida. The qualitative investigation of the study was relative small samples of participants mainly because of the wealth of information discovered rather than the size of the sample population.

Ethical Assurances

The appropriate forms were presented to the Institutional Review Board (IRB) at the institution where the research was conducted and at Northcentral University. The

participants for this qualitative case study signed an electronic consent form regarding the integrity of the survey (see Appendix A). The participants from this study were voluntary.

Ethics is not only the foundation upon which research is built; however, it should be the focus of research study throughout academic communities (Osei, 2013). The importance of ethics is not just to see the black and white areas, but it is for the gray zones of our lives. The ethical assurances of research are to protect the rights of human beings as subjects.

Participants in this study were ensured that any information obtained for the study's research would maintain ethical integrity, and all questions from the survey are kept confidential. The collected data after the participants took the survey was retained and is locked in a secure filing cabinet. Participants of the study were treated accordingly to the ethical criterion of the research practices according to the American Psychological Association and the Northcentral University standards and of the Institutional Review Board guidelines.

Informed consent. Informed consent is one of the most critical aspects of the processes of a researcher's study. The process involved is that the researcher must inform the participants what will take place before, during, and after the study (Udo-Akang, 2013). The information given by the researcher will determine from the participant's point of view if they will partake of the researcher's study. Informed consent is part of the ethical guidelines and concepts to research that protects participants (Vucemilo & Borovecki, 2015). It is the researcher's responsibility to inform the purpose of the research study to the participants.

If participants wished not to participate in the research for fear of repercussions or reprisal, the participant has the right to decline (Osei, 2013). The researcher explained to the participants the type of study being researched and all other information about their involvement was provided at the beginning of the research. Also, authorization to conduct the study was obtained from the two institutions Institutional Review Board's administration, the respective college/school/institute of higher education deans and the department chairpersons. All participants were made aware that their participation was voluntary, and they could withdraw at any time.

Protection from harm. In research, risk assessment determines how much risk participants will be involved in and to what extent does a risk assessment and any dilemmas that could arise toward participants physically, legally, and psychologically (Udo-Akang, 2013). Moreover, risk assessment in research makes sure that participants of the researcher's study will not be harmed during the study's process in any way nor should they be involved in sensitive matters where participants are identified (Alami, 2015). Additionally, if the researcher is conducting a study and uses a questionnaire or administers an interview and collects data; then the intent of the instrument used is not to affect the participants and should be of low risk. Essentially, the overall involvement of the researcher is to protect the participants. Also, the researcher is to exemplify ethical principles to make sure protection is given. All participants of the study were given the needed protection while conducting the study. The research questions affiliated from this study benefitted the participants because the study was designed to assist teachers in using technology in the classrooms. The data from the study contributed to teachers' achievements of using technology in the classrooms and provided insight into best

practices for integrating technology in the classrooms.

Right to privacy. Privacy and confidentiality are essential as it relates to ethical guidelines and concepts to research. One way that confidentiality affects research is that researchers must consider the participants of the research study may not desire to be recognized or known. Not only can privacy exist among participants, so can specific data from reports be asked to be kept confidential (Creswell, 2014). Anonymity and confidentiality protect the participants' privacy when used in research studies. When participants desire to be unknown, this is known as anonymity and neither the participant nor researcher can be distinguished. When the participants are not made available for various reasons, then protecting the participants involved is the main reason for confidentiality (Privitera, 2014). The participants in this study were made aware during the consent process that any information obtained will be maintained privately and that no names will materialize in the findings of the report.

Honesty with professional colleagues. Each participant for this study was asked to participate once the participators accepted the invitation. Once the respondents accepted the formal invite, the consent form was attached to the online survey for their participation to begin the survey. The purpose of the study was made truthful to the participants regarding the investigation. To avoid mistakes and carelessness, it is the responsibility of the Institutional Review Board to prevent any undue negligence by providing guidance throughout the process of the research study. Detailed information was given to the participants to make them aware of the researcher's study at all times to establish validity through triangulation. During that process, the participants were knowledgeable of all research methods and collection of data. Participants were notified

in the findings from the research to guarantee precise data that the researcher did claim.

Summary

This case study examined the ways teachers utilize technology in classrooms of higher learning. This study employed the qualitative research methodology that showed how technology is used and what type of technology is integrated into the classes. An online survey was used to conduct the anonymous online survey and was used to identify technology that was used or not used. Data collection from the survey questions was analyzed to ascertain emerging themes and prototypes. The collected results were analyzed using Microsoft Excel that indicated how technology is used in the classrooms.

Research from this study was useful as an addition to the current research that provided more knowledge concerning the use of technology. Research from this study also demonstrated practicality in the classrooms as an integral part of interfacing and integrating technology to support learning and enrich academic success. This research will give an account of the technological advances in brick and mortar environments and online classrooms of higher education.

Chapter 4: Findings

The purpose of this qualitative case study was to gather information relative to teachers' use of technology in higher education classrooms. How teachers use technology in the school can determine how instructors explore and influence the purpose of supporting instruction through technology (Badia, Meneses, & Sigales, 2013). Twenty-four higher education teachers employed at a historically Black university located in the southeastern region of the United States participated in this study via an anonymous online survey regarding the various use of technology in the classroom. The collected data from the research questions concerning the use of technology in higher education classrooms were used to provide evidence to answer the four research questions.

The findings of the research questions from Chapter Four are an analysis of the collected data through the anonymous online survey of how teachers utilized technology in higher education classrooms. Chapter Four provides an introduction followed by the trustworthiness of the data, the results of each research question in the study, and an analysis of the data collected. The results or findings from the study were based on the survey questions from the anonymous online questions. The chapter presents the findings from 24 teachers who use technology in their classrooms.

Trustworthiness of the Data

There are four criteria of trustworthiness in qualitative research that helps to establish rigorous and different standards of integrity that are parallel to validity and reliability; however, the conflict lies between quantitative and qualitative methodologies (Phillips & De Wet, 2017). Using validity and reliability in research, along with the

criteria of trustworthiness presents credibility, transferability, dependability, and conformability. These approaches are described and revealed in the following paragraphs.

Credibility. Credibility associates the results from an authentic research study that is believable throughout the stages of the research process (Liao & Hitchcock, 2018). In this process, the participants can make qualitative research credible by attesting or judging the credibility of the respondents' results (Amankwaa, 2016). Within this study, participants' credibility was not found based on the survey being anonymous and the researcher had no way of knowing the respondents, truthfulness. Data collected was used to achieve extensiveness by gathering the data from the survey of the emerging themes relating to technological use by teachers in the classroom. The consistency of the data extracted from the participants' responses led to the researcher having confidence in the findings, which in turn allowed for credibility from the survey collection of data (Creswell, 2014). The determining component in credibility is to "trust in the process" (Ramsey, 2018, pg. 68).

Transferability. According to Privitera (2014), transferability is the extent of qualitative research by which results are observed and effective beyond its applicability or conditions in the way research is transferred to other situations. This study was only an online survey and did not require observable measures. In the research study, thorough information was provided to reinforce the transferability of the study based on the data collected from the anonymous online survey to include specific themes that were similar that makes the research more credible.

Dependability. Dependability affords the researcher to better recognize the process and effectiveness of the study's reliability. From this study, it was the data that identified the emerging themes that increased the similar data results from each theme. This method and technique allowed the next researcher to repeat the work in this study.

Conformability. Conformability in a qualitative research study is the extent to which the results can be confirmed, or the researcher's comparable interest is objective (mainly in quantitative research), others can validate the study by checking the data for accuracy (Elo et al., 2014). Conformability investigates how the research findings support collected data by the participants to ensure that no bias will come from the researcher. The conformability method used in this research study identified the themes from the responses to confirm the beliefs of the participants' answers.

As support materials to these research questions, the research included survey items related to opinions of instructors regarding their use of technology. Thus, the survey addressed general statements regarding technology, experiences with technology as members of a university faculty; and experiences with the specific university instructional purposes. These supplemental areas were also tabulated for their emergent themes.

This chapter includes the responses to the research questions along with the participants' responses to the anonymous online survey, the identified themes, the data collection and analysis, the study's results, and the findings of the study.

Results

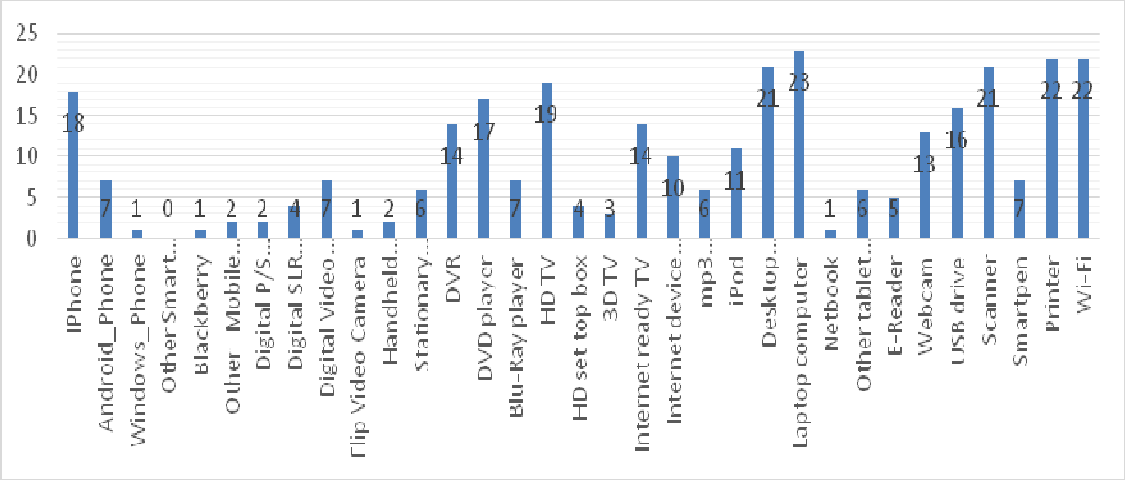
Eighty teachers were eligible to participate in the anonymous online survey. Twenty-four participants responded to the survey questions. Microsoft Excel was used to

tabulate responses from the different kinds of technology used that each participant noted. From this process, the researcher developed primary themes or categories for each research question. These themes are set forth and tabulated in the research questions.

Research Question 1: What does technology look like in higher education classrooms?

This question focused on the types of technology used in higher education classrooms. The data indicated, in general, 12 types of technology that were used extensively in higher education classrooms. These technologies were the use of laptop computers, printers, Wi-Fi, desktop computers, scanners, HDTVs, iPhones, DVD players, USB drives, DVRs, Internet-ready TVs, and webcams. The themes of what technology looked like in higher education classrooms are in Graph 1.

Graph 1: What does technology look like in higher education classrooms?



Note: The numbers in the graph indicate the average of participants providing data to support these identified themes.

Laptop Computers. Twenty-three of the 24 (96%) teachers had favorable responses to what does technology look like in higher education classrooms.

Printers. Twenty-two of the 24 (92%) teachers from the survey responses indicated that printers were highly used in higher education classrooms.

Wi-Fi. Twenty-two of the 24 (92%) teachers responded that Wi-Fi is a vital part of what technology looks like in higher education classrooms.

Desktop Computers. Twenty-one of the 24 (88%) teachers from the survey had positive indications that the uses of desktop computers were integral parts of classrooms of higher education.

Scanners. Twenty-one of the 24 (88%) instructors indicated from the survey data collection, which denoted that teachers used scanners as a form of technology to assist in classroom delivery for student learning.

HDTV. Nineteen of the 24 (79%) teachers had pleasant views from the survey data that HDTVs were supportive of their technology needs in terms of what technology looks like in higher education classrooms by utilizing the High Definition Television as representation to the delivery of classroom teaching.

iPhones. Eighteen of the 24 (75%) teachers agreed that iPhones were an ample way to keep students engaged in higher education classrooms and that iPhone user was a way to have student interaction and classroom dialogues that enhanced what technology looks like in classrooms.

DVD Player. Seventeen of the 24 (71%) teachers agreed that DVD players used in higher education classrooms were perceived helpful in higher education classrooms and benefitted the outcome of what technology looks like in a school to assist with instructional modalities for student learning.

USB Drive. Sixteen of the 24 (67%) teachers moderately agreed that USB drives were slightly used in classrooms.

DVR. Fourteen of the 24 (71%) instructors from the survey slightly used Digital Video Recorders (DVR) in the classroom to facilitate teaching, enhance student learning, and display what technology looks like in higher education classrooms.

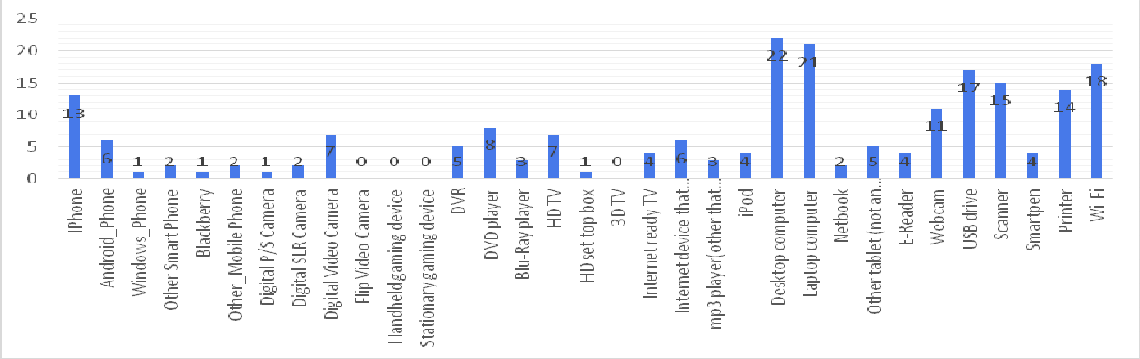
Internet Ready TV. Fourteen of the 24 (58%) instructors from the survey moderately indicated that Internet-ready televisions were being used in the classrooms and are a mode for delivery. Being that the Internet Ready televisions were used in higher education classrooms, this device makes readily accessible for classroom learning.

Webcam. Thirteen of the 24 (54%) instructors from the survey moderately indicated that they used webcams to teach students in higher education. Those teachers who used webcams indicated that this is what looks like in a higher education classroom.

Research Question 2: How do teachers of higher education perceive their ability to use technology as a means to provide communication with students?

The focus on the second research question was to investigate how teachers of higher education perceived their ability to use technology as a means to deliver instruction and provide communication with students. Teachers' perceived their skills to use technology and to give direction to their students primarily through the use the projectors. Also, some instructors preferred to use other communication tools such as e-mail. Five emerging themes were derived from this question, and the subjects or categories that ranged from the highest to the lowest were: desktop computers, laptop computers, Wi-Fi, USB Drives, and scanners.

Graph 2: Technologies Used to Deliver Instruction and to Provide Communication with Students.



Note: The numbers in the graph indicate the average of participants providing data to support these identified themes.

Desktop Computers. Twenty-two of the 24 (92%) participants' responses from the survey indicated that desktop computers ranked highest among teachers in higher education that perceived to use technology as a means to deliver instruction and to provide communication with students. The remaining emerging themes consisted of desktop computers, laptop computers, Wi-Fi, USB Drives, and scanners.

Laptop Computers. Twenty-one of the 24 (88%) participants responded from the anonymous online survey that laptop computers ranked next in line to the number of desktop computer usages that teachers of higher education perceived their abilities to use technology as a method to carry out instruction and to administer communicating with students.

Wi-Fi. Eighteen of the 24 (75%) teachers used the mechanism of teaching via Wi-Fi in higher education classrooms as a teaching tool to deliver instruction as well as to communicate with students.

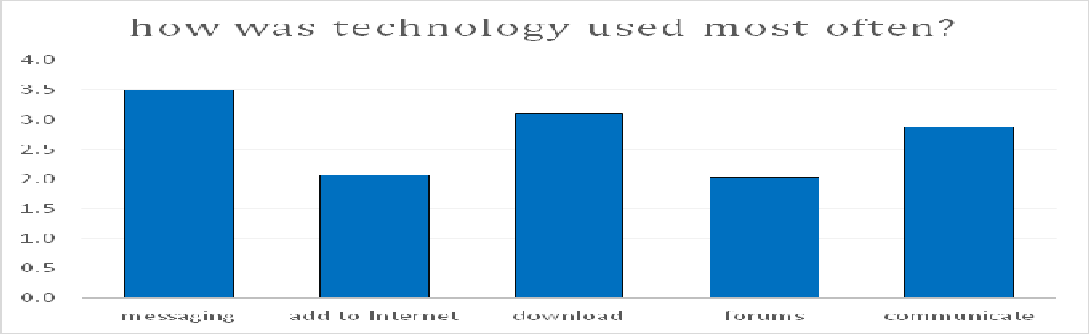
USB Drives. Seventeen out of the 24 (71%) teachers used USB thumb drives to store and open files for instruction as part of using technology for student learning.

Scanners. Seventeen out of the 24 (71%) teachers indicated from the data collected from the survey that this was another source that teachers used to implement technology as a means to deliver and prepare instruction for student learning.

Research Question 3: How often do teachers use educational technology in classrooms or personal use?

The third research question focused on how technology was used the most often in classrooms of higher education. Technology is being used in the school in different ways and forms. Data extrapolated from the survey consisted of five emerging themes based on the many types of technology that was most used in the recent school year or from personal purposes. Two of the emerging themes were close in data results which were the use of forums and adding to the Internet. The other emerging themes: communication, downloading, and messaging were used in the classroom or for personal use were not ranked as high as forums and adding information to the Internet. Graph 3 below provides details about the themes regarding how often teachers use these technology mechanisms in classrooms of higher education.

Graph 3: How Was Technology Used Most Often?



Note: The numbers in the graph indicate the average number of participants using different media.

Messaging. The respondents reacted to messaging on a Lickert Scale from highest to lowest, several times a day from one of the five themes. Teachers used this method to generate instant messaging, group chats, and to develop group e-mails as a way to communicate with students and were most effective in the form of using technology.

Adding to the Internet. This activity of adding to the Internet was used less often by the respondents at least twice a week and as a way to add information to the Internet by means of uploading published articles, creating and/or editing to Wikipedia, and adding more information to the Internet for research purposes based on the survey data results.

Downloading. The respondents pursued this activity of downloading on a Lickert Scale that ranged from messaging to being most often used a few times a week. Teachers used this platform to download lesson plans from various software programs; also, to retrieve educational information to plan classroom projects and assignments.

Forums. This activity was not utilized at all by the respondents based on the questions that respondents answered. Even though forums can be used to create blogs and have students review online research peer-reviewed articles, the respondents

indicated from the survey that they do not use forums at all in the classroom and at least five times a week they did not use this method.

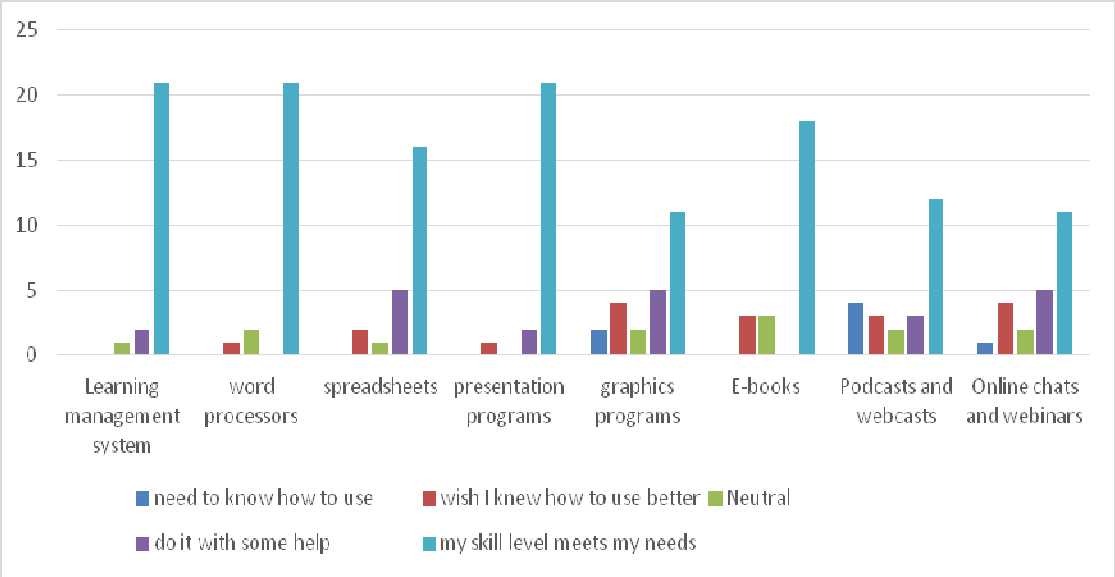
Communicate. The respondents indicated that on a Lickert Scale that this activity was used to e-mail and to communicate in higher education classrooms. This method of technology for this activity was done a few times a week, and this technology platform utilized for communicating was effective.

Research Question 4: How comfortable are teachers with the use of educational technology in university classrooms?

The fourth research question targeted technology applications such as Internet platforms and learning management systems. The survey data showed that there were four emerging themes out of eight themes. Data indicated that 87.5% of teachers' met their needs based on their skills level; 8.3% needed help, and 4.2% was neutral throughout the entire process. Eighty-seven percent of the data collections indicated that teachers had a handle on word processing skills, 8.3% were neutral, and 4.2 % of teaching wished that they knew how to use Microsoft Word better. Data collected from the survey depicted that 66.7% had experience and skills in using spreadsheets. 20.8% could use computer applications with some assistance. 4.2% of teachers were neutral in using the various media, and 8.3% wished that they knew how to use spreadsheets better. Eighty-seven percent of teachers firmly had the skill sets to use presentation programs, and 8.3% of teachers could use the program with some assistance. Also, 4.2% desired to know how to use presentation programs better, and 45.8% of instructors knew how to use graphics programs. Eighty-three percent of teachers indicated they could use all of the different media but preferred some assistance. According to the data, 8.3% of teachers

were neutral in their responses regarding the use of utilizing the mixed media. 16.7% of teachers wished that they knew how to use technology better, and 8.3% of teachers needed to understand how to use various types of programs. The next area of the graph indicated that .75% of instructors were highly skillful in using E-books; 12.5% of teachers were neutral, and 12.5% hoped that they knew how to use it better. Furthermore, the data collection indicated that 5% of instructors knew how to make a podcast, and 12.5% of teachers could use this method but needed some additional assistance. Moreover, 8.3% of teachers were neutral, 12.5% wished they knew how to use podcasting better, and 16.7% did not know how to use this method. Additionally, 47.8% of teachers conducted online chats and was comfortable in using this form of technology, and 21.7% could use online chat rooms but needed assistance. In the area of communication, 8.7% of teachers were neutral in using the form of a text-based transmission. Lastly, 17.4% of instructors aspired to use the technique of chatting better, and 4.35% of teachers wanted to know how to perform online chats. As a final comment, one respondent did not answer the question regarding the online conversations, and the results from that question were representative of 23 participants.

Graph 4: How Comfortable Are Teachers with The Use of Educational Technology in University Classrooms?



Note: The numbers in the graph indicate the average number of participants using the different media in a percentage format.

Evaluation of the Findings

After reviewing the data collected from the survey responses, numerous themes were identified. The study's findings were analyzed for accuracy on each research question using the collected data from the anonymous online survey of the 24 teachers who participated in the study. The emerging themes were addressed with each research question. Research question one had 12 themes and research question two had four main themes. Research question three had five themes, and research question four had eight themes combined with four categories.

The findings for this study came from the participants' responses from the survey. The accuracy of all research questions using the different themes that were abstracted from the research questions and using the data collected from the anonymous online survey of 24 higher education teachers in the study.

The overall findings for research question one on what does technology look like in higher education classrooms revealed that many teachers use different technological

devices in their classes. The majority of teachers integrated laptop computers, desktop computers, Wi-Fi, printers, HD TV's, DVD players, USB drives, iPhones, and DVRs as for how technology looks in their higher education classrooms as a means for instruction.

The overall findings from research question two on how teachers of higher education perceive their ability to used technology as a means to deliver instruction in a brick and mortar classroom and provide communication with students divulged that the use of desktop computers, laptop computers, Wi-Fi, USB drives, printers, and scanners helped their ability to use technology to assist with the means to deliver instruction while providing communication with their students.

The overall findings from research question three on how teachers use educational technology in classrooms or for personal use revealed that forums were used the most often to create blogs and research peer-reviewed articles that are online. Additionally, the findings affirmed that teachers utilize other methods of technology in the classroom and for personal use such as messaging, being able to add information to the Internet (e.g., Wikipedia, downloading, and communication).

The overall findings from research question four on how comfortable are teachers with the use of education technology in university classrooms indicated that teachers' abilities to use learning management systems, word processors, presentation programs, and E-books meet their needs substantially. Other areas that meet the needs of teachers' skills were spreadsheets, graphics programs, podcasts, webcasts, and online chats and webinars were slightly beneath the technology tools mentioned.

Summary

The purpose of this qualitative, case study was to investigate teachers' use of technology in higher education classrooms. An anonymous online survey was electronically administered to 24 participants. Data collection consisted of online anonymous survey responses from the researcher's survey. This chapter presented the conclusions from the survey results of teachers using technology in a higher education classroom. The findings of this case study may assist in ascertaining how teachers of higher education classes use technology.

The outcome of the findings pointed out that a vast amount and the percentages of participants have a broad awareness of using technology in classrooms of higher education. The instructors indicated as evidence from the anonymous online survey that using laptop computers, printers, Wi-Fi, desktop computers, and scanners were favorable methods of utilizing technology. Even though the overall evidence pointed positively, there were some negative and neutral results from the data collected. The data collected from Graph 2 showed that there were small percentages of teachers that did not use certain technologies to deliver instructions or to provide communication with students. Additionally, low percentage rates in Graph 4 pointed out that some teachers were not comfortable or they were neutral in using educational technology in university classrooms. Also, it was the frequency of how teachers used educational technology in the school and for their personal use indicated in Graph 3. Teachers were able to effectively instruct their classes by using these approaches for messaging, being able to add to the Internet, use the Internet for downloading and as a way to communicate in their classes. Mostly, it was the responses from the participants that disclosed

information from the survey that instructors are capable of using technology in higher education classrooms.

Chapter 5: Implications, Recommendations, and Conclusion

The general problem is that there are factors that affect teachers' self-confidence in using technology in the classroom such as a lack of technical training and technical support in institutions while integrating technology tools in the classrooms (Green, 2016). The specific problem inducing this research will be to investigate the perception of teachers and how they incorporate technology in higher education classrooms and to further examine the future use of technology along with the endless benefits technology has towards learning.

The problem to be addressed by this study is some teachers at the collegiate level do not adequately use technology as a strategy to deliver instruction (Hsu, 2016; Wohleb, Skinner, & White, 2013). As technological advances rapidly change teachers who were deficient in these areas found themselves getting out of their comfort zones. In many instances, before training or professional development could take place the perception of teachers' attitudes toward technology had to be adjusted to conquer the obstacles that hindered him or her from moving to the next level.

The purpose of this qualitative case study was to examine collegiate teachers' perception on the use of technical methods in classrooms. Additionally, the researcher also investigated external factors that affected teachers' use of technology in higher education classes.

In this chapter, implications, recommendations, and the conclusion were presented in this research study. The connections translated into how the findings were supported by the study's problem, purpose, and research questions. Each category considers the results of the research literature, and the study reveals how teachers use

technology in the classrooms of higher education. Recommendations were made to further explore by gaining more explicit understandings of technology use in higher education classrooms. The conclusion will compile the attributes of the dissertation findings for the research study.

Implications

The qualitative case study was intended to answer four research questions from teachers of a higher education institution who use technology in the classroom. The analysis of the single-case study of higher education instructors' perceptions and attitudes was achieved by gathering information on what makes teachers use technology in the school if at all to improve teaching and learning.

The following research questions guided and investigated this qualitative case study.

RQ1. What does technology look like in higher education classrooms?

RQ2. How do teachers of higher education perceive their ability to use technology as a means to provide communication with students?

RQ3. How often do teachers use educational technology in classrooms or personal use?

RQ4. How comfortable are teachers with the use of educational technology in university classrooms?

Q1. What does technology look like in higher education classrooms?

Classrooms of higher education from decades ago have no resemblance to modern-day classes due to technology advancements (Costley, 2014). Technology tools today consist of tablets, smartphones, apps, laptops, Cloud tools, video conferencing, and many other devices and tools to assist in collaborating and integrating technology in

classrooms. There are certain aspects of using these technologies in the class that can enhance the classroom experience as well as benefit student learning.

The anonymous online survey of the single-case study helped to establish the emerging themes directed to specific influences that impacted the use of technology in the classroom. During the analysis of the collected data, more sets of topics materialized. Twenty-four of the participants felt that their classes mainly consisted of desktop computers, scanners, high-definition televisions, iPhones, DVD players, USB drives, DVRs, Internet Ready Televisions, and webcams. The least technological devices not used as often in their classrooms consisted of other cell phone brands such as Androids, Blackberrys, and HTCs, video devices, Blue-Ray players, hand-held devices, netbooks, and smartpens. The data from the participants' responses showed that these groups of tools are used in classrooms.

Q2. How do teachers of higher education perceive their ability to use technology as a means to provide communication with students?

To fully execute the means of communication in a classroom, instructors have first to recognize that there are numerous amounts of tools that can be used to assist with the delivery of instruction (Akcay, 2017). Once factors are determined, the means and perceptions for orchestrating communication become more explicit (Yoshida, 2018). Without proper training or preparedness, teachers perceive their ability to use technology unwillingly (Evans, 2017). The participants' responses to this research question reflect a favorable outlook of their perception of using technology as their way to communicate with students. According to the cited findings from Chapter four, the data analysis of the participants' responses along with the emerging themes indicated that the highest rank of

participants reported that the use of desktop computers, laptop computers, being connected to Wi-Fi, having access to USB drives, and the use of scanners were beneficial to communicating in the classroom.

Q3. How often do teachers use educational technology in classrooms or personal use?

The mechanisms of communicating came from messaging, adding to the Internet, downloading information, using forums, and the use of email was ways to interact with students while using technology. Responses to this research question indicated that teachers use of educational technology and their personal use was mainly to message, download information, and to communicate via email. The participant's least use of educational technology came from adding data to the Internet and conducting forums.

Q4. How comfortable are teachers with the use of educational technology in university classrooms?

If teachers are uncomfortable in using technology in the classrooms, students will recognize their deficiencies. The importance of getting teachers to feel comfortable as well as have the support from their administrators for using technology is a crucial factor in implementing student learning (Terry, Zafonte, & Elliott, 2018). The use of technology is essential but should not be forced upon teachers if their comfort levels are not sufficient and hinder them from giving successful instruction (Bii, Too, & Mukwa, 2018). In this case, training should be provided to assist them in knowing what to do and how to implement technology into their curriculum according to their skill levels rather than causing anxiety (Ozturk et al. 2018).

The participants' responses from this question showed high percentages ranging from 87.5% out of a scale of 100% that teachers favorably used Learning Management Systems, programs for presentations, and E-books with little to no problems. The same data showed that teachers experienced some difficulties with the use of graphical applications, podcasts, webcasts, online chats, and webinars, all of which they knew how to use better.

Recommendations

The findings from this case study presented an opportunity to understand how teachers were using technology in the classroom to promote teaching and learning. In this case study, the outcomes were generalized to the point that the analysis inferred that teachers do use technologies for instructional purposes, but they limit themselves to utilizing other technology resources for instruction.

Specifically, Mbati's theory of behaviorism demonstrated that computer efficacy correlates with self-confidence in pedagogy. In essence, the positive behaviors of the instructors' use of technology and their performances help to gain assurance in themselves while applying specific techniques for learning. The results of this study pointed out those teachers in higher education needed more exposure to other technology platforms. The results indicated that different tools did not exist in their classrooms because they did not have any use for them. Training and professional development should be a requirement of how to use and implement them to be efficient, to gain teacher confidence, and to keep up with new trends for appropriate student instruction.

Recommendations for Practice.

According to Ramnero and Torneke (2015), when intrinsic motivation is internalized, because of experiences and prior knowledge, individuals had a better understanding and could perform without feeling incapable of delivering adequate instruction. As teachers in higher education classrooms continue to use technology, it is the using of technology that instructors will need to explore further; to gain clearer perceptions of the understanding of technology, and to integrate the fundamentals of technology to better advance learning in classrooms of higher education. Also, as noted in the literature review, it the perspective of a teacher to understand the fundamentals of technology, so that learning experiences can be enhanced to know the basic principles to master concepts (Ward & Costello, 2016).

While the variables are important, the results of the study showed that university teachers only used specific technologies in the classroom. When teachers only use certain types of technology in school, this limits one's skillsets and increases anxiety. Further recommendations of this study showed that collegiate teachers need more exposure and continual professional development to enhance technical skills. Professional development for teachers will improve confidence and increase knowledge and skills in using technology in the classroom. The recommendation would be to provide professional development or vocational training regularly for using and exploring a variety of techniques in the school throughout the academic year and for instructors to build upon their inner being for more confidence.

Recommendations for Future Research.

The focus of this study was to concentrate on teacher use of technology in higher education to improve or to enhance instructors' technology skills in the classrooms.

Thormann, Gable, Fidalgo, & Blakeslee (2013) denote that the theory of constructivism is critical, and instructors can adapt to their teachings in using this approach. Essentially, teachers need to improve and find new methods for learning other platforms of technology. By doing so, this will enhance knowledge and feel comfortable in using them so that the methodology does not hinder their performance. Also, as researchers, Mallpress, Fawcett, McNamara, & Houston (2012) pointed out that the theory of behaviorism relates to positive behavior and reinforcement. Based on certain conditions, when positive reinforcement is established, one will continue the same routine for more positive rewards. In this case, levels of confidence is built on improving skills, and teachers are more apt to keep exploring to advance their proficiencies.

Jarboe et al. (2016) suggested that teachers need to understand implementing the fundamentals of technology to improve learning experiences by mastering the concepts of integrating technological principles. In essence, instructors will want to impart and demonstrate technology skills to enhance teaching in student academic learning by infusing technology integration in the curriculum. Based on this research study, teachers need to be more confident in utilizing computers. Educators need to believe in themselves when using technology. Future recommendations from this study suggest that teachers need to change their behaviors in a positive manner. Also, they need to thrive on increasing their knowledge of the use of computer literacy and seek professional development training as often as possible.

Also, the researcher focused on teachers employed at a historically Black university that used technology in the classroom. Consequently, larger sample sizes will be ideal for future studies. The study focused on collegiate teachers located in the

southeast region of the United States. The final research recommendation would be to use a mixed-method approach to gather more meaningful aggregated data. A mixed-method methodology for this type of study could use quantitative data to support the numbers from online surveys. Also, the interviews for a conversation piece would extract more themes for qualitative data. The use of quantitative data will show and project what ways teachers are using technology in the classrooms to increase student learning. A quantitative design would depict more data by showing how technology is influencing the ways that teachers utilize technology versus using technology on a small scale.

Additionally, including more than one institution in the same geographical location should address how teachers use and integrate technology in the classrooms to provide a larger scale. Another recommendation is that a more diverse population can occur by choosing different institutions and more colleges, schools, and technical institutions in the city.

Conclusions

The purpose of this qualitative study was to determine the effects of teachers' use of technology in higher education classrooms. A single case study was used to understand teachers' perceptions. An anonymous online survey of 11 questions was used to support the findings for this study. Twenty-four educators participated in the study. The results revealed that educators used technology at a minimum in the classroom. Teachers' limited use of technology related to self-efficacies, attitudes, barriers, and effectiveness (Kazan & El-Daou, 2016). The literature review revealed limited use of technology derived from the struggles teachers had when there was a lack of confidence

regarding the use of technical skills that brought forth obstacles (Unruh, Peters, & Willis, 2016). Barriers existed for teachers using technology due to difficulties of handling or processing consistent changes, and those changes caused anxiety, fear, and a lack of self-reliance that causes inadequacies in fulfilling one's abilities to use technology to the fullest (Maican, Cazan, Lixandroiu, & Dovleac, 2019).

The objective when constructing the current research was that the findings would be beneficial to institutions of higher education by capturing how the use of technology in the classrooms, the beliefs, and the perceptions those teachers play a significant role in student learning. Having self-efficacy and the confidence of using technology at the school was supported in research by Chestnut et al. (2017) which showed teachers who possessed the two attributes that brought levels of confidence in their abilities to instruct better and to deliver content with ease.

The goal of the researcher for this qualitative study was to investigate teachers' use of technology in higher education classrooms based on four areas: 1). The interventions of how faculty perceived technology; 2). The techniques used to deliver instruction and to provide communication with students; 3). The technology used most often; and 4). The comfortability of teachers with the use of technology in university classrooms.

The data analyzed represented positive trends in which educators in higher education used technology. Item number one of the four areas mentioned that faculty viewed technology in higher education classrooms. These technological devices such as laptop computers, printers, Wi-Fi, desktop computers, scanners, High Definition TVs, iPhones, DVD players, USB drives, DVRs, Internet Ready televisions, and webcams

were mostly supported by teachers. According to the online survey results, teachers did not promote using other types of technology devices such as Android or Samsung smartphones, flip video cameras, hand-held devices, Blu-Ray players, High Definition set-top boxes, 3D televisions, mp3, netbooks, other tablets, and smartpens as a way to use or integrate technology in classrooms due to low usage of these apparatuses. Item number two of the four mentioned areas were all about techniques used to deliver instruction and to provide communication with students. In this case, the most favorable results showed that teachers used desktop computers, laptop computers, Wi-Fi, USB drives, and scanners as a method to provide instruction and to dialogue with students. Item number three of the four mentioned areas which indicated teachers mostly used technology through the mechanisms of messaging, downloading information from the Internet, and by communication methods. Teachers slightly used the methods of adding information to the Internet and forums as a way to utilize technology frequently. Lastly, item number four, out of the four mentioned areas, displayed the teachers' comfort levels in using educational technology in university classrooms. In this area, the teachers excelled, and data analysis showed that using learning management systems, word processing, presentation programs, and using E-books meet the needs of instructors. On a lower scale, graphics programs, podcasts and webcasts, and online chats and webinars were significantly smaller, but instructors were able to meet the needs. Other areas pointed out from the study, was that teachers needed to feel comfortable in using other methods. Also, instructors desired to have more assistance with learning management systems, word processors, spreadsheets, presentation programs, graphics programs, E-books, podcasts and webcasts, and online chats and webinars.

Suggestions from this study are that teachers will begin to have a desire to incorporate more of these technological devices by integrating as much technology to classrooms of higher learning so that professors, teachers, and instructors will have the necessary tools for student learning. Conversely, seeking professional training and development will enhance self-efficacy, confidence, and skillsets needed to break the barriers and insufficiencies of integrating technology in the classrooms.

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Appendices

Appendix A: Consent Form

A Case Study Investigating Teachers' Use of Technology in Higher Education Classrooms

Introduction:

My name is Alice Marie Scruggs. I am a doctoral student at Northcentral University. I am conducting a research study on how teachers use technology in the classrooms in higher learning. I am completing this research as part of my doctoral degree. I invite you to participate. This study is an anonymous online survey and it is not the intention of the researcher to collect your name. However, you do have the option to provide your name voluntarily. Please know that if you do, it may be linked to your responses in this study. Any consequences are outside the responsibility of the researcher, faculty supervisor, or Northcentral University. If you do wish to provide your name, space will be provided. Again, including your name is voluntary, and you can continue in the study if you do not provide your name. Do you wish to provide your name (optional)? If yes, please type your name here _____. If you do not wish to include your name, please continue to participate in this study? Yes, ____ (clicking the box will let you as the participant continue) and No ____ (clicking inside the box will let the participant exit the survey).

Activities:

If you participate in this research, you will be asked to:

1. take an online survey (time estimation: 10-15 minutes) – To be taken one time only

Eligibility:

You are eligible to participate in this research if you:

1. are a faculty member at Florida A&M University
2. use technology in the classroom

You are not eligible to participate in this research if you:

1. are not a faculty member at the university
2. do not use technology in the classroom

Risks:

There are minimal risks in this study. Some possible risks include nervousness, stress or minimal pressure related to having to complete an online survey.

To decrease the impact of these risks, you can choose not to respond to the online survey.

Benefits:

There are no direct benefits to you as a participant. The potential indirect benefits of the study will be to improve pedagogical best practices for teachers of higher education with the use of integrating technology in the classroom. Furthermore, the study will endorse factors of teaching experiences along with other researchers who have studies utilizing technology in the classrooms for educational purposes. With hope, the research will give teachers the needed confidence in displaying certain levels of assurance and courage to affirm their use of educational tools in the classroom.

Confidentiality:

The information you provide will be kept confidential to the extent allowable by law. The people who will have access to your information are me, my dissertation chair, and my dissertation committee. The Institutional Review Board may also review my research and view your information.

The online survey will be made confidential and a consent statement will be placed on the survey and in the email by alerting the potential participants about the study with instructions to click on the URL to go to the survey. No participants name will appear on the email or on the online survey as a means of securing confidentiality.

Contact Information:

If you have questions for me, you can contact me at: A.Scruggs@email.ncu.edu. 850-933-2884.

My dissertation chair's name is Dr. Norma Hayward. She works at Northcentral University and is supervising me on the research. You can contact her at nhayward@ncu.edu. 904-338-8902.

If you have questions about your rights in the research, or if a problem has occurred, or if you are injured during your participation, please contact the Institutional Review Board at: irb@ncu.edu or 1-888-327-2877 ext 8014.

Appendix B: Online Survey

A Case Study Investigating Teachers' Use of Technology in Higher Education Classrooms

My name is Alice Marie Scruggs. I am a doctoral student at Northcentral University. I am conducting a research study on how teachers use technology in the classrooms in higher learning. I am completing this research as part of my doctoral degree. I invite you to participate.

This study is an anonymous online survey and it is not the intention of the researcher to collect your name. However, you do have the option to provide your name voluntarily. Please know that if you do, it may be linked to your responses in this study. Any consequences are outside the responsibility of the researcher, faculty supervisor, or Northcentral University. If you do wish to provide your name, space will be provided. Again, including your name is voluntary, and you can continue in the study if you do not provide your name.

Activities:

If you participate in this research, you will be asked to

1. take an online survey (time estimation: 10-15 minutes) – To be taken one time only

Eligibility:

You are eligible to participate in this research if you:

1. are a faculty member at Florida A&M University
2. use technology in the classroom

You are not eligible to participate in this research if you:

1. are not a faculty member at the university
2. do not use technology in the classroom

Risks:

There are minimal risks in this study. Some possible risks include nervousness, stress or minimal pressure related to having to complete an online survey.
To decrease the impact of these risks, you can choose not to respond to the online survey.

Benefits:

There are no direct benefits to you as a participant. The potential indirect benefits of the study will be to improve pedagogical best practices for teachers of higher education with the use of integrating technology in the classroom. Furthermore, the study will endorse factors of teaching experiences along with other researchers who have studies utilizing technology in the classrooms for educational purposes. With hope, the research will give teachers the needed confidence in displaying certain levels of assurance and courage to affirm their use of educational tools in the classroom.

Confidentiality:

The information you provide will be kept confidential to the extent allowable by law. The people who will have access to your information are me, my dissertation chair, and my dissertation committee. The Institutional Review Board may also review my research and view your information.

The online survey will be made confidential and a consent statement will be placed on the survey and in the email by alerting the potential participants about the study with instructions to click on the URL to go to the survey. No participants name will appear on the email or on the online survey as a means of securing confidentiality.

Contact Information:

If you have questions for me, you can contact me at: A.Scruggs@email.ncu.edu. 850-933-2884.

My dissertation chair's name is Dr. Norma Hayward. She works at Northcentral University and is supervising me on the research. You can contact her at nhayward@ncu.edu. 904-338-8902.

If you have questions about your rights in the research, or if a problem has occurred, or if you are injured during your participation, please contact the Institutional Review Board at: irb@ncu.edu or 1-888-327-2877 ext 8014.

* Required

Have you read this entire form, and do you wish to participate in this study? If yes, click on "yes, I'm willing to participate" to complete the survey. If you choose not to participate, you may exit the survey. *

Yes, I'm willing to participate.

Do you wish to provide your name (optional)? If yes, please type your name here

Which of the following items do you own? Select all that apply.

iPhone
Android phone (e.g., Droid, Nexus S, G1/G2, Galaxy S, EVO, etc)
Windows OS phone (e.g., MotoQ, Samsung Focus, HTC Touch, etc.)
BlackBerry
Other smartphones
Other mobile/cell phone
Digital point and shoot camera
Digital SLR camera
Digital video camera
Flip video camera (or similar inexpensive pocket-sized dedicated video camera)
Handheld/portable gaming device (e.g., Sony PSP, Nintendo DS Lite, Gameboy)
Stationary gaming device (e.g., Xbox, Sony PlayStation, Nintendo Wii)
DVR
DVD player
Blu-ray player
HD TV
HD set-top box
3D TV
Internet-ready TV
Internet device that attaches to TV (e.g., Apple TV, Roku)
mp3 player/music device (other than iPod)
iPod
Desktop computer
Laptop computer
Netbook
Other tablets (e.g., Galaxy Tab, Xoom, etc.) – not an iPad
An e-reader (e.g., Kindle, NOOK)
Webcam
USB thumb drive/portable hard drive

Scanner
Smartpen
Printer
Wi-Fi
None of these

Regardless of whether you own it, which of the following have you used for at least one course or academic activity in the past year? This could include items that are provided by you as an instructor that you use as part of your class, or that you use outside of class to supplement student learning. Select all that apply.

Phone
Android phone (e.g., Droid, Nexus S, G1/G2, Galaxy S, EVO, etc)
Windows OS phone (e.g., MotoQ, Samsung Focus, HTC Touch, etc.)
BlackBerry
Other smartphones
Other mobile/cell phone
Digital point and shoot camera
Digital SLR camera
Digital video camera
Flip video camera (or similar inexpensive pocket-sized dedicated video camera)
Handheld/portable gaming device (e.g., Sony PSP, Nintendo DS Lite, Gameboy)
Stationary gaming device (e.g., Xbox, Sony PlayStation, Nintendo Wii)
DVR
DVD player
Blu-ray player
HD TV
HD set-top box
3D TV
Internet-ready TV
Internet device that attaches to TV (e.g., Apple TV, Roku)
mp3 player/music device (other than iPod)
iPod
Desktop computer
Laptop computer
Netbook
Other tablets (e.g., Galaxy Tab, Xoom, etc.) – not an iPad
An e-reader (e.g., Kindle, NOOK)
Webcam
USB thumb drive/portable hard drive
Scanner
Smartpen
Printer
Wi-Fi
None of these

How effectively are you as an instructor with using these technologies to teach, mentor and communicate with your students in the past year?

1 Not Effectively At All
2 Somewhat Effective
3 Moderately Effective
4 Highly Effective
5 Extremely Effective
6 Not Applicable

iPhone
Android phone (e.g., Droid, Nexus S, G1/G2, Galaxy S, EVO, etc)
Windows OS phone (e.g., MotoQ, Samsung Focus, HTC Touch, etc.)
BlackBerry
Other smartphones
Other mobile/cell phone
Digital point and shoot camera
Digital SLR camera
Digital video camera
Flip video camera (or similar inexpensive pocket-sized dedicated video camera)
Handheld/portable gaming device (e.g., Sony PSP, Nintendo DS Lite, Gameboy)
Stationary gaming device (e.g., Xbox, Sony PlayStation, Nintendo Wii)
DVR
DVD player
Blu-ray player
HD TV
HD set-top box
3D TV
Internet-ready TV
Internet device that attaches to TV (e.g., Apple TV, Roku)
mp3 player/music device (other than iPod)
iPod
Desktop computer
Laptop computer
Netbook
Other tablets (e.g., Galaxy Tab, Xoom, etc.) – not an iPad
An e-reader (e.g., Kindle, NOOK)
Webcam
USB thumb drive/portable hard drive
Scanner
Smartpen
Printer
Wi-Fi
Document camera or digital overhead projector (like an overhead projector, but can display 3D items as well as transparencies)
Clickers or student response systems

Projector (often connected to a computer for presentation purposes)
Interactive whiteboard (e.g., SMART board)
iPhone
Android phone (e.g., Droid, Nexus S, G1/G2, Galaxy S, EVO, etc)
Windows OS phone (e.g., MotoQ, Samsung Focus, HTC Touch, etc.)
BlackBerry
Other smartphones
Other mobile/cell phone
Digital point and shoot camera
Digital SLR camera
Digital video camera
Flip video camera (or similar inexpensive pocket-sized dedicated video camera)
Handheld/portable gaming device (e.g., Sony PSP, Nintendo DS Lite, Gameboy)
Stationary gaming device (e.g., Xbox, Sony PlayStation, Nintendo Wii)
DVR
DVD player
Blu-ray player
HD TV
HD set-top box
3D TV
Internet-ready TV
Internet device that attaches to TV (e.g., Apple TV, Roku)
mp3 player/music device (other than iPod)
iPod
Desktop computer
Laptop computer
Netbook
Other tablets (e.g., Galaxy Tab, Xoom, etc.) – not an iPad
An e-reader (e.g., Kindle, NOOK)
Webcam
USB thumb drive/portable hard drive
Scanner
Smartpen
Printer
Wi-Fi
Document camera or digital overhead projector (like an overhead projector, but can display 3D items as well as transparencies)
Clickers or student response systems
Projector (often connected to a computer for presentation purposes)
Interactive whiteboard (e.g., SMART board)

Do you use "cloud computing" with any computer or mobile devices you own? (By "cloud computing," we mean any application where the primary purpose is to store data remotely on a network, instead of on your hard drives, such as Amazon Cloud Drive, Amazon Cloud Player, Google Docs, Dropbox, or Windows Azure).

Yes
Maybe
Not sure what cloud computing is

Thinking about the most recent school year, how often did you do the following, whether it was for school or personal purposes?

1 Several times a day
2 Once a day
3 A few times a week
4 Less often
5 Don't Use
Instant message (Gchat, Facebook chat, AIM, etc.)
Text message
E-mail
Use Twitter
Contribute to Wikis (Wikipedia, course wiki, etc.)
Read Wikis (Wikipedia, course wiki, etc.)
Contribute to blogs
Read blogs
Download or stream web-based music
Download or stream web-based videos (YouTube, etc.)
Post videos to a video-sharing website (YouTube, etc.)
Play online multi-user computer games for recreation, not education (World of Warcraft, Call of Duty: Black Ops, poker)
Participate in online virtual worlds (Second Life, Forterra, etc.)
Use telephone-like communication over the Internet (Skype, Google Voice, Video Chat, etc.)
Watch podcasts or webcasts
Use Facebook
Use LinkedIn
Use other social networking websites (MySpace, etc.)
Recommend/share an article or information online by tagging/ bookmarking/liking (Delicious, Digg, Newsvine, Twine, etc.)
Use photo-sharing websites (Flickr, Snapfish, Picasa, etc.)
Access Internet content via a TV (Apple TV, Roku)
Use online forums or bulletin boards
Use social studying sites (Cramster, CourseHero, GradeGuru, etc.)
Participate in online chats, chat events, webinars
Use geo-tagging, geo-tagged environments (FourSquare, Gowalla, Foodspotting, Walk, Jog, Run, etc.)
Instant message (Gchat, Facebook chat, AIM, etc.)
Text message
E-mail
Use Twitter
Contribute to Wikis (Wikipedia, course wiki, etc.)

Read Wikis (Wikipedia, course wiki, etc.)
Contribute to blogs
Read blogs
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How comfortable do you feel with your ability to use each of the following?

1 I need to know how to use it
2 I wish I knew how to use it better
3 Neutral
4 I can do it with some help
5 My skill level meets my needs
College/university's library website
Course or learning management system (Blackboard, Moodle, WebCT, Desire@Learn, Sakai, etc.)
Spreadsheets (Excel, Numbers, Google Spreadsheets, etc.)
Presentation software (PowerPoint, Keynote, Google Presentations, etc.)
Graphics software (Photoshop, Flash, etc.)
Audio-creation software (Audacity, Garage Band, etc.)
Video-creation software (Final Cut, MovieMaker, iMovie, etc.)
Word processors (Word, Pages, Google Documents, etc.)
Speech recognition software (Dragon's Naturally Speaking, Windows Vista voice recognition, MacSpeak)
Programming languages (C++, Java, etc.)
Simulations or educational games
Web-based citation/bibliography tools (CiteULike, OttoBib, etc.)

RowE-portfolios
E-books or e-textbooks
Freely available course content beyond your campus (Open Courseware, Khan Academy, etc.)
Podcasts and webcasts
Online virtual worlds (Second Life, Forterra, etc.)
Photo-sharing websites (Flickr, Snapfish, Picasa, etc.
Internet content via a TV (Apple TV, Roku)
Social studying sites (Cramster, CourseHero, GradeGuru, etc.)
Online chats, chat events, webinars
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Online chats, chat events, webinars
Geo-tagging, geo-tagged environments (FourSquare, Gowalla, Foodspotting, Walk, Jog, Run, etc.)

To what extent do you agree with each of the following statements regarding technology when it comes to your teaching experience?

1 Strongly Disagree
2 Disagree
3 Neutral
4 Agree

5 Strongly Agree
Helps me do my work faster
Makes me feel more connected to the students
Extends learning beyond the classroom
Allows me to take control of my student learning
Makes it easier to get help when I need it
Is an efficient way to store examples of my work for student use
Makes it easy to track student academic progress
Simplifies administrative-related activities such as when students register for classes, paying tuition, etc.
Allows me to produce higher quality work
Enables me to reach my true academic professional potential
Gives me access to experts in my field
Makes teaching more creative
Click to write Statement 15
Helps me know how I am doing as an instructor
Makes me feel connected to other students
Makes me feel connected to another college/ university professors
Makes my professional experience more individualized/personalizes the curriculum
Gives me access to a wide range of resources
Makes teaching more fun
Makes lectures more engaging
Helps me think out of the box
Makes college easier
Makes classes more relevant to real-life
Elevates the level of teaching
Helps me do my work faster
Makes me feel more connected to the students
Extends learning beyond the classroom
Allows me to take control of my student learning
Makes it easier to get help when I need it
Is an efficient way to store examples of my work for student use
Makes it easy to track student academic progress
Simplifies administrative-related activities such as when students register for classes, paying tuition, etc.
Allows me to produce higher quality work
Enables me to reach my true academic professional potential
Gives me access to experts in my field
Makes teaching more creative
Click to write Statement 15
Helps me know how I am doing as an instructor
Makes me feel connected to other students
Makes me feel connected to other colleges/ university professors
Makes my professional experience more individualized/personalizes the curriculum
Gives me access to a wide range of resources
Makes teaching more fun

Makes lectures more engaging
Helps me think out of the box
Makes college easier
Makes classes more relevant to real-life
Elevates the level of teaching

And how much do you agree with each of the following statements about technology, as it relates to your faculty experience?

1 Strongly Disagree
2 Disagree
3 Neutral
4 Agree
5 Strongly Agree
Technology makes professors better at their job
Technology is an essential part of the college experience
Technology is instrumental in successful teaching
Technology, when used well, is worth the investment.
Technology is instrumental in successful learning
Technology takes up vital time and resources that should be spent elsewhere
Technology frustrates me more than it helps me when it comes to my college/university
Technology lowers the cost of college education
My institution needs more technology
My institution uses the technology it has effectively
As an instructor I use technology effectively
As an instructor I use technology frequently enough
I know more about how to use technology than other professors do
Instructors don't know how to use the technology that is available
Technology breaks or is broken more often than it is used in the classroom
Technology is integrated seamlessly into my courses
As an instructor, I often require the help of others to get the technology up and running successfully
Technology makes learning less affordable
Technology makes professors better at their job
Technology is an essential part of the college experience
Technology is instrumental in successful teaching
Technology, when used well, is worth the investment.
Technology is instrumental in successful learning
Technology takes up vital time and resources that should be spent elsewhere
Technology frustrates me more than it helps me when it comes to my college/university
Technology lowers the cost of college education
My institution needs more technology
My institution uses the technology it has effectively
As an instructor I use technology effectively
As an instructor I use technology frequently enough
I know more about how to use technology than other professors do

Instructors don't know how to use the technology that is available
Technology breaks or is broken more often than it is used in the classroom
Technology is integrated seamlessly into my courses
As an instructor, I often require the help of others to get the technology up and running successfully
Technology makes learning less affordable

How would you rate your college/university with regards to the following online services?

1 Poor
2 Fine
3 Good
4 Very Good
5 Excellent
6 Service Not Offered Online
7 Never Used Service
Offering library resources online
Offering textbooks for sale online
Making transcripts available online
Making grades available online
Offering online course registration
Making financial aid information available online for instructors use
Offering library resources online
Offering textbooks for sale online
Making transcripts available online
Making grades available online
Offering online course registration
Making financial aid information available online for instructors use

Have you ever taken a course entirely online?

Yes
No

How much do you agree with the following statements about the use of social networking sites such as Facebook in conjunction with your teaching?

1 Strongly Disagree
2 Disagree
3 Neutral
4 Agree
5 Strongly Agree
I like to keep my professional life and my social life separate
I am comfortable using Facebook or other social networking sites to communicate with students about their coursework

A class online discussion board is better for helping me connect with students about coursework than a social networking site like Facebook
It's important to have an online forum to communicate and interact with students about coursework outside the classroom
I like to keep my professional life and my social life separate
I am comfortable using Facebook or other social networking sites to communicate with students about their coursework
A class online discussion board is better for helping me connect with students about coursework than a social networking site like Facebook
It's important to have an online forum to communicate and interact with students about coursework outside the classroom

BACK SUBMIT

Link to Online Survey:

https://goo.gl/forms/8GVkQrVjBpkGy8vf2