

A Mixed Methods Study of Teacher Concerns Toward the Implementation
of Blended Learning

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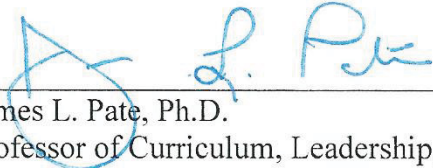
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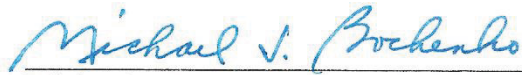


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ABSTRACT

This mixed-methods study examined the behaviors and concerns of K-12 teachers in Georgia undergoing the transformational change of implementing blended learning in the classroom. A sample of 106 full-time Georgia K-12 teachers' concerns were examined through the lens of the Concerns-Based Adoption Model (CBAM). The data was collected in two phases for this explanatory sequential mixed-methods study: Phase I (quantitative) consisted of SEDL's online SoCQ, while two data sets, one of the open-ended questions on the SoCQ and semi-structured interviews, provided the evidence for Phase II, the qualitative phase.

The results of this study indicate that teachers in Georgia are in the early concern stages regarding the implementation of blended learning. An analysis of the quantitative data indicated a significant relationship between the peak Stage of Concern and age and number of years implementing blended learning. Analysis of the qualitative data indicated teachers' top three concerns centered around blended learning resources, school technology, and student home WIFI and technology access.

This study may prove valuable in enhancing our understanding of blended learning practices in school classrooms to assist with addressing teachers' concerns with the implementation of blended learning. While several existing studies examined the SoCQ with a focus on the integration of technology into the classroom, limited research is available through the lens of blended learning. Implications from this study could expand the scope of research on blended learning in the K-12 setting.

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“We can, whenever and wherever we choose, successfully teach all children whose schooling is of interest to us. We already know more than we need to do that. Whether or not we do it must finally depend on how we feel about the fact that we haven’t so far.”

- Ron Edmonds

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DEDICATION

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Oh, The Places You'll Go!
by Dr. Seuss

You have brains in your head.
You have feet in your shoes.
You can steer yourself any direction you choose.
You're on your own.
And you know what you know.
And YOU are the guy
who'll decide where to go.

Chapter I

INTRODUCTION

“Technology is not a silver bullet. It’s only as good as the teachers...using it as one more tool to help inspire, teach, and work through problems” (U.S. Department of Education, 2014, para. 1). In June 2013, President Obama formally acknowledged the critical impact of technology on student engagement and future success when he launched the ConnectED Initiative (The White House, 2013). This initiative, created to optimize and improve K-12 education for every student in America, includes three key elements: upgraded connectivity with a focus on connecting 99% of America’s students and teachers to broadband and high-speed wireless access within 5 years, a teacher training component focused on training the teachers to use technology successfully to address a myriad of varied student needs, and a focus on private-sector innovation bridging the gap between schools and state-of-the-art devices and high-quality software aligned to the Common Core State Standards (Culatta, 2013). The purpose of the ConnectED Initiative centers around the end goal of empowering students through individualized learning, while providing access to innovative, progressive digital content (Brown, 2015). Culatta (2013) stresses this ambitious goal cannot be achieved in America’s classrooms without deep training for teachers on the skills and tools required to utilize those digital resources.

In December 2015, President Barack Obama signed the Every Student Succeeds Act (ESSA) into law. This reauthorization of the Elementary and Secondary Education Act contains important provisions for educational technology including supporting new learning models emphasizing personalized and blended learning supported by data, as well as professional development support aligned to those learning models (Mesecar, 2015). Mesecar points out provisions in ESSA which require school districts to assist teachers with the skills and supports to leverage the computers, tablets, software, and other digital resources directly correlating with the teacher training component of the ConnectED Initiative. This support for the ConnectED Initiative brings the goal of improving K-12 education for every student in America closer to reality.

While ESSA is a step in the right direction, regrettably, 3 years after the launch of ConnectED, little has changed in how the majority of K-12 students experience school. In a world where technology is constantly changing and evolving, K-12 students still attend schools reminiscent of the schools their parents, grandparents and even great-grandparents attended (Duffy, 2014; Horn & Staker, 2014; Prensky, 2005). Every day 50.1 million K-12 students (National Center for Education Statistics, 2015) enter K-12 classrooms across the country looking relatively similar to those found in the 20th century: students sit in rows of desks taking notes in their notebooks while a teacher lectures at the whiteboard. The fact the whiteboard may be a digital whiteboard does not change the regular classroom set-up or instructional flow (Buzzard, Crittenden, Crittenden, & McCarty, 2011). Regardless of ability level, each student receives the exact same instruction at the exact same pace (Patrick, Kennedy, & Powell, 2013). Each student is expected to understand the information presented by the teacher at the exact

same time regardless of whether or not they understand the material (Horn & Staker, 2011). Teachers are unable to individually target the needs of each student due to lack of time and resources (Patrick, Kennedy, & Powell, 2013; Siko & Hess, 2014). One solution to this fundamental problem challenging student achievement could be blended learning (Horn & Staker, 2011).

Statement of the Problem

Blended learning, the integration of technology with face-to-face teaching and learning, is defined by Christensen, Horn, and Staker (2013) as “a formal education program in which a student learns in part online with some element of control over time, place, path, and/or pace and at least in part at a supervised brick-and-mortar location away from home” in the K-12 sector (p. 9). While blended learning has been implemented at the college level for decades, combining face-to-face instruction with computer based instruction is a relatively new phenomenon in the K-12 setting (Staker, et al., 2011). School districts and schools are grappling with identifying best practices for training teachers and the accompanying support structures needed for this new way of teaching. This is reflected at the state level. In March 2015, I attended a state technology meeting consisting of district instructional technology directors and information technology directors from across the state. During the meeting, blended learning emerged as a new obstacle. While the majority of the meeting centered around instructional technology support provided by the state for districts and teachers, during the question and answer period blended learning arose as the hot topic of the day. It began when one instructional technology director stated she had been mandated by her school board to implement blended learning in the fall. She confessed she was clueless

about blended learning. She received several “amens” from others in the room who indicated they were in a similar situation. The issue was not resolved before the end of the meeting and all left the room with the knowledge blended learning was looming on the horizon and needed to be thoroughly investigated. As school districts across the state begin to create blended learning plans, teacher support and training are key to the success – or failure, of the implementation plan for these districts.

Most district leaders and school administrators believe teachers will instinctively know how to integrate technology to support student academic needs and, as a result, student achievement outcomes will increase (Berrett, Murphy, & Sullivan, 2012). Providing teachers with technology will not guarantee increased academic achievement (Kale & Goh, 2014). The implementation of any new technology is difficult and can be influenced by the attitudes and concerns of teachers (Lochner, Conrad, & Graham, 2015). In fact, teachers often experience fear and anxiety while implementing new technology negatively impacting their level of concern when facing implementing technology-related pedagogy such as blended learning (Lochner, Conrad, & Graham, 2015; Hew & Brush, 2007; Hall & Hord, 2006). Other variables can influence teachers’ adoption of a new technology-rich teaching strategy, including learning how to use the technology, available training, and access to technology (Tsai & Chai, 2012).

Teachers’ pedagogical beliefs and teaching practices influence their use of technology (Zhao & Frank, 2003). Teachers’ attitudes toward, and expertise with, technology are often key factors associated with their uses of technology (Christou, Eliophotou-Menon, & Philippou, 2004; Zhao & Frank, 2003). To successfully integrate technology into the classroom, teachers must be provided with appropriate training and

support (Atkins & Vasu, 2000). Professional learning should be teacher-centered (Burdick, Doherty, & Schoenfeld, 2015) and differentiated based upon teacher needs. One-size-fits all professional learning for teachers is the norm. Morehead and LeBeau (2005) reported the majority of professional development plans have not provided teachers with the knowledge or experience to competently integrate technology in their classroom.

“Schools are approaching a tipping point in a digital transformation that will forever change the way the world learns” (Horn & Staker, 2014, p. xxvi). While Dewey (1920) proposed the main purpose of school was to educate students to be active participants in society, the future faced by contemporary students dictates the purpose of school be expanded to include success in college, the workplace, and beyond (Mehta & Fine, 2012). In the current fast-changing, ever evolving, technology-driven world, it is imperative technology is seamlessly integrated into the curriculum (Horn & Staker, 2014). However, integrating technology in the classroom only promotes learning when students are actively engaged in constructing knowledge while conversing around authentic work (Starkey, 2011). In the 20th century, education was teacher-centered, where the focus was on teaching content instead of engaging students (Chuang, 2014). The landscape of education has evolved to meet the needs of digital learners who are inheriting a world where access to knowledge and knowing how to critically and creatively apply that knowledge, not basic memorization of facts, is critical to surviving in a future where information will be constantly changing.

Teaching in the 21st century can be very difficult for teachers, many of whom grew up and were educated in the 20th century. Today’s teachers are expected to sprinkle

their “fairy dust” of differentiation (Jacobs, 2014) and teach a classroom full of students of varying levels of achievement with the expectation their class full of students will magically arrive at the same understanding of the same concept at the same time - essentially an impossible task (Horn & Staker, 2014; Jacobs, 2014). A new school of thought has realized age is not the only basis for student placement in the curriculum. Just because two students are the same age, does not mean they learn at the same pace and have the same needs (Horn & Staker, 2014). Blended learning helps teachers focus on student-centered learning, helps teachers personalize the learning experience per student, and results in instruction truly differentiated.

Hall (2013) asserted change in the classroom will not occur unless individual concerns are addressed. The purpose of this explanatory sequential mixed-methods study was to examine the concerns and perceptions teachers have about the implementation of blended learning and how those concerns differ by teacher characteristics (gender, years of teaching experience, age, and years of experience utilizing blended learning). The findings of the study could add to a growing body of research on blended instruction and offer an additional lens to view teacher needs regarding blended learning.

Theoretical Framework

Technology is rapidly changing and teachers are required to make pedagogical changes expeditiously to integrate technology to address the needs of their 21st century students. Learning how to integrate technology via blended learning is a new paradigm shift for most teachers and a significant change in pedagogy (Newland & Byles, 2014; Osguthorpe & Graham, 2003). The teacher drives what occurs inside the classroom. The adoption of any new innovation is a personal choice (Ertmer, 2005), and the teacher in

the classroom must feel comfortable implementing that innovation. In most cases, if a teacher does not feel comfortable with an innovation or pedagogical change, it will not be implemented (Watson, 2001). Therefore, it is imperative to understand the concerns of teachers being required to implement blended learning.

The focus of this study was to utilize the SoCQ to measure the Stages of Concern of Georgia K-12 teachers associated with the implementation of blended learning within the classroom. The SoCQ results were utilized to provide insight and perspective into the implementation of blended learning within the K-12 classroom. Among the many relevant, research-based change and diffusion models, the Concerns Based Adoption Model (CBAM) is one of the most widely used instruments for measuring implementation and facilitating change in schools (Hall, George, & Rutherford, 1979; Hall & Hord, 1987, 2006; Hall & Loukes 1978; Loucks, Newlove, & Hall, 1975). The CBAM is a conceptual framework developed by researchers at the University of Texas at Austin designed to describe how teachers respond to the implementation of new educational innovations (George, Hall, & Stiegelbauer, 2013). The CBAM, based upon Fuller's (1969) work, addresses change from the individual's perspective, and can be used to measure the concerns of individuals as they progress through the stages of an innovation (Hall & Hord, 2011).

The CBAM stresses individuals grow in both their concerns and their use of new innovations and has four underlying assumptions (Hall, 2013):

- Change is a process, not an event,
- Change is made by individuals first, organizations second,
- Change is a highly personal experience, and

- Change involves some developmental growth. (p. 265).

Concerns are an important aspect of the change process (George, Hall, & Stiegelbauer, 2013). Hall and Hord (1987) define concerns as “the feelings, thoughts, and reactions individuals have about a new program or innovation that touches their lives” (p. 30). While change is a universal process, concerns regarding change is a highly personal experience (Hord et al., 1987). According to Hall (2013), when confronted with change, teachers go through a developmental process of adjusting, including working through thoughts, feelings, perceptions, and worries associated with the change and its impact on their teaching and student learning. Hord et al. (1987) stress concerns can greatly impact the implementation of a change and they determine the kinds of assistance needed to help teachers succeed as they strive to implement the change.

The CBAM treats change as a developmental process, not an event, and has three diagnostic dimensions: SoCQ, Innovation Configurations (IC), and Levels of Use (LoU) (Hall, 2013; Hall & Hord, 2011). The Stages of Concern Questionnaire addresses the personal side of change; the Levels of Use (LoU) describe the different behavioral profiles of non-users and users; and the Innovation Configurations (IC) represent the possible operations forms of the change (Hord & Loucks, 1980; Hall, 2013).

The Stages of Concern are comprised of seven stages: Stage 0: Awareness, Stage 1: Informational, Stage 2: Personal, Stage 3: Management, Stage 4: Consequence, Stage 5: Collaboration, and Stage 6: Refocusing. The seven Stages of Concern are sub-grouped into four major clusters: Unconcerned, Self, Task, and Impact. While teachers tend to move through the stages of concern developmentally, the seven stages are not mutually exclusive (Horn et al., 1987). In the first stage, awareness, teachers have little or no

concern about the innovation. Next, teachers move through self concerns encompassing informational concerns and personal concerns. These teachers require more information about the innovation and are concerned with how to meet the demands of the innovation. Next, teachers encounter task concerns centering around how to manage the new innovation. Lastly, teachers move through the impact phase where they deal with how to effectively incorporate the new innovation.

The SoCQ, the primary tool for determining an individual's Stage of Concern, is a 35-item Likert scale instrument based on the seven stages of concern. Although the CBAM and the SoCQ have been used extensively to measure the implementation of classroom technology (Hall, 2013), minimal research has been available to specifically address the implementation of blended learning within the K-12 classroom. Hall emphasizes the outcomes for any student learning is dependent upon the teacher in the classroom with those students. Therefore, professional learning opportunities and teacher support, the link between the design and implementation of educational reforms (DeMonte, 2013), must be designed to transform teaching and enhance student learning. Once teachers' developmental concerns about the implementation of blended learning have been addressed, interventions targeted to each stage may be implemented to address their needs (Hall & Hord, 2006).

Research Questions

In this sequential explanatory mixed-methods study, surveys and interviews provided triangulation of the data. The SoCQ results provided a framework for the interviews. The research problem was founded upon the desire to more thoroughly

understand the concerns teachers have with the implementation of blended learning.

Therefore, the study was guided by the following research questions:

1. What are teachers' predominate Stages of Concern with the implementation of blended learning as identified by the SoCQ?
2. How do those Stages of Concern differ by gender, years of teaching experience, age, and years of experience utilizing blended learning?
3. What are teachers' top three concerns related to the implementation of blended learning in their classes?

Methodology

An explanatory sequential mixed-methods design was used involving collecting quantitative data first and then explaining the quantitative results with in-depth qualitative data (Creswell, 2014). In the first, quantitative phase of the study, the SoCQ was given to teachers in the state of Georgia to test the Concerns-Based Adoption Model (CBAM) to assess whether factors such as years of experience teaching, gender, age, and number of years implementing blended learning related to teachers' Stages of Concern. The second, qualitative phase was conducted as a follow-up to the quantitative results to help explain the quantitative results (Creswell, 2014). In this exploratory follow-up, one of the open-ended questions on the SoCQ, and semi-structured interview questions were used to further probe teacher perceptions around the implementation of blended learning.

Significance of the Study

This mixed-methods study sought to understand the concerns of K-12 teachers in Georgia undergoing the transformational change of implementing blended learning in the classroom, and will be valuable in understanding specific individual concerns during this

process. Although several existing studies were used to examine the SoCQ focus on the integration of technology into the classroom, limited research is available on technology integration via blended learning (Schulze, 2014; Halverson, Graham, Spring, & Drysdale, 2012). Limited research is available regarding how gender, years of teaching experience, age, and years of experience utilizing blended learning impact teachers' Stages of Concern with the implementation of blended learning, which will prove relevant in providing support for teachers as they undergo this transformational change in pedagogy.

Definitions of Terms

The following terms are defined as they are used in the context of this study.

Blended learning. "A formal education program in which a student learns in part online with some element of control over time, place, path, and/or pace and at least in part at a supervised brick-and-mortar location away from home" (Christensen, Horn, & Staker, 2013, p. 9).

Face-to-face. The traditional classroom teaching approach where student and teacher are both physically present in a brick-and-mortar building at the same time.

Concerns. "A composite representation of feelings, preoccupation, reflection, and contemplation concerning a particular issue" (Hall & Hord, 1987; Hall, George & Rutherford, 2013; Hall, 2013, p. 278). According to George, Hall, and Stiegelbauer (2013), concerns may be experienced at the following varying levels of intensity:

- Unrelated Concerns are defined as concerns unrelated to teaching such as concerns about creating a seating chart.
- Self-concerns are defined as concerns related to teaching, but are egocentric and reflect feelings of inadequacy or self-doubt.

- Task Concerns are defined as concerns related to the job of teaching such as logistics, preparation of materials, etc.
- Impact Concerns are defined as concerns, which center on how teaching affects students.

Concerns-Based Adoption Model (CBAM). The CBAM is a theoretical framework that examines change from the perspective of those immediately involved in the change process (George, Hall, & Stiegelbauer, 2013). The CBAM views change as a process, rather than an event, recognizes change is personal, and effective adoption of innovations involve development in both feelings and skill levels (Lochner, Conrad, & Graham, 2015).

Innovation. A new program or practice (Hall & Hord, 2011).

Personalized Learning. An approach to teaching where student learning experiences — what they learn, and how, when, and where they learn it — are tailored to their individual needs, skills, and interests, and that their school enables them to take ownership of their learning. (Childress & Benson, 2014).

Stages of Concern (SoC). The varying emotional intensity of feelings toward an innovation (unrelated, self, task and impact). SoC is a dimension in the CBAM developed by Hall, George, & Rutherford (1979) (see Appendix E).

Limitations

This study examines the concerns of certified teachers implementing Blended Learning and is limited to certified teachers in Georgia. Therefore, the findings may not be generalizable to teachers outside of that population. Secondly, the survey instrument for the quantitative phase is a self-reporting, Web-based survey. The study was limited to

the number of teachers who fill out the Web-based survey and data collection relied upon participants honestly answering the questions. Lastly, blended learning is being implemented differently in different districts, schools, and classrooms. Therefore, the data will reflect each individual participant's version of implementing blended learning.

Organization of the Study

This study is divided into five Chapters. Chapter 1 will define the study by identifying the problem and its context, highlighting the theoretical framework used, and illuminating why the research is significant today. Chapter 2 will contain the literature review. Chapter 3 will describe the methodology for the study. This chapter will provide information on research design, population and sample, study instrumentation, study plans for data collection and analysis, and study limitations. Chapter 4 will present the findings of the study, followed by analysis and discussion on each of the research questions. Chapter 5 will include an overview of the study, a summary of the findings, the conclusions, the implications for practice, as well as the recommendations for practice and future research.

Chapter II

REVIEW OF THE LITERATURE

A major trend in today's educational landscape is integrating technology into the curriculum (Tsai & Chai, 2012). Bailey, Hassel, Hassel, Schneider, and Vander Ark (2013), suggested implementing blended learning has the potential to personalize learning for each student. Personalized learning encompasses student learning experiences to include what, when, how, and where they learn. The teacher personalizes each student's learning experience to address their individual needs, skills, and interests in a way the students are empowered to take ownership of their learning (Childress & Benson, 2014). Childress and Benson stressed, personalized learning can "meet all students where they are, motivate them based on their interests and academic level, accelerate their learning, and prepare them to become true lifelong learners" (p. 34). To personalize learning for students, there must be some vehicle providing individualized, targeted support for each student based upon his or her needs (Up, 2011). Blended learning provides that support (Horn & Staker, 2012). In a traditional classroom, the teacher stands between students and the knowledge, while in the blended classroom students have direct access to the knowledge (Newland & Byles, 2014). The teacher serves as a coach, mentor, and guide helping students access the knowledge (Horn & Staker, 2011). Horn and Staker emphasized a blended classroom leverages technology allowing the teacher and the students to make the most of their time and efforts.

Blended learning models place an emphasis on each individual student's learning process and harness the engaging power of technology to assist teachers in individualizing instruction to provide a learning environment focused on the success of each child (Powell et al., 2015). With blended learning, students work together more often, develop problem solving and critical thinking skills, are more motivated to learn, and take ownership of their learning (Horn & Staker, 2014). As blended learning is implemented in K-12 schools, teachers must learn how to teach and interact differently with students in order for the implementation to be successful (Pizzi, 2014).

21st Century Teaching and Learning

To prepare students to survive and thrive in a future where information is constantly and rapidly changing, teachers must reexamine both what and how teachers teach, as well as how students learn in the 21st century. In the 20th century, learning consisted of a very passive transmission of knowledge and schools were designed to standardize teaching and testing (Abik, Ajhoun, & Ensias, 2012; Chuang, 2014; Horn & Staker, 2014). Schools have drastically changed from the 20th century model where resources were few, classroom instruction consisted mostly of lectures, and students sat down while passively taking notes they were required to memorize (Bassendowski & Petrucka, 2013). Today's teachers have technological tools at their fingertips that can be used to create meaningful learning experiences to engage students and include the non-negotiable 21st century skills of creativity, innovation, critical thinking, problem solving, communication, and collaboration (Partnership for 21st Century Skills, 2009).

A study from the Bill and Melinda Gates Foundation, *Measures of Effective Teaching*, sampling thousands of classrooms, indicated student engagement in less than

20% of the classrooms sampled (Mehta & Fine, 2012). We must do a better job of engaging students (Huang, Chen, Yang, & Loewen, 2013). A stunning number of students drop out of school not because they are struggling, but because they are bored (Horn & Staker, 2014).

Today's students are enabled, engaged, and empowered. Prensky (2009) labeled this generation "digital natives" because they are "native speakers" of the digital language of computers, video games, and the Internet (p. 1). Technology is an integral part in almost every facet of their lives (Up, 2011; U.S. Department of Education, 2010). The gap in technology adoption and technology use must be bridged if teachers are to enable, engage and empower their digital natives (Partnership for 21st Century Skills, 2009). Because of the ever increasing, rapidly changing, and readily available technology, 21st century students are constantly and actively learning outside of the school walls. Prensky (2010) reported "more and more young people are now deeply and permanently technologically enhanced, connected to their peers and the world in ways no generation has been before" (p. 2). Most students have ready access to the Internet and many students, including elementary school students, carry a mobile smartphone or tablet (Horn & Staker, 2014). The only time students power down is when they are inside school walls. This is in contrast with the current technology landscape where students use WIFI and 4G empowered mobile devices to learn organically on the go (Abik, Ajhoun, & Ensias, 2012). Students and informed parents are demanding a different kind of learning, where the learning environment is "socially-based, un-tethered and digitally rich" so the school experience matches the outside-of-school experience (Up, 2011, p. 20).

As ideas about knowledge and learning are changing, the focus on learning has moved from studying what has previously been discovered to studying the 21st century skills of critical thinking, creating knowledge, and learning through research and discovery (Starkey, 2011). Teachers are now teaching students who may be more technologically literate than they are (Jansen & van der Merwe, 2015). While digital natives spend a great deal of time tweeting, posting pictures to Instagram, and virtually competing with gamers from around the world, their technical knowledge may not transfer to technology used for learning (Hall, 2010; Buzzard, Crittenden, Crittenden, & McCarty, 2011). In contrast to their 21st century digital natives, many teachers did not grow up in an era where technology was ubiquitous (Schulze, 2014). Many teachers are using technology for administrative purposes instead of academics (An & Reigeluth, 2012). Teacher beliefs influence their approach to teaching and the introduction of instructional technology does not change teacher beliefs about the learning process (Mehta & Fine, 2012; Starkey, 2011). Some teachers hold onto traditional teaching methods because they fear change (Jansen & van der Merwe, 2015).

Technology has the power to transform teaching, learning, and thinking (Henrie, Halverson, & Graham, 2015). Many teachers now have access to a wide array of technology tools including computers, interactive white boards, digital cameras, tablets, and other devices. Many teachers use technology only to present information and not to engage students (Chuang, 2014). Starkey (2011) reported there are very few teachers currently using technology in meaningful ways. Such ways include: cooperative learning, project-based learning, higher-level questions, experiential hands-on activities, independent inquiry, student discussion, and students as producers of knowledge. Instead

of trying to get teachers to use technology, the goal now lies with getting teachers to take technology use a step further and “integrate technology in powerful ways that increase engagement, require higher order thinking skills, differentiate instruction, and improve learning” (Johnson, 2013, p. 85).

Blended Learning in K-12 Schools

If classroom instruction is not engaging learners are not learning (Alijani, Kwun, & Yu, 2014). Technology has been proven to improve student engagement and academic achievement (Chuang, 2014). Horn and Staker (2011) explain the technology used for the online learning must shift content and instruction to the control of the student in at least some way for it to qualify as blended learning. Patrick, Kennedy, and Powell (2013) suggested blended learning teachers have a toolkit filled with strategies, methods, and resources, enabling them to personalize and differentiate instruction to reach students in meaningful ways.

Blended instruction is a combination of face-to-face instruction and online or computer-mediated instruction (Staker et al., 2011). Horn and Staker (2011) add students must be formally supervised in part at a brick-and-mortar location away from home and at least in part in an online setting and there should be some element of student control over time, place, path, and/or pace. When interactive and adaptive software is integrated into the learning environment, students are able learn at their own pace in a method customized to their needs, leading to a more personalized learning experience.

Instead of being personalized and fitting the needs of each student, traditional education has more of a one-size-fits-all approach where each student is expected to learn the exact same material at the exact same time. Each student’s education is not

differentiated (Patrick, Kennedy, & Powell, 2013). To meet the needs of their learners and to address the pedagogy needed for teaching and learning in the 21st century, many K-12 schools are beginning to implement blended learning (Horn & Staker, 2011; Edwards, 2013). With blended learning, schools have the ability to personalize the learning experience for students to include enriched, differentiated learning experiences extending beyond normal school hours (Horn & Staker, 2011). The new paradigm shift in requirements for teachers for blended learning is very different from the pedagogy of the past (Pizzi, 2014).

What happens in the blended classroom is distinctly different from what happens in a traditional classroom (Horn & Staker, 2011). Instead of sitting in rows passively watching the teacher lecture at a whiteboard, students are actively engaged with one another and utilizing technology, such as an iPad, tablet, laptop, or computer; with these, they have the opportunity to receive one-on-one help from the teacher. The teacher is busy engaging with students, providing one-on-one assistance and creating targeted personalized learning experiences. The teacher can check-in with students working collaboratively on assignments with one another, push accelerated students further with some challenging work, and can pull students struggling with concepts into one-on-one tutorials or small groups where those students can receive the additional assistance they need. Students complete some of their learning via the Internet in all blended learning programs (Horn & Staker, 2014).

When teachers utilize a blended learning model, students, not content, are placed at the center of the learning process (Powell et al., 2015). Powell et al. further clarified

blended learning allows teachers to create learning environments more engaging for students in addition to focusing on student success.

Horn and Staker's (2011) original six models for blended learning included: Face-to-Face Driver, Rotation, Flex, Online Lab, Self-Blend, and Online Driver have now been combined or renamed. There are currently four models of blended learning recognized in K-12 schools: the Rotation, Flex, A La Carte, and Enriched Virtual models (Horn & Staker, 2014). In the updated version, Horn and Staker subdivided the Rotation model into four categories: Station-Rotation, Lab-Rotation, Flipped Classroom, and Individual Rotation. Station Rotation occurs within the classroom with the students rotating to different learning stations, with at least one station designated for an online component. The difference between Station Rotation and Lab Rotation is during Station Rotation, students stay in the classroom, however they rotate out of the classroom into a computer lab with the Lab Rotation model. The third Rotation model, the Flipped Classroom, is gaining popularity with teachers (Fulton, 2012; Herreid & Schiller, 2013; Holland & Holland, 2014). With the Flipped Classroom model, students are assigned Web-based resources to review concepts at home and class time is spent with understanding the content and/or practicing new skills with the guidance of the teacher. The fourth rotation model, Individual Rotation, is a customized learning path for students where at least one modality utilizes online learning.

Flex, A La Carte, and Enriched Virtual make up the remaining three models of blended learning (Horn & Staker, 2014). In the Flex model, online learning is the foundation of the course and is supplemented with other modes of learning, such a face-to-face support and group projects taking place at a physical location such as a classroom.

In the A La Carte model a student takes at least one course entirely online. Lastly, with the Enriched Virtual model, students meet face to face with their teacher as necessary and then the rest of the course's content is delivered in a virtual environment.

These models allow teachers to personalize instruction to meet the varying needs of the students they serve (Horn & Staker, 2014). Different models can be used to address the needs of different subsets of the student population. Patrick, Kennedy, and Powell (2013) explain in order for blended learning models to create student-centered learning, teachers and students in the blended environment would: 1) understand the student's experience and what level the student's proficiency is upon entry; 2) enable an entire range of learning experiences and student services and supports for any time, everywhere learning; 3) expand and reshape the role of the teacher; and 4) determine the student's progression upon mastery, allowing them to move on when ready (p. 12). They argue blended learning optimizes teaching and learning and personalized learning for students cannot occur without blended learning.

Benefits of Blended Learning

Many factors influence the implementation of blended learning programs in schools. Barriers related to implementation inhibit successful adoption (Glassett & Schru, 2009). Barriers include lack of time, lack of necessary knowledge and skills, and budget constraints (Pritchett, Pritchett, & Wohleb, 2013; Siko & Hess, 2014). Teacher concerns and attitudes influence their rate of adoption of any instructional technology innovation such as blended learning (Orlando, 2014). The beliefs of teachers impact the success of new innovations in the classroom because no change occurs inside a classroom without the implicit support of the teacher in the classroom (Levin & Wadmany, 2006).

As such, it is important to support teachers as they make this monumental change in pedagogy and provide meaningful, differentiated professional learning opportunities for them to work in this new landscape (Pritchett, Pritchett, & Wohleb, 2013).

Students with access to a combination of online and face-to-face instruction excel in relation to peers who have exposure to only one method of instruction (Powell et al., 2015; USDE, 2010; Watson, 2008). For many teachers, this new way of interacting with students and the curriculum is not intuitive and the pedagogy, skills and tools needed for blended learning must be taught (National Education Technology Plan, 2010). In the past, technology was used for administrative tasks, word processing, or to provide variations of instructional delivery to students. It was reported that although most classrooms had at least one computer and access to the Internet, there is little evidence teachers are using technology to support instruction (Gray, Thomas, & Lewis, 2010).

In a recent report, the International Association for K-12 Online Learning (iNACOL) affirmed blended learning is now moving from “promising practices” to “best practices” (Powell et al., 2015). With the implementation of blended learning, schools have the potential to be engaging and relevant for students (Kim, 2012; Holland & Holland, 2014). Students report blended learning improves their learning process in the classroom because they are able to receive extra help from the teacher, feel more comfortable asking questions in class, are more engaged and motivated to learn, and are able to share ideas with and learn from other students (Up, 2011). Additional benefits include expanded course offerings, flexibility in schedules for teachers and students, credit recovery options, acceleration opportunities, and increased access for students in rural areas (De la Varre, Keane, & Irvin, 2011; Picciano, Dziuban, & Graham, 2013).

With blended learning, classes become more personalized for students (Bailey et al., 2013). In the traditional 20th century model of teaching, typically time is constant and student achievement is a variable. With the implementation of blended learning, pedagogy encompasses a more personalized pedagogy allowing each student to work at his/her own pace. As a result, there is a dramatic and student-focused switch in the achievement variable (Horn & Staker, 2011). Blended learning puts the focus on each student in such a way time becomes the variable, while student achievement is the constant (Powell et al., 2015). Horn and Staker (2011) identify several ways schools approach personalized learning using a blended learning approach. Horn and Staker assert schools maximize the online component to ensure time is the variable and learning is the constant by allowing students to work and progress at their own pace. They emphasize using face-to-face teachers to group students in intimate learning communities with others struggling with the same content taking advantage of the social needs of students while addressing individual deficiencies. Horn and Staker (2011) further explain some schools utilize online courses to provide access to courses previously unavailable while others use blended learning to extend the learning day and offer longer or more flexible access to learning.

Pizzi (2014) stresses teachers must change with the changing needs of students in order to develop best practices. Students learn in many different ways and at different paces (Bailey, Ellis, Schneider, & Vander Ark, 2013). Actively engaging students makes the learning experience more enjoyable and stimulates their learning motivations (Fedynich, 2013; Chuang, 2014). Blended learning has the unique ability to use the technology tools students enjoy through a personalized lens to actively engage students in

the learning process. Blended learning is the “enabler” of student-centered learning; it is the combination of personalized learning and competency-based learning (Horn & Staker, 2014). With personalized learning tailored to an individual student’s strengths, needs, and interests, students can partake in one-on-one learning experiences as well as group projects and activities, according to their needs (Patrick, Kennedy, & Powell, 2013; Horn & Staker, 2014). The second part of student-centered learning, competency-based learning, allows the focus to be on student mastery. Students do not move on to the next concept until the current concept has been mastered. This builds perseverance and grit and assists students in developing critical skills needed in the future. With student-centered learning, students develop the skills to become life-long learners. These skills needed in a constantly changing world where knowledge and skills become outdated quickly, allow students to develop a sense of agency and ownership for their own progress (Horn & Staker, 2014). The combination of differentiated instruction and technology can assist in positively changing the learning environment for each student in the classroom (Horn & Staker, 2014; Osguthorpe & Graham, 2003; Pizzi, 2014; Powell et al., 2015).

Teachers implementing blended learning report more flexibility, interaction, and communication with their students and the ratio of student to teacher interaction increased (Fedynich, 2013). Blended courses create a stronger sense of community for students (Pizzi, 2014). Additionally, blended learning combines the best components of face-to-face and with “active learning assignments” and online components, facilitating learning between (a) learner to learner and (b) learner to instructor (Pizzi, 2014).

Blended learning activities include discussion boards, wikis, podcasts, and other Web 2.0

tools (Pizzi, 2014). Horn and Staker (2011) assert by using technology, blended-learning programs allow for much better delivery of course material and feedback between both teacher and student.

Barriers to Technology Implementation

Fullan (2007) emphasized change in education is solely dependent on teachers' thoughts and actions. Integrating technology to personalize learning for digital natives can be intimidating for teachers who did not grow up using technology (Prensky, 2005). Teachers tend to use computers to do basic tasks such as grading, attendance, word processing, and Web 2.0 searches instead of true technology integration (Kopcha, 2012; Aflalo, 2014). Many teachers struggle specifically with allowing students to use technology in the classroom (Ertmer, 1999; Kopcha, 2012; Stapp, 2015).

Leading barriers found to inhibit the integration of technology in K-12 classrooms include inadequate resources, access, funding, time, training, and support (Aflalo, 2014; Bakir, 2015; Hechter & Vermette, 2013; Hew & Bush, 2007; Hsu, 2016; Kafyullo, Fisser, & Voogt, 2016; Sundeen & Sundeen, 2013; Watson et al., 2014). Funding has a direct impact on the resources school districts are able to provide for teachers (Bakir, 2015; Sundeen & Sundeen, 2013). Sundeen and Sundeen (2013) reveal there is a disparity in the budgets for different school systems, and rural school districts tend to have less funds to spend, especially on technology.

Hew and Bush (2007) highlight access to technology includes providing the proper amount and right types of technology so it is readily available to teachers when they need to use it for instruction. They emphasize access to a shared computer lab does not count. An analysis of a snapshot the digital learning efforts of seven diverse school

districts revealed each district required infrastructure upgrades to handle the level of online content delivery and communication required by digital learning (Watson et al, 2014). Technology infrastructure, which includes wireless network capabilities and increased bandwidth, must be updated and present in order for any instructional technology integration to occur (Albion, Tondeur, Forkosh-baruch, & Peeraer, 2015; Bakir, 2015; Watson et al., 2014).

Many school districts employing learning management solutions and cloud-based productivity tools like Google Apps for Education and Microsoft Office 365 to provide access to school resources outside of school hours (Johnson, 2014). Student access to technology outside of the classroom, also known as the digital divide, is an additional barrier to technology integration, especially for teachers who want to utilize blended learning outside the classroom and those who want to flip their classrooms (Johnson, 2014; Rawson, 2016). The digital divide was originally defined as equitable access to computers and the Internet but has evolved to include inequalities in technology skills and the methodology of implementation with students (Rogers, 2016). For the purpose of this research, the digital divide is lack of access to technology and Internet outside of the classroom. The digital divide is still an issue in the United States despite an increase in home computer use and WIFI access, especially among low-income, minority, and rural America households (Meyer, 2016; Rawson, 2016). Schools are struggling with ways to ensure students have access to technology and WIFI outside of school hours (Bendici, 2017). CoSN, a non-profit professional organization of K-12 technology leaders, has developed a free Digital Equality Toolkit with examples of how school districts are narrowing the digital divide (Bendici, 2017).

Ertmer (1999) investigated barriers to change and discovered both extrinsic and intrinsic factors affected a teacher's ability to integrate technology into the curriculum. Ertmer (1999) identified two general categories of barriers to technology integration. First-order barriers are extrinsic barriers including training, support, equipment, time, and access; second-order barriers are intrinsic barriers including practices, attitudes and beliefs (Reid, 2014). Hew and Brush (2007) recognized that barriers to technology integration exist in terms of six categories. Most of the barriers fall under first-order barriers and two can be identified as second-order barriers (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurer, & Sendurer, 2012). Those barriers previously identified by Ertmer (1999) include resources, institution, subject culture, and assessment (first-order barriers) and teacher attitudes, beliefs, knowledge, and skills (second-order barriers).

Teachers with student-centered beliefs are more likely to utilize student-centered pedagogy even if they face barriers such technological, administrative, or assessment barriers (Ertmer et al., 2012). Ertmer et al. (2012) discovered the strongest barriers preventing other teachers from using technology were their existing attitudes and beliefs toward technology, as well as their current levels of knowledge and skills. Additionally, teachers' attitudes have a significant influence on their computer adoption or implementation behaviors in the classroom (Liu & Huang, 2005).

Professional Learning

One of the major barriers to successful integration of technology in the classroom is professional learning (Bernhardt, 2015; Reid, 2014). Learning Forward (2013), formerly the National Staff Development Council (NSDC), defines professional learning as transferring knowledge leading to high-quality teaching practices, supportive

leadership, and improved student results. It can be difficult for teachers to make changes in the classroom if they do not engage in professional learning or if the professional learning does not meet their needs. Professional learning is a critical step in of the implementation of any new initiative or pedagogical change (George, Hall, & Stiegelbauer, 2013). The goal of professional learning is to assist with training teachers and changing behavior with the hopes school improvement will be the result (Hall & Loucks, 1978).

Technology alone will not transform education, but learning how to use the available technology effectively can make a difference. Change cannot occur without learning (Hall & Hord, 2006). Hall and Hord (2006) insist change cannot occur without professional learning. DuFour and Mattos (2013) emphasized changes as one of the keys to improving the quality of schools. Professional learning for teachers should utilize the same technological tools teachers are expected to use in their classrooms (Ertmer, et al., 2012).

Although professional learning is the link between the design of an innovation and the success of the implementation efforts (George, Hall, & Stiegelbauer, 2013), most professional learning is seen as being ineffective. Professional learning normally occurs in snippets – sessions containing no depth or breadth and are disjointed (Albion, Tondeur, Forkosh-baruch, & Peeraer, 2015; DeMonte, 2013). In order to positively impact student achievement, teachers must engage in more than 14 hours of professional learning (DeMonte, 2013). While professional learning normally conjures up images of teachers sitting in workshops, there is research to indicate effective professional learning is not limited to intentional development opportunities and events (Evans, 2014). Professional

learning can occur through social interaction by means of communities of practice, and is made up of incidental learning teachers may not be aware of in their everyday experiences. They learn from both their successes and mistakes (Evans, 2014). According to Boone (2015), real learning takes place after the professional learning session when the teacher is able to try the ideas out in her space. Evans (2014) discovered many recent, empirical research studies found mentoring and coaching extremely effective.

Desmoine (2011) set forth the features of effective professional learning impacting teacher practice. Those features include content focus, active learning, coherence, duration and collective participation. Though Desmoine asserts any effective professional learning must include these core features. Desmoine's steps to successful professional learning include the following:

1. Teachers experience professional learning,
2. The professional learning increases teachers' knowledge and skills, changes their attitudes and beliefs, or both,
3. Teachers use their new knowledge, skills, attitudes, and beliefs to improve the content of their instruction, their approach to pedagogy, or both,
4. The instructional changes the teachers introduce to the classroom boost their students' learning. (p. 70)

Most of the time, the effectiveness of professional learning is based upon teacher perception instead of how the professional learning influenced teacher pedagogy or student achievement (Reid, 2014). Desmoine's (2011) framework lays a foundation for the evaluating the effectiveness of professional learning and answers the questions: Did

the teachers learn? Did they change their practices? And most importantly, did student achievement increase as a result? Earley and Porritt (2014) claim the hallmark of effective professional learning, is professional learning impacting teachers' thinking and practice, the learning of pupils and organizational improvement. They set forth four synopses from research syntheses they completed on successful professional learning.

Those were:

- Participants' ownership of the professional learning activity,
- Engagement with a variety of professional learning opportunities,
- Time for reflection and feedback, and,
- Collaborative approaches to professional learning. (p. 117)

Furthermore, Early and Porritt (2014) identify ways leadership can maximize professional learning. Leadership must understand how the professional learning makes a difference, approach professional learning strategically, and improve the quality of the professional learning opportunity.

Professional Learning: Focus on Blended Learning

Though technology is constantly changing, digital natives are keeping abreast of those changes in their daily lives. Teachers must attend professional development in order to keep up with current technology and how to utilize technology in the classroom. Pape (2010) stress in order to implement blended learning well, teachers need time, resources and professional learning. Blended learning has both face-to-face and online components; the online component is usually in the form of a Web 2.0 program on computer program. Fitzpatrick (2012) discusses six "key success factors" for successful online components of blended learning:

1. The use of a variety of pedagogical methods,
2. Communication is upfront, concise, and incorporates clearly written syllabi, email, forums, and instant messaging,
3. A solid technical foundation,
4. Empathy for students with respect to the difficulties and challenges of learning virtually,
5. Clear instructions for all aspects of the virtual component,
6. Alignment of course content and course objectives so students can meet their learning goals. (p. 791)

Effective professional learning should incorporate training of the six factors of successful eLearning environments. Additionally, Johnson (2013) proposes three things school and district leaders can do to ensure professional learning is effective:

- Be aware of models used to describe levels of technology integration. Be able to employ their terminology when discussing technology use with teachers and other colleagues,
- Evaluate technology use on the basis of how it promotes building and district instructional goals, and
- Recognize technology can be used to improve traditional teaching practices as well as to create new means of helping students learn, and both uses are legitimate. Validate teachers not just for using technology, but rather for using good teaching practices. (p. 85)

One technology tool, social media, is heavily utilized by students and can assist and enhance teacher training in regard to blended learning. Social media can be defined

as Web 2.0 tools enabling social interaction between teachers often includes the sharing of media (Lightle, 2010). Boone (2015) proposes social media can be an effective part of professional learning for teachers as part of a blended learning approach to teacher training. According to Boone, social media applications such as Facebook, Twitter, wikis, and blogs can be used to facilitate, enrich, enhance, and extend learning. In fact, Boone suggests integrating social media as a professional learning tool can supplement or even replace traditional models of professional learning. Lightle (2010) clarifies the Web 2.0 tools used for social media can allow teachers to personalize the online learning experience for students and bring engagement in a more personalized manner with the creation of new content and building online learning networks. With the addition of an online collaboration classroom, such as Blackboard's Collaborate, professional learning can be further extended with synchronous learning opportunities.

Hall and Hord (1987) created a comprehensive set of intervention change agents which can be utilized to assist teachers in moving from nonuse to use of a technology. Change agents can be school administrators or district personnel. Interventions normally focus on classroom technology use and can include staff development and training, access to equipment, and curriculum support. Little research has been conducted relevant to the implementation of blended learning which takes into account teachers' concerns along with age, gender, and years of teaching experience.

Concerns Based Adoption Model (CBAM)

Change, especially the adoptions of innovations in education is inevitable (Hall & Hord, 2011). Change is also very difficult and can be problematic unless the personal side of change is addressed (Hall, 2010). Hall and Hord (2011) assert introducing an

innovation rarely results in lasting integration in the classroom. While there are at least 50 relevant, research-based change and diffusion models (Gundy & Berger, 2016), the Concerns Based Adoption Model (CBAM), one of the most widely used instruments in educational change for measuring implementation and facilitating change in schools, is most appropriate for this study (George, Hall, & Stiegelbauer, 2006; Hall, George, & Rutherford, 1979; Hall & Hord, 1987, 2006). A major reason for utilizing the CBAM in this study is the focus on the personalized nature of change and the fact the CBAM addresses change as a process, not an event (Hall & Loucks, 1978). The CBAM is an empirically based conceptual framework placing an individual implementing a new innovation on a continuum of the developmental process as they implement a new innovation (Hord & Loucks, 1980) and introduces research-based tools to probe and collect data on the individuals going through change. It is imperative district and school leaders address the implementation of a blended learning initiative at the individual teacher level since the parameters surrounding blended learning are a major change in pedagogy for teachers.

The CBAM is a framework that can assist educational leaders with implementing change because it's components describe, explain, and predict probable behaviors teachers experience as they proceed through the change process (George, Hall, & Stiegelbauer, 2013). The CBAM framework includes three diagnostic dimensions: Stages of Concern, Levels of Use, and Innovation Configuration components. The Stages of Concern (SoC) addresses the personal side of change; the Levels of Use (LoU) describe the different behavioral profiles of non-users and users; and the Innovation Configurations (IC) represent the possible operations forms of the change (Hord &

Loucks, 1980; Hall, 2013). The SoC and the LoU focus on the individual, while the IC characterizes the new program or process (Hall & Loucks, 1978).

The SoCQ is based upon the Stages of Concern. The SoCQ is a tool that analyzes the affective component of change, what teachers are thinking and feeling about an innovation (Hall & Hord, 2006, 2011; Hall, 2010). Concerns, as well as progress through the seven stages, is very personal (George, Hall, & Stiegelbauer, 2006). The seven SoC develop on a continuum, from lower internal concerns to higher external concerns and are distinctive, but are not necessarily mutually exclusive (Liu & Huang, 2005). Within this framework, seven stages describe a continuum of change an individual may place when implementing an innovation. Hall (2010) describes the seven stages as: Stage 0: Awareness, Stage 1: Informational, Stage 2: Personal, Stage 3: Management, Stage 4: Consequence, Stage 5: Collaboration, and Stage 6: Refocusing. The seven SoC are sub-grouped into four major clusters: (1) Impact. The focus is on how the innovation is affecting students and what can be done to increase outcomes; (2) Task. Time, logistics, schedules, and fitting everything in that must be done are of concern; (3) Self. Personal feelings of uncertainty, whether one can succeed with this innovation, and whether the supervisor will support the efforts are central in thought; and (4) Unconcerned. Other things are of more concern at this time than the innovation. Table 1 illustrates this relationship.

By knowing what stage teachers are working and being able to predict what their next stage will be provides a powerful tool for principals, school administrators, and professional development creators.

Table 1

Stages of Concern

	Stage of Concern	Overview of Concern
Impact	6 - Refocusing	A teacher is very excited about integrating technology and has ideas about how to make things better.
	5 - Collaboration	A teacher wants to learn what others are doing and collaborate among others to enhance teaching.
	4 - Consequence	A teacher wants to know how the technology is affecting learners and has a desire to improve teaching with technology so it can have a greater impact on student learning.
Task	3 - Management	A teacher is concerned that he or she is spending most of his or her time getting materials ready.
Self	2 - Personal	A teacher is concerned with how the technology will affect him or her personally.
	1 - Informational	A teacher would like to know more about the technology.
Unrelated	0 - Unconcerned	A teacher has no concern about technology; no thought is given about it.

Note. Adapted from Hall & Hord, 2011, p. 72.

The SoC dimension of the CBAM is based upon four assumptions (Hall, 2013):

- Change is a process, not an event,
- Change is made by individuals first, organizations second,
- Change is a highly personal experience, and
- Change involves some developmental growth. (p. 265)

Change entails developmental growth in both feelings about and skills in using new programs. Hall and Hord (2006) have labeled these concerns as stages because it is

believed teachers progress through these seven SoC when implementing an innovation in an orderly way. These concerns are classified in three general groups. Self-concerns can range from the individual being unconcerned, simply aware of the innovation in an information sense, or having personal concerns regarding the impact of the innovation. Task concerns focus on managing the innovation. Finally, Hall and Loucks (1980) assert these assumptions are the foundation for the concerns-based approach to professional learning. When the individuals responsible for professional learning surrounding a new innovation have relevant information about those going through the change, the professional learning provided can be targeted and more appropriate (Hall & Loucks, 1978).

The CBAM has been used extensively for a wide variety of innovations, including the integration of technology in education and change processes (Hao & Lee, 2015). The CBAM was developed in the 1960s by Fuller (1969), a professor at the University of Texas, to understand teacher's concerns regarding change and was later refined and validated by Hall and Hord in the early 1970s (Hall & Hord, 2006). The CBAM model is frequently used for technology adoption (Hall & Hord, 2006) and is a powerful tool for education leaders needing to address the personal side of the change process can utilize. Of significance is the fact the CBAM focuses on the individual experiencing the innovation and where they are in the change process (Hall, George, & Rutherford, 1979; Hall & Hord, 1987, 2006). The foundation of the CBAM is based upon the assumption people are the most important factor of the change process, and until the individuals within the organization change, the organization cannot change (Hall & Hord, 1987, 2001).

Demographic Factors and the Stages of Concern

Little research exists on the impact of demographic variables on teachers' SoC (Joffrion, 2014). While Hall and Hord (2006) reported no relationship between standard demographic variables and teachers' concerns, other researchers have found demographic variables (age, gender, and years of experience) may influence teachers' concerns (Adams, 2003; Newhouse, 2001; Boatwright, 2014; Joffrion, 2014; Kale & Goh, 2014). Studies indicate teachers' SoC may be predicted by demographic variables (Ni & Guzdial, 2002; Joffrion, 2014). Among demographic variables studied in conjunction with the SoCQ, years of teaching experience, academic department, and age were found to have an impact on teachers' SoC (Joffrion, 2014). Therefore, research on teachers' SoCs regarding the adoption of a new innovation may benefit from the analyzation of demographic variables (Joffrion, 2014).

Stages of Concern Interventions for Support

One of the underlying assumptions of CBAM is change occurs at the individual level and each teacher individually will make a decision on whether or not the change will occur. George, Hall and Stiegelbauer (2013) indicate the effectiveness of using the SoC dimension of the CBAM is in supporting and planning for professional development with the assertion this lies in the distinct phases, the stages individuals progress through when confronted with change. Although the seven SoC are distinctive, they are not mutually inclusive, and teachers may have concerns at different levels at the same time (Hord et al., 1987). However, once teacher concerns are identified, appropriate interventions can be put in place to help address their concerns (Holloway, 2003). Hord

et al. (1987) provide suggestions for addressing teachers needs at each stage (Appendix G).

Summary

Ertmer (1999) reports teachers must focus on preparing students for the future they will inherit, and it is critical to understand technology integration that is both curriculum-based and future-oriented. Today's digital learners require education that connects to their lives, as well as education that reflects how they learn (Partnership for 21st Century Skills, 2009). While blended learning meets the academic needs of students, it also prepares students to live and survive in a future where technology is ubiquitous. Simply stated, 21st century digital learners demand pedagogy matching their technological needs, as well as their academic needs. This requires a reset for teachers, most of whom grew up, went to school, and learned how to teach in an analog world. This fundamental change in pedagogy will not occur unless teacher concerns are noted and addressed. Therefore, it is incumbent upon district and school leaders to provide appropriate professional learner to help teachers learn how to effectively integrate blended learning into the curriculum. Personalized interventions can assist in the change process; however, it is up to the individual to choose to change (George, Hall, & Stiegelbauer, 2013).

Chapter III

METHODOLOGY

Blended learning is a key element in the move toward personalizing learning for students (Staker & Horn, 2014). This explanatory sequential mixed-methods study examined teachers' levels of concerns regarding the innovation of adopting blending learning in the State of Georgia through the use of an explanatory sequential research design. Mixed-methods is a procedure for collecting and analyzing data assisting with gaining a better understanding of a research problem by mixing both quantitative and qualitative data (Creswell, 2014). Creswell asserts mixed-methods allows researchers to analyze more complicated research questions and collect a richer and stronger array of evidence than can be accomplished by any single method alone.

The explanatory sequential design began with analyzing a quantitative strand followed by qualitative research to explain the quantitative results (Creswell, 2014). Two data sets were used to answer the research questions: The SoCQ followed by semi-structured interviews with a random sampling of participants. The questionnaire served as the primary data set while the interview responses assisted with further explaining the questionnaire results (Creswell, 2014).

The CBAM examines the personal element of change and identifies different levels of user concerns related to the implementation of a new program (Hall & Hord, 2011). Using the CBAM allowed teacher concerns to be explored so interventions and

supports can be put in place to aid with the implementation of blended learning (Hall & Hord, 2011). Understanding teachers' concerns regarding the implementation of blended learning, as well as examining the differences in select demographic variables influencing teachers' concerns may assist in addressing concerns for a successful implementation of blended learning.

This section will provide an overview of the methodology used in this study. It will include the research design, a description of the population being studied, and procedures used to collect and analyze the data.

Purpose of the Study

The purpose of this explanatory sequential mixed-methods study was to examine the perceived concerns of teachers as they strive to implement blended learning. The secondary purpose was to identify the SoC of teachers as they implement blended learning and how those concerns differ by teacher characteristics (gender, years of teaching experience, age, and years of experience utilizing blended learning). The study utilized the CBAM developed by Hall and Hord (2011) along with one of the open-ended questions on the SoCQ and interviews for data collection and analysis.

Research Questions

This study investigated the concerns of K-12 teachers in the state of Georgia with the implementation of blended learning and sought to answer the following research questions:

1. What are teachers' predominate SoC with the implementation of blended learning as identified by the SoCQ?

2. How do those SoC differ by gender, years of teaching experience, age, and years of experience utilizing blended learning?
3. What are teachers' top three concerns related to the implementation of blended learning in their classes?

Methodology

To determine the concerns of teachers implementing blended learning, a sequential explanatory mixed-methods research design was employed. In a sequential explanatory mixed-methods design the quantitative data are collected and analyzed first and the qualitative data are collected and analyzed second (Creswell, 2014). Triangulation of the data through the mixing of quantitative and qualitative methods was utilized in the hopes of obtaining different and complimentary data on the same phenomenon (Creswell, 2004). The use of surveys and semi-structured interviews provided triangulation of the data. The SoCQ provided a foundation for the quantitative results and also provided a framework for the interviews in the qualitative phase. The purpose of triangulation is to allow for a validity cross-check through different modes of inquiry (Hussein, 2015).

A summary of the methods used to address each research question is listed below in Table 2. Information about data collection and data analysis are detailed next.

Table 2

Overview of Multiple Methods Used in the Research Study

Evaluation Questions	Quantitative	Qualitative	
	Detailed statistical analysis	Open Ended Questions	Semi-Structured Interviews
1. What are teachers' predominate Stages of Concern with the implementation of blended learning as identified by the Stages of Concern Questionnaire?	X		
2. Is there a significant relationship between teachers' Stages of Concern with the implementation of blended learning and gender, years of teaching experience, age, and years of experience utilizing blended learning?	X		
3. What are teachers' top three concerns related to the implementation of blended learning in their classes?		X	X

Population and Sample

This study was conducted using teachers from across the state of Georgia, located in the southeastern part of the United States of America. The population of interest consisted of full-time teachers who had already begun to implement blended learning. The target population included teachers who were using an online program or a Web 2.0 tool to enhance their traditional classroom instruction. The state of Georgia has 182 school districts ranging from urban to suburban to rural. Certified teachers in the approximately 2,263 schools across the state of Georgia were sampled to complete this study (GA Department of Education, 2016).

Selection of Participants

Low response rate is a drawback to administering surveys (Callegaro, Manfreda, & Vehovar, 2015). To ensure a large enough sample size, participants were recruited using multiple procedures, including convenience sampling, soliciting the assistance of technology coordinators of school districts in the process of implementing blended learning, reaching out to online communities, and utilizing social media.

A convenience sample is composed of participants easily and readily accessible to the researcher (Etikan, Musa, & Alkassim, 2016). Several school districts were interested in obtaining results for their teachers, so they can provide adequate support to ensure the implementation of blended learning is more effective. Additionally, survey participants were selected from the International Association for K-12 Online Learning (iNACOL) Georgia email database. iNACOL was contacted by the researcher to send out the survey from an email database of Georgia teachers. Furthermore, the researcher reached out to district technology supervisors across the state to solicit assistance in disbursing the survey to teachers at schools who were implementing blended learning, as well as posting on social media sites (Facebook and LinkedIn).

Additionally, information was provided in all participant outreach correspondences identifying the researcher and explaining the purpose of the study. Furthermore, to ensure participants met the selection criteria of being certified teachers, participants confirmed they were certified teachers before progressing through the survey.

Instrumentation

Phase I: Quantitative Phase. The survey instrument utilized for data collection in the quantitative phase of this study was the SoCQ (Appendix D) from the CBAM of change (Hall & Hord, 2006; Hall & Loukes, 1978; Loucks, Newlove, & Hall, 1975). There are three diagnostic tools associated with CBAM: SoCQ, LoU, and IC. IC studies how teachers modify an innovation and occurs over 1 to 2 years after the innovation has been implemented. LoU examines the different ways users implement an innovation. For this research, full implementation of *Blended Learning* has not occurred, therefore, only the SoCQ was used. The copyright for the SoCQ questionnaire is held by the Southwest Educational Development Laboratory (SEDL) in Austin, Texas. Permission to email, reprint and/or distribute the questionnaire was granted on October 6, 2015 (see Appendix B for SEDL License Agreement).

The SoCQ was developed to identify the concerns of individuals as they proceed through the change process (Hall & Hord, 1987). The seven SoC were identified by researchers as stages people progress through as they are adopting and implementing an innovation (Hall & Hord, 2006). This survey was utilized to gather data relevant to identifying the concerns of teachers going through the transformational change of implementing blended learning in the K-12 classroom from the viewpoint of the teachers who are charged with implementing this innovation in the classroom.

The SoCQ includes an introductory page stating the purpose of the questionnaire and provides directions for completing it, as well as a demographic page used to gather information about the participant. The survey itself contains 35 close-ended questions used to assess placement on the SoC continuum. The

demographic data included age, gender, years of teaching experience, highest level of education, grade level, content area of teaching position, and numbers of years implementing blended learning. The data from this section was used for demographics and helped inform analysis of the data.

The purpose of the SoCQ close-ended question section was to assess teachers' concerns with the implementation of blended learning. The SoCQ contains 35 closed-ended items used to measure the dependent variables, including unrelated, self, task, and impact. Each of the seven SoC are represented by five questions (see Appendix L). These questions are randomly placed throughout the questionnaire. The SoCQ asks teachers to share their attitudes, feelings, and concerns about the innovation: blended learning on the 0-7 point Likert scale. Concerns were measured using the Likert scale, where 0 represents "irrelevance" and 7 represents "high relevance." Respondents marked each item on a 0-7 point Likert scale based on how true the item seems to them at this stage of the implementation. In order to keep reliability and validity, the 35 questions were not modified (George et al., 2013). The authors state that while the questions may not be modified, the term "innovation" in each question may be replaced with the name of the innovation. Therefore, the term "innovation" was replaced with the term "blended learning," since teachers may not have been familiar with the term innovation (George et al., 2013). George et al. (2013) advised respondents typically need 10 to 15 minutes to complete the SoCQ.

Phase II: Qualitative Phase. In an explanatory sequential mixed-methods study, the quantitative phase is followed by a qualitative phase informed by the data from the quantitative phase. Two data sets, one of the open-ended questions

on the SoCQ and semi-structured interviews, provided the evidence for the qualitative phase. The emergent themes from the open-ended question and semi-structured interviews may provide a more comprehensive picture of teachers' concerns (Saldaña, 2015).

While the SoCQ includes a demographic data collection page, the test developers suggest adding open-ended questions at the end of the form to gather additional information to support specific research questions in the current study (George et al., 2006). In addition to demographic information, three open-ended questions were developed, and placed at the end of the survey. The three questions were:

36. When you think about the implementing blended learning with your students, what are you concerned about? (Please do not say what you think others are concerned about, but only what concerns you now.) Please write in complete sentences and be frank.

37. What professional learning activities and/or support do you feel would best help you learn how to implement *Blended Learning* in your classroom?

38. If you had training on how to implement blended learning in your classroom, what did that training consist of? Please provide as much detail as possible.

Siedman (2013) asserts interviews allow researchers to put behavior in context and provides understanding for that behavior. Therefore, in addition to one of the open-ended questions at the end of the SoCQ, semi-structured interviews provided the foundation for the second phase of this study (see Appendix F for the interview questions). A stratified selection of participants was interviewed to ascertain more in-depth information about teacher concerns surrounding implementing blended learning. The group of participants who indicated they are

willing to be interviewed (via a link at the end of the survey on the thank you page), were stratified into four subgroups according to each of the four dimensions of the SoC (Unconcerned, Self, Task, and Impact). Each of the 14 volunteers from Phase I were sent an email about participating in the interview process for Phase II. Thirteen interviews were conducted.

Validity

Validity means an instrument measures what it sets out to measure. According to Creswell (2013), the three traditional forms of validity in quantitative studies are content validity (items measure the content they were intended to measure), predictive or concurrent validity (scores predict a criterion measure and results correlate with other results), and construct validity (items measure hypothetical constructs or concepts). The SoCQ developers investigated the instrument's validity by examining how scores on the seven SoCQ scales relate to one another and to other variables reflected in the concerns theory (George et al., 2006). The validity of the SoCQ has been verified through correlation within the stages and to other variables (George et al., 2013) using intercorrelation matrices, judgments of concerns based on interview data, and confirmation of expected group differences and changes over time. Since its creation, many longitudinal studies have supported the validity of the SoCQ (George et al., 2013).

To ensure the validity of the interview questions asked of teachers who are implementing blended learning, the researcher incorporated a field test (Seidman, 2013). The researcher solicited the assistance of one elementary school, one middle school, and one high school teacher to participate in the field test. Each of

the three teachers participated with no expectation of compensation. Through the field test, the researcher had the opportunity to ask participants about the interview questions to ensure they were easy to understand and they were not too ambiguous in nature (Seidman, 2013). No data was collected during the field test and questions were reworded and rearranged based upon feedback from the participants.

Reliability

High internal reliability was a focus of the creators of the SoCQ. Components of reliability include measures of internal consistency (the items responses are consistent across constructs) and test-retest correlations (scores are stable over time when the instrument is administered a second time) (Creswell, 2003). To ensure the reliability of the SoCQ, the creators embarked on a 3-year testing period including more than 11 different populations involved with innovations in education. The instrument was first piloted with open-ended concern statements and forced ranking. The pilot study generated 544 potential items. The results indicated 400 items were determined to be related to a particular stage of concern. A second pilot study was conducted with 195 items. The results of the 195-item questionnaire were used to compile the 35-item survey by selecting factors corresponding to each stage of concern. The consolidated survey then was administered to 171 teachers. Finally, the survey was re-administered to establish test-retest reliability (Hall et al., 1979). The Cronbach Alpha (Cronbach, 1951) was utilized to determine the reliability. This test of reliability estimates whether each stage is internally consistent and measuring what the study purports it is measuring. The coefficients of internal reliability for the seven SoCs

ranged from 0.64 to a high of 0.83 (see Table 3). The SoCQ has since been used in many different studies and reliability has maintained.

Table 3

Coefficients of Internal Reliability for the SOCQ, n = 830

Stage	Unconcerned	Self	Task			Impact	
	0	1	2	3	4	5	6
Category	Unrelated	Self- Informational	Self- Personal	Task- Management	Impact- Consequence	Impact- Collaboration	Impact- Refocusing
Original Alphas	.64*	.78	.83	.75	.76	.82	.71

Note. From *Measuring implementation in schools: The stages of development questionnaire* (p. 20) by A. A., George, G. E. Hall, S. M. Stiegelbauer, & Southwest Educational Development Laboratory. Austin, TX: Southwest Educational Development Laboratory. Copyright 2006 by Name of Copyright Holder. Adapted with permission.

*Note low alpha score.

Data Collection

Prior to soliciting teacher participation in the study, the necessary paperwork was submitted to the Institutional Review Board (IRB) to review the study and issue a letter of approval. Two methods were used to collect data to answer the research questions and inform this study. The two methods included: (1) Phase I: An Internet-based questionnaire and (2) Phase II: Follow-up semi-structured interviews to determine teachers' concerns with the implementation of blended learning along with one of the open-ended questions on the SoCQ. The questionnaire was administered first and served as the primary data source. The information from the follow-up interviews and the responses to one of the open-ended questions were used to expand and complement the survey data from the quantitative phase.

Following approval by the Valdosta State University IRB, study participation was secured (see Appendix A). The copyright for the SoCQ is held by the Southwest Educational Development Laboratory (SEDL) in Austin, Texas. Permission to email, reprint, and/or distribute the questionnaire was granted on October 6, 2015 (see Appendix B). Since altering the SoCQ questions may affect the validity and reliability of the measure, questions were not changed. However, according to the authors replacing the term “innovation” with the name of the innovation is not considered altering the question (George, Hall, & Stiegelbauer, 2013), so the term “innovation” was replaced with “blended learning.”

Phase I: Quantitative Data Collection

Once participants were identified, an email was sent (see Appendix C) with instructions for accessing the survey instrument via a website address. The email included an introduction putting the study in context, notification of participants’ rights, informed consent, as well as a link to the survey instrument (SoCQ). One week after sending the initial email, a second reminder email was sent to all potential participants.

The anonymous, online questionnaire was conducted over the course of 4 weeks. The data was collected at one point in time utilizing SEDL’s secure online survey. Once the respondents completed the online survey and selected the submit button, they landed on a thank you page containing the researcher’s contact information, the link to submit their email to obtain a copy of the final study, as well as a link to provide contact information if willing to participate in a semi-structured interview in the follow-up qualitative phase. The data was securely stored on the

SEDL website and only accessible with a password created by the researcher. Raw data was imported into an Excel spreadsheet and Statistical Package for Social Sciences (SPSS) version 20.0 was used for statistical analyses.

Phase II: Qualitative Data Collection

Participants for the second phase, the qualitative phase, self-identified themselves through an open-ended question on the thank you page after completing the SoCQ. Originally, the participants willing to be interviewed were going to be stratified into four subgroups dependent upon the dominant dimension of their concern (Unconcerned, Self, Task, and Impact) and two respondents were chosen from each dimension. Because of the low number of volunteers, each volunteer was contacted to be interviewed through email. Thirteen respondents replied to the email request. The interviews were conducted online and participants were given the choice of using Google Hangout or Skype. Online interview times were scheduled through email. Interviews were recorded and then transcribed.

Timeline for Data Collection

Once the proposal defense of Chapters 1-3 was accepted on August 17, 2016, IRB with the final proposal and other documents were submitted. This process took approximately 2 weeks and was granted on September 29, 2016. As soon as the IRB was accepted, emails were sent to the following: technology directors of the Atlanta Metro Instructional Technology Consortium, instructional technology directors for school districts across the state of Georgia, as well as the Director of Research for the International Association for K-12 Online Learning (iNACOL). A follow-up email was sent 1 week later to non-respondents to the original email request.

Two weeks after initial contact for securing participants for the study, an email request to participate in the study was sent to each of the identified teachers. At this time, information about participating in the study was also posted to appropriate groups on Facebook and LinkedIn. The email and post served as a cover page for the survey and included the purpose of the study as well as a direct link to access to the study's SoCQ on SEDL's secure, password protected website. The survey itself contained an introductory page including the purpose of the questionnaire along with directions and an example of how to complete the survey. The introductory page of the survey also included two questions to ensure respondents were certified, full-time teachers in the state of Georgia. A follow-up, reminder email was sent on October 20, 2016, 7 days after the initial email, along with an additional post to the applicable Facebook and LinkedIn groups. Data collection for the first phase of the study, the quantitative phase, ended 4 weeks after the initial email to participants.

The next phase, the qualitative phase, consisting of semi-structured interviews began two weeks after the quantitative phase ends. This period gave the researcher time to analyze the quantitative data, as well as choose and contact the participants for the interviews. The interview process took approximately 3 weeks. After each interview, the recording was transcribed by a freelancer found on Fiverr. A copy of each participant's transcript was emailed to check for accuracy. Any corrections or additions requested by the participants were made and saved as a final transcript. The final transcripts were analyzed for themes and patterns.

Data Analysis

Quantitative designs have several types of variables: independent, dependent, intervening (or mediating), moderating, control, and confounding (Creswell, 2013). According to Creswell (2013), a “variable refers to a characteristic or attribute of an individual or an organization that can be measured or observed and that varies among the people or organization being studied” (p. 52). This study utilized seven dependent variables and four independent variables. An independent variable may cause, influence, or affect outcomes; dependent variables depend on the independent variable and are the result of the influence of the independent variables (Creswell, 2013). The SoCQ provided the quantitative data for this study. Participants’ demographic information, as well as, information related to the independent and dependent variables were also collected. The SoCQ provided the quantitative data for this study. Participants’ demographic information as well as information related to the independent and dependent variables were also collected.

The seven dependent variables (seven stages) utilized during the quantitative phase of this study were the teachers’ level of concern about the implementation of blended learning. Hall and Hord (2006) define teacher levels of concern with seven stages (Stage 0: Awareness, Stage 1: Informational, Stage 2: Personal, Stage 3: Management, Stage 4: Consequence, Stage 5: Collaboration, and Stage 6: Refocusing) regarding the implementation of blended learning. Each of these clusters include a subset of items from the overall SoCQ questionnaire. The raw scores from these items were used to inform the dependent variables.

The independent variables in the study were framed as personal characteristics and included the following demographic information: gender, years of teaching experience, age and years of experience utilizing blended learning. The personal characteristics were defined as following:

- *Gender.* Gender was defined as male or female.
- *Years of teaching experience.* Years of teaching experience was defined as the number of years the teacher has taught in a K-12 school setting. Years of teaching is a continuous variable transformed into a categorical variable. Break points placed teachers into four categories: 0-5 years, 6-10 years, 11-20 years, and 20+ years.
- *Age.* Age was defined as the age of the teacher. Age is a continuous variable transformed into a categorical variable. Teachers were placed into the following three categories: Millennial (ages 20-35), Generation X (ages 36-50), and Baby Boomer (ages 51 and up) (Seppanen & Gualtieri, 2010).
- *Years of experience utilizing blended learning.* Years of experience utilizing blended learning was defined as the number of years the teacher has implemented blended learning. Break points placed teachers into five categories: 0-1 year, 1-2 years, 2-3 years, 3-4 years, 4+ years.

Quantitative and qualitative data were collected during this sequential explanatory mixed-methods study to answer the three research questions. Therefore, both data analysis methods were employed to evaluate, analyze, and interpret the findings and draw conclusions. The first two research questions for this study centered

around teachers' SoC and were analyzed utilizing the results from the online SoCQ surveys in Phase I.

Phase I Data Analysis

The first two research questions were analyzed using the online version of the SoCQ. The Southwest Educational Development Laboratory (SEDL) holds the copyright and has created a secure, online, encrypted version of the SoCQ. The SEDL SoCQ online survey allowed the researcher to customize the data section, the variables included, and the password for the survey. The research questions were analyzed as outlined below:

Research Question 1: What are teachers' predominate SoC with the implementation of blended learning as identified by the SoCQ? Research Question 1 was answered by analyzing data collected via SEDL's online SoCQ. Once the data was collected, the population sample was described using frequency and descriptive statistics. Each participant's response was analyzed via SEDL's online SoC. Scoring the questionnaire requires calculating raw scores for each of the seven SoC, locating the percentile score for each scale in a table, and plotting the results on the SoC chart (George, Hall, & Stiegelbauer, 2013). The online program analyzed each participant's stage of concern by calculating their raw scores and plotting them on a chart. The data was converted to percentile scores for each of the seven SoC. This produced an individual SoC profile for each participant. Analyzing profiles is the most effective method for interpreting SoCQ data (George, Hall, & Stiegelbauer, 2013). Additionally, the online program also analyzed the SoC according to group demographics and produce SoC profiles for each demographic variable (years of teaching, academic

subject, and age). The teachers' responses were analyzed and presented according to the seven SoC (Stage 0: Awareness, Stage 1: Informational, Stage 2: Personal, Stage 3: Management, Stage 4: Consequence, Stage 5: Collaboration, and Stage 6: Refocusing). Additionally, a frequency distribution showing where each participant as well as each subgroup lies on the SoC was evaluated. The same data was also analyzed for the group of respondents.

Research Question 2: How do those SoC differ by gender, years of teaching experience, age, and years of experience utilizing blended learning? Research Question 2 was addressed by completing a *t* test to measure the difference in gender and one-way Analysis of Variances (ANOVAs) to test the relationship between the remaining three independent variables (years of teaching, age, and number of years implementing blended learning) and the seven dependent variables (Stage 1: Awareness, Stage 2: Informational, Stage 3: Personal, Stage 4: Management, Stage 5: Consequence, collaboration, and Stage 6: Refocusing).

Phase II Data Analysis

Once Phase I was concluded and the data was analyzed to answer Research Questions 1 and 2, the results were used to ensure the participants for Phase II were stratified according to the two variables found to be statistically significant in Research Question 2. The evidence for the third research question, which delved into teachers' top three concerns about the implementation of blended learning, was addressed by analyzing one of the open-ended questions on the SoCQ in addition to semi-structured interviews. Each participant answered an open-ended question about their concerns with the implementation of blended learning on the SoCQ. Additionally, participants were given

the option to volunteer to participate in semi-structured interviews to gather additional information.

Each interview volunteer was emailed a copy of the questions prior to the interview. Interviews were conducted using Skype or Google Hang Out, depending on the participant's preference. Each session was recorded and transcribed. Once transcribed, transcripts were emailed to participants to review and check for accuracy (member check). Each transcript was analyzed and coded by the researcher to ascertain emergent themes.

Research Question 3: What are teachers' top three concerns related to the implementation of blended learning in their classes? Two data sets were analyzed for Research Question 3. First, one of the open-ended questions (Question 36) on the survey was analyzed to address Research Question 3. The responses to the open-ended question were downloaded into a word document and then coded and analyzed for themes. Secondly, in-depth individual interviews were held with selected participants. Fourteen participants (two from each stage) were selected from the group who responded they would be willing to partake in a more in-depth interview surrounding their concerns with the implementation of blended learning. The interviews were conducted via Skype or Google Hang Out and were recorded. The digital recordings were transcribed by an independent transcriber and saved as separate files. A member check of the interview transcription was conducted with each participant, including a summary of themes and observations identified through individual interviews emailed to each participant. Participants were asked to reply to the email if they did not agree or if they wanted to

provide additional information on any of the details of their interview. They were informed no response will be considered as acceptance.

Protection of Human Subjects

The researcher filed the necessary IRB form and obtained permission to complete the study (Appendix A). This was used to provide the context and purpose of the study. This page included human-rights compliance information and confidentiality information about the nature of the study. Participants were informed identifiable characteristics would be used for statistical purposes only. No statistical data was used for individual purposes but were included in whole group reporting analysis. Access information for locating the online survey was provided along with a statement mentioning the survey should only take about 10 minutes to complete.

It is imperative researchers maintain the privacy rights of all participants in the study. The researcher utilized the SEDL's online SoCQ to collect data as well as to safeguard data collection and processing. All efforts were made to ensure respondents' anonymity was protected.

Summary

This purpose of this sequential explanatory mixed-methods study was to examine teachers' concerns with the implementation of blended learning in the K-12 classroom. Participants consisted of full-time certificated teachers employed to teach in K-12 classrooms across the state of Georgia. For the quantitative phase, an online survey (SoCQ) was used to collect quantitative data analyzed using frequency distributions, ANOVAs, and thematic coding. One of the open-ended questions on the SoCQ survey,

as well as the follow-up semi-structured interviews provided the data for the analysis of the qualitative phase.

Chapter IV

RESULTS

This explanatory sequential mixed-methods study investigated the concerns of teachers with the implementation of blended learning through the lens of the Concerns-Based Adoption Model (CBAM), which examines change at the personal level of those implementing the change. The primary purpose of this explanatory sequential mixed-methods study was to examine the perceived concerns of teachers as they strive to implement blended learning. The secondary purpose was to identify the Stages of Concern (SoC) of teachers as they implemented blended learning, and how those concerns differed by teacher characteristics (gender, years of teaching experience, age, and years of experience utilizing blended learning techniques).

In an explanatory sequential mixed-methods study, the quantitative phase is followed by a qualitative phase informed by the data from the quantitative phase. SEDL's online version of the SoCQ was used to collect data for the quantitative phase. Two data sets, one of the open-ended questions on the SoCQ and semi-structured interviews, provided the evidence for the qualitative phase. The findings will begin with an overview of the demographic data followed by analyses and results summary presented in the order of the three research questions.

Demographics

The participants in this study were full-time teachers from across the state of Georgia, located in the southeastern part of the United States of America. The state of

Georgia has 182 school districts ranging from urban to suburban to rural. Certified teachers in approximately 2,263 schools across the state of Georgia were sampled to complete this study (GA Department of Education, 2016). The population of interest consisted of full-time teachers who had already begun to implement blended learning. The target population included teachers using either an online program or a Web 2.0 tool to enhance their traditional classroom instruction.

According to the State of Georgia Department of Education (GDOE, 2017), there were a total of 110,524 teachers in 2015-2016. A total of 106 surveys were completed representing thirteen school districts throughout the state of Georgia (see Table 4). Responses were received from the following districts: Atlanta Public Schools, 25; Bibb County, 1, Cherokee County, 1, Clayton County, 9; Cobb County, 1; DeKalb County, 19; Fulton County, 8; Gwinnett County, 5; Henry County, 10; Muscogee County, 7; Newton County, 9; Richmond County, 7; and Rockdale County, 4.

The final sample of 106 teachers represented a response rate of less than 1%. The low response rate from teachers across the state could have been influenced by several factors. First, only a small number of district technology leaders responded to any of my emails, so it not clear if the study request was forwarded to teachers. Secondly, only teachers in the state of Georgia, who were connections of the researcher and were active on Twitter, LinkedIN, and Facebook, would have seen the tweets and post about the study. Finally, the request for the study went out right before the holiday season (October 2016) and again towards the end of the semester (December 2016), so the timing for teachers may have been inconvenient.

Table 4

Participant Response by District

District	Frequency	Percent of Survey Respondents	Number of Teachers in District	Percent of Teachers in District
Atlanta Public Schools	25	24.27%	3695	0.68%
Bibb County	1	0.97 %	1525	0.07%
Cherokee County	1	0.97%	2554	0.04%
Clayton County	9	8.74%	2994	0.30%
Cobb County	1	0.97%	7238	0.01%
DeKalb County	19	16.50%	6641	0.29%
Fulton County	8	7.77%	5917	0.14%
Gwinnett County	5	4.85%	10719	0.05%
Henry County	10	9.71%	2614	0.38%
Muscogee County	7	6.80%	1903	0.37%
Newton County	9	7.77%	1266	0.71%
Richmond County	7	6.80%	1868	0.37%
Rockdale County	4	3.88%	1151	0.35%
Total	106	100%	50,085	3.76%

Descriptive Statistics

The participant demographics included gender, years of teaching experience, age, and years of experience utilizing blended learning techniques (see Table 5). Of the 106 teachers who took the SoCQ, 17.9% were male and 82.1% were female. The majority of the teachers (47.2%) had between 11 and 20 years of experience teaching, followed by teachers with 6-10 years of experience (22.6%), teachers with more than 20 years of experience (15.1%), and teachers who had less than five years of experience teaching made up the minority of the respondents at 15.1%. The majority of the respondents were

in the age band of 36-50 years, including 33.0% aged 20-25, 52.8% in the age band of 36-50, and 14.2% were aged 51 years or more. Of the 106 teachers, the largest group were teachers who had utilized blended learning techniques for 2 years (21.7%). The lowest number of respondents had utilized blended learning techniques for 4 years (6.6%). Table 2 displays the number and percentage of the demographic data for each of the characteristics.

Table 5

Participant Demographic Data

Demographic Category	Groups	Percentage	N
Gender	Male	17.9%	19
	Female	82.1%	87
Years of Teaching Experience	0-5 year	15.1%	16
	6-10 year	22.6%	24
	11-20 years	47.2%	50
	20+ years	15.1%	16
Age	20-35 years	33.0%	35
	36-50 years	52.8%	56
	51+ years	14.2%	15
Years Utilizing Blended Learning Techniques	Never	17.0%	18
	1 year	16.0%	17
	2 years	21.7%	23
	3 years	17.9%	19
	4 years	6.6%	7
	5 or more	20.8%	22

Presentation and Analysis of Data

The rest of the chapter presents the results and analysis organized around each research question. There were two phases to the data analysis for this explanatory sequential mixed-methods study: the first phase, the quantitative phase, consisted of SEDL's online SoCQ was followed by a qualitative phase informed by the data from two

data sets, one of the open-ended questions on the SoCQ and semi-structured interviews, provided the evidence for the qualitative phase. After the data from the SoCQ were analyzed, 13 teachers stratified along the statistically significant variables from the Phase I analysis, were randomly selected for the interviews.

The research questions analysis that guided the study were:

1. What are teachers' predominate SoC with the implementation of blended learning as identified by the SoCQ?
2. How do those SoC differ by gender, years of teaching experience, age, and years of experience utilizing blended learning techniques?
3. What are teachers' top three concerns related to the implementation of blended learning in their classes?

Phase 1: Quantitative Phase

Research Question 1. What are teachers' predominate SoC with the implementation of blended learning as identified by the SoCQ? The SoCQ data were used to inform this research question. The survey instrument was SEDL's online version of the SoCQ. The online survey was completed by 106 respondents. The primary purpose of SoCQ is to determine the Stages of Concern about a specific innovation. In this study, the innovation was the implementation of blended learning. The SoCQ contains 35 randomly placed items aligned to one of the seven SoC: Stage 0 (Unconcerned), Stage 1 (Informational), Stage 2 (Personal), Stage 3 (Management), Stage 4 (Consequence), Stage 5 (Collaboration), and Stage 6 (Refocusing). Each item was presented in a 0-7 Likert scale, where 0 represents "irrelevance" and 7 represents "high relevance."

The results are presented first by the SoC profile for the teachers as a group using an analysis of the distribution of peak scores for teachers, which identifies the relative intensity of teachers involved in the implementation of blended learning aligned with the seven SoCs. Next, a deeper analysis for each SoC was conducted using the mean of the responses for each stage with an examination of the five correlating questions for that stage on the SoCQ.

Stage of Concern Profile

After submitting the online survey, each respondent scored highest in at least one Stage of Concern. If there was a tie in scores, the lowest Stage was assigned, as advised by Dr. Gene Hall, one of the creators of the SoCQ. Table 6 displays the number respondents associated with each SoC by highest concern.

Table 6

Frequency of Highest Stage of Concern

Stage of Concern	0	1	2	3	4	5	6	Total
Number of Teachers	44	23	6	9	3	11	10	106
Percent of Teachers	41.5%	21.7%	5.7%	8.5%	2.8%	10.4%	9.4%	100%

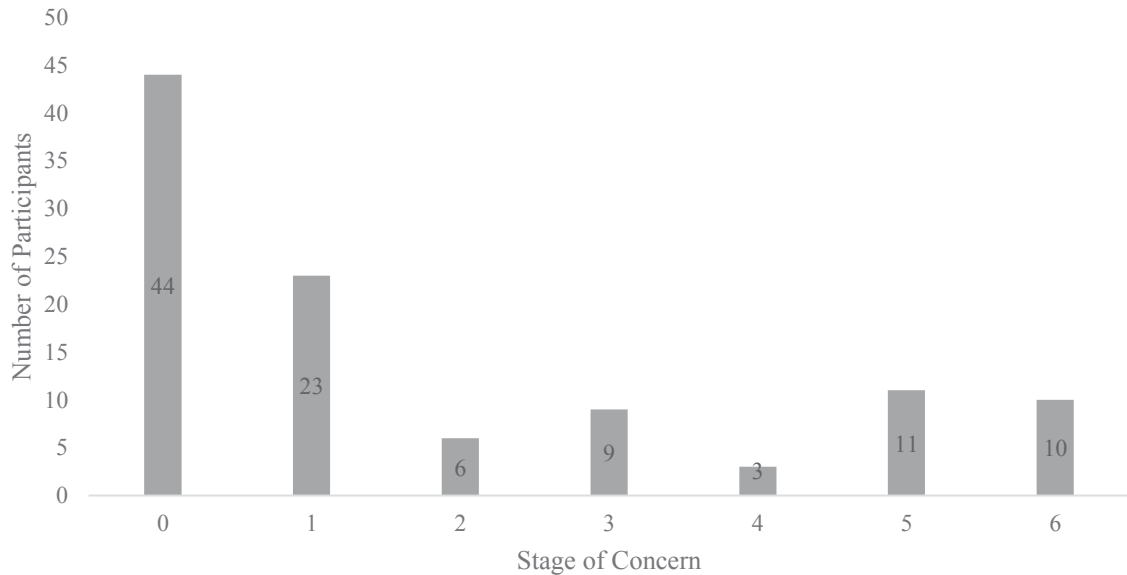


Figure 1. Frequency of Highest Stage of Concern of respondents.

Figure 1 is a graphical display of the count and percentage of teachers who scored highest in each of the seven SoCs. Of the 106 respondents, 44 (41.5%) respondents had their highest scores in Stage 0 (Unconcerned). A high score in Stage 0 indicates that respondents want to know more about the innovation (George, Hall, & Stiegelbauer, 2013) and require additional information. The next highest score for the teachers as a group is Stage 1. A high score in Stage 1 (Informational) indicates that teachers want additional information about blended learning. They are not interested in the minute details, but are interested in fundamental information about blended learning, such as what it is, what it will do, and what its use will involve. Stage 1 does not indicate how much knowledge or understanding the teachers have. It indicates whether they want to know more about blended learning. Stage 4 (Consequence) had the lowest percentile (2.8%), indicating teachers had fewer concerns with regard to the impact the implementation of blended learning on students.

Table 7

Statements on the Stages of Concern Questionnaire Arranged According to Stage

Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
3	6	7	4	1	5	2
12	14	13	8	11	10	9
21	15	17	16	19	18	20
23	26	28	25	24	27	22
30	35	33	34	32	29	31

The SoCQ has five associated questions for each Stage (see Table 7). Analysis of SoCQ by each SoC averages of the individual raw score responses to the questions for each SoC can be examined to delve deeper to provide additional insights for each SoC. Tables 8 through 13 display the average response of the teachers for each item on the SoCQ. Each question was answered on a Likert scale from 0 to 7. Analysis of the mean of the questions for each stage can provide further insight into the concerns of teachers concerning the implementation of blended learning.

Analysis of Stage 0 is different from the analysis of the other stages. Stage 0 used to be labeled Awareness and the associated items do not include content relative to the use or knowledge of the innovation. Stage 0 indicates the degree of interest in the innovation at this time. Table 8 displays the average Likert scores for each question related to Stage 0 (Unconcerned). The highest average score was 3.33 for Question 30: “Currently, other priorities prevent me from focusing my time on Blended Learning.” This indicates that teachers are concerned about other initiatives at this time. The lowest average score for Stage 0 was for Question 12, “I am not concerned about Blended Learning at this time.”

Table 8

Item Averages for Stage 0: Unconcerned

Question	Average	Question Text
Q3:	2.75	I am more concerned about another innovation.
Q12:	2.69	I am not concerned about Blended Learning at this time.
Q21:	3.06	I am completely occupied with things other than Blended Learning.
Q23:	3.24	I spend little time thinking about Blended Learning.
Q30:	3.33	Currently, other priorities prevent me from focusing my time on Blended Learning.
Mean	3.01	

Note: Each question was answered on a Likert scale from 0 to 7. The scale was answered as follows: 0: Irrelevant; 1,2: Not true of me of me now; 3,4,5: Somewhat true of me of now; and 6,7: Very True of me now.

Stage 1 (Informational) indicates the person wants to know more information about the implementation of blended learning. The item analysis for Stage 1: Informational Concerns, are displayed in Table 9. The highest intensity average of 5.08 for Question 15, “I would like to know what resources are available if we decide to adopt Blended Learning,” indicates that teachers want to know what resources will be available to them if they were to start implementing blended learning. Question 6, “I have a very limited knowledge about Blended Learning,” received the lowest average of the five Stage 1 (Informational) questions: 3.41.

Stage 2 (Personal) items expose if a teacher has intense personal concerns about the implementation of blended learning and its consequences on them. Table 10 shows the Item Averages for Stage 2; it reveals the highest intensity for Stage 2 (Personal) is 4.16 for Question 28, “I would like to have more information on the time and energy commitments required by Blended Learning.” This indicates that teachers are concerned about the time commitment of implementing something new. The lowest average was

1.40 for Question 7: “I would like to know the effect of reorganization on my professional status,” indicating that teachers are not concerned that implementing blended learning will have an impact on their job status.

Table 9

Item Averages for Stage 1: Informational

Question	Average	Question Text
Q6:	3.41	I have a very limited knowledge about Blended Learning.
Q14:	3.56	I would like to discuss the possibility of using Blended Learning.
Q15:	5.08	I would like to know what resources are available if we decide to adopt Blended Learning.
Q26:	4.01	I would like to know what the use of Blended Learning will require in the immediate future.
Q35:	3.72	I would like to know how Blended Learning is better than what we have now.
Mean	3.96	

Table 10

Item Averages for Stage 2: Personal

Question	Average	Question Text
Q7:	1.40	I would like to know the effect of reorganization on my professional status.
Q13:	2.66	I would like to know who will make the decisions in the new system.
Q17:	3.86	I would like to know how my teaching or administration is supposed to change.
Q28:	4.16	I would like to have more information on time and energy commitments required by Blended Learning.
Q33:	3.72	I would like to know how my role will change when I am using Blended Learning.
Mean	3.16	

The items for Stage 3 (Management) revolve around logistics, time, and management surrounding the implementation of blended learning. The average scores for the questions for Stage 3 (Management) are displayed in Table 11. The highest

average, 4.11, is for Question 4: “I am concerned about not having enough time to organize myself each day (in relation to Blended Learning).” This indicates that teachers are very concerned about the time commitment with the implementation of blended learning. The lowest average, 1.75, was for Question 8: “I am concerned about conflict between my interests and my responsibilities.”

Table 11

Item Averages for Stage 3: Management

Question	Average	Question Text
Q4:	4.11	I am concerned about not having enough time to organize myself each day (in relation to Blended Learning).
Q8:	1.75	I am concerned about conflict between my interests and my responsibilities.
Q16:	3.45	I am concerned about my inability to manage all that Blended Learning requires.
Q25:	3.75	I am concerned about time spent working with nonacademic problems related to Blended Learning.
Q34:	2.86	Coordination of tasks and people (in relation to Blended Learning) is taking too much of my time.
Mean	3.18	

The items for Stage 4 refer to the consequences of use of the innovation for students. The averages for the questions associated with Stage 4 (Consequence) are displayed below in Table 12. The highest average, 4.74: “I would like to excite my students about their part in Blended Learning,” indicates that teachers are concerned about student engagement with regard to implementing blended learning. The lowest score, 3.37, with Question 1: “I am concerned about students' attitudes toward Blended Learning,” indicates that teachers are unsure if students will have a positive attitude toward blended learning. The average for the five Stage 4 (Consequence) questions is one of the highest out of the averages for each of the seven SoCs. This would indicate a

relatively higher intensity for this SoC compared to the other six stages. Teachers appear to be concerned about how implementing blended learning will impact students.

Table 12

Item Averages for Stage 4: Consequence

Question	Average	Question Text
Q1:	3.37	I am concerned about students' attitudes toward Blended Learning.
Q11:	4.51	I am concerned about how Blended Learning affects students.
Q19:	4.09	I am concerned about evaluating my impact on students (in relation to Blended Learning).
Q24:	4.74	I would like to excite my students about their part in Blended Learning.
Q32:	3.95	I would like to use feedback from students to change the program.
Mean	4.13	

The items for Stage 5 refer to concerns about working with others with the implementation of blended learning. Table 13 displays the five item averages for Stage 5 (Collaboration). Question 29: “I would like to know what other faculty are doing in this area,” had the highest average for this group of questions with an average of 4.89. Teachers indicated a moderately high intensity for that question which would indicate that they would rather not have to start from scratch when they begin implementing blended learning. This correlates with time and effort concerns from previous stages. Question 18: “I would like to familiarize other departments or persons with the progress of this new approach,” with an average score of 2.99, indicates that teachers are not familiar enough with the implementation of blended learning to help others understand.

Table 13

Item Averages for Stage 5: Collaboration

Question	Average	Question Text
Q5:	3.06	I would like to help other faculty in their use of Blended Learning.
Q10:	3.40	I would like to develop working relationships with both our faculty and outside faculty using Blended Learning.
Q18:	2.99	I would like to familiarize other departments or persons with the progress of this new approach.
Q27:	4.33	I would like to coordinate my efforts with others to maximize the effects of Blended Learning.
Q29:	4.89	I would like to know what other faculty are doing in this area.
Mean	3.73	

High scores in Stage 6 items indicate that a teacher has some ideas on how to make the implementation of blended learning better or has ideas on something that may work better. Table 14 displays the averages for the five Stage 6 (Refocusing) questions. Question 22: “I would like to modify our use of Blended Learning based on the experiences of our students“, had the highest average, 4.05. This indicates that teachers are concerned with modifying how they implement blended learning based upon their students’ experiences. The lowest average, 2.20 was for Question 2: “I now know of some other approaches that might work better than Blended Learning.” This indicates that teachers do not believe there are other approaches better than blended learning for student achievement at this time.

Table 14

Item Averages for Stage 6: Refocusing

Question	Average	Question Text
Q2:	2.20	I now know of some other approaches that might work better than Blended Learning.
Q9:	2.94	I am concerned about revising my use of Blended Learning.
Q20:	2.65	I would like to revise the Blended Learning approach.
Q22:	4.05	I would like to modify our use of Blended Learning based on the experiences of our students.
Q31:	3.69	I would like to determine how to supplement, enhance, or replace Blended Learning.
Mean	3.11	

Research Question 2. How do those SoC differ by gender, years of teaching experience, age, and years of experience utilizing blended learning techniques? Research Question 2 was addressed in two phases. First, the SoC percentiles were calculated and plotted for each demographic characteristic. The percentile scores allow analysis of the predominant concerns as well as the diversity of concerns for each subgroup and indicate the relative intensity of the concern at each Stage for the group as whole. Next, the SoC were examined by gender, followed by years of teaching experience, age, and concluding with an examination of the SoC by years of experience utilizing blended learning techniques. A *t* test was used to measure the difference in SoCQ scores based upon gender and one-way Analysis of Variances (ANOVAs) were used to test the relationship between the remaining three independent variables separately (years of teaching, age, and number of years implementing blended learning) and the seven dependent variables (Stage 0: Unconcerned, Stage 1: Informational, Stage 2: Personal, Stage 3: Management, Stage 4: Consequence, Stage 5: Collaboration, and Stage 6: Refocusing). Each demographic

variable was also examined to determine if there was a statistically significant effect on the teacher's SoC.

Gender

In this study, gender was defined as male or female. Table 15 displays the relative intensity of SoC by gender. Figure 2 is a visual representation of that data.

Table 15

Relative Intensity of Stages of Concern by Gender

	#	Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
Male	19	96%	69%	55%	52%	24%	22%	34%
Female	87	81%	72%	59%	60%	33%	48%	47%

The SoC profiles for females and males are very similar. However, males experience more intense Stage 0 (Unconcerned) concerns than females; very similar Stage 1 (Informational) concerns as females, and less intense Stage 3 (Management) through Stage 6 (Refocusing) concerns. Both profiles follow that of a non-user with an intense interest in blended learning. An intense Stage 0 provides information about whether the teacher is interested in blended learning in comparison to other tasks (George, Hall, & Stiegelbauer, 2013).

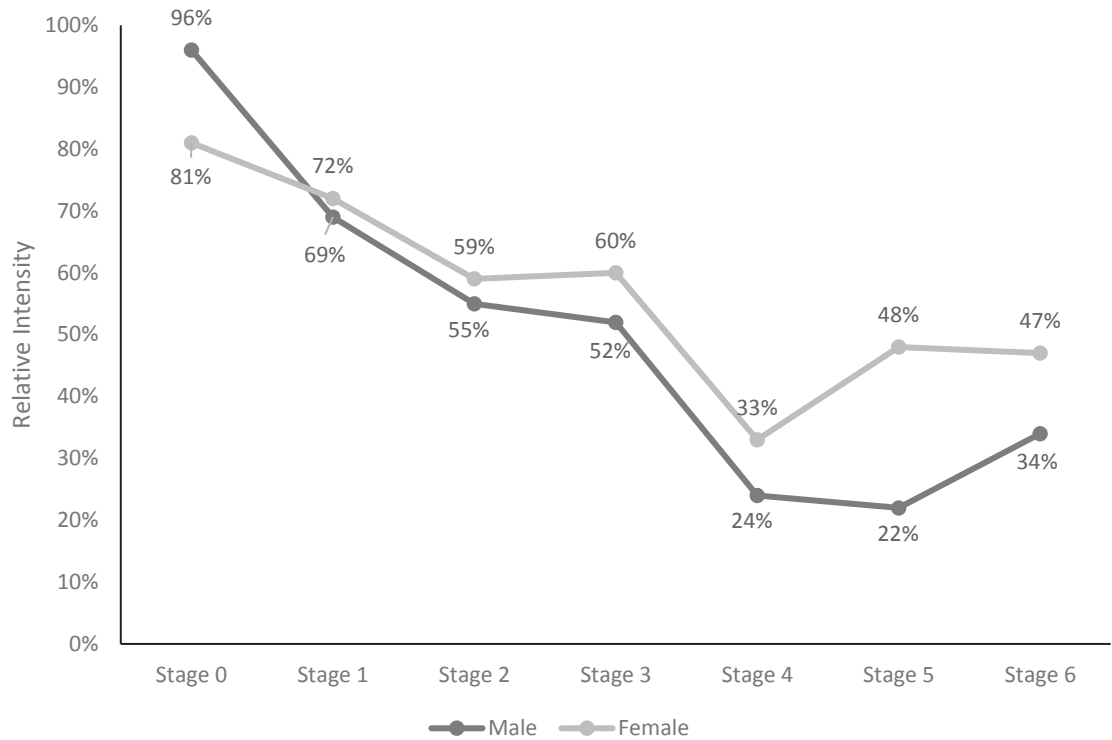


Figure 2. Relative Intensity of Stages of Concern by Gender

The null hypothesis and research hypothesis regarding gender and SoC were:

H_0 There are no statistically significant differences between teachers' gender and their concerns about the implementation of blended learning.

H_1 There are statistically significant differences between teachers' gender and their concerns about the implementation of blended learning.

To evaluate gender influence on SoC perception, an independent-sample t test was performed. The t test showed no significant differences between the groups; $t(104) = -.867, p = .388$. Therefore, we cannot reject the null hypothesis that there is no significant difference between teachers' gender and their concerns about the implementation of blended learning. This implies that there were no significant differences between male and female teachers with the SoC about the implementation of

blended learning. The condition of homogeneity of variances for the highest SoC for males and females was met, as assessed by Levene's test for equality of variances ($p = .978$).

Years of Teaching Experience

Years of teaching experience was defined as the number of years the teacher has taught in a K-12 school setting. Years of teaching is a continuous variable that was transformed into a categorical variable. Break points placed teachers into four categories: 0-5 years, 6-10 years, 11-20 years, and 20+ years. Table 16 displays the relative intensity of SoC by years of teaching experience. Figure 3 is a visual representation of years of experience data.

Table 16

Relative Intensity of Stages of Concern by Participants' Years of Teaching Experience

Selection	Number	Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
0-5	16	91%	84%	63%	69%	30%	40%	38%
6-10	24	94%	69%	55%	56%	27%	25%	38%
11-20	47	87%	72%	63%	56%	33%	48%	52%
20+	16	75%	75%	55%	65%	30%	52%	42%

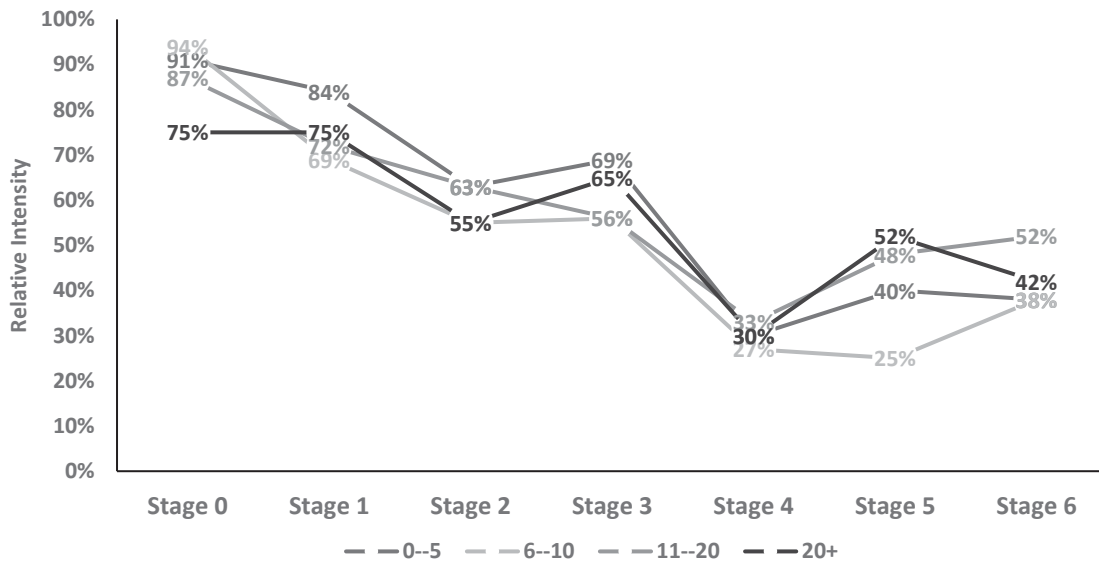


Figure 3. Relative Intensity of Stages of Concern by Total Number of Years Teaching Experience.

The null hypothesis and research hypothesis regarding years of teaching experience and SoC were:

H₀ There are no statistically significant differences between teachers' years of teaching experience and their concerns about the implementation of blended learning.

H₁ There are statistically significant differences between teachers' years of teaching experience and their concerns about the implementation of blended learning.

A one-way ANOVA (as seen in Table 17) was conducted to determine if the SoC differed by years of teaching experience. Participants were classified into four groups: 0 - 5 ($n = 16$), 6 - 10 ($n = 24$), 11 - 20 ($n = 50$) and 20+ ($n = 16$) years of experience. There were no outliers, as assessed by boxplot; data was normally distributed for each group, as

assessed by Shapiro-Wilk test ($p > .05$). Teachers exhibited higher SoC which increased from teachers with 0-5 years teaching experience ($M = 0.69$, $SD = 0.8$), to teachers with 6-10 years of teaching experience ($M = 1.29$, $SD = 2.2$), to teachers with 11 – 20 years of teaching experience ($M = 1.86$, $SD 2.2$), to teachers with 20+ years of teaching experience ($M = 2.06$, $SD = 2,0$), in that order, but the differences between these groups were not statistically different, $F(3, 102) = 1.77$, $p > .05$. Therefore, there was no statistically significant difference between teachers' years of teaching experience and their concerns about the implementation of blended learning.

Table 17

One-Way Analysis of Variance of Participants' Years of Teaching Experience on SoC

Source	df	SS	MS	F	P
Between Groups	3	22.383	7.461	1.772	.157
Within Groups	102	429.353	4.209		
Total	105	451.736			

Age

Age was defined as the age of the teacher. Age is a continuous variable that was transformed into a categorical variable. Teachers were placed into the following three categories: Millennial (ages 20-35), Generation X (ages 36-50), and Baby Boomer (ages 51 and up) (Seppanen & Gualtieri, 2010). Table 18 displays the relative intensity of SoC by age, while Figure 4 is a visual representation of that data.

Table 18

Relative Intensity of Stages of Concern by Age of the Participants

Selection	#	Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
20-35	35	96%	80%	63%	69%	33%	36%	42%
36-50	53	75%	69%	59%	52%	30%	48%	47%
51+	15	94%	66%	57%	65%	27%	31%	42%

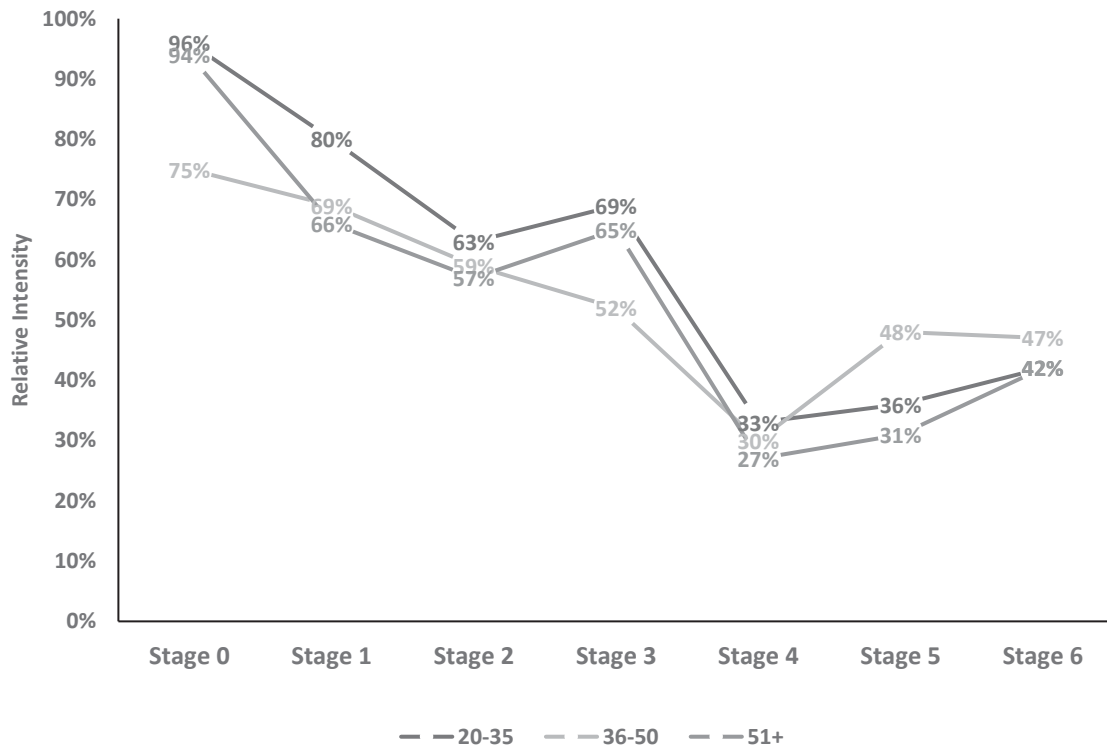


Figure 4. Relative Intensity of Stages of Concern by Age

The null hypothesis and research hypothesis regarding age and SoC were:

- H₀ There are no statistically significant differences between teachers' age and their concerns about the implementation of blended learning.
- H₁ There are statistically significant differences between teachers' age and their concerns about the implementation of blended learning.

An Analysis of Variance (ANOVA) on the SoC of teachers by age yielded significant variation among the three age bands, $F(2, 103) = 4.30, p < .05$. The results are presented in Table 19, which reveals the SoC differed among the three age bands and were highest in 36-50 years and lowest in 20-35 years. Due to the significant difference indicated by the ANOVA, further analysis was conducted through Tukey HSD post hoc test. Post hoc comparisons (see Table 20) using both the Tukey HSD test indicated that the difference between teachers in the 36-50 age band was significant from the teachers in the 20-35 age band ($p < .05$) and that there were no other significant differences noted.

Table 19

ANOVA table: One-Way Analysis of Variance of Participants Age

Source	df	SS	MS	F	P
Between Groups	2	34.822	17.411	4.301	.016**
Within Groups	103	416.914	4.048		
Total	105	451.736			

**p < .05

Table 20

Tukey HSD Comparisons for Age and Stages of Concern

(I) Age	(J) Age	Mean Diff (I-J)	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
20-25 yrs	36-50 yrs	-1.271*	.434	-2.30	-.24
	51 +	-.800	.621	-2.28	.68
36-50 yrs	20-25 yrs	1.271*	.434	.24	2.30
	51 +	.471	.585	-.92	1.86
51 +	20-2 5yrs	.800	.621	-.68	2.28
	36-50 yrs	-.471	.585	-1.86	.92

*p < 0.05

Years Utilizing Blended Learning Techniques

Years of experience utilizing blended learning techniques was defined as the number of years the teacher has implemented blended learning. Break points placed teachers into five categories: 0-1 year, 1-2 years, 2-3 years, 3-4 years, and 4+ years. Table 21 displays the relative intensity of SoC by years utilizing blended learning techniques. Figure 5 is a visual representation of that data.

The null hypothesis and research hypothesis regarding the number of years implementing blended learning and SoC were:

H₀ There are no statistically significant differences between teachers' years utilizing blended learning techniques and their concerns about the implementation of blended learning.

H₁ There are statistically significant differences between teachers' years utilizing blended learning techniques and their concerns about the implementation of blended learning.

Table 21

Relative Intensity of SoC by Participants' Years Utilizing Blended Learning

Selection	#	Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
Never	18	98%	80%	76%	47%	19%	25%	17%
1 year	17	97%	90%	67%	83%	43%	28%	52%
2 years	23	75%	72%	55%	69%	33%	44%	47%
3 years	17	87%	63%	57%	56%	24%	44%	47%
4 years	7	75%	69%	63%	65%	43%	48%	73%
5 or more	21	61%	63%	52%	39%	38%	59%	52%

Table 22 reveals SoC differed significantly among the five groups of teachers; $F(5, 100) = 4.39, p < .01$. Teachers who had been implementing blended learning techniques for 4 years demonstrated higher SoC and teachers who had been implementing blended learning for a year had the lowest SoC. This implies there is statistically significant differences between teachers' years utilizing blended learning techniques and their concerns about the implementation of blended learning.

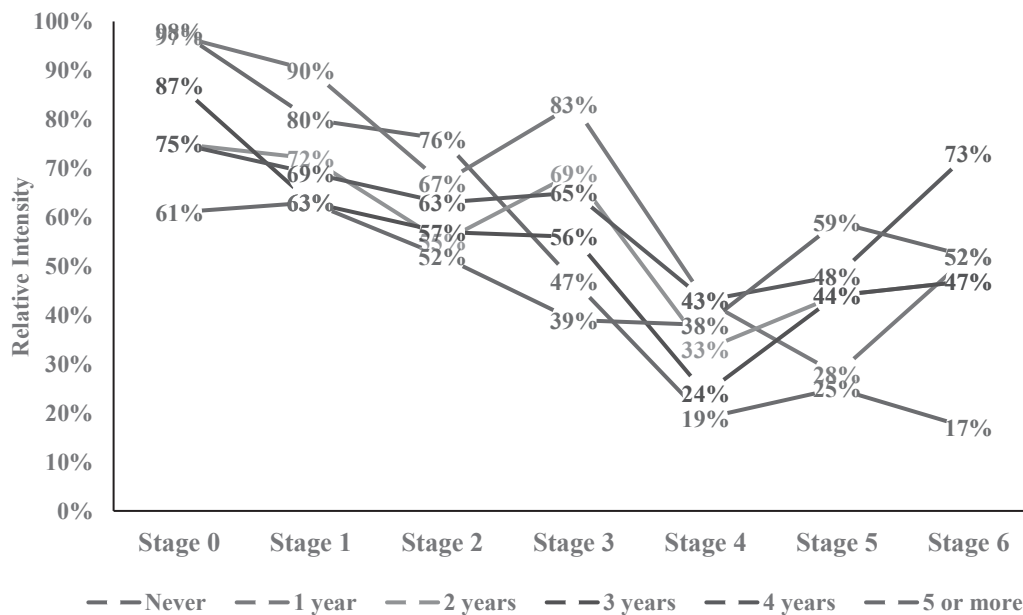


Figure 5. Relative Intensity of SoC by Number of Years Implementing Blended Learning.

Table 22

Mean Differences in Test for SoC Amongst Groups of Years Utilizing Blended Learning Techniques

Years utilizing	1 year	2 years	3 years	4 years	5+ years
Never	0.134	0.8	0.646	2.278††	2.141**
1 year		0.934	0.78	2.412††	2.275**
2 years			0.153	1.478	1.342†
3 years				1.632	1.495†
4 years					0.136

Tukey HSD $p < .01^{**}$; LSD $p < .05^{\dagger}$, $p < .01^{\dagger\dagger}$; If Tukey is significant at .01 level, LSD is too.

Further analysis was done through Tukey HSD and LSD post hoc tests to identify which difference was significant between the number of years implementing blended learning (see Table 23). The Tukey post hoc tests indicated that there were only differences between teachers with 5+ years of experience and teachers who had never

implemented blended learning and between teachers who had only been implementing blended learning for a single year.

Table 23

Tukey HSD Comparisons for Years Implementing Blended Learning and SoC

(I) Years BL	(J) Years BL	Mean Diff (I-J)	Std. Erron	95% Confidence Interval	
				Lower Bound	Upper Bound
Never	1yr	.134	.651	-1.76	2.03
	2yrs	-.800	.606	-2.56	.96
	3yrs	-.646	.633	-2.49	1.19
	4yrs	-2.278	.857	-4.77	.21
	5 +	-2.141*	.612	-3.92	-.36
1yr	Never	-.134	.651	-2.03	1.76
	2yrs	-.934	.616	-2.72	.86
	3yrs	-.780	.643	-2.65	1.09
	4yrs	-2.412	.864	-4.92	.10
	5 +	-2.275*	.622	-4.08	-.47
2yrs	Never	.800	.606	-.96	2.56
	1yr	.934	.616	-.86	2.72
	3yrs	.153	.597	-1.58	1.89
	4yrs	-1.478	.831	-3.89	.94
	5 +	-1.342	.574	-3.01	.33
3yrs	Never	.646	.633	-1.19	2.49
	1yr	.780	.643	-1.09	2.65
	2yrs	-.153	.597	-1.89	1.58
	4yrs	-1.632	.851	-4.10	.84
	5 +	-1.495	.603	-3.25	.26
4yrs	Never	2.278	.857	-.21	4.77
	1yr	2.412	.864	-.10	4.92
	2yrs	1.478	.831	-.94	3.89
	3yrs	1.632	.851	-.84	4.10
	5 +	.136	.835	-2.29	2.56
5 +	Never	2.141*	.612	.36	3.92
	1yr	2.275*	.622	.47	4.08
	2yrs	1.342	.574	-.33	3.01

3yrs	1.495	.603	-.26	3.25
4yrs	-.136	.835	-2.56	2.29

Phase II: Qualitative Phase

Research Question 3. What are teachers’ top three concerns related to the implementation of blended learning in their classes? In Phase II of an explanatory sequential mixed-methods study, the qualitative phase is informed by the results of the quantitative analysis from Phase I. The expectation was the findings and themes of the qualitative results will provide further explanation and interpretation of the quantitative survey findings. The data was analyzed from the lens of the results from Phase I to ensure a better explanation and interpretation of the quantitative results and analysis, and to triangulate the findings.

The data collected for this research question was provided by two data sets collected at two different intervals. The analysis of the qualitative data investigated patterns and themes within the participants’ reports of their experiences implementing blended learning in the classroom. The data included one of the open-ended questions from the SoCQ and semi-structured interviews from selected participants. In the first part of Phase II, each of the 106 teachers responded to an open-ended question on the SoCQ about concerns implementing blended learning. In the second part of Phase II, 13 semi-structured interviews were conducted with participants from Phase I. Originally, two volunteers from each SoC was going to be randomly chosen to interview. Once the data was analyzed, there were not enough volunteers to interview two per stage. However, efforts were made to ensure that from those interviewed, there was at least one per stage,

one for each age group, and one for each of the number of years implementing blended learning.

During the quantitative analysis of the data in Phase I, the data revealed that teacher concerns differed according to age and to the number of years a teacher had been implementing blended learning. Therefore, the data analysis for the responses to an open-ended question on the top three concerns for teachers with the implementation of blended learning was further analyzed according to the subgroups for age and the number of years implementing blended learning. Additionally, it was imperative that the interview selection for Part II included participants from each of those demographic subgroups. An email was sent to each of the respondents who indicated they would like to be interviewed. A chart was created with the demographics of each potential interviewee, and the researcher checked each participant when confirmation was emailed back. Fourteen of the 16 volunteers contacted scheduled a follow-up interview, but only 13 interviews were conducted. The selection of the interviewees was stratified according to the statistically significant variables found in Phase I, age and number of years implementing blended learning. The demographic data for the participants who were interviewed are displayed in Table 24.

Dedoose, a computer-assisted mixed-methods data analysis software (CAQDAS), was utilized to organize and manage the content for Phase II. Survey information and transcripts of the interviews were uploaded and stored in a password-protected account. Dedoose software provided an electronic system to analyze the responses of the survey instrument and the transcripts for keywords and themes. The themes were then analyzed for patterns and commonalities. Next, two researchers, Dr. Erin Davis, a qualitative

research professor at Georgia State University, and I independently read and assigned category names to the concerns listed by each teacher, as well as the concerns noted in each interview. The themes discovered were discussed and emergent subthemes were identified. Once the subthemes were identified, the codes were reordered and tagged with the appropriate themes. Finally, the codes were aligned to each of the seven SoCs. Table 24 reports the quantitative data, and tables 25 through 29 presents the qualitative themes that surfaced via the SoCQ open-ended Question 36 and from the interviews.

Analysis of the open-ended survey question revealed 54 themes which included a wide variety of concerns, including informational concerns about blended learning, concerns involving school technology, concerns surrounding training, and concerns regarding student access to technology at home. The top three concerns are displayed in Table 25. Overall, teacher responses to the open-ended question on the SoCQ revealed the top three concerns with the implementation of blended learning centered around blended learning resources (24.1%), school technology (21.7%), and concerns about home WIFI and technology availability (13.4%). Analysis of the interviews mirrored the top concerns illuminated in the analysis of the responses to the open-ended Question 36 on the SoCQ. Interviewees top three concerns about implementing blended learning were school technology (26.0%), home WIFI and technology availability (23.3%), and blended learning resources (22.7%).

Table 24

Demographic Data: Comparison of Groups

Demographic Category	Group	Surveys		Interviews	
		Percent	N	Percent	N
Gender	Female	82.9%	87	84.6%	11
	Male	18.1%	19	15.4%	2
Age	20-35	12.4%	35	23.1%	2
	36-50	53.3%	56	61.5%	9
	50+	14.3%	15	23.1%	2
Years of Teaching Experience	0-5 Years	15.1%	16	15.4%	2
	6-10 Years	22.9%	24	7.7%	1
	11-20 Years	47.6%	50	61.5%	8
	20+ Years	15.2%	16	15.4%	2
Years Implementing Blended Learning	Never	17.0%	18	15.4%	2
	1 Year	16.0%	17	7.7%	1
	2 Years	21.7%	23	7.7%	1
	3 Years	17.9%	19	23.1%	3
	4 Years	06.6%	7	7.7%	1
	5 Years	20.8%	22	38.5%	5
Highest Stage of Concern	Stage 0 (Unconcerned)			7.7%	1
	Stage 1 (Information)			38.5%	5
	Stage 2 (Personal)			7.7%	1
	Stage 3 (Management)			23.1%	3
	Stage 4 (Consequence)			7.7%	1
	Stage 5 (Collaboration)			7.7%	1
	Stage 6 (Refocusing)			7.7%	1

Table 25

Top Three Themes: Teacher Concerns on Implementing Blended Learning

Teacher Concerns on Implementing Blended Learning: Top Three Themes	
Open-Ended Question 36 from SoCQ	1. Blended Learning Resources (24.1%)
	2. School Technology Concerns (21.7%)
	3. Concerns about Home WIFI & Technology Access (13.4%)

Top Three Concerns by Age Band. The Phase I data analysis revealed age was statistically significant ($F(2, 103) = 4.30, p < .05$). Therefore, teacher concerns were analyzed using the lens of age band. Table 26 displays the top three themes for the codes listed by age band. The percentage of that concern out of the total concerns for the individual age band is also noted in the table. All of the themes and sub-codes can be found in Appendix J.

Table 26

Codes Analysis: Top Three Concerns with the Implementation of Blended Learning by Age Band

Top Three Concerns on Implementing Blended Learning	
20 – 35	School Technology Concerns (10.3%) Blended Learning Resources (9.1%) Training (7.4%)
36 – 50	School Technology Concerns (10.5%) Blended Learning Resources (9.5%) Training (6%)
51+	School Technology Concerns (15.8%) Blended Learning Resources (10.5%) Concerns about Home WIFI & Technology Access (10.5%)

The number one concern that dominated the top three concerns for each of the age bands was school technology, with 10.3% of the 20-35 year-olds, 10.5% of the 36-50

year-olds, and 15.8% of those who were 51 years or older, had concerns about school technology. School technology concerns included concerns about availability of technology at school, lack of access to the right technology, concerns about updating technology, WIFI reliability of the school network, and working technology. Teacher comments included, *“I need updated technology”* (Participant 93), *“We do not have reliable computer access for the classroom”* (Participant 31), and *“Unreliable WiFi is my top concern”* (Participant 88). School technology concerns was also in the top three concerns for the teachers who were interviewed, with availability of technology at school listed among the top school technology concerns. Participant 103 stated *“I don’t have any computers in my classroom for them to use. I have to share a lab with the rest of the teachers,”* while participant 60 asked *“How can I get a class set of laptops, Chromebooks, or iPads?”*

Blended learning resources was the second most mentioned concern for each of the three age bands: 20-35 (9.1%), 36-50 (9.5%), and 51+ (10.5%). Concerns about blended learning resources included concerns about grade specific and content specific blended learning resources, as well as resources for remediation, advanced students, and tutorial needs. This category also included teacher concerns for mobile friendly blended learning resources, concerns about the reliability of blended learning resources, and the wish for vetted blended learning resources. Funding concerns was a common theme with blended learning resources, making up 53.8% of the blended learning resources group of concerns. Blended learning resources comments included, *“I want to know what programs I can use that are really good”* (Participant 95), *“I need access to additional*

resources (free of course!)” (Participant 104), and *“My next concern is access to resources specific to math. May I add – that are FREE...!?!”* (Participant 106).

Concerns about training rounded out the top three concerns for teachers in both the 20-35 age band and 36-50 age band, while the third most mentioned concern for teachers in the 51+ age band centered around home WIFI and technology access.

Concerns about training included concerns about best practices for blended learning and training on how to implement blended learning. Comments included *“We need some training”* (Participant 94), *“My lack of skills is my #1. I can’t teach what I don’t know”* (Participant 105) and *“But I’m really concerned about getting trained. I hate to say it again... but I need training on blended learning”* (Participant 79). Comments from teachers surrounding Home WIFI and technology access included *“Student access to a computer and the Internet at home is my second concern”* (Participant 88) and *“How can I use blended learning if all of my students don’t have computer access at home?”* (Participant 78).

Top Three Concerns by Number of Years Implementing Blended Learning.

Along with age, the number of years that teacher has been implementing blended learning was also found to be statistically significant; $F(5, 100) = 4.39, p < .01$. Statistical analysis from Phase I indicated that there were significant statistical differences in the SoC between teachers with 4 or more years of experience and teachers who had never implemented blended learning or who had been implementing blended learning for a year. Statistical differences were also found between teachers who had been implementing blended learning for 5 years or longer and every other subgroup.

Therefore, teacher statements of concerns about the implementation of blended learning

were further analyzed to identify differences and similarities of teacher concerns by number of years implementing blended learning.

Table 27 lists the top three concerns by number of years implementing blended learning. Two concerns, blended learning resources and school technology concerns, were consistently in the top three concerns for each group of teachers. Time was a concern for teachers who had never implemented blended learning (19%), as well as teachers who had been implementing blended learning for 3 years (11%) and 4 years (13%). Teacher concerns about training were in the top three concerns for teachers who had been implementing blended learning for 1 year (18%) and 2 years (17%). School and District Administration concerns showed up in the top three for teachers who had been implementing blended learning for 1 year (15%) and teachers with 5 years and more experience implementing blended learning (12%). Concerns surrounding home WIFI and technology access was also a top three concerns for teachers with 4 years of experience implementing blended learning (13%).

Table 27

Codes Analysis: Top Three Concerns on Implementing Blended Learning by Number of Years Implementing Blended Learning

Top Three Concerns on Implementing Blended Learning		
Never	1.	School Technology Concerns (22%)
	2.	Time (19%)
	3.	Blended Learning Resources (10%)
1 Year	1.	Training (18%)
	2.	Blended Learning Resources (17%)
	3.	School and District Administration Concerns (15%)
2 Years	1.	School Technology Concerns (22%)
	2.	Training (17%)
	3.	Blended Learning Resources (17%)
3 Years	1.	Blended Learning Resources (17%)
	2.	School Technology Concerns (16%)
	3.	Time (11%)
4 Years	1.	Blended Learning Resources (22%)
	2.	Time (13%)
	3.	Concerns about Home WIFI & Technology Access (13%)
5 Years	1.	Blended Learning Resources (19%)
	2.	School Technology Concerns (16%)
	3.	School and District Administration Concerns (12%)

Table 28 displays the top three concerns for each group of teachers. All of the themes and sub-codes can be found in Appendix J.

Table 28

Interviewee Demographics: Statistically Significant Variables

Statistically Significant Variable		Percent	N
Age	20-35	23%	3
	36-50	62%	8
	50+	23%	3
Years Implementing Blended Learning	Never	15%	2
	1 Year	0.8%	1
	2 Years	0.8%	1
	3 Years	15%	2
	4 Years	0.8%	1
	5 Years	38%	5

Semi-Structured Interviews. This section presents the major themes that emerged from the coding of the semi-structured participant interviews. In an explanatory sequential mixed-methods study, the quantitative phase is followed by a qualitative phase informed by the data from the quantitative phase. Therefore, in addition to one of the open-ended questions at the end of the SoCQ, semi-structured interviews provided the foundation for the second phase of this study (see Appendix H for the interview questions). A stratified selection of participants was interviewed to ascertain more in-depth information about teacher concerns surrounding implementing blended learning. The group of participants who indicated they are willing to be interviewed (via a link at the end of the survey on the thank you page) were stratified into subgroups according to age and number of years implementing blended learning, the two variables found to be statistically significant in Phase I.

Upon completion of the 13 semi-structured interviews, the audio recordings of the individual's response to the interview questions were transcribed to provide a more thorough and in-depth analysis of the responses. Once the interviews were

transcribed, the interviews were coded to isolate the emerging themes. The themes were then coded to isolate the emerging sub-codes. The top three codes were analyzed for the group of interviewees and were found to mirror the top three concerns for the group of participants as shown in Table 29.

Table 29

Teacher Top Three Concerns with the Implementation of Blended Learning: SoCQ Compared to Interviews

Teacher Concerns on Implementing Blended Learning: Top Three Themes	
Open-Ended Question 36 from the Survey	<ol style="list-style-type: none"> 1. Blended Learning Resources (24.1%) 2. School Technology Concerns (21.7%) 3. Concerns about Home WIFI & Technology Access (13.4%)
Interviews	<ol style="list-style-type: none"> 1. School Technology Concerns (26.0%) 2. Concerns about Home WIFI & Technology Access (23.3%) 3. Blended Learning Resources (22.7%)

Concerns about school technology were the most frequent concerns expressed by the group of interviewees. School technology concerns included concerns about availability of technology at school, lack of access to the right technology to implement blended learning, WIFI reliability, and working technology. Some of the school technology concerns voiced by this group included:

Interviewee 1 (36-50; has been implementing blended learning for more than 5 years) was concerned about technology access both at school and at home. Interviewee 4 (36-50; has been implementing blended learning for more than 5 years) was concerned about a lack of technology at school and stated she has purchased technology for her students with her own money. She stated “*My top concern*

so far is just technology. Like we don't have class laptops that are available for our students.” Interviewee 5 (36-50; has been implementing blended learning for 1 year) was concerned about *“making sure you have the proper technology”* in order to implement blended learning. The top concern of Interviewee 6 (51+, has been implementing blended learning 5 or more years) was *“the access to technology because if I don't have the access to the technology it's impossible for me to implement.”* When questioned further, Interviewee 6 explained in terms of both her and her students. She also identified computers, laptops, and iPads on her wish list of technology but clarified *“Whatever type of device. Just access.”* Interviewee 7 (36-50, has been implementing blended learning 5 or more years) indicated *“the Internet capability and the broadband strength”* as one of her top three concerns. Interviewee 9 (36-50, has been implementing blended learning for 3 years) indicated lack of technology was in her top three. She explained this included *“not having enough of technology in the class to be able to implement blended learning with fidelity in the classes.”* Interviewee 11 (36-50; has been implementing blended learning 5 years or more) was concerned about student access to technology both in the school and out of school. She explained that school technology access concerned her more *“because if we have one to one we can get a lot of accomplished at school and we wouldn't have to worry about the students having access outside of school.”* Interviewee 12 indicated that school WIFI concerns were in her top three, stating *“sometimes we don't have the Internet working probably like it should. I will plan a lesson and be ready to do work for that day and the Internet may go down. So I may have the Internet off and on so I don't get it consistently.”*

The next top concern for the group of interviewees were concerns about student home WIFI and technology access, which included concerns about equity to student access to technology and WIFI at home. Concerns illuminated in this group encompassed a diverse group of concerns.

Interviewee 1 (36-50; has been implementing blended learning for 5 years or more) stated that “*both*” technology access at school and at home were one of her top concerns. She stated, “*I say that because not all students have access to technology at home but also sometimes the technology in the building may not be working correctly or effectively.*” Interviewee 2 (36-50; has been implementing blended learning for 5 years or more) wants to ensure that she is able to “*provide blended learning (opportunities) to students who don't have technology at home.*” She further elaborated “*It's nice when they're in school to be able to do things but it would be even better if they were able to do those same things outside the classroom and then also ways that possibly kids could actually have that technology, effective technology.*” Interviewee 5 (36-50; has been implementing blended learning for 1 year) indicated that “*not all kids have technology at their house*” and that was a concern for him when it came to implementing blended learning. Interviewee 10 (20-35; has been implementing blended learning for 2 years) stated her concern that “*So many of my students don't have Internet at home but they do have a smartphone that they're able to use.*” Interviewee 11 (36-50; has been implementing blended learning 5 or more years) explained that “*student access outside of school*” was one of her top three concerns. Lastly, Interviewee 13 (51+; has never implemented blended learning) stated that one of is top concerns

was that *“most of my students don’t have Internet access at home so that is an issue.”*

Rounding out the top three concerns for the participants who were interviewed were concerns surrounding blended learning resources. Blended learning resources concerns included concerns about funding, reliability of Web 2.0 resources, and resources for different student ability levels. Some of the comments from teachers interviewed included:

Interviewee 4 (36-50; has been implementing blended learning for 5 or more years) indicated that she has purchased blended learning resources with her own money. She further explained *“I would just like to have more district initiative around supporting things that I can use for blended learning.”*

Interviewee 5 (36-50; has been implementing blended learning for 1 year) complained, *“I don't have all the resources. I don't have all the things that I need to be effective in that area. Those materials cost. So where are those costs coming from?”* In reference to a district-provided resources, Interviewee 7 (36-50; has been implementing blended learning for 5 years or more) explained *“Edgenuity can be a little challenging for some students, but it's provided by the district and it's free so it's what we use.”* While Interviewee 12 proclaimed, *“I don't have any money in a classroom budget to kind of keep it on. So, so far I think we actually get that free on the Web; for blended learning it would be nice if I had some different stuff when you're there that I knew worked better than that and knew were good and that we had budgeted and paid for. So that would be good and even if there were things out there that were free that I could use but I don't really have*

the time. I found something but I haven't had time to like really go explore the Web out there to see what's free and what's good.”

The top three themes, which emerged from the interviews, were consistent with the top three concerns found from analyzing the open-ended Question 36 on the SoCQ. These themes will be discussed further in Chapter 5 to further understand teacher concerns with the implementation of blended learning and how to better support teachers as they undergo this fundamental change in pedagogy.

Teacher-Suggested Supports for the Implementation of Blended Learning.

Another of the three open-ended questions on the SoCQ: “What professional learning activities and/or support do you feel would best help you learn how to implement blended learning in your classroom,” explicitly asked teachers to list the professional learning activities and/or support they felt would best help them learn how to implement blended learning in their classroom. This question was included because of the strong link found in the research between teacher professional learning and technology integration. Responses to the question contained valuable insight into teacher perceptions of support that would help them with the implementation of blended learning. A synopsis of the responses associated with this question are included displayed in Table 30.

Table 30

Teacher Suggested Supports for the Implementation of Blended Learning (Stages of Concern Questionnaire Open-Ended Question 37)

Professional Learning
<ul style="list-style-type: none"> ▪ Address Blended Learning Best Practices ▪ Observe Blended Learning in Action ▪ Go through a Professional Learning Class as a Blended Learning Experience ▪ Workshop or Conference that Focuses Only on Blended Learning ▪ Grade Level/Subject Specific Training ▪ Immersive, from the Student Perspective ▪ Training on Blended Learning Resources
Support
<ul style="list-style-type: none"> ▪ One-on-One Assistance <ul style="list-style-type: none"> ○ Coach <ul style="list-style-type: none"> ▪ Technology Coach ▪ Blended Learning Coach ○ In Class Blended Learning Assistant or Para ▪ Ongoing Support ▪ Vetted Blended Learning Resources Provided

Summary

The purpose of this explanatory sequential mixed-methods study was to examine the perceived concerns of teachers as they strove to implement blended learning. The secondary purpose was to identify the SoC of teachers as they implemented blended learning and how those concerns differed by teacher characteristics (gender, years of teaching experience, age, and years of experience utilizing blended learning techniques). The quantitative phase (SoCQ) was followed by a qualitative phase (one of the open-ended questions on the SoCQ and interviews) informed by the data from the quantitative phase.

Analyses of both the quantitative and qualitative data were used to examine teacher concerns with the implementation of blended learning. Quantitative data obtained from the SoCQ provided information for Research Questions 1 and 2. Qualitative data from one of the open-ended questions from the SoCQ and semi-structured interviews provided support for Research Question 3.

Significant mean differences in the relative intensity of concerns based upon the characteristics of a teacher's age and the number of years implementing blended learning. No significant mean differences in relative intensity of concerns was observed by gender and number of years teaching. The results from the SoCQ indicated most teacher concerns were Stage 0 (Unconcerned) concerns and Stage 1 (Informational) concerns. Analysis of the qualitative data for teachers' top three concern surrounding the implementation of blended learning revolve around access to blended learning resources (24.1%) and school technology concerns (21.7%) followed by concerns around home WIFI and technology access at home (13.4%). The top three concerns from the interviews reinforced that teachers are concerned with school technology concerns (26.0%), concerns around home WIFI and technology access at home (23.3%), and blended learning resources (22.7%). Analysis of the data revealed school technology and blended learning resources were in the top three concerns for teachers no matter how the data was analyzed (SoCQ open-ended question, interviews, age band, or number of years implementing blended learning). Concerns about Home WIFI and technology access, time, training, and school and district administration concerns were also listed in the top three concerns of some groups. Chapter 5 provides a discussion of the findings and recommendations of the study.

Chapter V

DISCUSSION

This chapter contains an overview of the study, discussion of the findings, and includes an introduction, a review of the study's purpose, a synopsis of the related literature, and an overview of the study's research design, limitations, and data analysis. Discussion of the findings include conclusions drawn from the research, recommendations for action with regards to the implementation of blended learning in K-12 classrooms, and recommendations for future study. The findings in the study were based upon the perceptions of teachers, the foot soldiers tasked with implementing this transformational change in pedagogy.

Technology is a ubiquitous part of life in the 21st century and being continually connected is the norm for today's students. However, school is an anomaly detached from their lived experience in the world outside of the schoolhouse. Though technology can be a transformational tool for reaching, teaching, and supporting student achievement (Horn & Staker, 2011; Horn & Staker 2014; Reimagining the Role of Technology in Education, 2016), any technology integration in the classroom is dependent upon the teacher in the classroom (Levin & Wadmany, 2006). Implementing blended learning, the integration of technology in the curriculum, can be intimidating for teachers who did not grow up using technology (Prensky, 2011). Teachers will not harness the potential of blended learning if they

do not feel comfortable with this new pedagogical change (George, Hall, & Stiegelbauer, 2013; Hall & Hord, 2011; Hall, 2013).

Purpose of the Study

If teachers are the gatekeepers of what happens in the classroom, teacher concerns regarding the implementation of blended learning must be addressed if blended learning is to be successfully implemented in the classroom. The purpose of this explanatory sequential mixed-methods study was to examine teacher SoC with the implementation of blended learning, how those concerns differ by teacher characteristics (gender, years of teaching experience, age, and years of experience utilizing blended learning), as well as teachers' top three concerns with the implementation of blended learning. The CBAM, a framework that describe, explains, and predicts behaviors of teachers going through any instructional change (Hall & Hord, 2011), was used as the theoretical lens for this study. The study was guided by three questions:

Research Question 1. What are teachers' predominate SoC with the implementation of blended learning as identified by the Stages of Concern Questionnaire?

Research Question 2. How do those Stages of Concern differ by gender, years of teaching experience, age, and years of experience utilizing blended learning?

Research Question 3. What are teachers' top three concerns related to the implementation of blended learning in their classes?

Related Literature

Schools are grappling with how to reach unengaged 21st century learners (Mehta & Fine, 2012; Huang, Chen, Yang, & Loewen, 2013; Horn & Staker, 2014). These same learners are enabled, engaged, and empowered – outside of the school building. School represents a digital disconnect for most students who are required to *power down* upon entering the school building (Cuban, 2013). The integration of technology in the classroom is a powerful tool with the potential to reach today's constantly connected students (Picciano, Dziuban, & Graham, 2013). There appears to be a positive increase in student achievement when technology is incorporated into the learning environment (Tamim et al., 2011; Costley, 2014; Burns, 2013; Cheung, 2013; Jokinen & Mikkonen, 2013; Lei & Zhao, 2007; Rafool et al., 2012). Blended learning is one technology-enabled pedagogy that educators hope can bridge this digital divide between teachers and their students (Graham, 2012).

Blended learning, an instructional delivery method combining face-to-face instruction and online learning, is a promising instructional innovation being implemented in K-12 schools (Halverson et al., 2012; Piccano et al., 2012; Staker, 2011). Blended learning provides both opportunities and challenges for teachers (Staker et al., 2011; Staker & Horn, 2014). Blended learning has many benefits, including allowing students to utilize their affinity toward technology and the application of those technical skills to communicate, collaborate, and creatively solve problems while using critical thinking skills (National Education Association, 2008). Students will need these 21st century skills to survive and thrive in *their* future, in a world full of constant change, unique challenges, and rapid technological advances (Staker & Horn, 2014). When

implemented successfully, blended learning can increase graduation rates, enable students to recover lost credits, and allow students to acquire college and career-ready skills (Picciano et al., 2012).

Integrating technology into the curriculum is a pedagogical change for many teachers growing up in the 20th century where education was teacher-centered and the focus was on teaching content and skills with little thought of engaging students (Abik, Ajhoun, & Ensias, 2012; Chuang, 2014; Horn & Staker, 2011). With visions of extraordinary increases in student academic achievement, many district leaders and school administrators believe teachers will instinctively know how to integrate technology to support student academic needs (Berrett, Murphy, & Sullivan, 2012). Mandating teachers to integrate technology into the curriculum, a major pedagogical change for many, will not ensure implementation without appropriate training and support addressing individual needs (Atkins & Vasu, 2000; Lochner, Conrad, & Graham, 2015).

Teacher concerns and attitudes are a critical component of change and influence their rate of adoption of any instructional technology innovation such as blended learning (Orlando, 2014). Many factors influence whether teachers will integrate technology into the curriculum, including their pedagogical beliefs and teaching practices (Zhao & Frank, 2003), and attitudes toward, and expertise with, technology (Christou, Eliophotou-Menon, & Philippou, 2004; Zhao & Frank, 2003). Barriers such as lack of time, lack of necessary knowledge and skills, and budget constraints can inhibit a successful technology-based pedagogical change (Pritchett, Pritchett, & Wohleb, 2013; Siko &

Hessm, 2014) as well as the quality of targeted professional learning and training (Hall & Hord, 2011; Reid, 2014).

Change is very difficult and can be problematic unless the personal side of change is addressed (Hall, 2010). CBAM examines the personal element of change and identifies different stages of user concerns related to the implementation of a new educational innovation (George, Hall, & Stiegelbauer, 2013; Hall & Hord, 2011). CBAM describes the concerns and the varied and unique responses of individuals facing educational change (Hall & Hord, 2006). Concerns, describing the personal feeling associated with a new innovation, are an important component when working with teachers involved in the change process (George, Hall, & Stiegelbauer, 2013). Concerns are not necessarily based on fears, anxiety, or worries, but are a natural response involving a diverse set of beliefs, understandings, behaviors, and feelings of preoccupation and consideration when confronted with something new (Hall & Hord, 2011).

CBAM includes three diagnostic dimensions: SoC, LoU, and IC components. The SoC addresses the personal side of change; the LoU describe the different behavioral profiles of non-users and users; and the IC represent the possible operations forms of the change (Hord & Loucks, 1980; Hall, 2013). The SoC and the LoU focus on the individual; IC characterizes the new program or process (Hall & Loucks, 1978). This study focused on the SoC dimension of the CBAM used extensively in educational settings (Lochner, Conrad, & Graham, 2015).

There are seven SoC: Stage 0 (Unconcerned), Stage 1 (Informational), Stage 2 (Personal), Stage 3 (Management), Stage 4 (Consequence), Stage 5 (Collaboration), and

Stage 6 (Refocusing). Teachers move through these stages whenever going through change, such as the implementation of a new pedagogy. The concerns are classified in three general groups: Self, Task, and Impact. Self concerns refer to the questions individuals may ask when first exposed to a new innovation (Stage 1), and how it might affect them (Stage 2). It includes questions by individuals who may be more concerned about other initiatives or are not concerned with the innovation (Stage 0). Task concerns emerge as individuals must learn new skills and deal with new factors, (e.g., time demands, materials) as a result of the innovation (Stage 3). Impact concerns describe individual's thoughts about how they can make the innovation better serve students (Stage 4), to improve the use of the innovation through collaboration (Stage 5), and advance the innovation itself (Stage 6).

Today's technology innovations and initiatives, including blended learning, represent major pedagogical change for teachers (Hall & Hord, 2011). Hall and Hord (2011) assert change cannot occur without professional learning. Teachers must be provided with appropriate training and support to successfully integrate technology into the classroom (Atkins & Vasu, 2000). Professional learning should be teacher-centered (Burdick, Doherty, & Schoenfeld, 2015) and differentiated based upon teacher needs. Appropriate interventions can help address teacher concerns once identified (Hall & Hord, 2011; Holloway, 2003). Successful technology integration can only be as effective as the professional learning provided to train and support teachers (Gerbic, 2011; Gundy & Berger, 2016).

The gap in the literature related to information on teacher concerns with the implementation of blended learning was significant. There have been calls for

researchers to investigate blended learning, to include the International Association for K-12 Online Learning (iNACOL). Ten areas of research pertaining to blended learning were identified by iNACOL (Kennedy, 2013). Teacher support, changing roles, and needs for teachers were among the areas cited. The ten areas included: (1) identifying most appropriate blended learning environments for different groups of students, (2) the most effective models of blended learning, (3) how to best support educational professionals with blended learning, (4) how to best manage blended learning models, (5) what the best teaching strategies are for blended models, (6) instructional design for blended learning models, (7) how to provide access for all students to blended and online education, (8) appropriate type and frequency of assessments, (9) changing roles and needs for teachers, and (10) the effect of government policy on blended learning education.

Methods

This mixed-methods explanatory sequential study examined the concerns of Georgia teachers regarding the implementation of blended learning. In an explanatory sequential research study, the data is collected in two phases: Phase I: Quantitative and Phase II: Qualitative. Phase I was informed by data collected and analyzed from The Southwest Educational Development Laboratory's (SEDL) online version of the SoCQ. The SoCQ included twelve demographic questions and three open-ended questions about the implementation of blended learning. Two data sets, one of the open-ended questions from the SoCQ and semi-structured interviews, provided the evidence for Phase II.

Participants. One hundred and six full-time K-12 teachers from the state of Georgia participated in Phase I of the study and completed the SoCQ survey. Fourteen

volunteers from Phase I were interviewed during Phase II to provide additional insights into teachers' top concerns with the implementation of blended learning.

Instrumentation. Data was collected in two phases for this explanatory sequential mixed-methods study. The quantitative phase of the study was followed by a qualitative phase conducted as a follow-up to help explain the quantitative results (Creswell, 2014). The data for each phase of the study was collected using different instruments. The first phase of this study utilized the 35 item SoCQ survey to determine the stages of teacher concern about the implementation of blended learning and identify how those stages differed by gender, years of teaching experience, age, and years of experience utilizing blended learning. The SoCQ is an instrument used to identify the concerns with the implementation of a change from the viewpoint of those charged with the implementation of the innovation. In the second qualitative exploratory follow-up, one of the open-ended questions on the SoCQ and semi-structured interview questions were used to further probe teacher perceptions around the implementation of blended learning.

Procedures and Data Analysis. Quantitative and qualitative data were collected during this sequential explanatory mixed-methods study to answer the three research questions. Both data analysis methods were employed to evaluate, analyze, and interpret the findings and draw conclusions.

Prior to soliciting teacher participation in the study, the necessary paperwork for the Institutional Review Board (IRB) to review the study was issued in a letter of approval in October 2016. The study was deemed exempt from IRB oversight by the Review Board. Once IRB approval was granted, Phase I (quantitative) of the study began with an email request for assistance to technology leaders in each district who were part of the

Georgia Technology Consortium. Technology leaders were asked to share the survey participation email request to teachers after securing district permission. Teachers choosing to participate in the study, were provided a link to the SoCQ online survey at the bottom of the email. A Thank You page with information for teachers to volunteer for the semi-structured interviews in Phase II of the study appeared at the completion of the survey. The data from the SoCQ provided the evidence for the first two research questions.

The evidence for Phase II was addressed by analyzing one of the open-ended questions on the SoCQ in addition to semi-structured interviews. In Phase II of an explanatory sequential mixed-methods study, the qualitative phase was informed by the results of the quantitative analysis from Phase I with an expectation the findings and themes of this phase would provide further explanation and interpretation of the quantitative survey findings. Once Phase I was concluded and the data was analyzed to answer research questions one and two, the results were used to select the volunteer participants for Phase II. An email was sent to each of the respondents who indicated they would like to be interviewed. A chart was created with the demographics of each potential interviewee and checked when each participant confirmation was emailed back. The selection of the interviewees was stratified according to the statistically significant variables found in Phase I, age and number of years implementing blended learning.

Limitations

Three significant limitations may have impacted the results of this study. First, limitations of this study include the inability to generalize due to a small sample size (N = 106) and geographic location. The survey instrument utilized for Phase I (the SoCQ) was

also a limitation. Since the research questions could not be reworded, the wording of some of the questions may not have been clear to participants. Therefore, the results of the SoCQ were accurate to the level in which respondents understood the questions. Lastly, the study was designed to discover relationships among variables and did not examine cause/effect relationships among variables.

Summary of the Findings

Three research questions were employed in this explanatory sequential mixed-methods study to understand the concerns of teachers with the implementation of blended learning. The CBAM was used as the lens to analyze teacher concerns in this study because it was essential to analyze the implementation of blended learning through the eyes of those being tasked with carrying out this change in pedagogy. The SoCQ was deemed an appropriate tool to delve into teacher needs regarding the implementation of blended learning since it has been used extensively in educational settings to evaluate adoptions and implementations of innovations (Lochner, Conrad, & Graham, 2015). Teacher concerns are highly personal and changing concerns are dependent upon each individual teacher (George, Hall, & Stiegelbauer, 2013).

Research Question 1 sought to determine teachers' predominate SoC with the implementation of blended learning as identified by the SoCQ. The majority of the peak SoC for the teachers participating in this study were Self concerns, with highest level of concerns residing in Stage 0 (Unconcerned) and Stage 1 (Informational), respectively (see Figure 6). Self concerns (Stages 0-2) refer to the questions individuals may ask when they are more concerned about other initiatives or are not concerned with the innovation (Stage 0), are first exposed to a new innovation and need additional

information about the innovation (Stage 1), and are curious as to how it might affect them (Stage 2).

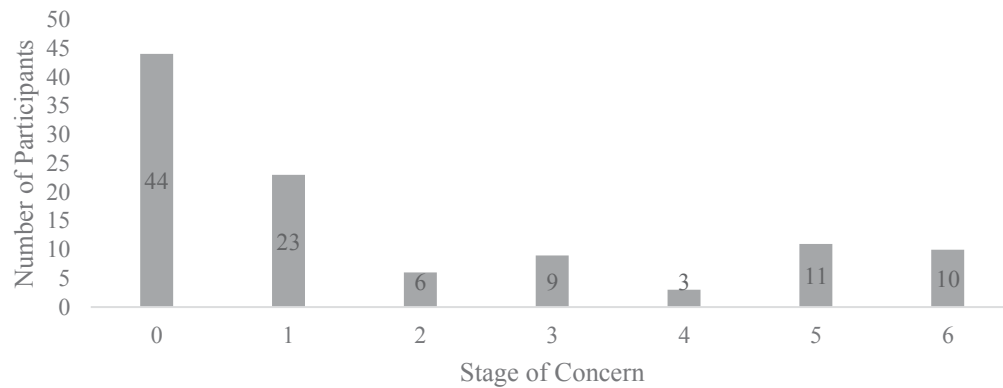


Figure 6. Frequency of Highest SoC of respondents.

A deeper analysis into the five questions on the SoCQ associated with Unconcerned (Stage 0) concerns indicated teachers currently have other priorities preventing them from focusing on the implementation of blended learning. A closer inspection of the five questions associated with Informational (Stage 1) concerns indicated teachers were very interested in knowing what resources were available for blended learning in addition to what the use of blended learning would require in the immediate future.

Hall and Hord (2001) reported a high Stage 0, score coupled with Stage 1 as the next highest, is indicative of an innovation in the beginning stages of the implementation process. George, Hall, and Stiegelbauer (2013) clarified a high Stage 0 concerns indicate teachers are not concerned about the innovation, which was blended learning in this study; high Stage 1 scores indicate teachers want to know more about the innovation.

Research Question 2 sought to determine how teachers' SoC differed by gender, years of teaching experience, age, and years of experience utilizing blended learning. An

analysis of variance (ANOVA) was employed to examine each demographic variable to see if there was a statistically significant effect on the teachers' SoC. Results of ANOVA and *post hoc* comparisons revealed that teacher age and the number of years implementing blended learning had significant impact on teachers' SoC while gender and years of teaching experience did not.

Age was found to be statistically significant. Age, a continuous variable transformed into a categorical variable, was defined as the age of the teacher. Teachers were placed into the following three categories: Millennial (ages 20-35), Generation X (ages 36-50), and Baby Boomer (ages 51 and up) (Seppanen & Gualtieri, 2010). The ANOVA on the SoC of teachers by age yielded significant variation among the three age bands, $F(2, 103) = 4.30, p < .05$. The SoC differed among the three age categories and were highest in 36-50 years and lowest in 20-35 years. Teachers in the 36-50 age band had lower Self Concerns (Stage 0: Unconcerned and Stage 1: Informational) and higher Impact Concerns (Stage 5: Collaboration and Stage 6: Refocusing) than teachers in the other two age bands. This difference may be due to those teachers who are not focused on classroom management like younger teachers and teachers in this age band (younger) typically have had more exposure to technology than older teachers.

The number of years a teacher had been implementing blended learning indicated statistical differences between teachers' SoC. The number of years of experience utilizing blended learning was defined as the number of years the teacher had implemented blended learning. Break points were placed teachers into five categories: 0-1 year, 1-2 years, 2-3 years, 3-4 years, 4+ years. The results revealed the SoC differed significantly among the six groups of teachers; $F(5, 100) = 4.39, p < .01$. Teachers who

had been implementing blended learning techniques for 4 years demonstrated higher SoC and teachers who had been implementing blended learning for a year had the lowest SoC.

Further analysis was conducted using Tukey HSD and LSD post hoc tests to identify which difference was significant between the number of years implementing blended learning. The Tukey post hoc tests indicated that there were only differences between teachers with 5+ years of experience and teachers who had never implemented blended learning and between teachers who had only been implementing blended learning for a single year.

A deeper analysis of the SoCQ indicated teachers who had never implemented blended learning had high Stage 2 (Personal) concerns in addition to high Stage 0 (Unconcerned) and Stage 1 (Informational). The indication this group has intense personal concerns about implementing blended learning and its consequences for them. While this indicates uneasiness with the implementation of blended learning, it is not indicative of resistance (George, Hall, & Stiegelbauer, 2013). Teachers with 1 year of experience with the implementation of blended learning had high Stage 3 (Management) concerns as did teachers with 2 and 3 years of experience implementing blended learning. This demonstrates a high level of concern about time, logistics, or other managerial problems related to the implementation of blended learning. Teachers with 2 year of experience implementing blended learning were different from the other groups. The SoC profile analysis indicated this group may have some resistance with the implementation of blended learning. Therefore, it would be wise for district and school leaders to provide additional information to this group of teachers to help them understand the value of blended learning and how it can positively affect student

achievement. Teachers with 4 years of experience implementing blended learning had high Stage 6 (Refocusing) concerns. This group indicated they would like to modify blended learning based upon the experience of their students. This could be a great help to district and school leaders as they strive to identify best practices for blended learning. Teachers with more than 4 years of experience with the implementation of blended learning had high Stage 5 (Collaboration) concerns.

While there are several studies on the SoC which suggesting demographic variables do not influence a teacher's highest level of concern (Hall, George, & Rutherford, 1979; Lowther, 2010), other studies have shown that is not the case (Adams, 2003; Boatright, 2015; Kagima & Hausafus, 2001; Roberts, Hutchinson & Little, 2003). At the time of this study, little research existed on the impact of demographic variables on teachers' SoC with the implementation of technology (Joffrion, 2014) and no research has been conducted on the impact of the number of years a teacher has been implementing blended learning on a teacher's SoC. Analysis of the results of this study indicated age and the number of years implementing blended learning were predictive variables for teachers' SoC with the implementation of blended learning. The results from this study can help inform other studies regarding teacher concerns with the implementation of blended learning, age, and the number of years utilizing blended learning techniques.

Research Question 3, informed by one of the open-ended questions on the SoCQ, as well as semi-structured interviews, utilized quantitative analysis to probe teachers' top three concerns related to the implementation of blended learning. First, the responses to the open-ended Question 36 on the SoCQ, "*When you think about implementing blended*

learning, what are you concerned about,” were analyzed and coded to probe deeper into teacher concerns with the implementation of blended learning. After the analysis of the data collected from Phase I utilizing the online SoCQ from Southwest Educational Development Laboratory (SEDL), 13 of the respondents who volunteered participated in Phase II (the qualitative semi-structured interviews) were contacted and scheduled to be interviewed. The interview data allowed the researcher to probe deeper into teacher top three concerns with the implementation of blended learning.

The analysis of the qualitative data revealed a surprise finding from this study. Teacher stated concerns about the implementation of blended learning differed from the peak SoC extrapolated from the analysis of the SoCQ data. The results of the SoCQ indicated the majority of the teachers’ peak level of concern were Unconcerned (Stage 0) and Informational (Stage 1). An analysis of the qualitative data revealed over half of teachers’ concerns centered around Management (Stage 3) concerns. Management (Stage 3) concerns indicate concerns about logistics, time, and management (George, Hall, & Stiegelbauer, 2013). Consequence (Stage 4) concerns, which revolve around the consequences of implementing blended learning on students, and Personal (Stage 2) concerns, which are concerns about blended learning and its consequences for teachers, were the second and third largest number of worries for teachers. While the results of the SoCQ are consistent with teachers in the beginning phase of an educational change, the Likert-style questions do not probe into specifics. When teachers were given the opportunity to reflect upon specific concerns surrounding the implementation of blended learning, questions about management rose to the forefront along with concerns about the consequences of implementing blended learning and the desire for additional information

about implementing blended learning. The responses to the open-ended Question 36 on the SoCQ and the interviews were both analyzed and coded according to themes. The codes were organized according to SoC. Figure 7 provides a visual representation comparison of the peak SoC from the SoCQ results versus the number of coded teacher concerns from the open-ended Question 36 on the SoCQ and the interviews.

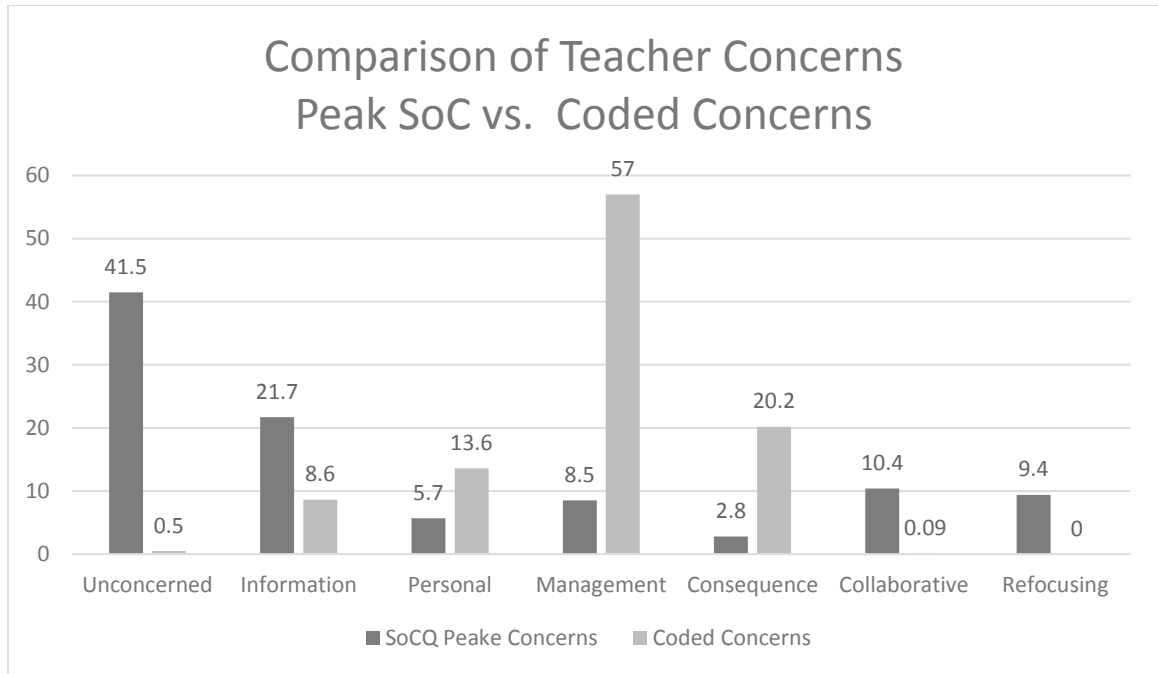


Figure 7. Number of Coded Teacher Concerns by Stage of Concern.

The most common themes of teachers' concerns from the surveys can be viewed in Table 31. The table includes the sub-codes associated with each of the top three themes. Concerns surrounding blended learning resources topped the list of teachers' concerns with the implementation of blended learning. The top teacher concerns about blended learning resources centered around funding concerns (59.1%) and most of the funding concerns included the need for free resources and not having to pay out of pocket. The next largest number of concerns about blended learning resources (25.7%)

included teacher interest in content and grade specific resources, as well as resources addressing special programs such as tutorial, remediation, gifted and special ed. The rest of the concerns about blended learning resources were concerns about awareness on available resources for blended learning (4.5%), reliability of the Web 2.0 (1.5%), and vetted blended learning resources (9.0%). Based upon the number teacher responses related to blended learning resources, there is a clear need for either the state or local school districts to provide free or already funded resources for teachers when teachers are asked to implement blended learning. Previous studies have also found teacher concerns surrounding blended learning resources to be a hindrance with implementation efforts (Lewis & Dikkers, 2016; Powell et al., 2015; Werth, Werth, & Kellerer, 2013). Funding concerns have been cited as a road block for technology integration efforts (Carlson & Gadio, 2002; Sundeen & Sundeen, 2013). Barseghian (2012) acknowledged many school districts are “perpetually cash-strapped” and this issue is a hindrance to technology needs, including teacher professional learning (Topper & Lancaster, 2013).

Not only do teachers want additional information about blended learning and access to blended learning instructional resources, they are concerned about technology access and resources at school. School technology elicited the next highest number of concerns. Access to working, updated school technology and supportive resources has been found to be a critical factor in the implementation of technology in the classroom (Aflalo, 2014; Bakir, 2015; Hechter & Vermette, 2013; Hew & Bush, 2007; Hsu, 2016; Kafyullo, Fisser, & Voogt, 2016; Sundeen & Sundeen, 2013; Watson et al., 2014). The remainder of the school technology sub-codes included concerns about resources for content or grade specific (22.7%), vetted blended learning resources (9.0%), awareness

on available resources (4.5%), resources for ability levels (3.0%), and reliability of Web 2.0 resources (1.5%). These concerns indicate that school districts and schools may need to focus on the hardware and reliable WIFI in schools in order to experience a successful implementation of blended learning.

Rounding out the top three teacher concerns with the implementation of blended learning were teacher concerns about home WIFI and technology access. The Digital Divide, defined as a lack of access to technology and Internet outside of the classroom in this research, is still an issue in the United States (Meyer, 2016; Rawson, 2016). Rogers (2016) noted students who cannot access the Internet at home is a hindrance to the implementation of blended learning in K-12 schools. Sixty percent of the statements coded for this sub-group surrounded teacher concerns about equity in student access to technology, including lack of Internet and technology at home. This was an unexpected finding from the study – and one not supported by Census data. According to the 2015 Census, only 14% of Georgia households do not have access to the Internet (Bureau of Census, 2017). While concerns around student home WIFI and technology access at home is not backed up by research, this concern cannot be dismissed. One solution provided by teachers was going one-to-one to give students access to technology to take home. Another solution suggested was for schools to send home surveys to find out the Internet and WIFI accessibility for their student population and then address issues and find solutions overcome this obstacle.

Table 31

Blended Learning Concerns: Top Three Themes with Sub-Codes

Teacher Concerns on Implementing Blended Learning: Top Three Themes with Subthemes
Blended Learning Resources
▪ Funding Concerns (59.1%)
▪ Resources for content or grade specific (22.7%)
▪ Vetted blended learning resources (9.0%)
▪ Awareness on available resources (4.5%)
▪ Resources for ability levels (3.0%)
▪ Reliability of Web 2.0 resources (1.5%)
School Technology Concerns (21.7%)
▪ Availability of technology at school (59.2%)
▪ WIFI reliability (16.3%)
▪ Lack of access to the right technology (14.3%)
▪ Updated technology (10.2%)
Concerns about Home WIFI & Technology Access
• Equity in student access to technology
○ Lack of technology at home (82.4%)
○ Lack of Internet at home (17.6%)

Technology is an integral part of our lives (National Education Technology Plan, 2010) and has transformed the way we live. Similarly, blended learning, the integration of technology with face-to-face teaching methods, has the power to transform how teachers teach and how students learn (Henrie, Halverson, & Graham, 2015). Blended learning allows teachers to create a flexible, personalized learning environment based on the needs of *each* student, instead of the elusive *average student* (Horn & Staker, 2011). With blended learning, teachers have the ability to create learning experiences to actively and meaningfully involve students in their own learning (Bassendowski & Petrucka,

2013; Vesisenaho et al., 2010). Within the current research, the role of teacher concerns with the implementation of blended learning has been largely overlooked (An & Reigeluth, 2012; Halverson et al., 2012; Poon, 2013; Staker, 2011). Teacher concerns are a critical part of the change process and must be addressed if change is to occur (George, Hall, & Stiegelbauer, 2013). The use of the CBAM and the SoCQ provide research-based support for assisting teachers as they undergo change (Hall & Hord, 2011; Hall & Loucks, 1978).

Discussion

Addressing Teacher Concerns. This research provided convincing evidence that teachers desire formal training on blended learning in addition to technical support and vetted, standards-aligned resources. To address this need, state and district technology leaders must craft a clear plan that provides for differentiated professional development for teachers that addresses their developmental concerns. Additionally, support for teachers must include free resources aligned to the Georgia Standards of Excellence (GSE) by grade and by subject, as well as free online resources that address special student populations, such as gifted students, students with special needs, as well as resources for remediation and advancement.

It can be difficult for teachers to make changes in the classroom if they do not engage in professional learning or if the professional learning does not meet their needs (Christou, Eliophotou-Menon, & Philippou, 2004). Professional learning should be thoughtful and intentional so that it addresses and supports teacher concerns. While professional learning is important, professional learning infusing technology and instruction without intentional training and technology support throughout the academic

year (An & Reigeluth, 2012; DeMonte, 2013; Sugar, 2005) is not enough to ensure that computer technology use occurs or is effective. Atkins and Vasu (2000) found that schools that offer consistent, individualized support and training to teachers have increased chances for successful technology integration in their comparative case study. Musser, Hoover, and Fernandez (2008) discovered that a needs assessment is an essential element for developing professional learning for teachers. The SoCQ is one form of providing a needs assessment, and the results provide both individual and group data that help inform targeted professional learning for teachers (Hall & Hord, 2011).

A study by An and Reigeluth (2012) queried teachers on how professional development programs could be improved to better help teachers create technology-enhanced, learner-centered classrooms. The responses were similar to responses in this study: (a) allow time for hands-on practice; (b) be subject specific; (c) provide more training about learner-centered instruction; and (d) stop telling and show how to create technology enhanced, learner-centered classrooms (p. 60). Similarly, iNACOL studied the best practices for blended learning professional learning and found professional learning that is relevant, research based and field-tested pedagogy, ongoing and supported increases a teacher's ability to integrate blended learning into the curriculum (Parks, Oliver, & Carson, 2016). Likewise, previous studies have illuminated that professional development that is ongoing, collaborative, and timely has been shown to increase a teacher's ability to incorporate technology effectively into lessons (Finger & Houguet, 2009; Gerard et al., 2011; Kopcha, 2012; Siko & Hess, 2014). Gerard (2011) highlighted consistent, intentional professional development which provides a high level of support to engage teachers in best technology integration practices is effective.

The Importance of Professional Development. According to Wachira and Keengwe (2011), “teachers generally teach the way they were taught and infusing technological tools into instruction poses unique challenges to instructors who lack the technology or don’t have the knowledge and skills to teach with technology,” (p. 24). Research has indicated that purposeful professional development is necessary for transitioning teachers to a new technology-based pedagogy (An & Reigeluth, 2012; Bernhardt, 2015; Gerard et al., 2011; Gunn & Hollingsworth, 2013). George, Hall, and Stiegelbauer (2013) recognized professional development as a critical element in a successful implementation of any new implementation. Successful professional development programs are geared toward the specific needs of the teachers, while poorly executed professional development can create barriers with the implementation of technology into the classroom (Siko & Hess, 2014). Teachers need support and training to aid in the adoption of new technology instructional practices (Avidov-Ungar & Shamir-Inbal, 2013; Darling-Hammond & McLaughlin, 2011; Kopcha, 2012).

Supporting Teachers with the Implementation of Blended Learning. Hall and Hord (2011) stress the importance of the link between support that addresses teacher concerns and teacher change. Once teacher concerns are identified, appropriate teacher-centered support and training can be crafted to support teachers (Burdick, Doherty, & Schoenfeld, 2015; Hall & Hord, 2011; Holloway, 2003). One of the open-ended questions on the SoCQ (37): “What professional learning activities and/or support do you feel would best help you learn how to implement blended learning in your classroom,” explicitly asked teachers to list the professional learning activities and/or support they felt would best help them learn how to implement blended learning in their classroom. This

question was included because of the strong link found in the research between teacher professional learning and technology integration. Responses to the question contained valuable insight into teacher perceptions of support that would help them with the implementation of blended learning. A synopsis of the responses associated with this question are included displayed in Table 32.

Table 32

Teacher Suggested Supports for the Implementation of Blended Learning (SoCQ Open-Ended Question 37)

Professional Learning
<ul style="list-style-type: none"> ▪ Address Blended Learning Best Practices ▪ Observe Blended Learning in Action ▪ Go through a Professional Learning Class as a Blended Learning Experience ▪ Workshop or Conference that Focuses Only on Blended Learning ▪ Grade Level/Subject Specific Training ▪ Immersive, from the Student Perspective ▪ Training on Blended Learning Resources
Support
<ul style="list-style-type: none"> ▪ One-on-One Assistance <ul style="list-style-type: none"> ○ Coach <ul style="list-style-type: none"> ▪ Technology Coach ▪ Blended Learning Coach ○ In Class Blended Learning Assistant or Para ▪ Ongoing Support ▪ Vetted Blended Learning Resources Provided

Implications of the Results

Blended learning is still in its infancy in the state of Georgia. Including blended learning experiences for K-12 students is a win-win because integrating technology, the language of this 21st century generation, has the potential to personalize the learning experience and address the specific needs of each student in the classroom (Horn &

Staker, 2011). While state policymakers are in the best position to effect change and remove barriers regarding the implementation of blended learning (Horn & Staker, 2011), state, district, and school technology leaders are tasked with influencing and supporting teachers.

The transition from traditional face-to-face teaching to blended learning requires a major paradigm shift (Ugur, Akkoyunlu, & Kurbanoglu, 2011) for teachers. State and district technology leaders have a limited window of opportunity to ensure teacher concerns are addressed so that the implementation of blended learning has a strong foundation. Whenever teachers are required to make a significant change in pedagogy, their concerns must be taken into account if the implementation is to be successful (Darling-Hammond & McLaughlin, 2011; Hall & Hord, 2011; Hew & Brush, 2007). Addressing teacher concerns and providing scaffolding support and training based upon those concerns may assist in the a more positive experience for teachers, which in turn, has a better chance of positively impacting student learning and achievement – which is the primary objective of any instructional change. Money may be a factor in whether or not some school districts can afford to provide training and support for teachers. State-wide, online training would address a variety of needs, including lower cost, the ability to reach all teachers in the state, and convenience for teachers because they can learn whenever and wherever it is most convenient.

This study investigated the SoC of teachers implementing blended learning into the curriculum and their top three concerns with that implementation, which addresses two of the gaps in the literature identified by iNACOL: how to best support teachers with blended learning and changing roles and needs for teachers. The findings from this study

will help bridge the gap in the literature by providing useful insights into the concerns of teachers as they undergo implementing blended learning in their classrooms and differentiated supports to address those concerns.

This study is significant because there has been little research related to K-12 teacher concerns and blended learning. The findings of this study have several implications for state, district, and school technology leaders and those crafting professional development to support the implementation of blended learning. The data analysis highlighted ways in which the findings reduced the gap in research with teacher concerns surrounding the implementation of blended learning. The practical contributions of this study include helping state, district, and school leaders to identify ways to effectively address teacher concerns with the implementation of blended learning.

Recommendations for Future Research

The general picture emerging from the analysis is that teachers desire to learn additional information about the implementation of blended learning, but need targeted support and training to implement this new pedagogy in their classrooms. Currently, a gap in the literature exists related to information on teacher concerns with the implementation of blended learning. The findings from this study are significant because there has been little research related to blended learning in secondary school settings. Suggested recommendations for future research based upon the findings from this study include:

1. Conduct a state-wide and district-wide studies on the top concerns of teachers with the implementation of blended learning to include all districts in the state

of Georgia. The sample size (N = 106) was very low. Room exists for future studies in the State of Georgia about blended learning as well as about teacher concerns about the implementation of blended learning.

2. Coordinate a state-wide study on teacher concerns with the implementation of blended learning. The results can be used to craft targeted interventions based upon the needs of the teachers addressing their peak levels of concern.
3. Coordinate a state-wide study on teacher concerns with the implementation of blended learning ensuring rural school districts, which typically have fewer funds than urban and suburban school districts, are also represented. The results can be used to craft targeted interventions from a geographical perspective.
4. Provide formal training on blended learning for teachers. Since districts in Georgia are in the early stages of implementing blended learning, it makes sense the analysis of the SoCQ results indicate the majority of teachers are in the early SoC and have many Self concerns. Only 34% of the teachers in this study had received any formal training on blended learning; 92% of the 66% of teachers who had not receive any formal training on blended learning indicated they would like to receive training.
5. Conduct research on which Open Educational Resources (OER) are found to be most effective with the implementation of blended learning by grade level, subject, and special programs (such as gifted, tutorial, special needs, etc.).
6. Conduct research on best practices for the implementation of blended learning. In addition to providing vetted, free blended learning resources

aligned to the Georgia Standards of Excellence, it would be wise for the state of Georgia and for individual school districts to train on best practices in using those resources for teachers.

7. The state of Georgia and school districts should pilot a blended learning cohort with a control group and experimental group of schools with similar demographics to determine the change in concerns of teachers.

Summary

Introducing new instructional practices without addressing teacher needs rarely results in a change in practice (Hall & Hord, 2011). In order to implement blended learning, teachers must feel empowered, involved, and supported (Bailey et al., 2013; Horn & Staker, 2015). This research study was conducted to identify teacher SoC with the implementation of blended learning, as well as, the top three concerns with the implementation of blended learning.

Results from this study show teachers are willing to implement blended learning but have many concerns needing to be addressed in order to implement this 21st century technology-enable pedagogy. The general picture, which emerged from this study, is teachers are curious about blended learning, desperate for training on best practices for implementing blended learning that address the needs of their specific student population, and overwhelmingly desire access to free resources aligned to the state curriculum. Clear, intentional, and strategic training and free, standards-aligned resources are key elements for teacher support to address teacher top concerns surrounding the implementation of blended learning. Furthermore, results from this study should be a call to action for district and state technology leaders to provide training and guidance for

teachers with the implementation of blended learning, in addition to technology, technology support and consistently reliable WIFI.

Presently, there is a gap in the literature on teacher concerns with the implementation of blended learning in the K-12 arena (An & Reigeluth, 2012; Halverson et al., 2012; Powell, Rabbitt, & Kennedy, 2014; Means & Murphy, 2014). The findings of this study add to a growing body of research on blended instruction, offer an additional lens to view the implementation of blended learning via the concerns of teachers being asked to change their pedagogy to meet the individual needs of students in their classrooms, and can inform and empower state and district leaders on the variables needed to support individual teachers. Future studies should further investigate the supports needed to address the concerns of teachers with the implementation of blended learning and address the issue of professional learning targeted to support teachers in each SoC as they undergo this transformational change in pedagogy.

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APPENDIX A:
Institutional Review Board Approval



**Institutional Review Board (IRB)
for the Protection of Human Research Participants**

PROTOCOL EXEMPTION REPORT

PROTOCOL NUMBER: 03390-2016

INVESTIGATOR: Melissa Dandy Walker

PROJECT TITLE: *Mixed Methods Study of Teacher Concerns Toward the Implementation of Blended Learning*

INSTITUTIONAL REVIEW BOARD DETERMINATION:

This research protocol is exempt from Institutional Review Board (IRB) oversight under Exemption Category 2. You may begin your study immediately. If the nature of the research project changes such that exemption criteria may no longer apply, please consult with the IRB Administrator (irb@valdosta.edu) before continuing your research.

ADDITIONAL COMMENTS:

- *Research data records must be maintained in a secure manner for a minimum of 3 years following research completion.*
 - *Including any documentation, email lists, transcripts of interviews, etc. - in a safe, or a locked password protected computer – in which only the researcher has access to.*

If this box is checked, please submit any documents you revise to the IRB Administrator at irb@valdosta.edu to ensure an updated record of your exemption.

Elizabeth W. Olphie *09/29/2016*
Elizabeth W. Olphie, IRB Administrator Date

*Thank you for submitting an IRB application.
Please direct questions to irb@valdosta.edu or 229-259-5045.*

Revised: 06.02.16

APPENDIX B:

Southwest Educational Development Laboratory (SEDL) License Agreement



AIR LICENSE AGREEMENT

To: Melissa Walker (Licensee)
5844 Mays Ridge Court
Rex, GA 30273

From: Nancy Reynolds
Senior Library Specialist
American Institutes for Research
Library—License Agreements
4700 Mueller Blvd.
Austin, TX 78723

Subject: License Agreement to reprint and distribute materials published by SEDL,
an Affiliate of American Institutes for Research

Date: September 25, 2015

Thank you for your interest in using the **Stages of Concern Questionnaire 075** published by SEDL in 2006 in *Measuring Implementation in Schools: The Stages of Concern Questionnaire* as Appendix A, pages 79-82, written by Archie A. George, Gene E. Hall, and Suzanne M. Stiegelbauer; in the book *Taking Charge of Change*, pages 48-49, written by Shirley M. Hord, William L. Rutherford, Leslie Huling-Austin, and Gene E. Hall, in 2006, with a 2nd printing in 2008, and a revised PDF version uploaded in 2014 and available on demand from Lulu.com; and in electronic format as SEDL's *SoCQ Online* accessible at <http://www.sedl.org/pubs/catalog/items/cbam21.html>.

This instrument will be referred to as the "work" in this License Agreement. AIR is pleased to grant permission to the Licensee who will use the work in her dissertation at Valdosta State University in Valdosta, GA, on a concerns-based approach to the implementation of blended learning based upon teacher perceptions. The following are the terms, conditions, and limitations governing this limited permission to reproduce the work:

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2. In using the SoCQ 075, the Licensee may substitute the words "the innovation" with a word or phrase that participants will recognize, such as "blended learning," the name of the innovation or initiative, and questions can be added to identify demographic indicators or participants before or after the instrument, but otherwise, the wording and order of items cannot be changed.

p. 2, AIR License Agreement

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I'm e-mailing you a PDF of this License Agreement. Please print and sign one copy below, indicating that you understand and agree to comply with the above terms, conditions and limitations, and send the original back to me. If you wish to keep a copy with original signatures, please print a second copy, and also sign and return it to me and, after I receive and sign it, I'll return it with both of our signatures to you.

Thank you, again, for your interest in using the **Stages of Concern Questionnaire 075**. If you have questions about AIR's License Agreement, please contact me at 800-476-6861, ext. 6548 or 512-391-6548, or by e-mail at nreynolds@air.org.

Sincerely,

Nancy Reynolds
Nancy Reynolds for American Institutes for Research

October 6, 2015
Date signed

Agreed and accepted:

Signature: *Melissa Dandy Walker*

10/6/15
Date signed

Printed Name: *Melissa Dandy Walker*

APPENDIX C:

Email to District Technology Leaders

Subject Line: Invitation to Participate in Research

Dear (Name of District Technology Director),

I am writing to you in hope that you will approve participation of your teachers in a research study regarding the implementation of blended learning across the state of Georgia. The purpose of the study is to examine the concerns and perceptions teachers have about the implementation of blended learning and how those concerns differ by teacher characteristics (gender, years of teaching experience, age, and years of experience utilizing blended learning).

As participants in this study, teachers will be asked to complete an online survey during the month of September 2016. Teachers may opt to also participate in semi-structured interviews that will gather qualitative data to support the survey results. The survey will take approximately 10 minutes to complete. Responses related to or containing identifiable characteristics will be used for statistical purposes only and will not be disclosed or used in identifiable form for any other purposes. Data from multiple school districts across the state will be analyzed and reported as a group; however, a report can be provided that shares information specific to your district. This information may prove valuable in enhancing our understanding of blended learning practices in school classrooms to aid with addressing teachers' concerns with the implementation of blended learning across the state.

This study will help me complete the requirements of my doctoral dissertation research in the Educational Leadership program at Valdosta State University. Your school district's participation is greatly appreciated. Please feel free to email or call with any questions about the study.

Thank you for your time and assistance,

Sincerely,
Melissa Dandy Walker
Doctoral Student
Curriculum, Leadership, & Technology
Valdosta State University
melwalker@valdosta.edu

APPENDIX D:

Email to Participants to Participate in Quantitative Phase (Survey)

Subject Line: Invitation to Participate in Research

Dear fellow teacher,

My name is Melissa Dandy Walker. I am a doctoral student at Valdosta State University and I am asking for your help. Please take a minute to read this letter. I am conducting a study to identify teacher concerns about the implementation of blended learning. My research is entitled “A Mixed-Methods Study of Teacher Concerns toward the Implementation of Blended Learning.” It is hoped the responses will provide new insight into the field of blended learning and inform support and professional learning for teachers regarding the implementation of blended learning.

Because your school is implementing blended learning, I feel you are one of the best resources of information for this study. To help, all you need to do is complete a two-part instrument, which includes a brief demographic section and short questionnaire, which should take approximately ten minutes. All questions are straight forward and there are no right or wrong answers. Please respond to each item in terms of your present concerns about your involvement with the implementation of blended learning.

This survey is anonymous. No one, including the researcher, will be able to associate your responses with your identity. Your participation is voluntary. You may choose not to take the survey, to stop responding at any time, or to skip any questions that you do not want to answer. You must be at least 18 years of age to participate in this study. Your completion of the survey serves as your voluntary agreement to participate in this research project and your certification that you are 18 or older.

Please note that your school or district administrators will never see teachers’ individual responses, however, if requested, anyone may receive a copy of the finalized study where the data will be reported as a group.

The survey can be accessed [HERE](#).

Thank you again for your help.

Sincerely,
Melissa Dandy Walker

Questions regarding the purpose or procedures of the research should be directed to Melissa Dandy Walker at 678-665-5745 or melwalker@valdosta.edu. You may also contact my chairperson: Dr. L. James Pate, jl pate@valdosta.edu.

This study has been exempted from Institutional Review Board (IRB) review in accordance with Federal regulations. The IRB, a university committee established by Federal law, is responsible for protecting the rights and welfare of research participants. If you have concerns or questions about your rights as a research participant, you may contact the IRB Administrator at 229-259-5045 or irb@valdosta.edu.

APPENDIX E:
Questionnaire Used in the Study

Introduction Page of Online Survey

You are being asked to participate in a survey research project entitled “A Mixed-Methods Study of Teacher Concerns toward the Implementation of Blended Learning,” which is being conducted by Melissa Dandy Walker, a doctoral student at Valdosta State University. This survey is anonymous. No one, including the researcher, will be able to associate your responses with your identity. Your participation is voluntary. You may choose not to take the survey, to stop responding at any time, or to skip any questions that you do not want to answer. You must be at least 18 years of age to participate in this study. Your completion of the survey serves as your voluntary agreement to participate in this research project and your certification that you are 18 or older.

Questions regarding the purpose or procedures of the research should be directed to Melissa Dandy Walker at 678-665-5745 or melwalker@valdosta.edu. This study has been exempted from Institutional Review Board (IRB) review in accordance with Federal regulations. The IRB, a university committee established by Federal law, is responsible for protecting the rights and welfare of research participants. If you have concerns or questions about your rights as a research participant, you may contact the IRB Administrator at 229-259-5045 or irb@valdosta.edu.

By clicking the “next” button I confirm that I have read, or been informed of, the information about this study. I hereby consent to participate in the study.

[Next Button](#)

Concerns about the Innovation Demographics

Please complete the following:

1. What is your age in years? 20-35 36-50 51+
2. What is your gender? Male Female
3. How many years of teaching experience do you have?
 0 – 5 years 6 – 10 years
 11 – 20 years 21+ years
4. How many years have you been implementing blended learning in your classroom?
 0 – 1 year 2 – 3 years 4 – 5 years
 1 – 2 years 3 – 4 years 5+ years
5. What is your highest level of education?
 Bachelors Specialist
 Masters Doctorate
6. What grade level do you teach?
 Elementary School (Grades Pre-K–5)
 Middle School (Grades 6–8)
 High School (Grades 9-12)
7. What subject do you teach?
 Mathematics Career and Technical Education
 Language Arts Fine Arts
 Science Physical Education and Health
 Social Studies Special Education
 World Languages Other

Thank you for your participation,
Melissa Dandy Walker
Researcher

Concerns about the Innovation

(Questions 1 – 35, reprinted with permission of the Southwest Educational Developmental Laboratory)

The purpose of this questionnaire is to determine what people who are using or thinking about using various innovations are concerned about at various times during the innovation implementation process. The items were developed from typical responses of school and college teachers, who ranged from no knowledge at all about various innovations to many years of experience in using them. *Therefore, some of the items on this questionnaire may appear to be of little relevance or irrelevant to you at this time.* For the completely irrelevant items, please circle “0” on the scale. Other items will represent those concerns you do have, in varying degrees of intensity, and should be marked higher on the scale. For example:

This statement is very true of me at this time. 0 1 2 3 4 5 6 7

This statement is somewhat true of me now. 0 1 2 3 4 5 6 7

This statement is not at all true of me at this time. 0 1 2 3 4 5 6 7

This statement is irrelevant to me. 0 1 2 3 4 5 6 7

Please respond to the items in terms of *your present concerns*, or how you feel about your involvement with **The implementation of blended learning**. This would involve utilizing any technological device (i.e. laptop, tablet, cell phone, desk top) during instruction. This technological device may be used by you the teacher, students, or both. Remember to respond to each item in terms of your present concerns about your involvement with **The implementation of blended learning**. This is considered the innovation for this study.

Due to varying levels of current implementation within your school district, some questions may not seem applicable.

Thank you for taking time to complete this survey.

APPENDIX F:

Email to Participants in Qualitative Phase (Interview)

Subject: Research Interview

Dear [Participant's Name Here],

Thank you so much for taking the time to complete the Stages of Concern Questionnaire regarding the implementation of blended learning. Thank you as well for showing interest in being interviewed. Before we can chat, I will need to have the consent form for the interview (attached) returned electronically.

I would like to schedule your interview. I can completely accommodate your schedule so please let me know what days and times work best for you. The interview should last around 30 minutes or less. We can meet via Google Hangout or Skype depending on your preference.

I look forward to speaking with you.

Sincerely,

Melissa Dandy Walker

melwalker@valdosta.edu

678-665-5745

APPENDIX G:

Email Script for Interview

From: Walker, Melissa Dandy
To: Name Here
Subject: Research

Dear [Participant's Name Here],

Thank you so much for taking the time to complete the Stages of Concern Questionnaire regarding the implementation of blended learning. Thank you as well for showing interest in being interviewed. Before we can chat, I will need to have the consent form for the interview (attached) returned electronically.

I would like to schedule your interview. I can completely accommodate your schedule so please let me know what days and times work best for you. The interview should last around 20 minutes or less. We can meet via Google Hangout or Skype depending on your preference.

Sincerely,

Melissa Dandy Walker

APPENDIX H:
Interview Protocol

Interview Questions and Protocol

Introduction:

Hi _____. May I call you by your first name? So great to meet you!

Thank you again for agreeing to be interviewed. I will be asking you some questions regarding your experiences implementing blended learning in your classroom.

Your information is valuable in order to better understand teacher concerns with the implementation of blended learning and what supports will help make the process easier and/or more effective. All of the information you share with me today will be kept confidential, and neither your name nor the school's name will be used within the study. Please feel free to indicate at any time if you are uncomfortable with the interview or need a break. Your responses will be audio taped and then transcribed by myself for future analysis. The information you provide will be secure. I will keep the transcriptions securely locked in a fire proof filing cabinet in my home office and will be destroyed after 5 years – and only I have the code to lock.

- Do you have any questions about the interview before we begin?

Interview Questions:

1. How many years have you been teaching?
2. What subject(s) do you teach?
3. How long have you been implementing blended learning in your classroom?
4. Did you receive any formal training on how to implement blended learning in your classroom (workshops, courses, etc.)? If so, please describe that training. Do you feel it was adequate? What support do you think would best help you as you learn how to implement blended learning in your classroom?

5. What are your top three concerns about implementing blended learning in your classroom? Which one concerns you the most and why?
6. How has implementing blended learning affected you as a teacher?
7. How do you think implementing blended learning this year will impact your students?
8. How have you worked with other teachers in your school to adapt your curriculum for blended learning?

Closing:

Thank you for your participation in the interview and my study. Once again, all of your responses will remain confidential and neither your name nor the school's name will be used within the study. If you would like to receive a copy of the final study, please let me know.

APPENDIX I:

Process of Data Analysis for Qualitative Data

Process of Data Analysis for Qualitative Data

Data Analysis Process for Analyzing Data for Top Three Concerns

- Uploaded Stages of Concern data, including open-ended responses.
 - Transcribed each interview
 - Read through each completed transcript twice
 - Made a copy of each interview containing the question “What are your top three concerns about implementing blended learning” and the response.
 - Uploaded both documents into Dedoose
 - Highlighted key points and assigned codes
 - Grouped codes into initial themes
 - Read through responses and list of codes
 - Reorganized themes and combined topics into overarching themes
 - Had another researcher code the data
 - Made adjustments to themes
 - Reorganized themes into corresponding Stage of Concern
-

APPENDIX J:
Themes for Research Question 3

Themes for Teacher Top Three Concerns
with the Implementation of Blended Learning

Stage 0: Unconcerned

Stage 1: Information Concerns

- What is Blended Learning?
 - How to Implement Blended Learning
 - Is BL better than F2F
-

Stage 2: Personal Concerns

- Personal Technology Skills
 - Teacher Technology Support
 - Concern about Skill Set for BL
 - Keeping up with technological changes
 - Students More Knowledgeable
 - Training
 - Best Practices for BL
 - Blended Learning Training
 - Keeping abreast of latest blended learning programs and resources
 - Technology Training
 - Job Concerns
 - Impact on teacher evaluation/observation
-

Stage 3: Management Concerns

- Time
- Time to Practice BL Skills
- Time Commitment for Planning
- Time to Learn BL Programs
- Blended Learning Resources
- Resources for content or grade specific BL resources
- Resources for Ability Levels (Remediation, Advanced, Gifted, etc.)
- Mobile Friendly
- Reliability of Web 2.0 Resources
- Vetted BL Resources

- Awareness on available resources for blended learning
 - Funding concerns
 - District needs to provide money
 - Pay out of pocket
 - School needs to provide funding
 - Want free resources
 - School Technology Concerns
 - Updated Technology
 - Working Technology
 - Availability of technology at school
 - Lack of access to the right technology
 - WIFI Reliability
 - School and District Administration Concerns
 - State, District, School Provided Resources
 - District provided resources
 - School Provided Resources
 - State provided resources
 - Lack of Defined School/District Vision
 - School and District Support
 - Blended Learning Para/Coach
-

Stage 4: Consequence Concerns

- Student Technology Skills
 - Concerns about Home WIFI & Technology Access
 - Equity in student access to technology
 - Lack of Internet at home
 - Student Technology Check Out
 - Lack of technology at home
 - Impact on Students
 - Student Engagement and Understanding
 - Parental Support and Involvement Issues
 - Student Online Integrity
-

Stage 5: Collaborative Concerns

Stage 6: Refocusing Concerns

APPENDIX K:
Actions to Support Change

Concerns and the Facilitation of Change

A first step in using concerns to guide interventions is to know what concerns the individuals have, especially their most intense concerns. The second step is to deliver interventions that might respond to those concerns. Unfortunately, there is no absolute set of universal prescriptions, but the following suggestions offer examples of interventions that might be useful.

Stage 0 - Unconcerned

- a. If possible, involve teachers in discussions and decisions about the innovation and its implementation.
- b. Share enough information to arouse interest but not so much that it overwhelms.
- c. Acknowledge that a lack of awareness is expected and reasonable and that no questions about the innovation are foolish.
- d. Encourage unaware persons to talk with colleagues who know about the innovation.
- e. Take steps to minimize gossip and inaccurate sharing of information about the innovation.

Stage 1 - Informational Concerns

- a. Provide clear and accurate information about the innovation.
- b. Use a variety of ways to share information—verbally, in writing, and through any available media. Communicate with individuals and with small and large groups.
- c. Have persons who have used the innovation in other settings visit with your teachers. Visits to other schools could also be arranged.
- d. Help teachers see how the innovation relates to their current practices, both in regard to similarities and differences.
- e. Be enthusiastic and enhance the visibility of others who are excited.

Stage 2 - Personal Concerns

- a. Legitimize existence and expression of personal concerns. Knowing these concerns are common and that others have them can be comforting.
- b. Use personal notes and conversations to provide encouragement and reinforce personal adequacy.
- c. Connect these teachers with others whose personal concerns have diminished and who will be supportive.
- d. Show how the innovation can be implemented sequentially rather than in one big leap. It is important to establish expectations that are attainable.
- e. Do not push innovation use but encourage and support it while maintaining expectations.

Stage 3 - Management Concerns

- a. Clarify the steps and components of the innovation. Information from innovation configurations will be helpful here.
- b. Provide answers that address the small specific “how-to” issues that are so often the cause of management concerns.
- c. Demonstrate exact and practical solutions to the logistical problems that contribute to the concerns.
- d. Help teachers sequence specific activities and set timelines for their accomplishments.
- e. Attend to the immediate demands of the innovation not what will be or could be in the future.

Stage 4 - Consequence Concerns

- a. Provide these individuals with opportunities to visit other settings where the innovation is in use and to attend conferences on the topic.
- b. Don't overlook these individuals. Give them positive feedback and needed support.
- c. Find opportunities for these persons to share their skills with others.
- d. Share with these persons information pertaining to the innovation.

Stage 5 - Collaborative Concerns

- a. Provide these individuals with opportunities to develop those skills necessary for working collaboratively.
- b. Bring together those persons, both within and outside the school, who are interested in collaboration.
- c. Help the collaborators establish reasonable expectations and guidelines for the collaborative effort.
- d. Use these persons to provide technical assistance to others who need assistance.
- e. Encourage the collaborators, but don't attempt to force collaboration on those who are not interested.

Stage 6 - Refocusing Concerns

- a. Respect and encourage the interest these persons have for finding a better way.
- b. Help these individuals channel their ideas and energies in ways that will be productive rather than counterproductive.
- c. Encourage these individuals to act on their concerns for program improvement.
- d. Help these persons access resources they may need to refine their ideas and put them into practice.
- e. Be aware of and willing to accept the fact that these persons may replace or significantly modify the existing innovations.

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Hord, S. M., Rutherford, W.L., Huling-Austin, L., & Hall, G.E. (1987). *Taking charge of change*. ASCD, 125 N. West St., Alexandria, VA 22314-2798.

APPENDIX L:

The 35 Stages of Concern Questionnaire Items Grouped by Stage

The 35 SoCQ Items Grouped by Stage

Question	Statement
Stage 0 Awareness of Concern	
3	I don't even know what the innovation is.
12	I am not concerned about this innovation.
21	I am completely occupied with other things.
23	Although I don't know about this innovation, I am concerned about things in this area.
30	At this time, I am not interested I learning about this innovation.
Stage 1 Informational Concern	
6	I have very limited knowledge about the innovation.
14	I would like to discuss the possibility of using the innovation.
15	I would like to know what resources are available if we decided to adopt this innovation.
26	I would like to know what the use of the innovation will require in the immediate future.
35	I would like to know how this innovation is better than what we have now.
Stage 2 Personal Concern	
7	I would like to know the effect of reorganization on my professional status.
13	I would like to know who will make the decisions in the new system.
17	I would like to know how my teacher or administration is supposed to change.
28	I would like to have more information on time and energy commitments required by this innovation.
33	I would like to know how my role will change when I am using the innovation.
Stage 3 Management Concern	
4	I am concerned about having enough time to organize myself every day.
8	I am concerned about conflict between my interests and my responsibilities.

- 16 I am concerned about my inability to manage all the innovation requires.
- 25 I am concerned about time spent working with nonacademic problems related to this innovation.
- 34 Coordination of tasks and people is taking too much of my time.
-

Stage 4 Consequence Concern

- 1 I am concerned about students' attitudes toward this innovation.
- 11 I am concerned about how the innovation affects students.
- 19 I am concerned about evaluating my impact on students.
- 24 I would like to excite my students about their part in this approach.
- 32 I would like to use feedback from students to change the program.
-

Stage 5 Collaboration Concern

- 5 I would like to help other faculty in their use of the innovation.
- 10 I would like to develop working relationships with both our faculty and outside faculty using this innovation.
- 18 I would like to familiarize other departments or persons with the progress of this new approach.
- 27 I would like to coordinate my effort with others to maximize the innovation's effects.
- 29 I would like to know what other faculty are doing in this area.
-

Stage 6 Refocusing Concern

- 2 I now know of some other approaches that might work better.
- 9 I am concerned about revising my use of the innovation.
- 20 I would like to revise the innovation's instructional approach
- 22 I would like to modify our use of the innovation based on the experiences of our students.
- 31 I would like to determine how to supplement, enhance, or replace the innovation.
-