

Exploration of Factors Affecting the Self-Efficacy of Asynchronous Online Learners:

a Mixed Methods Study

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Dissertation submitted to the faculty of the Virginia Polytechnic Institute and State
University in partial fulfillment of the requirements for the degree of

Doctor of Philosophy
In
Curriculum and Instruction

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March 13, 2017
Blacksburg, VA

Keywords: Self-efficacy, Online Learning, Distance Learning

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ABSTRACT

This study explored former and current graduate and undergraduate online students' self-efficacy perceptions for asynchronous online coursework. Self-efficacy is described as a person's judgment of his or her ability to successfully complete a learning or performance task (Bandura, 1997). Using an exploratory sequential mixed methods approach, this study explored the research question in three phases: 1) Conducted interviews and analyzed transcripts of 11 current and previous asynchronous online learners; 2) Created and enlisted the expert review of a survey instrument developed from the interview data analysis; and 3) Collected and analyzed survey responses from current and previous asynchronous online learners. The findings from this research show, based on 215 participant responses, several factors present or absent in asynchronous online learning experiences have positive, negative or no effects on perceived self-efficacy to complete online course requirements. Findings, limitations, practical implications and future research ideas are discussed in Chapter Six of this document.

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GENERAL AUDIENCE ABSTRACT

This study explored the experiences of former and current graduate and undergraduate online students for possible factors that may have affected self-efficacy perceptions while completing online course requirements. Self-efficacy is described as a person's judgement of his or her ability to successfully complete a learning or performance task (Bandura, 1997). Using an exploratory sequential mixed methods approach, this study explored the research question in three phases: Phase I included conducting semi-structured interviews and analyzing transcripts of 11 current and previous asynchronous online learners; Phase II included creating and enlisting expert reviews of a survey instrument developed from the interview data analysis from Phase I; and Phase III included collecting and analyzing survey responses from 215 current and previous asynchronous online learners. The findings from this research showed several factors reported by participants as being present or absent in their online learning experiences having a perceived positive, negative or no effect on their self-efficacy beliefs at some point during their online coursework. A summary of findings, limitations, practical implications and future research ideas are discussed in Chapter Six of this document.

ACKNOWLEDGEMENTS

In every adventure I have ever attempted, there have been people who inspired and encouraged me throughout my journey. This adventure was no different. One group of people that always support me throughout my life are my family: *My parents*, have encouraged my studies, always check in with me, and listen to stories of successes and failures with empathy and encouragement. Their love is a guiding force in my life ~ Thank you; *My husband*, my high school sweetheart and my best friend has never complained--not once--about my late hours, books and papers scattered throughout the house, or the vibe that went without saying, “I’ll get to it....in a few years....” His support is what made it possible for me to complete my goal successfully. I am truly blessed ~ Thank you; *My sisters* have supported me by dragging me away to mountain hikes, plays in DC and NY and family get-togethers in order to refresh my mind and rejuvenate my soul...this has been priceless ~ Thank you; *My children*, all grown up now, have encouraged me in so many ways...including facilitating grandbaby visit therapy sessions as needed ~ Thank you!

I want to also recognize the support of my VT family. My first adviser, *Dr. Cennamo* showed me much love and patience. Thank you Dr. Cennamo for gently guiding me. Instructors in the department have stolen my heart. I worked with *Dr. Lockee* on the student board and was strengthened by her fierce support of the students in our program – Thank you. *Dr. Brill*, I grew as an instructional designer because of your belief that I already was one! – Thank you. *Dr. Burton*...I have much love and respect for you – you always treated me like I could do anything – Thank you.

Outside of IDT I have been encouraged by *Dr. Jones*. I took a motivation course with him once and I have been bugging him ever since **smile**. I have learned much from

him...thank you Dr. Jones, your support kept me going when I questioned my abilities – thank you. *Dr. Hodges* who agreed, late in the game, to be on my committee, checked in on me and encouraged me during my study – thank you. *Dr. Kniola*, my Quantitative Research instructor who accepted my fear of math, talked me down from time to time and provided insight on other projects of mine, including this one – thank you.

There are many others, such as my classmates, co-workers, and supervisors in my GA positions. Dr. Wu, Dr. Potter and Dr. Baab – thank you all for your constant support and learning opportunities. Miko, Cathy, Alexis, Eric, Heidi, Amy, Emily, Evelien and Jackie – thank you. You were and still are a source of encouragement...with love and respect I hug you all. Outside of Virginia Tech walls, but always a Hokie, I offer thanks to former classmate and VT IDT Alumna, *Dr. Samantha Won*, who nudged me along, while reading through my early drafts, providing eyes, ears and valuable input—thank you!

Finally, I want to give a special thanks to *Dr. Potter*. You have been a wonderful advisor and have helped make my time at Virginia Tech a constant learning experience; not just classroom learning. You have provided me with opportunities to learn and grow as an instructional designer, and as a person. You have shown me great care and I will forever appreciate your leadership.

I am thankful for all of you!

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CHAPTER ONE

Introduction

“Distance education, since its inception in the 1700s, was about making knowledge accessible to more than just a privileged few” (Kentnor, 2015, p. 30). Distance learning’s history follows a constant trend of attempting to reach more learners with each advancement in technology. Distance learning is instruction in which the instructor and the learner are separated by time and space, and therefore use a variety of technologies to communicate (Moore & Kearsely, 2011). Online learning, a form of distance learning that uses computers and the Internet as the delivery mechanism, has seen continued growth at all levels of education over the past decade (Allen & Seaman, 2015). Post-secondary learning institutions are reporting numbers close to six million students taking at least one online course and close to three million are earning their degrees completely online (Allen & Seaman, 2015). Online learning is also expanding opportunities for K-12 learners. Last year there were 454 virtual K-12 schools nationwide serving 261,449 students (Miron & Gulosino, 2016). In fact, it is now a graduation requirement in five US states to complete at least one online course (Watson, Vashaw, Gemin, & Rapp, 2012).

The extension of distance learning into online instruction has not been without its struggles. Many studies indicate that not all students who make the choice to learn online succeed (Boyd, 2004; Park & Choi, 2009; Patterson & McFadden, 2009). Researchers have attempted to identify factors that impact student success in online courses. Success is defined as completion of the course (Bunn, 2004). Many reasons learners leave online courses and programs are similar to pre-online distance learners, such as personal reasons, work requirements changing, financial issues, time, illness, and change in career plans (Cookson, 1990; Aragon & Johnson, 2008). Hart (2013) concludes in her literature review on student persistence studies that

“Oftentimes the decision to drop a course is unrelated to knowledge and is more a reflection of a lack of persistence” (p. 38).

Persistence is often associated with the construct of self-efficacy. Self-efficacy is a person’s beliefs in his or her ability to successfully perform a learning or performance task (Bandura, 1986). Self-efficacy is a strong predictor of academic success and self-efficacy theory suggests that people who believe that they are able to perform a learning or performance task are more inclined to perform it, work harder at it, and persist longer (Bandura, 1986; 1997; Multon, Brown, & Lent, 1991; Schunk, 1991). Research in online learning often describes successful online learners as being highly efficacious (Artino, 2009; Jan, 2015; Wang & Newlin, 2002; Wang, Shannon & Ross, 2013; Yukselturk & Bulut, 2007).

Statement of the Problem

An important characteristic of self-efficacy is its malleability; people’s judgements of their abilities can change as situations change (Bandura, 1986; 1997; Gist & Mitchell, 1992). Although studies cite that successful online students have high self-efficacy appraisals for their online coursework, few studies acknowledge that such qualities are not static and are often context-based. Research that “does not acknowledge the complexity and dynamic interplay of factors underlying and influencing motivation to learn,” may give the impression to the education community that there are characteristics that students *must* possess to be considered good candidates for successful online learning experiences (Golladay, Prybutok and Huff, 2000, p. 70).

Although many online students may not arrive to their courses with the skills necessary to thrive in an independent learning environment, one of the goals of education is to encourage change in students’ thinking patterns and behaviors (Bandura, 1997; Halpern, 1998; Paul, 1992)

and one of the main goals of instructional designers is to design courses that close the gap between where learners are and where they should be. Although research for online learning has helped to identify the connection between an online learner's self-efficacy perceptions and success in online coursework, there are few studies designed to purposefully affect students' self-efficacy perceptions while in their online learning environment. For such intervention studies to be effective, it is necessary to understand online learners' experiences and the factors that affect their self-efficacy judgements in order to establish target areas for intervention.

Study's Purpose

This study's purpose was to explore the experiences of asynchronous online learners for possible factors that may affect self-efficacy perceptions while completing online course requirements. In order to establish a direction for efficacy-enhancing research, instruction and course design, specific factors need to be identified. Research shows that online learners could benefit from efficacy enhancing interventions, as they may not come to virtual courses with the requisite skills needed to adequately attend to their online coursework (Hill & Hannafin, 1997; Whipp & Chiarelli, 2004; Yukselturk & Bulut, 2007). When people have low self-efficacy, even though they may have the knowledge needed for a task, they may not engage with it, creating an incongruent relationship between what the individual knows and their actions (Bandura, 1991; 1997).

Research Question

This study was guided by one research question:

- 1) What factors affect the self-efficacy of asynchronous online learners?

Those That May Benefit From the Study

Educational researchers who focus on online learning may benefit from this study. Researchers in the area of self-efficacy in online learning continually call for more qualitative research approaches in order to gain a deeper understanding of self-perceptions of online learners (Al-Harthy & Was, 2013; Flowers, 2012; Usher & Pajares, 2008). In Tsai, Chuang, Liang, & Tsai's, (2011) literature review of online learning self-efficacy research, they concluded, "Finally, some methodological issues may be worthy of notice. First, it seems that all of the Internet-related research concerning self-efficacy is based on questionnaires or surveys for measuring self-efficacy. Researchers should find other ways of assessing students' Internet-related self-efficacy, such as interviews or observation" (p. 237). Researchers interested in intervention studies designed to enhance online learner self-efficacy may benefit from this study as its findings show some possible factors present and absent in online courses that may affect online student self-efficacy perceptions. Instructors and instructional designers may benefit from this study as identifying factors that affect online learner behavior and motivation is a necessary element in quality learner analysis and course design and development (Dick, Carey, & Carey, 2009; Moore & Kearsley, 2011).

The following chapters are intended to provide a more in-depth look into this study. Chapter 1 has introduced the problem, and the study's purpose. Chapter 2 includes the relevant literature related to the theoretical framework on which this study was built, as well as a historical look at self-efficacy in education and research in online learning. Chapter 3 describes the methodology used which includes a description of the study's three phases: Phase I Personal Interviews, Phase II Survey Creation and Expert Review, and Phase III Survey Data Collection. Chapter 4 describes the findings from the Phase I interview data analysis and Chapter 5 describes

the findings from the Phase III survey data analysis. Chapter 6 includes a discussion of the final findings, followed by the implications of the findings, the study's limitations, and suggestions for future research.

CHAPTER TWO

Review of the Literature

This chapter discusses self-efficacy and its historical and theoretical backgrounds. Before online learning's popularity and even availability, education and psychology researchers were using the construct of self-efficacy to help them in their research on understanding human behavior, learning, and performance (Bandura, 1986; 1997; Cronbach & Meehl, 1955; Schunk, 1991; Pintrich & De Groot, 1990.) This research continues in the online learning environment. However, in order to better understand the importance of self-efficacy in online learners, it is necessary to understand the importance of self-efficacy in general, and the part it plays in human behavior.

Self-Efficacy's Historical Theoretical Background

Albert Bandura (1977) first introduced the construct of self-efficacy in Self-efficacy was a part of Bandura's (1977) Social Learning Theory (SLT) which brought new perspectives about human behavior to Psychology and the Learning Sciences. is unifying theory of behavior change was not necessarily a pushback against all behaviorist ideas on human behavior. It was more a push against the research practices for human behavior that often neglected to connect the role of cognitive involvement to behavior change (Bandura, 1984). Behaviorists were not inaccurate at describing human behavior, they simply were not providing a complete description (Bandura, 1986). SLT not only included the environmental impact on peoples' behavior, but also considered the idea that cognitive functioning played a large part in their behavioral choices (Bandura, 1986). Bandura (1973) insisted that, "Man is a thinking organism possessing capabilities that provide him with some power of self-direction" (p. 42).

The role that cognition played in SLT (Bandura, 1971; 1977) in the acquisition and regulation of behavior was in opposition to the idea that behavior was altered as a result of immediate consequences that did not require conscious involvement. SLT included cognitive involvement in behavior as a result of direct, vicarious and symbolic sources of information and gave it a major role in how humans acquired and retained new behavior. The theory suggested that people did not have to actually experience a consequence of an action in order to adjust their behavior and learn from it, as earlier behaviorist psychology theories concluded. Humans could also learn vicariously through the observation of others (behavioral models). Through observation of others, humans could build a concept in their minds as to how to perform a new behavior and then follow the symbolic behavior process in the form of action. After performing the action, based on the symbolic behavior process, self-correction methods could be used to self-adjust based on feedback from the initial and subsequent performances (Bandura, 1971; 1977).

Self-observation was considered a form of observational learning in that by observing the effects of one's own actions (similar to observing the actions of others) one's behavior would gradually be constructed. SLT (Bandura, 1977) explained that a person's behavior was not controlled by its immediate consequences. People used feedback information over time, noting patterns and the amount of action needed to produce a particular outcome. This cognitive interaction with feedback was more powerful than the reinforcement the behavior provided. For example, behavior that was positively reinforced would not increase if the individual believed, based on some other information, that those actions would not be rewarded in the future (Bandura, 1977). It was this interaction between a person's thoughts, actions and environment that provided the framework for SLT (Pajares, 2004).

SLT described human behavior as a triadic reciprocal interaction between environment, behavior, and personal factors (e.g., cognitions, beliefs, skills, and affects) (Schunk, 2012). However, previous research techniques treated internal factors and the environment as two separate behavioral determinants, which may be considered a weakness, as one's thoughts can be directly related to one's environment, and both may serve as behavioral determinants according to SLT. SLT stated that these two factors, as well as behavior itself, all functioned together in a continuous series of reciprocal interactions. This is not to say they worked simultaneously or in equal measure, but they all had an effect on each other continually (Bandura, 1977).

What began as social learning theory, was relabeled by Bandura (1986) as Social Cognitive Theory (SCT) to be more representative of his research. At the time, learning was mostly associated with knowledge acquisition through behaviorist (conditioning model of response acquisition) approaches and cognitive information processing (focused on internal processing of information) approaches. SCT suggested that humans employed a "self-system" that, as stated in social learning theory, gave them the means to exert control over their thoughts, feelings, and behaviors (Bandura, 1997, p. 2). In his book *Social Foundations of Thought and Action*, Bandura (1986) said, "People are not only knowers and performers. They are also self-reactors with a capacity for self-direction" (p. xi).

There are both cognitive and affective components to this self-system which include the ability to learn from observing others vicariously, symbolic thinking, reflective thinking, forethought, and self-regulating behavior. These can be self-adjusted as the situation changes based on a change in strategy (Pajares, 1997). Through the process of *reciprocal determinism*, Bandura (1986) described a view that personal factors, behavior, and the environment influenced and interacted with each other forming a triadic reciprocal causation, (shown in Fig. 1) in which

people lived their lives (p. 24). It is through his social cognitive learning theory that Bandura (1986) described a wider view of human behavior in which humans could interpret the results of their own performances and adjust their environment and beliefs about themselves to have an effect on their future behaviors. It is through a series of reciprocal interactions between environment, personal cognition, and behavior that we are able to explain human behavior to a certain extent (Bandura, 1986; 1997; Pajares, 2004; Schunk, 2012).

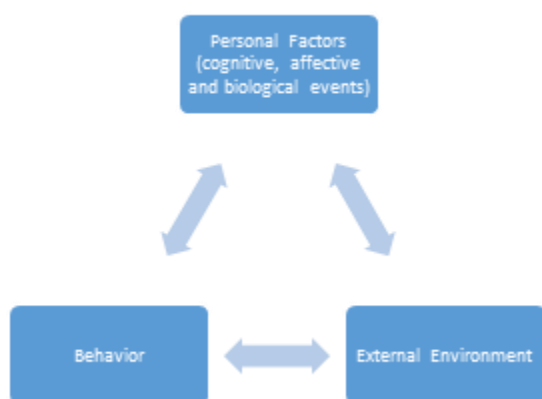


Fig. 1 Based on Bandura's (1997) triadic reciprocal causation model (p.6).

Previous research to this point focused on people's hope for a positive outcome (expectancy) instead of their perceptions of their ability to initiate action (Bandura, 1984). It was Bandura's (1986) behavior research on people with various phobias that brought prominence to his theory of self-efficacy. Eventually research showed that it was not a person's outcome expectation that prompted his or her behavior. Instead, it was a person's perceived ability to successfully use learned coping strategies that was a greater predictor of successful interaction with challenging situations (Bandura, 1984; 1986; Zimmerman, 2000). In other words, a phobic person's behavior might be motivated by the belief of getting bitten by a dog (outcome expectation), but a stronger motivator to action was the belief in his or her ability to successfully use coping skills (often learned through vicarious modeling experiences) when facing a dog. This

perception of ability, self-efficacy, could be used to predict action. Bandura (1984) stated in a commentary that addressed misconceptions about perceived self-efficacy, “It is because people see outcomes as contingent on the adequacy of their performance, and care about those outcomes, that they rely on self-judged efficacy in deciding which course of action to pursue and how long to continue a chosen course” (p. 235).

Self-Efficacy and Similar Constructs

Although self-efficacy is associated with a variety of learning and performance achievements, it is not the sole influence on a person’s behavior. High self-efficacy will not automatically lead to a positive performance if a person has no knowledge or skill to perform the particular action in question. As Bandura (1997) pointed out, “People contribute to, rather than merely predict, their actions” (p. 38). People require some pre-knowledge or skill on which to base their self-judgement. A similar construct, outcome expectations, is a person’s belief about possible outcomes for their actions. This is an important contributor to a person’s actions because people will often not undertake an action that they believe will have poor results (Schunk & Pajares, 2002, p. 16). Self-esteem, a person’s judgment of their self-worth, may also have an effect on a person’s actions, and “is sometimes, incorrectly, used interchangeably with self-efficacy” (Bandura, 1997, p. 11). Also, a construct that is thought to be predictive of achievement, that is sometimes incorrectly used interchangeably by researchers is self-concept, a person’s perception of him or herself (Pajares & Schunk, 2001; Shavelson, Hubner, & Stanton, 1976). A fourth construct that is closely tied to self-efficacy (because it can enable people to improve their performance) is self-regulation, which is a person’s self-prompted behavior change based on the belief that adjusted strategies will result in a better performance (Schunk, 1995; Zimmerman, 1989a).

Outcome Expectations. Unlike perceived self-efficacy, outcome expectancy is a judgement of the probable consequence that a person's behavior will produce. For example, the belief that one can shoot a basket from 30 feet away is a judgement in self-efficacy. By contrast, the anticipated praise one might receive from team mates or a coach, or even self-praise *following* the behavior, are all outcome expectations (Bandura, 1986, 1997; Williams, Anderson, & Winett, 2005). Both are important to human behavior. As self-efficacy beliefs are a strong predictor of action, outcome expectations could make the action seem useful (Bandura, 1997; Henry & Stone, 1995). A question on an outcome expectancy survey might ask, "How well do you expect to do in math this year?" whereas a question on a self-efficacy survey might ask a person to, "Rate your degree of confidence in using long division to solve math problems by recording a number from 0 to 100 using the scale given below" (Bandura, 2006).

Self-Esteem. Self-esteem, "refers to an individual's sense of value or self-worth, or the extent to which people value, appreciate, or like themselves" (Lane, Lane, & Kyprianou, 2004, p. 249). Self-efficacy and self-esteem are very different constructs as self-efficacy judgments are focused on a person's ability to perform a particular learning or performance task, and self-esteem has more to do with how a person likes themselves. Bandura (1997) stated that, "self-liking does not necessarily beget performance attainments" (p. 11).

Self-Concept. Another self-perception that forms as a result of interacting with the environment, and in particular, the interaction with significant others, is self-concept. These self-perceptions result in a person formulating an attitude (good or bad) about oneself which can have an effect on self-perception, decisions, and life in general (Bandura, 1997; Pietsch, Walker & Chapman, 2003). Because it is a form of self-appraisal, it is sometimes compared to self-efficacy. Both self-perceptions are often studied in education research to understand more clearly

the function of student perceptions of self and their effect on cognitive and psychological well-being in an educational setting. Both have been researched in education because of early beliefs that positive self-belief *should* positively affect performance (Bong & Skaalvik, 2003). As mentioned in previous examples, self-efficacy is not so much concerned with the skills a person has, but instead what he thinks he can do with them in a certain context. Self-concept would be more generally concerned with evaluating how well those skills might be used in a particular domain (Bong & Skaalvik, 2003). Self-efficacy and self-concept do utilize the observation of others as a source for self-perceptions. Self-efficacy theory proposes that people use the observation of others (i.e. modeling) to vicariously experience a behavior and then make judgments about their own skills and abilities. This interaction can affect the observer's behavior. Self-concept construct proposes that a person uses interactions with others to form judgments about themselves, which can affect one's behavior as well. With both self-efficacy and self-concept, a person's inability to accurately judge his or her own abilities can bring about negative consequences and reduced motivation (Bandura, 1997; Gibson, 1996 Sargeant, Mann, Van der Vleuten, & Metsmakers, 2008).

Self-Regulation. Self-regulated learning is a theoretical construct that describes the voluntary, purposeful and internal thought processes and external behaviors that learners enact to gain knowledge or skills (Zimmerman, 1989a). Self-regulated learners (SRLs) take active approaches to their learning through the use of various strategies and behaviors in order to achieve self-defined learning or performance goals (Zimmerman, 2000). When observing learners in an academic setting, those described as self-regulated are said to be motivationally, behaviorally, and metacognitively active in their own learning processes. *Metacognitively*, SRLs are aware of their own learning processes. *Motivationally*, SRLs believe in their own capabilities.

Behaviorally, SRLs act on the goals and strategies they develop and can adjust their environment to something more conducive to their learning (Zimmerman & Pons, 1986).

Metacognition is being aware of one's *knowing* (Flavell, 1979). When presented with a learning task, the SRL's metacognitive skills help to initiate the cycle of the self-regulated learning process. Metacognitive skills are used as forethought for the planning of strategies before engaging in a learning task, the self-monitoring of those strategies, and self-evaluation of progress during the learning process (Zimmerman & Pons, 1986). Self-monitoring is a learner's constant measuring of the gap between where they are and where they want to be in their learning task. Bandura (1991) described a negative feedback loop that occurs in self-regulation. This occurs when SRLs use strategies to attain their learning goals, then self-monitor the effectiveness of those strategies to measure the existing gap between where the learner is and where he or she wants to be. The more SLRs continue this process, the more reduced the gap becomes until they have finally reached their learning goal. The built-in feedback mechanism of metacognitive skills, such as self-evaluation and monitoring, can help a SRL to stay on track towards his or her own goals (Veenman, Van Hout-Wolters, M. A., & Afflerback, 2006). The more reduction in the gap, the more self-motivation increases with each successful stage of the learning process (Bandura, 1991).

To be *motivationally* active in one's own self-regulated learning is to be consciously engaged in the positive belief in one's own ability to accomplish the learning task (Zimmerman & Pons, 1986). Motivation is closely connected to metacognitive skills. When one monitors his own progress, an active choice needs to be made on how to respond to successes or setbacks in order to maintain one's motivation (Bandura, 1991). Self-efficacy is closely connected to motivation in that it is a learner's perception of their ability to perform a specific learning task.

Various motivational strategies are used by SRLs. Pintrich and De Groot (1990) describe three motivational components, possibly linked to the three components of self-regulated learning, which include the learner's self-efficacy towards the learning task, learner's goals based on the perceived value of the learning task, and the learner's emotional reaction to the task.

Although self-efficacy does not stand alone in its effect on behavior, it is still the strongest predictor of action above other self-beliefs (Bandura, 1997; Pajares, 2004). It is more important to be aware of these distinctions when research involves self-efficacy, as inaccurate measures or attributions can affect study results (Pajares, 2004). Much of the recent self-efficacy research is in the field of education, where accurate results could help administrators, staff, instructional designers, and instructors include more self-efficacy enhancing strategies or interventions to help students achieve academic success (Hodges & Murphy, 2009).

Influence of Self-Efficacy Perception on Learning

People acquire information for self-efficacy evaluations from sources: (1) enactive mastery experience (mastery of a skill will enhance people's perceptions of their ability to perform the skill at a higher, more challenging level); (2) vicarious experience (a person can gain self-efficacy for a task by watching another person "model" the task successfully. The closer the model's characteristics, such as age and skill level, are to the viewer, the more enhanced his or her self-efficacy becomes towards perceived abilities to perform the task); (3) verbal persuasion (through social influence a person can gain some efficacy towards a task by the encouragement or persuasion of another. This is not as strong an influence as personal mastery or vicarious experience, but it does have a positive and measurable effect on the person's perception of his or her ability to perform the task); and (4) physiological and affective states (a person will have a physiological response to performance, such as heart rate increase, sweating, nerves, doubts,

fears, and anxieties, which can affect a person's perception of his or her performance (Bandura, 1997; Joet, Usher & Bressoux, 2011; Usher & Pajares, 2006).

Enactive Mastery Experience. Enactive mastery experiences, or the, "experience of overcoming obstacles through perseverant effort" are described as the most influential source of a person's measure of self-efficacy (Bandura, 1997, p. 80). Enactive mastery experiences (also known as performance accomplishment) is subjective in that the performer makes a judgement of their own performance and determines its success or failure (Petrovich, 2004). In other words, it is not necessarily the successful performance that raises self-efficacy, but instead, how a person interprets the performance. For example, if a person believes they did not exert much effort in a task, the success may not mean an increase in efficacy. If a person exerts a lot of effort, even if it is a successful experience, he or she might interpret the extra effort as a result of low skills and not experience a change in efficacy judgment (Bandura, 1997).

Three elements that contribute to enactive mastery's effect on raising self-efficacy are: 1) non-simulated events, 2) direct experience that can be interpreted by the actor as successful, and 3) believed to contribute to the ultimate attainment of distal (distant) or future proximal (short-term) goals (Bandura, 1997, p. 81; Jensen, 2012). In Jensen's (2012) qualitative study on self-efficacy and enactive mastery performance with high school sex-education teachers, she determined that participants who experienced feelings of successful performances in their teaching of sex-education had several, "previous-enactive experiences that one would not necessarily deem masterful" before perceiving actual mastery (p. 265). Also, in agreement with Bandura's (1997) description that, "changes in perceived efficacy result from cognitive processing of the diagnostic information that performances convey about capability rather than from the performances per se" (p. 81), Jensen (2012) noted that her study's participants

experienced perceived growth by drawing, “from actors’ previous learning experiences, which they come to perceive as forming a necessary foundation for the success of the later mastery experience” (p. 265). This describes a process of prior experiences interpreted by the performer as successful that enhances self-efficacy, not necessarily the performance itself. Self-efficacy judgments involve more than just a person’s past performance. They involve a person’s perceptions of mastery experiences.

In the academic environment, mastery performances also have a strong efficacy enhancing effect, which can enhance persistence and positively affect achievement (Bandura, 1997; Schunk, 1981). In Schunk’s (1981) early research on self-efficacy with elementary school math students, he found that providing mastery performance time (time to practice the skills that had been modeled for them) to the learner, it had a positive effect on efficacy and achievement. In the study, elementary students were chosen based on their weak math skills. All students were given a math pretest and a self-efficacy survey. One-third of the students received modeling as part of the instruction process, one-third received didactic instructions and the other third only received the instructions in the lesson packet they were given. The study included three fifty-five minute sessions. All followed the same format of 10 minutes of instruction, 35 minutes of practice, and 10 minutes of self-directed mastery performance time. After the three sessions, learners were given a post-self-efficacy scale survey and math post-test (Schunk, 1981).

In all three sessions, during the 35 minute practice time, treatment groups were given corrective feedback in the same style as the initial instruction. One-half of each group was given attribution guidance which encouraged them to attribute their success or failures to their effort. The final results showed a positive correlation between mastery performance time and self-efficacy and between self-efficacy and persistence (children who believed they could perform the

tasks persisted at them longer) and achievement (those who persisted longer, achieved more by solving more problems.) The modeling children out-performed the didactic children as well, but modeling alone did not account for the achievement. It was the combined modeling, mastery performance, and persistence together that showed the best achievement. Providing students with instruction (modeling or didactic with modeling group achieving more), time to practice and a chance for minor successes enhanced self-efficacy, which was believed to lead to persistence and achievement (Schunk, 1981).

Mastery performances can be acquired as a result of repeated successful performances. After setting a future learning goal, learners who then set up proximal (short-term) goals, are more apt to experience small mastery performances that enhance self-efficacy, which in turn, encourages persistent effort to reach the next proximal goal (Bandura, 1997, p. 217). In this type of learning situation, self-efficacy mediates the instruction and the skill. With each mastery performance (gaining skills) learners are encouraged to continue, which has a positive effect on academic achievement (Schunk, 1984). “Efficacy beliefs are thus both products and constructors of experiences” (Bandura, 1997, p. 82).

Other types of mastery performances include the successful use of learning strategies to achieve academic success. In a study by Ramdass and Zimmerman (2008) involving 42 elementary school students (5th and 6th graders) it was found that teaching students self-correction skills in math enhanced self-efficacy scores and increased accuracy of their scores based on their math achievement scores. The research was focused on enhancing learning strategies to increase self-regulatory skills, as they have been proven to lead to higher academic achievement. Self-efficacy is one of the precursors to Zimmerman’s (1998b) forethought phase (learners are mentally preparing to learn) of self-regulation. The study concluded that teaching

learning strategies leads to more accurate and higher self-efficacy judgments, which in turn leads to better academic achievement. This finding confirms Bandura's (1997) contention that mastery performances lead to higher efficacy (p. 81). When learners gained the ability to check their work, they judged their ability to perform better on their math problems and did so (Ramdass & Zimmerman, 2008).

Vicarious Experience. Self-efficacy is also gained through vicarious learning experience (modeling) which can occur as a result of observing the failures and successes of others (Bandura, 1994). Bandura's (1989) social cognitive theory supports the use of models as a teaching strategy form of observational learning (i.e. vicarious experience). Observational learning through modeling is made up of four sub-processes: attention, retention, production, and motivation (Bandura, 1986; 1997). An observer must be paying attention to the modeled behavior in order for it to be effective. The observer must also actively engage in coding the information for future retrieval and activate cognitive rehearsal strategies. The observer must have the physical capabilities and subskills needed to perform the task being modeled and must be motivated to attempt the modeled behavior (Schunk, 1987).

The impact of vicarious experience on learning and performance can be affected by how much a person believes he or she is similar to or different from the model (Schunk, 1987). Because learners often relate more to peers or models that are similar to themselves, providing a variety of modeled examples in a learning environment provides a better chance of a learner finding one he or she can relate to (Bandura, 1997, p. 93). Self-efficacy can also be influenced through observed modeling, especially when the learning task is new or unfamiliar to learners and they have no basis for predicting their ability to perform the task (Bandura, 1997; Bong & Skaalvik, 2003). Modeling can provide structural guidelines for the learner, enhance creativity,

and build cognitive skills when the model verbalizes his or her problem-solving processes, even more so than some traditional tutorial approaches (Bandura, 1997; Chi, T.H., Roy, & Hausmann, 2008). A case study by Zeldin and Pajares (2000) on women's educational and personal choices that help to lead them to STEM careers showed vicarious experience to play a critical role in self-efficacy enhancement.

In Chi et. al's (2008) study students were paired before viewing and listening to the dialogue between tutor and student. Results showed that through vicarious learning, viewers were able to perform as well as the student who received the face-to-face tutoring. By allowing students to interact with each other while viewing a tutor interacting with a student, viewers acted on what they saw and heard. Participants claimed to have greater confidence towards the subject matter after their vicarious experience (Chi, et al., 2008).

As with enactive mastery experiences, many factors influence how vicarious experiences affect self-efficacy beliefs. With vicarious experience, the type of modeling a learner is exposed to affects the rate and level of learning (Bandura, 1986). Symbolic modeling, as in television or other visual media, can influence people and encourage them to change behavior (Bandura, 1997; Moreno & Ortegado-Layne, 2008). Text-based modeling, such as a written case-study, can encourage reflective thought and provide opportunities to apply knowledge and skills. However, it may not help students to solve problems (Moreno & Ortegado-Layne, 2008; West & Graham, 2007). Actual or live modeling, which is used to help viewers gain clarity on how to perform particular behaviors, can provide more relevant cues to a viewer than other modes (Bandura & Walters, 1963; Brush, et al., 2003; Oddone, 2011). For learning complex reasoning and decision making skills, cognitive modeling can make the normally covert cognitive process more

perceivable if a model speaks about their thought process while performing the task (Bandura, 1997; Chi et al., 2008).

Also, learners that compare themselves to models that are unsuccessful may be negatively affected themselves by believing in their own failure vicariously through the unsuccessful model (Bandura, 1997). How much attention the viewer pays to the model, how well they code the information for memory and retrieval, and how they incorporate their experience into action, as well as their motivational processes, are all a part of how learners may ultimately benefit from the vicarious experience. The influences of modeling can be designed to instill and strengthen self-efficacy to help develop knowledge and skills rather than to be used as a point of comparison between success and failure (Bandura, 1997; Bartsch, Case, & Meerman, 2012; Gorrell & Capron, 1990; Murphy, 2015).

An example of cognitive modeling can be found in Murphy's (2015) study on using a previous student's completed senior thesis, as well as in-person advice on how to properly develop theory and how to apply quantitative and qualitative methods when answering research questions. The study included two college level courses over two different semesters. One course used the peer modeling in the form of the senior thesis (which included a process journal) and in-person advice, and the other used research articles for students to read. This combined approach of written process examples with live modeling produced more enhanced self-efficacy judgments by the students towards successful course completion than the students in the research article class (Murphy, 2015).

Cognitive modeling is not only shown to enhance self-efficacy, but also learning. In Gorrell and Capron's (1990) study of pre-service teachers learning to use teaching strategies, cognitive modeling was shown to increase self-efficacy and be more effective than direct

instruction with regards to learning and using modeled instruction. In the study of 93 undergraduate pre-service teachers, students participated in a 2-phase study using both direct instruction and cognitive modeling on how to teach a “slow learner child” how to find the main idea of a paragraph. Self-efficacy screening was done at the beginning, measuring participants’ self-efficacy beliefs on the specific task. They were then categorized as low and moderate self-efficacy and assigned to one of four treatment groups. All others were excluded from the study (Gorrell & Capron, 1990).

For Phase I of the study, the participants viewed video tapes providing either direct instruction or cognitive modeling. The direct instruction included an instructor explaining, in the form of a lecture, how to teach a child to find the main idea in a paragraph. It included examples and procedures. The cognitive modeling included the same procedures but in the form of thinking out loud as the instructor mentally engaged in the teaching process. The amount of details as well as the examples were the same in both presentations. The second set of videos showed a college student teaching a student how to find the main idea in a paragraph using the techniques from the Phase One videos with one being more successful at strategy use than the other. Both Phase Two videos had commentary. One simply explained what the demonstrator was doing, and the other provided comments expressing high efficacy commentary. All participants were then given a case study involving a fictional student who needed help with finding the main idea of a paragraph and were asked how they would handle the problem. The study results indicated that cognitive modeling led to higher levels of efficacy and higher levels of recall and application of learned concepts than did the direct instruction (Gorrell & Capron, 1990).

Modeling can therefore be provided as an instructional guide when step-by-step performance processes are needed to perform a task (actual/live modeling). Also, when the development of cognitive skills is the goal for learners, models verbalizing their thought processes and strategies while solving problems has been shown successful in education research (Bandura, 1994; 1997; Gorrell & Capron, 1990).

Verbal Persuasion. Verbal persuasion is one way that people's self-efficacy beliefs can be strengthened (or weakened). It is easier for a person to maintain efficacy towards his or her ability to perform learning or performance tasks if there are significant others offering encouragement (Bandura, 1997, p. 101). In a learning environment, this type of persuasion often comes in various forms of feedback such as progress feedback on process goals, performance feedback, attribution feedback, and general positive encouragement (Heshmati, 2015; Schunk & Rice, 1991; Schunk & Schwartz, 1993a). Progress feedback on process goals is encouragement given to learners on the *process* they are using to solve a problem as well as guidance provided to help them see what they have correct, what they need work on, and how close they are to their goal(s) (Schunk & Rice, 1991; Schunk & Swartz, 1993a; 1993b). Performance feedback is feedback that is focused less on the process, but more on the accuracy of the performance (Hattie & Timperley, 2007). Attribution feedback is designed to help guide a learner to attribute their performance to ability or effort (Coffee & Rees, 2011; Schunk & Gunn, 1986). General positive encouragement is the pep-talk type of feedback that one provides to encourage or praise. External feedback that differs from a person's self-perceptions can affect self-efficacy as well (Bandura, 1997; Sargeant et. al, 2008).

Feedback plays an important role in self-perceptions. People require some form of feedback to measure their performance and make adjustments. Without feedback, future

judgments may be inaccurate. Even *with* feedback, a person can hold on to prior misconceptions of efficacy. “Dislodging a low sense of personal efficacy requires explicit, compelling feedback that forcefully disputes the preexisting belief in one's capabilities” (Bandura, 1997, p. 82). Efficacy judgments are tied to feedback in an educational environment as demonstrated by Schunk and Schwartz’ (1993a) study involving gifted fourth grade students. The researchers found that goal-setting and feedback played an important role in self-efficacy and academic achievement. Students in his experimental group from two fourth grade classes were given progress feedback in addition to the performance feedback all students received. The study showed that as a result of the progress feedback, self-efficacy and academic performance increased in the experimental group. The experimental group was also provided a goal to learn a new writing strategy. Students who used the new writing strategy received progress feedback such as, “You’re learning to use the steps” (p. 227). The addition of goals and specific progress feedback had a marked effect on self-efficacy measures.

Various forms of feedback occur in an educational setting. In a study by Schunk and Rice (1986) on the effects of various attributional feedback techniques on elementary students in remedial reading instruction All forms of feedback enhanced scores on self-efficacy measures in a pre-test/post-test experiment. The study was designed to measure the effects of effort feedback and ability feedback over time. Findings also verified the effect that persuasion has upon a learner’s self-efficacy while learning and practicing a difficult task. As mentioned in the study, skill levels rose amongst the remedial students who participated in the study, but not significantly. Learners experienced enhanced perceptions of self-efficacy more than increased skill level, but it was a difficult task in a short period of time. The researchers concluded attributional feedback was ideal in encouraging learners in a task they have a demonstrated

weakness in, to enhance motivation, persistence, and as a result, eventual skill advancement (Schunk & Rice, 1986).

Verbal persuasion can affect self-efficacy in learners simply by its presence or lack of presence. In a study in France of 395 3rd grade elementary students, Joet, Usher, and Bressoux (2011) investigated sources of self-efficacy on French and math student's self-regulatory skills and academic achievement. Through self-reporting measures, based on Bandura's (2006) efficacy scale guidelines, the four main sources of self-efficacy were measured for math, French and self-regulated learning. Results were compared to academic achievement (national standardized test results). The study found that the four sources of self-efficacy were significantly related to self-efficacy and academic achievement in both courses. They also found a positive correlation between self-efficacy and self-regulation strategy use. Mastery experience was the most powerful source of students' math and French self-efficacy with social persuasion showing almost similar measures. When looking at results separated by gender, it was interesting to see that girls reported less mastery experience opportunities than the boys, and also less social persuasion. The researchers discussed possible connections between these results and old cultural beliefs that boys have better math aptitudes than girls. It is possible that the girls were missing efficacy enhancing social persuasion at home and at school. Girls reported lower self-efficacy than boys (Joet et al., 2011).

There was also a difference between boys and girls in the area of social persuasion demonstrated in a study by Usher and Pajares (2006) that examined the influences of the four sources of self-efficacy on academic and self-regulatory efficacy in 263 middle school students. 140 girls and 123 boys participated in the study ranging from below average to above average in reading course assignment grades. The Sources of Self-Efficacy Scale was used, which was

adapted from Lent, Lopez, and Bieschke's (1991) Sources of Self-efficacy in Math Scale. The Academic Self-Efficacy Scale, taken from Bandura's adapted (Zimmerman, Bandura, & Martinez-Pons, 1992) Children's Multidimensional Self-Efficacy Scale (CMSES), was used to measure students' general academic self-efficacy for their capability to learn academic subjects and skills. The third scale used in the study, the Self-Efficacy for Self-Regulated Learning Scale, is part of the CMSES and was used to assess students' judgments of their ability to use a variety of self-regulated learning strategies. The results showed that each of the four sources of self-efficacy influenced academic and self-regulation efficacy beliefs of students entering middle school. ANOVA results revealed that girls and boys did not differ in academic self-efficacy or in self-efficacy for self-regulation. There was a difference between the boys' and girls' results in the four sources of self-efficacy. Girls reported stronger effects for vicarious experience and verbal persuasion with verbal persuasion showing as the stronger source for academic self-efficacy. This matched a separate study of Zeldin and Pajares (2000) that showed that women, when shaping their self-efficacy beliefs, often rely on verbal persuasion as input over their own previous mastery experiences (Usher & Pajares, 2006).

The strength of verbal persuasion is demonstrated strongly in the experimental study performed by Bouffard-Bouchard (1990) of 64 Canadian College students. The students were assigned to one of two groups. Each group was given three minutes to work on word problems. No matter what the true results were, one group was told they did well and the other group was told they did not. All students were then shown similar problems and were asked to rate their perceived ability to answer the problems correctly. Students were then given 20 minutes to solve the problems orally. Students in the positive feedback group all judged that they could solve more problems than the negative feedback group. They also completed more problems and

completed more of them correctly. Finally, they more accurately predicted the correctness of their responses. This study not only shows the strength of verbal persuasion on a person's self-efficacy, but it also shows the effects that self-efficacy has on performance and achievement (Bouffard-Bouchard, 1990).

Physiological Response. When judging their own self-efficacy, people sometimes use their body's reaction to the idea of performing the task as an indicator of their ability. Physiological responses can contribute to a person's self-efficacy beliefs, but is not a predictor by itself. If a person's physiological response is one of fear, anxiety, stress, agitation, or even mood (i.e. being sad), they may doubt their capabilities and not engage with the task (Bandura, 1997, p. 106; Bandura, Cioffi, Taylor, & Brouillard, 1988; Chaco'n, 2005). When people are in a good mood and feel reduced stress or tension, self-efficacy beliefs can be positively affected (Zeldin & Pajares, 2000).

In an early experiment by Bandura et al. (1988), researchers were able to show the physiological effects that low self-efficacy has on a person. In a laboratory setting they connected college students to heart-rate monitors and measured heart-rate while having students do progressively more difficult math problems in progressively shorter amounts of time. The students who measured low efficacy on the pre-test had the highest heart-rate increase that, once heightened, did not steady. Even during the post-test for efficacy, while the low efficacy students were providing their responses, their heart rates were much higher than the students with higher efficacy going into the study (Bandura et al., 1988).

In both studies discussed above, where Usher and Pajares (2006) studied the four influences of self-efficacy on academic performance with students entering middle school, and where Joet et al. (2011) studied the French 3rd-grade students for the same, physiological

response proved to have an effect on self-efficacy according to Bandura's (1997) self-efficacy theory. The researchers recommend that teachers and counselors be aware of a student's physical responses, and try to create learning environments that help to reduce stressors and anxiety in the learning environment.

Assessing Self-Efficacy Beliefs

Unlike other motivational constructs, self-efficacy measures are task specific and measured prior to performing the specific task. Self-efficacy measures focus on a person's judgement of their ability to perform a particular task (e.g., use effective study strategies for a final exam in Biology), in a particular context (e.g., in a quiet dorm room or a loud coffee shop), and at a particular level (e.g., enough to pass with a "C" or enough to earn an "A"). There is no all-purpose measure of perceived self-efficacy (Pajares, 1996). Self-efficacy measures must be tailored to the particular domain where the action of interest is to take place. For example, efficacy beliefs about performing a chemistry test may differ from beliefs about performing a history test. The more specific the scale is, the more accurate the measure will be (Bandura, 2006). Measuring self-efficacy involves detailed measures of the level, strength, and generality of the efficacy (Bandura, 1982, p. 124). The *level* of self-efficacy refers to the stages of difficulty of a task such as math problems of increasing difficulty, *strength* measures the amount of belief (strong or weak) one has in their ability to perform the task, and *generality* refers to the transferability of a person's beliefs from a specific task to similar task such as from performing Algebra equations to statistics (Zimmerman, 2000).

Measurements of a person's judgments of self-efficacy for particular tasks are not defined by or measured by their subskills or small components of a task. Instead, self-perceptions of efficacy are measured based on a person's ability to use subskills together, under a variety of

circumstances, to accomplish a task (Bandura, 1984; 1986). For example, to measure a person's self-efficacy for swimming, his judgment would not only measure his ability to dive into the water or kick his legs. Instead, his judgement would need to assess his ability to pull all of his subskills together, whatever they are, to swim in the ocean or in a challenging competition in a pool. In a self-efficacy measure, the subskills are not as important as a person's ability to use subskills together to perform a task. Subskills can be cognitive, social, emotional, and behavioral. In order to perform proficiently a person has to be able to translate their knowledge and skills effectively into action (Bandura, 1997). Perceived self-efficacy is not so much concerned with the skills a person has, but instead what they can do with those skills (Bandura & Schunk, 1981). There is a difference between a person believing she has certain skills and being able to use them to accomplish a particular task. Skills can be easily forgotten due to self-doubts. So, even if a person has skills, but he doubts his ability to use them, he may not perform well. To function effectively a person must have skills and self-efficacy judgments to use the skills adequately (Bandura, 1997).

In a meta-analysis investigation on studies of the relationship between self-efficacy, academic outcomes, and persistence, Multon, Brown and Lent (1991) found a positive correlation between self-efficacy and both academic outcomes and persistence. Their study found 36 studies from 1977-1988 that met the criteria of studies containing a measure of self-efficacy and academic performance, and that these measures provided enough information to calculate effect size estimates. They found that self-efficacy accounted for 14% of variance in student academic performance and 12% of variance in their academic persistence. They also found that the strongest effects were present in studies that compared specific efficacy judgments with performance measures using detailed scales that corresponded with the post-test measure

and measured them during the same study. In other words, the researchers who measured specific self-efficacy tasks based on the same type of task to be performed rather than open-ended global measures produced the best results. Self-efficacy judgments that are specific rather than global, that directly correspond to the task being used in the study and measured as close as possible to the task performance, will have the most accurate measure of self-efficacy (Bandura, 1997; Pajares, 2004; Pajares & Miller, 1995).

Studies on Self-efficacy in Online Courses

For decades, educational research has demonstrated that learners who doubt their competency to master the subject matter, who are bored, angry, or anxious, or who do not use effective learning strategies *will* struggle in traditional classroom settings (Flavell, 1979; Pintrich, 1999; Pintrich & De Groot, 1990; Pekrun, Goetz, Titz, & Perry, 2002; Schunk, Pintrich & Meece, 2008; Zimmerman, 1989b). Students with such struggles may face even more disadvantages in an online course because of the autonomous nature of the online learning environment where, “students must exercise a high degree of self-regulatory competence to accomplish their learning goals” (Dabbagh & Kitsantas, 2004, p. 40) (Artino & Stephens, 2009; Hannafin & Land, 1997; Puzziferro, 2008). In earlier research on the effect that open-ended learning (i.e. through the World Wide Web) had on student learning, Hill and Hannafin (1997) concluded in their *Stages of Knowing and Understanding* that self-efficacy was one of the five key factors that affect computer mediated learning environments (p. 39). Studies that explore learners’ self-efficacy perceptions in online learning environments are providing empirical evidence that extends previous self-efficacy research in traditional face-to-face classroom learning to the online learning environment and are showing that self-efficacy is still a strong predictor of academic success in online learning (Artino, 2009; Joo, Bong, & Choi, 2000; Lynch

& Dembo, 2004; Park & Choi, 2009; Tsai, et al., 2011; Wadsworth, Husman, Duggan, & Pennington, 2007; Wang & Wu, 2008; Yukselturk & Bulut, 2007).

Self-Efficacy for Technology Use Research. Self-efficacy research in online distance learning has taken many forms in the past decade. Through the use of various self-efficacy surveys, and some qualitative studies, there has been an interest into how learners are responding to the online environment (Tsai et al., 2011). Much like classroom-based research, there is still a need to explore ways to enhance learning and remove learning obstacles in the online learning environment (Tyler-Smith, 2006). To that purpose there have been many studies in the literature that examine student self-efficacy perceptions for various forms of technology use (i.e. internet, computer, and learning management system use) (Chien, 2012; Saade & Kira, 2009; Sun, Tsai, Finger, Chen & Yeh, 2008; Tsai et al., 2011). These types of studies are aimed at answering research questions that explore student readiness for online learning such as, “Will learner Internet self-efficacy positively influence perceived e-Learner satisfaction with e-Learning?” (Sun, et al., 2008, p. 1186) or to test a hypothesis such as, “Computer self-efficacy significantly mediates the effect of computer anxiety on perceived ease of use of an LMS [Learning Management System]” (Saade & Kim, 2009, p. 182).

Computer self-efficacy (CSE) “refers to a judgment of one's capability to use a computer. It is not concerned with what one has done in the past, but rather with judgments of what could be done in the future. Moreover, it does not refer to simple component subskills, like formatting diskettes or entering formulas in a spreadsheet. Rather, it incorporates judgments of the ability to apply those skills to broader tasks” (Compeau & Higgins, 1995, p. 192). The use of computers in an online learning environment puts into practice the use of self-efficacy judgments by students

as they determine whether or not they have the subskills required to use the computer to accomplish their online learning tasks (Saade & Kim, 2009).

In a quantitative study on computer self-efficacy in online learning environments, Saade and Kim (2009) investigated the role that computer self-efficacy played in mediating the impact of anxiety on perceived ease of use, in the context of using a learning management system (LMS). The researchers used social cognitive theory (Bandura, 1986) as the study's theoretical framework. Using computer anxiety as one of the information sources for student self-efficacy appraisal (physiological response), Saade and Kim (2009) proceeded with the hypothesis that anxiety levels could predict levels of self-efficacy, which in turn, could predict performance.

Study participants included 645 online undergraduate students in an introductory management information systems course and a fundamentals of information technology course from a major university in Canada. Participants used the web-based LMS to access course material and to interact with system content, classmates, and the professor. Participants were surveyed after each semester using self-efficacy, perceived ease of use, and computer anxiety scales. Their findings showed that computer self-efficacy did mediate the impact of anxiety on perceived ease of use. Regression analysis demonstrated the significant role of computer self-efficacy on mediating computer anxiety and perceived ease of use when using the LMS (Saade & Kim, 2009).

By assessing for mediation, researchers determined when a student experienced anxiety towards computer use (specifically the LMS), their self-efficacy perceptions were initiated by judging perceived abilities to use current skills to accomplish the computer performance tasks. Saade and Kimm (2009) asserted that only after learners make a self-efficacy judgement can they interpret the perceived ease of use or non-ease of use of the LMS and then act on their self-

efficacy perceptions. In other words, as student anxiety increases, the perception of ease of use of the LMS decreases and vice versa. This study helped to not only re-confirm self-efficacy's mediating effect on perceived performance, but also provided a way to view computer anxiety as a physiological response and source of self-efficacy which could possibly be reduced through a specific intervention or course design. This is important because, as this study and others have found, much of the low self-efficacy judgments or high anxiety that learners experience in online coursework often occurs during the beginning stages of a course (Lee & Witta, 2001; Saade & Kim, 2009; Tyler-Smith, 2006). Efficacy judgments are context specific and can change over the span of a course for a variety of reasons (Bandura, 1997; Lee & Witta, 2001).

In a study of the role of computer self-efficacy as a mediator of academic success in online courses, Swingle (2012) concluded that technical efficacy was not correlated to student academic success in an online environment. In the study, participants were highly confident with their technical efficacy, yet half of them stated that they would not enroll in another online course citing difficulty compared to face-to-face courses. Swingle (2012) concluded that, "the issue of self-efficacy in regards to academic success goes beyond the aspect of self-efficacy in technology" (p. 144). Delahunty, O' Shea, and Stone (2015) reached the same conclusion. Their study explored Australian University student engagement with higher education institutions in an online learning environment and found that students who were experienced in computer use expressed difficulties when faced with online learning computer requirements. The following is an excerpt from a study participant of Delahunty and colleagues' (2015) showing the anxiety a learner can experience in an online course even with the requisite Technology skills:

Even some who regularly used computers in other Distance Education settings found learning the technology a struggle, which impacted upon their motivation, confidence

and perseverance in this domain: “It was my very first experience to studying online and having that blackboard, and looking at your screen going, ‘What the ...?’, and, ‘Where do I go?’, and, ‘What do I do?’ I use computers at work and I’m a regular Facebook person and things like that and I’ve used different things over the years and different programs, but just the whole like, ‘Oh, God, this is really quite different’ (p. 52).

This study’s findings demonstrate that students who were experienced in computer use expressed difficulties when faced with online learning computer requirements.

The same sentiment is echoed in McQuaid’s (2010) study exploring the effects of cognitive load experienced by e-learners as they negotiated the tasks required for successful participation within an asynchronous learning environment. His study was specifically designed to examine the relationship between measured cognitive load and the learners’ confidence towards successfully completing course requirements using internet and computer self-efficacy surveys and a cognitive load quantitative measure protocol. Participants were online students who were asked to volunteer approximately three weeks after the course began in order to allow themselves to be acclimated to the course environment.

Even though the majority of the participants indicated that they used computer-based technology in their profession, McQuaid (2010) reported, “the measured cognitive load indicated that when faced with using the same online tools in an educational setting, the technology created the greatest participation demand on the respondents’ attention, even after a minimum of three weeks of asynchronous course participation” (p. 187). Much as in Delahunty and colleagues’ (2015) study, McQuaid’s (2010) study demographics indicated that, “82.7% of the sample reported being confident or strongly confident in their computer abilities and 97.5% reported using computers in the workplace to perform their jobs. With this level of computer

integration, one would think that employee computer skills and abilities would be well established, especially considering that technological adoption seen in the sample exceeds many other industries” (p. 187). Even though the participants, by industry standards, should be proficient with the use of computer-based technology, only 17.3% stated that they were not overly confident in their computer abilities. The cognitive load measures indicated that the study sample found the online tools more challenging than the course content until much farther into the course. McQuaid (2010) confirmed not only the importance of learner self-efficacy to accomplish course requirements in an online learning environment, but also that instructional designers should spend more time at the front end of the course orienting learners to the online course environment (McQuaid, 2010). Students are, “constantly making decisions about accepting, adopting and using computer and information technologies” (p. 452) and computer self-efficacy is a key determinant (Venkatesh & Davis, 1996).

In Tsai and colleague’s (2011) literature review of self-efficacy in online learning environments, they identified 46 papers between 1999 to 2009 that met the following three study criteria: a) the major purpose of the study must include at least one component probing the role of self-efficacy in any kind of internet-based learning (IBL) condition, b) the study design should be based on empirical methodology, and c) the main findings of the research must be related to learning and must elaborate the application of self-efficacy in an Internet-based setting (p. 224). The researchers concluded that “little research directly examined how internet-based learning self-efficacy might be altered by certain types of internet-based learning. Rather, these studies utilized ‘indirect’ methods of investigation to reveal some potential avenues of fostering internet-based learning.” While research involving self-efficacy and internet-based learning is showing the importance of self-efficacy in online learning environments, there is a gap in the literature

that seeks to affect an online learner's self-efficacy with the goal of increasing academic achievement. Moos and Azevedo's (2009) literature review on computer self-efficacy also indicated a gap in the literature with regards to the relationship between self-efficacy and self-regulatory practices in computer-based learning environments.

Self-Efficacy for Strategy Use Research. Understanding students' use of self-regulatory strategies in the online learning environment is critical as research on distance learning student characteristics show that online learning requires a high degree of self-regulation (Artino & Stephens, 2009; Dabbagh & Kitsantas, 2004; Hannafin & Land, 1997; Puzziferro, 2008). Self-regulation refers to self-generated thoughts, feelings, and actions that are planned and cyclically adapted to attain personal goals (Zimmerman, 1989b; 1998a). In the academic environment, these "actions" may be considered "approaches to learning" (Dillon & Greene, p. 239) or "study skills" (Zimmerman, 1998a, p. 73). Research in the area of self-regulation and self-efficacy has shown that differences in how students approach their learning can predict effort and achievement (Dillon & Green, 2003, Lynch & Dembo, 2004; Zimmerman, 1998a).

In their study examining the relationship among student characteristics, self-regulated learning, technology self-efficacy, and course outcomes in online learning settings, Wang, Shannon, and Ross (2013) found that students with previous online learning experiences tended to have more effective learning strategies when taking online courses, and hence, had higher levels of motivation in their online courses. In addition, when students had higher levels of motivation in their online courses, their levels of technology self-efficacy and course satisfaction increased. Finally, students with higher levels of technology self-efficacy and course satisfaction also earned better final grades. Participants in the study included 256 graduate and undergraduate online students from a variety of disciplines. The quantitative study used a mixture of

demographic questionnaire, course satisfaction questionnaire (CSQ), modified motivation strategies for learning questionnaire (modified MSLQ), and online technology self-efficacy scale (OTSES) for the data collection (Wang, Shannon, & Ross, 2013). Findings indicated that the main influence on the effectiveness of learning strategy choices was the number of previous online courses taken by the online student. The more online courses taken, the more effective learning strategies they used in online learning (Wang, Shannon, & Ross, 2013). This interesting conclusion seems to mesh with earlier classroom research by Zimmerman and Pons (1986). While creating a list of learning strategies used by high school students in order to create an interview assessment tool to further research self-regulated learning, they found that although they could predict academic achievement with self-regulated learning strategy use, it was the number of times the strategies were used that affected achievement the most (Zimmerman & Pons, 1986). This could be explained by Bandura's (1997) hypothesized key source of academic self-efficacy, enactive mastery, which states that mastery performances are a source of a learner's self-efficacy and can enhance self-efficacy in a learning environment (Bandura, 1997).

In their case study on strategy use in online learning environment, Whip and Chiarelli (2004) explored the online learning experiences of master's level students in an online program for teachers. Six teachers were interviewed. Study findings were similar to Wang, Shannon, and Ross (2013) that showed prior computer experience led to better strategy use and better strategy use led to academic success. They also reported strategy choices of basing study environment on internet speed and calculating time for technology failure as being specific to online learners. Also, although all study participants were successful students, they expressed a higher degree of anxiety, doubt, and uncertainty about their abilities in the early stages of the course. Participants credited early access to technical support and successes with course technical demands for

reduced doubts and increased self-efficacy throughout the course (Whipp & Chiarelli, 2004). This study also expands upon earlier research on the relationship self-efficacy has with self-regulated learning (Pintrich & De Groot, 1990).

Intervention studies purposed to affect self-efficacy. There are a surprisingly small number of experimental research studies that attempt to enhance self-efficacy and learning strategy use to measure effects on performance (Tsai, et al., 2011). Hodges and Kim's (2010) study explored the characteristics and behavior of successful online learners and attempted to answer questions such as, "Is learner achievement related to the use of self-regulation strategies or self-efficacy?" (p. 209). The purpose of the study was to investigate the effects of using email to enhance learners' use of self-regulation strategies through verbal persuasion, as well as explore the relationships among self-regulation, self-efficacy, and achievement. Participants included 107 college online students from a math emporium learning lab. The participants were randomly assigned to one of three treatment groups. One group received non-personalized e-mail messages that encouraged self-regulation strategy use. One group received personalized e-mails with the same content. The Control group received no treatment email messages. Treatment groups received e-mails once per week for 11 weeks and all groups were asked to complete self-efficacy surveys at four times during the semester. Findings showed no statistically significant changes in self-regulation or self-efficacy were detected during the semester in any of the three groups. The final conclusion by Hodges and Kim (2010) suggested that, "the participants might not have been able to fully transform their knowledge of self-regulation strategies to behaviors, even if they thought such strategies would be useful. Knowledge of self-regulation strategies is not the same as using of the strategies" (p. 218). They suggested that since their study was

through self-report only, a qualitative element might have been useful to enhance understanding of their findings (Hodges & Kim, 2010).

In their study designed to enhance student motivation through course design intervention, Fritea and Opre (2015) found that all three areas of student motivation, a) situational interest, b) utility, and c) self-efficacy were affected in a post-test only design as a result of the intervention. In a lab setting, researchers used a sample of 134 college psychology students assigned to one of three groups previously listed above and a fourth control group. Each group participated in courses designed to specifically affect interest, utility, and self-efficacy. Each participant took part in a 30 minute online course module for writing reaction papers. The modules consisted of several video lectures on the topic. All 4 groups received the same content, the same timeframe and the same format. The three treatment groups' module designs contained interest and utility enhancing strategies based on Keller's (2010) ARCS model. The self-efficacy group contained module enhancements based on self-efficacy research that suggested clearly stated expectations, a gradual increase in difficulty and reinforcing feedback. Self-reporting surveys were provided all participants after students had partially completed their modules. Although this was a small scale study in a lab setting, all student self-reports showed higher levels of motivation (specific to their group) than the control group, demonstrating the possible positive effects to student motivation through course design interventions. What is interesting to note about this study is that when researching for the literature review, they found only four studies designed to enhance aspects of motivation and their effects. Three of them were based on the (ARCS) model of motivational design, developed by Keller (1983).

Such studies are providing empirical evidence that extends previous self-efficacy research in traditional face-to-face classroom learning to the online learning environment and are

showing that self-efficacy is still a strong predictor of academic success in online learning (Artino, 2009; Joo, Bong, & Choi, 2000; Lynch & Dembo, 2004; Park & Choi, 2009; Tsai, et al., 2011; Wadsworth, Husman, Duggan, & Pennington, 2007; Wang & Wu, 2008; Yukselturk & Bulut, 2007). However, as Lazowski and Hulleman (2016) point out in their meta-analytic review of intervention research in education, “Although correlational research can generate and test hypotheses, intervention research (i.e., empirical investigations that manipulate an independent variable) provides valuable information about what happens when we attempt to enhance educational outcomes through intentional manipulation” (p. 603).

Online learner self-efficacy. One of the many characteristics assigned to successful online learners as a result of self-efficacy for online learning research is being highly efficacious (Artino, 2009; Jan, 2015; Wang & Newlin, 2002; Wang, Shannon & Ross, 2013; Yukselturk & Bulut, 2007). When a learner has high computer self-efficacy, they normally have a more successful online learning experience (Moos & Alvedo, 2009; Tsai & Tsai, 2003). When learners have high internet self-efficacy, they show higher motivation for web-based learning (Liang & Wu, 2010). Online learners’ Internet use is affected by their self-efficacy (Easton & LaRosa, 2000). Several studies have successfully shown the relationship between self-efficacy and online learning success, yet, as with computer self-efficacy research, there is a gap in the literature on intervention studies designed to affect online learners’ self-efficacy. Online learner characteristics such as gender, prior online experience, personality traits and learning styles are somewhat static (Luthans, Avey & Patera, 2008; Richardson, Abraham, & Bond, 2012), unlike self-efficacy, which is malleable (Bandura, 1997; Gist & Mitchell, 1992) and open to development (Bresó, Schaufeli, & Salanova, 2011; Luthans, et al. 2008).

Summary

Much of the educational research on self-efficacy's influence on learner behavior and academic success has been performed in classrooms. As the number of students that use online distance learning increases, more studies can be found that show self-efficacy to still be a relevant research topic (Alqurashi, 2016; Tsai, et al., 2009; Hodges & Kim, 2010, Jones et al., 2010; Swingle, 2012). Where research can be expanded upon is in the area of intervention studies designed to enhance self-efficacy beliefs in the online learning environment. For self-efficacy intervention studies to be effective, it will be necessary to understand online learners' experiences and the factors that affect their self-efficacy judgements in order to establish target areas for intervention.

CHAPTER THREE

Study Methodology

Purpose and Research Question

There is an upward trend in all levels of education, as well as business, in the use of online learning. The number of online learners has grown exponentially in the past decade, creating a large population of learners to analyze, design for, and instruct (Allen & Seaman, 2015). In this vein, much of the online learner research has been towards understanding the learner characteristics of successful and non-successful online students. Less research is available in the area of how to enhance those characteristics that help strengthen the self-efficacy beliefs of online learners. The purpose of this study is, through the theoretical framework of social cognitive theory (Bandura, 1986), was to explore the experiences of asynchronous online learners for possible factors that may affect their self-efficacy while completing their online course requirements. Self-efficacy has been shown to influence academic motivation, learning and achievement (Schunk & Pajares, 2002). Also, because self-efficacy is malleable (Gist & Mitchell, 1992), understanding the factors that affect it in an online learning environment, could help to define future design, pedagogical and intervention practices.

The Research Question. This study was guided by one research question:

- 1) What factors affect the self-efficacy of asynchronous online learners?

This methodology chapter contains details about the study's process. It also outlines the data collection and data analysis procedures. Chapter sections include: Research Design, Phase I Personal Interviews and Data Analysis, Phase II Creation and Expert Review of Survey Instrument, and Phase III Survey Data Collection and Analysis.

Research Design

An exploratory sequential mixed methods design was used to conduct this study. A mixed methods approach was chosen in order to explore the research question more holistically. “While the quantitative method provides an objective measure of reality, the qualitative method allows the researcher to explore and better understand the complexity of a phenomenon” (Williams, 2007, p. 70). Research that addresses questions surrounding student perceptions are complex, and the use of either quantitative or qualitative methods alone are not always sufficient to capture a thorough understanding of a phenomenon (Schunk & Meece, 1992). Such was the case with this mixed methods study that explored the complex nature of the experiences that affect the self-efficacy of asynchronous online learners.

Phase I of this study used interviews in order to gather the rich data that they can provide. Using an interview process when studying academic self-efficacy, as suggested by Usher (2009), “offers a phenomenological lens through which the development of efficacy beliefs can be viewed and enables researchers to examine the different conditions under which students process and appraise their experiences at particular junctures in their schooling” (p. 278). Phase II of the study used the findings from the initial phase to develop a survey tool that was reviewed by experts and ultimately used in a third and final phase to reach a larger sample of asynchronous online learners. A graphical representation of this study’s process can be seen in Figure 2.

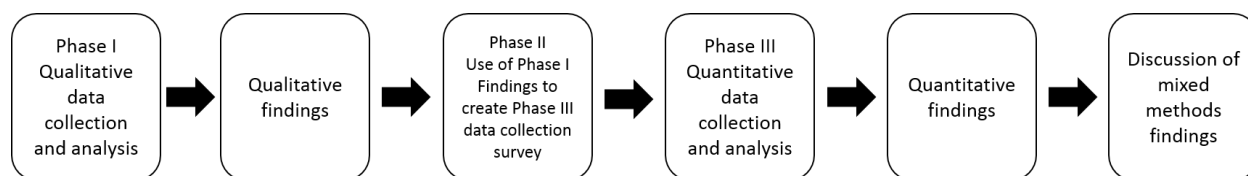


Figure 2. An exploratory sequential design (Creswell, 2008; Sinley & Albrecht, 2016)

Phase I: Personal Interviews and Data Analysis

Recruitment. Participants were recruited through a public east coast American university student association's social networking site (see Appendix A) and one online asynchronous Master's level course from the same university (see Appendix B). Those who responded positively to recruitment messages received a confirmation e-mail (see Appendix C) containing a link to a website created specifically for the study which provided contact information, background information about the study, a copy of the consent form, and interview scheduling information. It also contained information regarding a gift card incentive for those who agreed to participate and attend the interview meeting (see Appendix D).

Those who responded to the invitation and agreed to participate were sent a confirmation e-mail with a description of the study, terms that would be used in the interview, a sample consent form that informed the participants of security, confidentiality, and the interview process (e.g. the audio recording of the interviews, transcripts being sent to them when transcribed for member checking, etc.), as well as a link to the study site that described the interview appointment scheduling process (see Appendix E). Participants were given several options with regards to meeting locations, days, and times. Efforts to accommodate the scheduling requirements of the participants, as suggested by Creswell and Plano-Clark (2011), Maxwell (2013), and Yin (2013), were used by offering both face-to-face and electronic interview options.

Participants. As the study was designed to explore the personal perceptions of asynchronous online learners, the purposeful recruitment of experienced asynchronous online learners was used to best inform the research question (Creswell & Plano-Clark, 2011; Sargeant, 2012). Eleven students agreed to participate in the study. Participants' ages ranged from 29 to 81 with a median age of 38 years. Six participants were from all online degree programs and five

from traditional programs that offered online courses as part of the degree program. Three were male and eight were female. Four were international students.

Instrument. The data collection method for this phase of the study included a semi-structured interview format. Semi-structured interviews allow the participants room to express their experiences thoroughly, whilst remaining within a structured protocol in order to give the researcher a basis of comparison between all participant responses (Johnson & Christensen, 2014). The interview protocol used in this study was a revised version of Darrow-Magras' (2015) interview protocol used in her phenomenological study on adult learners returning to high school online.

As suggested by Maxwell (2013), prior to meeting with interview participants, the interview protocol was pilot tested by one Master's level and one undergraduate asynchronous online learner. The protocol originally included 13 open-ended questions. As a result of the pilot testing, minor edits were made to the ordering of the questions, and an additional two questions were added for a revised total of 15 questions (see Appendix F). Questions were designed to align with Bandura's (1997) four theorized sources of information that people use to make self-efficacy judgments: mastery performance, vicarious experience, verbal persuasion, and physiological response.

Data collection. Interviews were held over a three-week period in July, 2016. The interview included two parts as suggested by Lincoln and Guba (1985): a) The consent form explanation and signing, as well as a discussion of the process and ethical issues which gave the interviewer and participant an opportunity to establish rapport; and b) the data gathering interview. Each participant was asked to sign an Institutional Review Board (IRB) consent form for in-person interviews, and verbal consent was asked of the four participants who chose the

online interview format (see Appendix G). All interviews were audio recorded. All of the interviews lasted approximately one hour. Each participant was given a \$10 gift card in appreciation of their participation. Each participant was informed of the intention to member check. Member checking, “refers to the involvement of participants in the data analysis process, providing opportunities for them to read, comment on, and contribute to the findings” (Curtin & Fossey, 2007, p. 92). All participants expressed a desire to have the transcripts sent to them via e-mail when completed.

Data analysis. The first step in data analysis was to *prepare* the data for analysis, as suggested by Creswell and Clark (2011), which involved transcribing the recorded interviews into a word processing program. The transcription of the interview data was completed in July, 2016. The audio recordings were transcribed verbatim, minus identifying information, and assigned pseudonyms. The transcription process not only prepares the data for analysis, but also, as suggested by Maxwell (2013), serves as an initial analysis phase while listening to each interview.

After reading the transcripts completely through for typographical errors, they were e-mailed to each participant for their review, with an invitation to comment, suggest edits, or ask questions, as a form of member checking. The e-mail (see Appendix H) included a deadline to respond in 5-7 days. No participants suggested any edits.

The second stage of data analysis was to explore the data which involved, “reading through the data, writing memos, and developing a quantitative code book” (Creswell & Plano-Clark, 2011, p. 205). Memos are, “short phrases or ideas written in the margins of transcripts or field notes” (Creswell & Plano-Clark, 2011, p. 207). They can also serve as reflections on goals, methods, and theory and are considered by Maxwell (2013) to be an important part of the

analysis process. An example of a memo from the first round of transcript analysis demonstrates the importance of creating memos in the data exploration process:

“Moving slowing through this. I often wonder if I have to decide on causation or just code what the student said. For example when they say that they felt a certain way, but not for long (i.e. doubt)...I stop and ponder the context and say "what caused the doubt?" That relates to my question. Do I have to consider the degree of doubt? I have decided that the degree of doubt is not my question - it is what factors affect SE in an online environment. SE is judged by degree, but I am not trying to go there as far as how much a professor's comment affected a student's self-efficacy judgment, just that it did. These are student memories...I cannot get too detailed. These are to give me an idea through the student experience on what the factors are that had an effect on their SE and then I reach out a little farther with a survey and see how they fare with the broader sample...”

Memos were written using a personal blog and the side margins of the transcripts and continued throughout the analysis process. Each transcript was read completely through at one sitting, more than once, in order to, as suggested by Glaser and Strauss (1967), experience uninterrupted time to understand the participant's experience with the phenomenon. Beginning with the first transcript, excerpts were highlighted using Microsoft Word's commenting tool, noting possible relationships to the research question and the foundational theory of this study, social cognitive theory. Any passage of interest that might not have seemed to relate directly to self-efficacy was still highlighted with a short memo marking it as relevant text. Auerbach and Silverstein (2003) suggest not bypassing text that cannot be immediately related to the research question or theoretical constructs and to record its relevance, as a form of “elaborative coding” (p. 104). Researchers who use elaborative coding keep in mind the theoretical constructs on

which the study is built (Auerbach & Silverstein, 2003). A code is a word or phrase assigned to an excerpt that, “capture a datum’s primary content or essences” (Saldana, 2009, p. 3).

This type of elaborative coding in this study is demonstrated below in a memo written after initially reviewing the first transcripts:

“After reviewing the transcripts of the first of two interviews...I became a little discouraged. I read and marked many interesting (and useful) comments and ideas expressed throughout the transcripts, but afterward felt like this is nothing special that I have read so far. Initially, the factors I read about all pertained to quality course design and the practice of quality feedback...such as an informative syllabus, the type of feedback that a) encourages and b) informs the receiver how close or far away they are from the goal. I have to remember that I am an instructional designer – these will be topics I will notice right away and zoom in on. I cannot avoid doing this, however, I have to be on my guard that there are other factors as well. Just reviewing again with a quick glance I notice that external factors are at play as well, such as family role models, family and work obligations, things that people say and don’t say...verbal persuasion...these all may provide glimpses into the answer to my question 1) What factors influence student self-efficacy beliefs in online asynchronous environments?”

After reviewing the first two sets of transcripts again, a provisional list of codes was created (see Table 1). Provisional coding establishes a predetermined “start list” set of codes (Miles & Huberman, 1994, p.58). Codes of this type can be developed from anticipated categories, types of responses, or actions that may arise in the data yet to be collected. The provisional list is generated from such preparatory investigative matters such as: literature reviews related to the study, the study’s conceptual framework and research question, previous

research findings, pilot study fieldwork, the researcher's previous knowledge and experiences (experiential data), and researcher-formulated hypotheses or hunches. As qualitative data are collected and analyzed, provisional codes can be revised, modified, deleted, or expanded to include new codes (Miles & Huberman, 1994). Provisional codes created for this study's data analysis were created based on the previously highlighted transcript excerpts, the theoretical construct and literature review discussed in Chapter 2.

Table 1

Provisional Codes

Provisional codes					
Mastery Performance	Vicarious Experience	Verbal Persuasion	Physiological Response	Course Design	Technology
Completed projects or assignments	Family Models	Teacher Feedback or no feedback	Stress?	Interaction w/course materials	Pos. experiences
Uncompleted projects or assignments	Peer or Friend Model	Peer/Classmate Feedback or no feedback	Confusion?		Neg. experiences
Completed Course(s)	Tutorials or Videos	Encouraging or discouraging words from others	Confidence or lack of confidence?		

The initial transcripts were reviewed, excerpted, and coded with a provisional code or a newly developed one. Excerpts are units of text that are selected as revealing an aspect of the phenomenon (Saldana, 2009) as demonstrated through the participant's response shown below. The participant said that watching someone else perform the task they were being asked to perform was the most helpful to him in an online course. The follow-up question asked why he felt it was helpful to him:

"I mean everyone has, you know, self-doubts, including myself, like you know whether I'll be able to do it, or do it as well, or you know, maybe I'll question my own abilities.

But, when you see, when I saw someone else do it, you know, it made it possible. It made it reasonable and it kind of, it took away some of the fear of the situation and kind of set it in a controlled, attainable, reachable goal. Just in a smaller context. So... ”

This excerpt related directly to the research question, so it was highlighted and then coded initially with the provisional coding of “*Vicarious experience-Tutorial/Video*” and a newly established code “*Self-doubt.*” Once one excerpt was completed and noted, a new excerpt was started. After excerpting and coding the first two transcripts, the process continued with the remaining transcripts as suggested by Corbin and Strauss, (2008).

After each of the 11 transcripts were excerpted and initially coded, each were uploaded into NVivo 11, a qualitative data analysis software. The software was beneficial because it allowed for the creation of a code database that could be used to tag excerpts for a variety of analyses and easy retrieval. It also made the multiple coding of excerpts, as in the example above with both “*Vicarious experience-Tutorial/Video*” and “*Self-doubt,*” easier to code and group separately. This type of organization and flexibility helped during the next round of coding.

The 15 provisional codes developed at the beginning of the data analysis was increased to 44 codes after excerpting and coding all of the transcripts. They were all entered into the NVivo software to use for the next phase of analysis which involved reading through each transcript again, marking previous excerpts and codes as well as any new ones. Excerpts and codes from each transcript were compared to the other excerpts and codes to measure the strength and accuracy of each code. Charmaz (2014) describes this comparison approach to data analysis as the process of comparing data with data. (p. 132). For example, the three participants’ transcripts have excerpts initially coded as “*Feedback*”:

Sandra:

“And that can be a problem. There are people who don’t reply and you’re sitting there and you’re trying to do a lesson and you don’t know where to go or what angle they’re looking for or whatever and it’s really hard.”

Sarah:

“I was sure that the professors would help me. So, I was relaxed.”

Adam:

“You don’t expect all of your work to be perfect, but you know, some people are like, ‘well, you know I can’t believe you would have done it this way’ and you know maybe they decided that they’re the teacher now and they’ll talk to you like they are, kind of thing. And be very belittling. I don’t think it would be enough to doubt myself and go jump off a bridge, but it definitely doesn’t help – ha ha”

Initially these were all coded as “*Feedback*” in the individual transcripts, but through the comparative analysis, it was apparent that there were three different discussions of “*Feedback*” occurring which required more specific coding. After this round of coding and re-coding was completed using the NVivo software, similar codes from all transcripts were pulled into one document for each code. There were 35 codes, therefore 35 collections of excerpts were printed and reviewed. This type of comparative analysis was used to refine the codes. The list of codes was finally reduced to 25, organized into categories, and reviewed again before developing the final version of a coding dictionary (see Appendix I). A coding dictionary is a list of the codes used in the qualitative analysis as well as a statement that helps to define the code. A description of the analysis findings can be found in Chapter 4 of this document.

Trustworthiness. Trustworthiness in qualitative research is described by Lincoln and Guba (1985) as the answer to the questions, “How can an inquirer persuade his or her audiences

(including self) that the findings of an inquiry are worth paying attention to, worth taking account of? What arguments can be mounted, what criteria invoked, what questions asked, that would be persuasive on this issue?” (p. 290). It is from this perspective that the data analysis from Phase I strove to establish trustworthiness. This section describes the techniques used to promote trustworthiness of the qualitative research phase of this study.

- Through the use of a predetermined interview protocol, as suggested by Yin (2013), consistency with each interview was achieved. The protocol was pilot tested in advance with asynchronous online learners.
- Member checking, as described previously, was part of the research design as a way to contribute to the trustworthiness of this phase of the study. Although none of the participants requested that changes be made to the transcripts, all had the opportunity to verify the accuracy of their interview transcripts.
- By keeping a reflexive journal, personal thoughts, biases, research questions and concerns were logged at each moment of their occurrence. It provided a vehicle to reflect on coding decisions as they were being made and offered the chance to refer to them during the analysis process to allow opportunities to do further research, clarify decisions, and separate personal experiences from that of the interviewees as much as possible. This also added to the audit trail that included all of the “raw data, data reduction and analysis products, data reconstruction and synthesis products, process and personal notes” which together, aid in the establishment of trustworthiness (Lincoln & Guba, 1985 p. 319).
- The analysis process itself also served to increase trustworthiness within the context of this study (Maxwell, 2013). The use of the constant comparison

approach to analyze the data created an internal system to establish consistency in the coding and analysis process as described by several qualitative researchers such as Auerbach and Silverstein (2003), Charmaz (2014), and Lincoln and Guba (1985).

Researcher's Role. In qualitative research, the concept of the researcher being part of the world he or she studies is referred to as reflexivity (Maxwell, 2013). Creswell (2008) refers to reflectivity as a, "core characteristic of qualitative research" and that, "good qualitative research contains comments by the researchers about how their interpretation of the findings is shaped by their background, such as their gender, culture, history, and socioeconomic origin" (p. 192). It is therefore necessary to include what part my background played in this current study.

I am a married, 54-year old, Hispanic, white, female living a lower middle class lifestyle, and I am the mother of four adult children and seven grandchildren. I spent the first 24 years of my adult life coaching competitive swimming for communities and high schools in the Northern Virginia area. This experience initiated my interest in motivation and how its presence or absence in an athlete can affect their performance. Initially, I believed that motivation was something that an athlete brought with them to the team. Over time however, I came to realize the drastic effect that an athlete's coach, teammates, and past performance could have on his or her attitude of self, abilities, and future performances. I was not aware that this phenomenon had a name or a theory behind it until I began my doctoral studies at Virginia Tech.

During those same 24 years, I slowly earned my bachelor's degree. As a mother of four and wife of an Army soldier, many of my undergraduate credits were earned through a mixture of traditional and distance learning courses. Many courses were started and completed, but many were started and not completed due to a variety of reasons. Whenever I had to drop a course, my

confidence was substantially reduced and caused self-doubt when it came time to register for another course. Many times, I would let a semester or two go by without taking a course for fear of not being able to finish. Once again, I was not aware that this phenomenon had a name or a theory behind it until I began my doctoral studies at Virginia Tech.

After teaching in K-12 for five years in a SW Virginia High School, I earned my Master's degree in Instructional Technology and was introduced to purposeful lesson design using technology to enhance learning. The program was geared towards K-12 teachers and focused on the immediate needs of practicing teachers. It did not delve deeply into the theories behind the design and assessment strategies being taught. It was during this program of study that I began connecting my own experiences with the practice of design and instruction, and wanted to learn more.

Subsequently, I entered Virginia Tech's Instructional Design and Technology doctoral program, where I have gained a deeper understanding about how learning occurs, how to enhance student motivation, and how to design for learning *and* motivation. I currently teach a synchronous online course for high school juniors and seniors and, at Virginia Tech, have had the opportunity to design courses for asynchronous online Master's learners. As a former distance learner, I have come to appreciate and respect the way that distance learning has had a positive impact on my own academic goals, and have grown to appreciate it as an alternative approach to instruction. My various personal and professional experiences with distance learning, and my belief in the importance of learner motivation have led me to my current research interests.

I bring to this study a belief in the potential that distance learning offers millions of learners as a result of the internet. I believe in the importance of a learner analysis for quality

course design as well as an understanding of what online students experience inside and outside of their learning environments and how those experiences affect their academic achievement. I believe that students with strong academic self-efficacy achieve more academic success, and I believe that it is the responsibility of the instructor and course designer to include efficacy enhancing elements in the course design. I understand that not all student experiences affect their beliefs in their abilities to successfully complete their online coursework. I also understand that not all of the factors that affect a student's self-efficacy can be successfully addressed in every course design. I have made every attempt to approach this study, the participants, the data, and the data analysis with an unbiased and open mind, and allow for the free flow of learner experiences without pressure from me in one direction or another. My goal was to be led by the research question and participants' own experiences, not just my own.

Phase II: Creation and Expert Review of Survey Instrument

Instrument development. It is this stage of the research that Creswell and Plano-Clark (2011) refer to as the “intermediate step between the phases” in which, “the researcher develops an instrument...that builds on the qualitative results and is used in the subsequent quantitative data collection” (p. 85). This step helps to solidify the concept of *mixing* the methods (Bergman, 2011; Creswell & Plano-Clark, 2011; Teddlie & Yu, 2007).

Survey questions were developed based on the findings from Phase I of the study. Each survey question was designed to explore specific findings from the Phase I data analysis in order to explore similar or differing beliefs of the broader sample of asynchronous online learners. An initial survey draft was prepared for expert review (See Appendix J).

Expert Review. Including an expert review into the study design was to not only enhance the validity of the study, but also to gain expertise on whether the goals of the survey

were being met. The experts selected for invitation to participate in the study were all experts in the fields of educational psychology and educational research.

The invitations were sent to: (a) Dr. Dale Schunk, former Dean and current Professor at the University of North Carolina at Greensboro; (b) Dr. Ellen Usher, Associate Professor, Director of the P20 Motivation and Learning Lab and Chair of the Educational Psychology Program at the University of Kentucky; (c) Dr. Chin-Chung Tsai, Chair Professor of the Graduate Institute of Digital Learning and Education at the National Taiwan University of Science and Technology; (d) Dr. Brett Jones who is a learning sciences professor and research scientist at Virginia Tech in the School of Education; (e) Dr. Terry Wildman, professor emeritus of learning sciences, retired from the School of Education in the College of Liberal Arts and Human Sciences at Virginia Tech; and (f) Dr. Susan Magliaro, a professor of education, specializing in Educational Psychology, at Virginia Tech School of Education. The recruitment documents for the reviewers can be found in Appendix K.

Four of the invited experts agreed to participate. Each expert was provided a link to a survey to submit their responses.. The expert review survey was created in Qualtrics, as survey creation and distribution program. After the initial opening comments, experts were provided with a consent form (see Appendix L), and an option to remain anonymous. All participants provided consent and did not choose anonymity. Following the consent was a series of questions based on screen shots of the student survey. Each question on the student survey was provided in the form of a screen shot and then followed by the objective of the particular set of questions, the study research question, and the same set of question as can be seen in Figure 3. Experts were also asked to review the demographic questions from the student survey as well as comment about the order of the student survey questions overall.

Figure 3. Expert reviewer survey questions.

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below:

	Yes, but needs editing	Yes	No, just needs minor editing	No, it needs major editing
1) The questions above align with the objective and research question.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2) This group of questions is worded clearly and easy to understand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:

Expert review feedback. Based on the initial expert reviews, several changes were made to the student survey. All reviewers indicated that the survey questions avoided bias. Most questions were marked as being appropriate or worded clearly and understandably. The “needs edit” responses checked by experts were addressed and edited based on feedback such as, “Not sure why you grouped ‘little or no effect’ responses together?” or, “This section may confuse participants. The conditional nature of the response track might confuse folks, especially when their answer is ‘no’ to ‘can you remember a time?’” Upon expert advice, these types of responses were eliminated in the 2nd iteration of the survey to avoid confusion and to provide a more precise response for analysis.

The main commentary from one of the experts was about the phrasing of some of the questions not being specific enough about “self-efficacy.” For example, “Self-efficacy refers to a belief, not an attitude. Attitudes could be numerous, and the question does not specify what type of attitude might have been affected. Also, the participant is prompted to think of a time when

emotional support helped to accomplish a goal, not change a capability belief.” This prompted a review of the phrasing of the questions flagged as unclear or not specific enough about self-efficacy. Positive feedback such as “Great, I think these will render meaningful results,” provided model questions to use in rephrasing the weaker questions. Another expert suggested that all questions contain an opportunity for participants to type in a response as the survey up to that point only provided this option for some of the questions. This advice was taken and all questions contained an open response for participants. A different expert suggested that at question 14, the survey was “getting long” and suggested that it might have an effect on response rates. This prompted a review of the questions to make certain that all were necessary for the study or if any could be condensed. The final survey was reduced in sized. Finally, any mention of possible confusion such as, “The format is a little strange here” or, “Rather than referring to ‘the above’ statements, I would suggest re-writing them. This should lessen the respondent’s cognitive load” were edited for clarity. The 2nd iteration of the student survey was then reviewed by one of the four experts. The expert’s input helped to establish alignment in terminology such as using “ability beliefs” instead of “self-efficacy perceptions” throughout the survey responses. It was also suggested that alignment in the format of the survey responses would provide more clear results for analysis. A final version of the survey can be seen in Appendix M.

Instrument. The final survey instrument developed and reviewed was created in Qualtrics, an online survey creation and data collection tool. The first page of the survey contained background information on the study and consent information. The second page explained how the survey was set up. The survey questions, in their various forms, made up questions 1-16. The final 10 questions were demographic questions, for a total of 26 questions.

Participants were given the option of entering their e-mail address for a gift card drawing as an incentive to participate.

According to Groves (2009), there are three distinct standards that all survey questions should meet:

- 1) Content standards (e.g., are the questions asking about the right things?)
- 2) Cognitive standards (e.g., do respondents understand the questions consistently; do they have the information required to answer them; are they willing and able to formulate answers to the questions?)
- 3) Usability standards (e.g., can respondents and interviewers, if they are used, complete the questionnaire easily and as they were intended to?) (p. 259).

By incorporating the suggested edits of the expert participants, these standards were addressed.

Phase III: Survey Data Collection and Analysis

Recruitment. After expert review and IRB approval, a recruitment invitation was sent to a variety of contacts who served students or educational organizations whose students or membership either met or potentially met the participant criteria of being currently enrolled in or having completed at least one asynchronous online course at the university level (see Appendix N). Organizations who received requests for student or membership participation were Virginia Tech's Online Master of Technology (MIT) program, Virginia Tech's Instructional Technology Student Association, Virginia Tech's asynchronous online Personal Health and Drug Education courses (mandatory online courses for undergraduate students), Association for Educational Communications and Technology (AECT) members, The International Society for Technology in Education (ISTE) Online Community Member Forum, as well as instructors from two

different Eastern United States universities to be forwarded using social networking. All agreed to participate by sending the invitations included in the recruitment e-mail they received to their students or membership for voluntary participation. The study officially ended on December 12th and surveys were closed on December 13th. Analysis of the participant responses is described in this chapter, and findings are described in Chapter 5.

Participants. As the study was designed to explore the personal perceptions of asynchronous online learners, the purposeful selection of experienced asynchronous online learners were recruited to best inform the research question (Creswell & Plano-Clark, 2011; Sargeant, 2012).

Number of participants. The survey was opened and started by 296 respondents. Of the initial respondents, 81 respondents did not complete the survey. Because each section of the survey was important to be able to answer the research question, only surveys with responses in all four sections were included in this analysis (N=215).

Age of participants. Respondents (90 male, 124 female, and one unknown) ranged in age from 18-73 years of age with a median age of 35 years. There were 138 respondents who reported participating in online course work in 2016, 27 in 2015, 46 before 2015, and four did not mark a choice.

Education level of participants. Respondents in the post-secondary undergraduate education at the time of their study participation include the following: Two Freshman, 11 Sophomores, 27 Juniors, and 23 Seniors. Respondents in graduate school at the time of their study participation included the following: 52 Master's and 47 PhD students. Those who responded as having completed their degrees at the time of their study participation are as follows: 14 PhD's, Three Bachelor's, 30 Master's, and six did not mark a choice.

Geographic location of participant online coursework. The number of respondents who reported taking their online course(s) in the U.S. as a U.S. student was 201. Seven reported taking their online course(s) in the U.S. as an international student. Three respondents reported taking their online course(s) at a non-U.S. school. Four respondents did not mark a choice.

Participant online course experience. The number of respondents who reported taking six or more online courses was 117; 38 reported taking 4-5 courses; 40 reported taking 2-3 courses; 18 reported taking one online course (including their current online course); and two did not mark a choice.

Data Analysis

Survey responses were collected in Qualtrics, and the data was analyzed with the assistance of Qualtrics, Excel and Statistical Package for the Social Sciences (SPSS). SPSS is a computer program used to assist in the analysis of quantitative data. Survey response files were exported from Qualtrics and reviewed in Excel for missing data or unanswered questions before importing into SPSS. In order to use the data to provide descriptive statistics such as frequencies and percentages, some of the data required recoding which was done inside Qualtrics which allows for specific codes to be applied, for example the coding of “Male” as “1” and “Female” as “2”. All open-ended responses were removed from the data into a word processing program and then imported into NVivo, the qualitative analysis software used in Phase I.

Survey questions. Most questions in the survey provided the same four response options: “No effect on ability beliefs,” “Positive effect on ability beliefs,” “Negative effect on ability beliefs,” and “Does not apply.” Each multiple choice survey question was followed by an open-ended question.

Open-ended questions. All open-ended responses were coded as either “Specifically no effect,” “Specifically positive effect,” “Specifically negative effect,” “Specifically does not apply,” “Other” (which applies to responses that, although they may have provided additional information about the respondents’ online experiences, did not specifically comment on ability beliefs). Once each response was coded, frequencies and percentages were calculated.

Validity and Reliability

Creswell and Plano-Clark (2011) describe several validity threats to mixed methods research as well as strategies to minimize these threats. For example, they recommend using a small purposeful sample in Phase I, and a larger sample in Phase III. Therefore, a small purposive sample of 11 participants were interviewed in the Phase I, and a larger sample of 215 participants were surveyed the study’s Phase III.

The content validity of the Phase III survey was enhanced through the expert review process. The expert reviewers provided input on the alignment of the question objectives and the research question, clarity and comprehension, appropriateness of response options, and bias avoidance.

Summary

Eleven participants were interviewed in the first phase of this study using a semi-structured interview protocol. Using a qualitative methodology for this phase of the study allowed all participants an opportunity to describe their online learning experiences. Although the protocol focused on the four sources of self-efficacy, the interviewees were able to speak freely about all of their experiences. After member checking the transcripts, data was analyzed using elaborative and comparative coding strategies. NVivo qualitative software was used to help manage the data and create a code database. A final set of codes were categorized and will

be discussed in more depth Chapter 4. The data analysis from this phase of the study provided a foundational set of categories and subcategories of efficacy-effecting factors on which to build the survey in the second phase of the study.

The creating of the data collection tool in the second phase of the study was for the purpose of expanding the reach of the study to a larger sample of online learners than the initial phase. Four expert reviewers in the field of Educational Psychology and Research agreed to participate. Based on their suggestions and feedback discussed in this chapter a final survey tool was created and submitted to IRB for approval.

The finalized survey was completed in the study's third and final phase by 215 asynchronous online learners. The survey data analysis described in this chapter produced findings that will be discussed in Chapter 5.

CHAPTER FOUR

Phase I Findings

In order to explore the experiences of asynchronous online learners for possible factors that may affect their self-efficacy while completing their online course requirements, this exploratory sequential mixed methods study began by interviewing 11, current and former, asynchronous online learners. Using a semi-structured protocol, participants were asked to provide details of their online learning experiences. This rich data were analyzed through the lens of social cognitive theory; specifically, self-efficacy. Findings are described in this chapter as a set of categories and subcategories resulting from the analysis methods described in Chapter 3. A listing of the categories and subcategories can be seen in Table 2.

Table 2.

Factors that affect self-efficacy with subcategories.

Student Motivation	Student Challenges	Student Strategies	Communication
Career Goals	Self-Doubts	Adaptation	Peer feedback
Verbal Support	Course/Program Design	Adjust Schedule	Instructor Feedback
Interest	Personal Life Obligations	Reject Negativity	Interaction with Others
Vicarious Experience	Misunderstandings	Make a Plan	Verbal Persuasion
Mastery Opportunities	Technology	Research	
Mastery Experiences		Reflection	
Course/Program Design		Seek Help from Others	
		Time Management	
		Use Resources	

Student Motivation

The findings from Phase I indicated that student motivation was a main factor affecting the self-efficacy of the online learner participants. The theme was derived from the grouping of subcategories that emerged from the data analysis. The following subcategories are described and then followed by quotes from the interview participants that support the subcategory coding and ultimately the categorization of the group.

Student Motivation Subcategories

Career goals. Five out of 11 participants referenced professional goals as a motivating factor in the online coursework at 12 different times during the interview process. Examples can be seen in Table 3.

Table 3

Examples of Phase I Career goal references

- | | |
|----|---|
| A. | "Well, I feel like, one of my career goals, I've said, in the future, is to maybe be an online instructor. You know, so, you know, being able to take online classes effectively actually, having that goal and being able to take the classes actually gives me the confidence, you know." |
| B. | "And I really feel strongly enough about my profession that I want to be involved in it, in some way, any way I can and online [learning] provides that opportunity for me. So I planned this a long time ago." |
| C. | "I love being challenged. I love working hard. But when I choose classes, it's usually with their future career benefits in mind." |

Verbal support. Ten out of 11 participants referenced verbal support as a motivating factor while taking online courses at 46 different times during the interview process. Examples can be seen in Table 4.

Table 4.

Examples of Phase I, Verbal support references

- | | |
|----|---|
| A. | "I need that encouragement – 'hey, you're almost there, you're doing it'" |
| B. | "And it's always like a safe feeling I guess to know that my family supports me and you know no one's trying to talk me out of what I'm doing." |
| C. | "Good, you know, it was always nice to know that they had my back and were proud of me no matter what happened and kind of gave me the spark to keep going" (in speaking about family support). |
| D. | "I feel like just that by itself made something that was likely impossible, very possible" (in speaking about family support). |
| E. | "...take care of the kids when I need to. Everything I need to do academically, he supports me. Sometimes the baby wakes up in the middle of the night and he takes the baby so I can finish an assignment. So that's huge. I couldn't have done it without him" (in speaking about husband's support). |
| F. | "I have my stepdad and my sister also both have their doctorate, so they have kind of, they had been through the process so they know, they knew what I was going through and it helped to be able to chat with them and find someone to relate to in that sense." |
| G. | "Other people could care less really. Unless I'm a good mom and a good wife and whatever, this is what they want for me; in the most lightest of ways. They are not like 'if you're not like this I'm not going to love you,' you know. It's more like that they don't really care...and my mom wants to give me hope saying 'hey it's not over, you can still go to school, you can still finish your degree,' and that's okay." (An example of the absence of emotional support from a participant who left school before finishing.) |

Interest. All 11 participants referenced interest in distance learning, their course, and subject matter as motivating factors while taking online courses at 36 different times during the interview process. Examples can be seen in Table 5.

Table 5

Examples of Phase I, Interest Support references

A.	"Because it is more like self-discipline and that you have an interest in it, and enjoying it and putting your best into it."
B.	"I was on fire, I was like, I was having so much fun taking this, taking some information from some book, you know, putting it into my own words, I mean, and making the blog, I mean, I would have never had done that if it wasn't for that class. So, I mean, that planted a seed I'm sure, for future, like I'm willing to get out there and put myself out there more."
C.	"I was curious to see what they had to say about the subject, so, I knew I could do the course."
D.	"But, there's enough times that I actually enjoyed what I was learning, so, I have the, I feel like I have the learning skills to stay motivated and on task."
E.	"So, I think having that goal and being so interested to know everything about distance education, edges me on to push myself."

Vicarious experience. Six out of 11 participants referenced vicarious experience as a motivating factor while taking online courses at 15 different times during the interview process. Examples can be seen in Table 6.

Table 6

Examples of Phase I, Vicarious experience references

A.	"But, when you see, when I saw someone else do it, you know, it made it possible. It made it reasonable and it kind of, it took away some of the fear of the situation and kind of set it in a controlled, attainable, reachable goal."
B.	"I think more than anything...if they can do it, so can I" (in speaking about seeing other students succeed).
C.	"I always like to see examples. Uh, and I do not necessarily do my work the same way the example is, but I always like to see an example to make sure this is what I'm supposed to do. If he did, so I can do it."
D.	"Making sure I had access to a lot of follow-along tutorials."
E.	"I don't know what happened, but Ben Franklin uh, only got 3 hours sleep. That somehow really got me really far. Hey, Benjamin Franklin got three hours of sleep, so, I don't need that much sleep. I can do this!"

Mastery experiences. All 11 participants referenced mastery experience as a motivating factor while taking online courses at 48 different times during the interview process. Examples can be seen in Table 7.

Table 7

Examples of Phase I, Mastery Experiences references

A.	“Oh, APA style, easy. It was like I’ve done this before and I’ve learned about media literacy before because I wrote my Master’s thesis about it at [university]. So I kind of felt like I could do it” (in describing a first online course experience).
B.	“When I started, you know, the program, and being interested in distance education, I took some classes and the first one was kind of a little bit fuzzy, I struggled with the first class, but then after that I was like ‘oh, okay, well...I think I can do it.’”
C.	“I’m pretty confident in myself so I feel that the ability that I probably have maybe to do from experience, from the previous one, actually edges me on, to move on to the next one.”
D.	“When I start a new course, you kind of start with that uneasy feeling...‘I don’t know anything about this...am I going to be able to do this?’ And you know, after 1 or 2 assignments then...you just have to take the first step.”
E.	“If I did something similar in the past, I feel more comfortable doing it again.”
F.	“Knowing that I mastered something, appreciating a finished product, uhm, you know, knowing its worth to me, uhm, that’s more important in the long run than having people encourage me or whatever.”
G.	“And if I was going to get more schooling, I would do it online, because I’ve already done it three times.”
H.	“And so after the first semester, then the next semester I took more online classes, you know, knowing that even though I’m going to have a baby, even though that’s going to be a lot of work, I felt confident that if I was able to do the first one, I can probably, definitely be able to do the next one.”

Mastery opportunities. Nine out of 11 participants referenced mastery opportunities either experienced or missed, as a motivating factor while taking online courses at 17 different times during the interview process. Examples can be seen in Table 8.

Table 8

Examples of Phase I, Mastery opportunities references

A.	“Second chances, freedom to fail. I think, uhm, the moments where I did the best was when I made mistakes and it wasn’t like ‘that was your chance...good luck’ you know?”
B.	“And that’s that, you know. There’s not time to edit or grow or get any better. You had some feedback and you’d think you’d be able to resubmit based on maybe the student feedback but this, with this you didn’t have that option so...”
C.	“The second year, once I knew that yes, I could resubmit, I was relaxed.”
D.	“Being able to say ‘look, you’ve seen my work, this wasn’t my best work, please let me rewrite it again, I was sick’ and he let me do it and that won me over. I think if I’m ever going to do more school, online schooling is really the only way to go for me.”

-
- E. “And I feel like the graduate level courses, the way they’re structured, uhm with readings, and then activities, that kind of help you reflect on what you’ve read, that helps me to stay motivated to go to the next section, uhm, and also the ability to re-submit.”
-

Course/Program design. Eight out of 11 participants referenced course design as a motivating factor while taking online courses at 19 different times during the interview process.

Examples can be seen in Table 9.

Table 9

Examples of Phase I, Course/Program design references

-
- A. “Yes, the subject matter didn’t matter. It was how the class was laid out.” (in commenting about self-beliefs during an online course).
-
- B. “It depends, like I said, on the syllabus. Uh, I have a higher efficacy on something that I can understand and that I feel I can understand and when I feel like I can understand it is when it’s laid out for me. It’s like, this is what we’re doing. This is why we’re doing it. This is how you can do it. And then I can move on from that.”
-
- C. “Yeah, that [feedback] and also when a course kind of lays out a recommended timeline for you too – which specific, kind of like a checklist of things that you should do rather than just give you some readings and give you an assignment, they, I’ve done it where I’ve watched lectures, I’ve done it where there’s or I go through certain things and answer questions, so I think feedback and kind of a recommended timeline or step-by-step of things you should know is helpful.”
-
- D. “You build on previous lessons usually, and projects are usually at the end of each course, so what you’re learning will be applied and it usually all comes together for me.”
-
- E. “Wow, it’s been, it depends on the, really it depends on the instructor. I’ve had some really good experiences, I’ve had some really bad experiences. I really depend on, it really depends on for me, it depends on the syllabus. Do I know what’s coming?”
-
- F. “Do I know what I’m supposed to do so that I can make it flexible? I’ve had classes where the professor didn’t tell me what was going on. Basically, they told me basically a little bit about what the, you know, what the class is about and just pretty much what you read in the, in the catalogue or whatever. And then, ‘this is who I am, and this is what we’re going to be doing’ and you have the first week. And then every week they would send you something and that was very frustrating for me. Like, I didn’t do well in those classes. It’s not like I didn’t do well, but I didn’t do well mentally, like I wasn’t able to face those classes as well.”
-

Student Challenges

The findings from Phase I indicated that student challenges are a main factor that affected the self-efficacy of the online learner participants. The theme was derived from the grouping of subcategories that emerged from the data analysis. The following subcategories are described and then followed by quotes from the interview participants that support the subcategory coding and ultimately the categorization of the group.

Student Challenges Subcategories

Self-doubts. Seven out of 11 participants referenced experiencing self-doubts as stressful or as an experience that was demotivating while taking online courses at 26 different times during the interview process. Examples can be seen in Table 10.

Table 10

Examples of Phase I, Self-doubt references

A.	"Always thinking 'ahhh, I'm running out of time-I'm going to fail-I'm useless' whereas you should be thinking 'how do I do this assignment?'"
B.	"You are always plagued with self-doubts, but if you can map your plan better, you don't have as many excuses to doubt yourself."
C.	"When I didn't have that, I uhm, I usually second guess myself and end up failing the project or something like that." (in speaking about clear directions).
D.	"Well, if I'm stuck on a particular question, you know, and I have no idea about it, I don't really know what to do."
E.	"I wasn't really sure of what I wanted to do, I wasn't sure of myself." (in speaking about quitting an online program).
F.	"It's just different, and I think I misunderstood. But I'm not sure, and you doubt. You get a little self-doubt."
G.	"It's okay to ask for a little extra explanation, when you're not understanding, but I think we are scared to do that as online learners."
H.	"You know, going into it I already kind of felt like the world was against me."
I.	"I would say my great challenge...was feeling like not knowing if you were on the right track or on the right page, because sometimes, you know, some of the concepts, I'm not sure if I'm getting them."
J.	"Well, the current course I'm in, I would say, I am not succeeding in it. I do not feel comfortable with the topic I picked for my project and I keep rethinking it. Uhm, but I, uhm, feel like it's because it's completely new, it's a research course."
K.	"So, it seems easy enough but since you've never done it before, it takes you maybe four times longer than it probably should – ha ha ha."
L.	"There were times when I wrote whatever I feel, I feel that I really know what this is, you know, and I still didn't get a grade that I wanted and I had to redo it and it makes me really frustrated, you know?"

Course/Program design. How the course and/or program was designed affected students' confidence in their ability to succeed. This subcategory is used twice, once previously in Motivation and again in Student Challenges. Responses are the same in both, it was relevant to note that Course/Program Design could act as a motivator/non-motivator, but also as a student challenge.

Personal life obligations. Eight out of 11 participants referenced personal life obligations as challenging at 26 different times during the interview process. Examples can be seen in Table 11.

Table 11

Examples of Phase I, Personal life obligations references

A.	"I really probably couldn't handle too much more because I'm having to figure out their scheduling and their whatever and it blows my mind."
B.	"So it was difficult in the sense that I had all this extra stuff and everyone else, they were done at 5 o'clock every day and that's when my second shift was just starting."
C.	"Existing is a challenge."
D.	"But, we all live in different places in the state when you're taking these things and I may be sitting here on the mountain having a snow storm and I'm using satellite and my satellite goes down when there is a storm and I can't get out and if I have a due date that is my problem."
E.	"I got a really bad grade on my paper because I was sick and when I, I was like 'oh my gosh, I must have been hallucinating or something'...I asked the Professor, 'I don't know how I made these connections but would you please let me rewrite this again?' and, uhm, so he let me rewrite it and I got an "A" on it, it was good, because even though that is part of the online environment, for me is that communication being like 'I have a life, I'm doing other things, I get sick, I have kids, I have a husband, I'm doing these things, but like I know I want to give you my best product.'"
F.	"Kids wake up at 5:30 a.m. this morning. I have a business trip next week. I didn't get my car registration renewed, what if I get a ticket on my way home? Online student self-efficacy was 20% from the actual course experience, but 80% was the stuff of life."
G.	"'What?? I'm reading here!! Leave me alone!!' She's not willing to do that with her kids. I was willing (laugh)" (in describing the difference between herself and a friend who dropped out).
H.	"I had to call out of work, so I could finish the project. I didn't have to, but that's how important it was for me, I was like 'I have to finish!'"
I.	"Since I have so many other things to do, you know, so I do miss that, I really do" (in commenting about family time).
J.	"I mean, I think it, having support at home, definitely motivates you to do well because you don't want to let those people down like 'ahh, just kidding, I didn't do anything..ha ha.' That's my motivation there, uhm, it also helps me keep the thought 'I can do this' in my head – 'I can do this.'"
K.	"I can sacrifice my sleep, you know? That was my strategy, and it was hard to roll out the next morning at 6 o'clock to get to work."
L.	"I don't think there were other situations that were extremely challenging other than just getting everything done by the deadline because I was also working full-time and attending classes for certification. I really had three jobs at that point – so, that I think was the challenge."
M.	"But online it's harder, because there are more distractions. You're not sitting in a classroom, you're sitting in your room or sitting in your house and the kids come home and they need something and you get up and you go do it or it's time for supper or you've got papers to grade or whatever and it's just harder to make yourself say "no, I have to do this now."

Misunderstandings. Six out of 11 participants mentioned misunderstandings as a stressful experience. Participants discussed such misunderstandings at nine different times during the interview process. Examples can be seen in Table 12.

Table 12

Examples of Phase I, Misunderstandings references

- | | |
|----|---|
| A. | “And you know for my program I did not, the first year I did not know that I could resubmit for our assignments, I did not know that – that’s my fault. I misunderstood...so that’s why I was stressed out the first year.” |
| B. | “Then the teacher finally looked at it and just said “uhh, that’s not really what I was going for, you know, 70%” (in discussing the after-effects of being unsure about an assignment). |
| C. | “But if I don’t know what the professor wants me to get out of it, then I’m always trying to change my thinking like how can I fit what I think this is saying to what you maybe or may not want and uhhh...it’s more frustrating.” |
| D. | “Maybe lack of communication or misunderstanding I feel stressful for some reason.” |

Technology. Seven out of 11 participants referenced technology-involved experiences at 15 different times during the interview process. Examples can be seen in Table 13.

Table 13

Examples of Phase I, Technology references

- | | |
|----|---|
| A. | “Well, it’s really hard because when I went into the program, I didn’t know anything. I mean I didn’t know the software, I didn’t know the hardware, and it was just an OJT [On the job training].” |
| B. | “I had to have group meetings, and those, that program, and you have a topic and you have to discuss and that, I felt was a challenge too, because that, it was several years ago, and our internet was not the best.” |
| C. | “You actually have to have not just technology skills to access the stuff, but the skills to succeed in the course and in general to do the assignments.” |
| D. | “And it was a big technology problem too, like my laptop crashed 2 times during this one class. This is a big deal with the online thing that’s really frustrating if you don’t backup your information, that’s uh, I didn’t backup my project and ended up having to stay up for two days in a row.” |
| E. | “And the technological, I’ve had those challenges, more than once, because there’s a lot that can go wrong and if you have faculty that don’t care, and that’s how it was.” |
| F. | “I think a lot of what this degree is about me, is being able to figure out the technology issues when you encounter them and other issues when you encounter the and solve them. I think that is how I’ve tried to get through them.” |
| G. | “I took a class ... so I was learning new tools, technology tools, which I always really enjoy. It was a lot of work. Because we had, I had to create something with each tool. Some final project.” |

Student Strategies

The findings from Phase I indicated that student strategy use while completing online course work was a main factor that affected their beliefs in their ability to successfully complete their online coursework. The theme was derived from the grouping of subcategories that emerged from the data analysis. The following subcategories are described and then followed by quotes from the interview participants that support the subcategory coding and ultimately the categorization of the group.

Student Strategies Subcategories

Adaptation. Seven out of 11 participants referenced some form of adapting as a strategy used to enhance their ability to succeed in their online learning experience at 23 different times during the interview process. Examples can be seen in Table 14.

Table 14

Examples of Phase I, Adaptation references

- | | |
|-----------|---|
| A. | “Adapt and grow, a little at a time.” |
| B. | “You have to be able to learn how to teach yourself to think critically and be self-sufficient in those kinds of learning environments.” |
| C. | “So, someone gives you everything you need to know, whereas online, everything is given to you but you have to be able to figure out how you’re going to take it all in, and do it yourself. So and that’s something I had to figure out a way. It was kind of more teaching myself kind of thing, the skills to be able to teach myself I took from school and that’s how, as far as being a critical reader and critical thinker, and you know, being able to write and take notes and kind of, you kind of learn to adapt to your online environment based on your schooling.” |
| D. | “No, it’s not like ‘oh, I’m not going to do it’ – it’s midnight and I say ‘okay, maybe I need to start earlier’ and even if I start earlier, a day or two, I always like to finish a day before the due time.” |
| E. | “Yes, some people don’t ask questions, but my course we learned how to ask questions, right?” |
| F. | “I feel like they are black holes, where they sucked my life out of me, but they also revealed something to me. They revealed that these things aren’t important, you don’t have to invest your whole self into it...but you know what you know and you can make something better, a class better, just based on what you know from past experience” (in discussion about her online courses). |
| G. | “I mean, the one thing was that I kind of had to stay on track and keep myself going, The one think I kind of liked about them is that you, you’re kind of your weakest link. So, if you don’t, it kind of made me a better reader during those courses, Because I felt like I spent more time on the reading and kind of thinking how I was going to do things, and I felt, that because, if I didn’t then it was my loss.” |
| H. | “So, you kind of approach it differently when you see signs of it’s going to be a really more work intensive class.” |

-
- I. "Some things require more time than others and you just try to find the strategy that will allow you to move forward with that and then adapt when that strategy fails – ha ha."
-

Adjust schedule. Ten out of 11 participants referenced some form of adjusting their schedule as a strategy used to enhance their ability to succeed in their online learning experience at 24 different times during the interview process. Examples can be seen in Table 15.

Table 15

Examples of Phase I, Adjust schedule references

- A. "You had to force yourself to make a, a new schedule that was going to work, and compete with other things."
-
- B. "So, those were really challenging because times were, maybe you should be sleeping or eating or accomplishing anything else in life, you knew that you had to be putting that time towards the projects for the class or it probably wasn't going to happen."
-
- C. "'Oh, apparently I can't do that' you know '48 hours is not enough.'"
-
- D. "Even though it's a suggested schedule, if you follow it, you actually can do the course with no stress. You know, you kind of have to organize your time, do the readings, work it into your schedule."
-
- E. "And that course, you have, that was one of the big differences there, there were very strict deadlines. So, in that course, if you didn't turn it in, you got a zero. So, I think that can be overwhelming and so stressful, because it's a short, and you're doing those projects, you have to set up all these experiments, and watch them, and record them, and then write papers on them, readings, and things, so, ...I probably didn't breathe for 6 weeks, ha ha ha."
-
- F. "Like if they're going into week 2, I'm usually past week 2, I've finished with week 3. And so that gives me slack. I don't need to meet a schedule then."
-
- G. "But, you know, and the weekends, I set aside a specific time on the weekends to work. And it all goes back to discipline."
-
- H. "Yeah, I had to establish a system for myself. I kept trying different ways at different times and I found out that after dinner and after, no contact with anyone and no socializing. I would just focus on my work and do it. No, for reading I liked to do it daytime; it helps my eyes."
-

Reject negativity. Six out of 11 participants referenced some form of not listening to negative people as a strategy used to enhance their motivation to succeed in their online learning experience at nine different times during the interview process. Examples can be seen in Table 16.

Table 16

Examples of Phase I, Reject negativity references

A.	“Well, one thing I think is pretty interesting is that before I took [the course] people told me ‘that course is crazy’ – Yes, so, well, then my classmate reinforced that kind of feeling in that ‘well that course drives me crazy’ and well, so I don’t feel that bad because it’s hard, but not crazy.”
B.	“I remember one person. I knew her. She’s not a close friend, but one time I told her, she asked me what I was doing. I said ‘I’m doing my Master’s.’ She said ‘what are you going to do with it?’ So, I knew she’s not the type to encourage me so I said ‘I’m not going to do anything with it, I’m just going to put it in the drawer’ – and that’s the end of it – ha ha. I didn’t want to get upset – ha ha.”
C.	“So, like when someone would say like ‘oh all my online courses are terrible, why would anyone do that?’ - I don’t know if I care that much actually because yeah, ultimately I like the program.”
D.	“It’s important to me, and he’s going to do it! Ha ha.”(Discussing when her husband complained about her taking a course and him helping her out.)
E.	“My dad never really understood much what’s up with college because, like, he only went to school until he was like 15 and he kept saying ‘aren’t you done with school yet?’ And I think my friends are a little like my dad, that they’re maybe ‘yeah, isn’t it time to go to work?’ ha ha ha.”

Make a plan. All 11 participants referenced some form of making a plan to succeed in their online learning experience at 33 different times during the interview process. Examples can be seen in Table 17.

Table 17

Examples of Phase I, Make a plan references

A.	“You have to make a plan and give yourself a deadline, I mean a hard deadline so you absolutely 100% have to stick to it no matter what.”
B.	“If it is the kind of class where there are rolling deadlines, you have to treat it like a regular class and not procrastinate because then, work usually tends to be substandard, and you’re just not learning as much if you’re not giving yourself much time to think and reflect and write.”
C.	“If they tell you this will probably take about 3 or 4 hours of your time per week, then I plan for 3 or 4 hours per week. Plan to do, I do work in the morning, I do a lot of work in the morning. Not all, when I have to work, I do it early morning. If I have time [at work] I might get on the computer and do a little bit then.”
D.	“I mean, we had it charted out to be finished within our three years” (in speaking about going through her Master’s program with a friend).
E.	“What I would do is come home, have supper, have my family time and have it early enough that then from 9 o’clock on was my time.”
F.	“Yeah, I had to establish a system for myself.”
G.	“Now I created another strategy. I said ‘okay, I’m going to do it one step at a time. I’m not going to look at the end, what I’m supposed to do at the end’ you know ‘I’m just going to do one step at a time’ and I write my log and I did it. Otherwise I wouldn’t have. I was scared when I saw [the number of hours] I had to work on the project. I said ‘how can I do that?’ And I finished before time. The strategy was just one step at a time.”
H.	“I needed to get ahead. Not too far ahead. I would always try to get like a week ahead, so I could just like, start working on something and then, I could revamp and redo some things...that was okay for me.”
I.	“Anybody wants to do an online class needs to turn the...computer on, ha ha ha and just do an hour, spend an hour looking at something.”

-
- J. "So, I just stick with it. Most were due on Saturday I think. Most of the assignments were due on Saturday or Sunday or something like that so that worked out for me, you know, so, I just stuck with the date. I know my assignment is due this date, so I just finish it and do it. So, after that, online classes were really a breeze for me. I was able to organize myself."
-
- K. "Maybe do a little bit of reading during the week and then hit the heavy projects on the weekend."
-
- L. "Writing, I did it after 8 or 9. But, uh, choosing that time to finish my assignments was kind of challenging because some of the assignments may require us to submit by midnight and I found myself just checking the time and writing and that was stressing. But other than that, night was the perfect time for me for learning. I learned. I just established that system. Uh, I just learned for the first time, I read the material without any intention of understanding everything and so, even if I don't know the meaning of any word, I just kept reading. Then the 2nd time I would stop for definition. The 3rd time I know what I'm going to write. It's a longer process. I know some people they just read once and write. But for me, I like to really understand what I'm doing and also I was only taking one class, so I wanted to do well on it."
-

Find and use resources. Nine out of 11 participants referenced some form of self-prescribed research that helped to encourage progress in their online learning experience at 17 different times during the interview process. Examples can be seen at Table 18.

Table 18

Examples of Phase I, Find and use resources references

- A. "If you don't have what you need, you go get it."
-
- B. "So be the person who knows where to find the information you need, instead of pressing yourself to be a know-it-all."
-
- C. "Yeah, I mean, I generally don't like to ask questions when I could find the answer already."
-
- D. "The classes that I'm currently in, so, sometimes the links are broken, articles aren't accessible, uhm, and so I've found, just through problem solving techniques I've learned, that you are able to find it, or something similar to give you the same outcome. I guess I feel more capable when I'm in a challenging situation and I can figure it out."
-
- E. "As far as course content challenges, I've kind of faced because some of the courses I'm taking are pretty outdated – but you can still see it in today's context. But I've gone a step further and found new articles."
-
- F. "And I learned an awful lot and I say that I truly believe, if you've ever done online work, people will tell you that you actually learn more because you have to get in there and dig."
-
- G. "Sometimes you have links, and when you learn, you check the link, and you search the link, and another link, and another link and you start search materials on your own and you learn and learn. I don't believe the amount of knowledge I gained in just three years."
-

Reflection. Eight out of 11 participants referenced some form of reflection that helped to encourage progress in their online learning experience at 15 different times during the interview process. You can see examples in Table 19.

Table 19

Examples of Phase I, Reflection references

A.	"And I think being able to read feedback, and resubmit, and you know, reflect on what you did, think about it, redo it, has helped me a lot."
B.	"You realize 'what could I have done differently?' and uhm, you know, you could take a big enough step back, you can see that there really were things you could have done differently." (in discussion how he handled a poor grade).
C.	"Creating something. The electronic portfolio has a lot of reflection, you have to reflect and write a lot of things. So, I thought like, wow, finally, it made me think, 'I'm doing what I need to do, what I've been born to do all my life.'"
D.	"Why did you take the course? Why are you getting stressed?"
E.	"Figure out who you are, how you learn, why is this important to you? Where am I? Where am I going to go? How and I going to get there? What am I willing to sacrifice in order to accomplish this?"
F.	"I was able to kind of take a deep breath, and kind of step back, and look at it and realize it's, well, none of it's impossible."
G.	"So that way, I think it helps to actually think more, sit back and think more about what you're doing. So I feel really confident in that, yeah."

Seek help from others. Nine out of 11 participants referenced some form of seeking help from others that helped to encourage progress in their online learning experience at 40 different times during the interview process. Examples can be seen in Table 20.

Table 20

Examples of Phase I, Seek help from others references

A.	"I could develop skills that I actually wanted and I realized that I wasn't going to be the one to answer all those questions myself. I needed someone to maybe give me more foundations, give me direction and expose me to things that were outside of that so I could get, a, maybe a more holistic view of the field I wanted to study and uhm, I thought that college was the only thing that was going to get me the whole view" (in discussing why he took online courses).
B.	"Be brave enough to ask questions. There's times, you know, you get scared, like the teacher brings something that everyone else is like 'oh yeah, I totally understand" but you're like 'I have no idea what you're saying with that.' ...not being afraid, not necessarily a skill, but a realization that, you know, you're there because you want to know more, not because you know everything. And so, if there's something you don't know, it's the perfect forum to start asking questions."
C.	"Be willing to ask questions. I think I've done that to myself in the past. Where you might be embarrassed or you don't want to seem like you're totally out of it or you don't want to ask dumb questions and have the teacher judge you, because like maybe you feel like there will be a prejudice if you like hassle a teacher that may be like 'oh, Mr. smith...asking all the questions' ...ha ha ha."
D.	"If you are halfway through a project and you realize you might have wasted 30 hours that week going in the wrong direction, then, you want to ask. And if for some reason the teacher's not the kind of person that helps, then, you go over their head and keep going until you find someone that will answer those questions."
E.	"And that was, even though the professor was, ha ha, kind of not so there basically, I mean I had to bug the crap out of this professor."
F.	"I may have driven two of the Professors crazy with my amount of questions, but I think it's not just like if you ask questions, but if you ask the right questions."

-
- G.** “Well, I always feel like when I’m designing, it’s a protocol, I get people to look at it and tell me where to tweak it.”
-
- H.** “Yeah, I have a friend, he did the same program in [another state]. We did not discuss the course together, but I asked him to evaluate a project, one of my final projects.”
-

Time management. All 11 participants referenced some form of time management strategy that helped to encourage progress in their online learning experience at 50 different times during the interview process. Examples can be seen in Table 21.

Table 21

Examples of Phase I, Time management references

- A.** “You have to commit to putting in more time.”
-
- B.** “It’s your own free will, so, if you don’t manage your time well, you might feel overwhelmed.”
-
- C.** “Yeah, so, I was, I can’t think of the word, whether it’s like disciplined, ha ha, you know, an ability to have time management skills is the key.”
-
- D.** “But sometimes it’s hard to find the time to work...work full time, have kids, I mean that was, I think that’s always been an obstacle for me because my family is so important to me that I don’t want to give up my time with them.”
-
- E.** “And I didn’t have the option of anything but do it. So, I just stuck to a really strict schedule and stayed up late and stuck to it.”
-
- F.** “I think one of the biggest challenges is time management. Yes, basic time management.”
-
- G.** “Yeah, I’m not a procrastinator. I just get work done when I have time. So I think that helps in an online environment when I don’t have an instructor telling me what to do when.”
-
- H.** “They usually don’t put a lot of time pressure on you. You’ve got plenty of time to do it. You’ve got to manage your time.”
-
- I.** “Because even though it says you’re on your own, your own time, you have x-amount in your own mind when you want to finish the programs, lessons and so forth – and you know, you want to get through with it in a descent amount of time.”
-
- J.** “So we ended up never wanting to perfect the first version, because we know if we have time to do that, we will do that. So, if you try to make it perfect, then you get yourself in trouble, because if you don’t have time to revise, you have very little you can do about it.”
-
- K.** “Well, it’s my own. I can pick and choose, I don’t need to report some place at a particular time and stay for a particular amount of time. I want to work, and I couldn’t do that if I was attending classes at a school. And I want to do it on my own time” (in speaking about taking online courses).
-

Communication

The participants from Phase I indicated that communication was a main factor that affected their beliefs in their ability to successfully complete their online coursework. The theme was derived from the grouping of subcategories that emerged from the data analysis. The

following subcategories are described and then followed by quotes from the interview participants that support the subcategory coding and ultimately the categorization of the group.

Communication Subcategories

Peer feedback. Eight out of 11 participants referenced some form of time management strategy that helped to encourage progress in their online learning experience at 25 different times during the interview process. Examples can be seen in Table 22.

Table 22

Examples of Phase I, Peer feedback references

A.	“They can be very belittling. I don’t think it’s enough to doubt myself and go jump off a bridge, but it definitely doesn’t help, ha ha.”
B.	“And uhm, you’d create the project and submit it and get feedback from the other students and that was great.”
C.	“Well, I would say I like positive feedback, ya know. It’s always great to get your ataboys, if you’ve worked really hard on something and then, you know, a lot of people can appreciate it and maybe they get the message you were trying to communicate and maybe they want to share it or, you know, ask stuff of you, like, if people are really engaging in the work then, you know that’s always a, it can’t help but kind of verify like, ‘you know, I must have done a really good job because everyone else is saying that.’ It seems over simplified, but, I’m probably still susceptible to that.”
D.	“I mean it’s one thing if like a teacher tells you you’re really great. But, you know, just your peers, they’re the people, you know, that actually relate and they’re right there with you doing the same thing and they can still really appreciate the work you did and that, maybe you appreciate more from someone who’s in a similar circumstance.”
E.	“My classmates, I didn’t want to let them down by not responding to their feedback, you know, that’s just in me.”
F.	“It really disappointed me to not get feedback. I was like high up there because I was like ‘I can do this’ and then nobody connected to it – like that’s the payoff for me. Because I’m like sharing my soul and I’m doing this and I’m expecting some kind of payoff and it wasn’t enough for the ‘A’ – even though that’s important to me. It wasn’t enough. I don’t know why, I was just like, whatever, I suck, I can’t do this.”
G.	“I found that a lot of times I didn’t exactly understand what other people were saying. We would begin with a topic, and you were supposed to research the topic and then you would chat about it online and just sometimes, you know, if you have someone who’s just totally not thinking what you’re thinking, and I have to say something, you know you’re like sort of one the spot, and I really don’t care for that. And some really strong personalities about things and it’s a little bit intimidating I mean” (in speaking about online discussion forums).
H.	“Yes, we sometimes took the same class and we encourage each other, yeah, we share a feeling, even if it is a negative feeling. If you share with someone, you feel better – if you’re feeling bad or frustrated – sometimes it’s okay to know that someone else feels frustrated, ha ha. Like this assignment is really very demanding for me and they say ‘yes, I agree with that.’”
I.	“There was a lot of writing involved, a lot of writing. I spent a lot of time on that. They gave me time to do it, but, it was, a peer thing, peer reviewed, and I got good marks from my peers.”

Instructor feedback. All 11 participants referenced some form of instructor feedback being present or absent that helped to encourage or discourage progress in their online learning experience at 83 different times during the interview process. Examples can be seen in Table 23.

Table 23

Examples of Phase I, Instructor feedback references

A.	"You want to know for sure you're headed in the right direction."
B.	"There were times when I didn't want to turn my computer on. There were times when I didn't want to do stuff. But that didn't stop me, what drove me more was like, like I'm saying, the feedback from the professor."
C.	"I don't know, she couldn't hear anything I had to say and uhm, it was very frustrating" (in speaking about her instructor).
D.	"I need that to say 'hey, you're doing this thing and you can work on these things' and I can say 'okay' and then I take that information...or 'hey, you're really doing it' and then I'm like 'all right' and then I'm going to make it happen."
E.	"But the professor was extremely picky, and, but, eventually, well she was really helpful at the same time because her pickiness really helped me get the 'aha' moments and figure them out on my own through her feedback and through her examples because I really didn't know what I was doing and I thought I finally got it, then I'd get it back and it would be torn apart."
F.	"I have had one class where I don't get feedback. It's usually 10 days after I've submitted something and it's not very informative feedback, so that's the first time I've kind of felt alone. That one class."
G.	"I think that if you get positive feedback from the instructor, this is, uhm, there's a lot of communication and it doesn't have a really long gap, that's been my positive learning environment."
H.	"When you have to wait, and the feedback I've gotten after waiting so long, I don't get a lot from it, so, I feel like I'm kind of just learning on my own and I don't feel like that's what online learning is."
I.	"But I have found in my current class, because I've never seen the person teaching this class and it is intimidating because I have asked questions and it's kind of...you know...it's not the best responses I get."
J.	"You don't necessarily have to feel good about you're getting...I don't have to get 20 out of 20. But if I get 10 out of 20 I need to know why. And when I don't understand it, you know, you get frustrated. When you ask questions and you don't get answers, you get frustrated. So, that's made it hard for me."
K.	"There are people who don't reply and you're sitting there and you're trying to do a lesson and you don't know where to go or what angle they're looking for or whatever and it's really hard."
L.	"The Professor's feedback in that first online experience really helped. I had two classes in my first semester and both of them were very positive about what I was contributing. So that was helpful."
M.	"And I said, among my own thoughts, I know that any time I ask a professor, he'll answer my questions."
N.	"I was sure the Professor would help me, so I was relaxed."
O.	"I'm just like asking the Professor, 'so, is this what you mean? Is this what you mean?' and I feel like I lost a lot of time trying to figure out what they wanted because they didn't want to share what they were doing so you couldn't get too far ahead."
P.	"I could always go and it was kind of comforting and probably also made me feel better about succeeding in the course" (in speaking about the professor's office hours).

Interaction with others. Eight out of 11 participants referenced some form of interacting or not interacting with others that helped to encourage or discourage progress in their online learning experience at 33 different times during the interview process. Examples can be seen in Table 24

Table 24

Examples of Phase I, Interaction with others references

A.	"How am I doing? I mean, initially I felt really, it was really hard to not have anybody with you and just, so I felt really alone, I felt, you know, stuck in a corner because I love to talk to people."
B.	"So, what I ended up doing was that one of my course mates met me in class, in one area, so we chose to do it together. So, even though it was a synchronous class, I had somebody else who was also interested in doing that so we met at the same time, at the same place. And then we can kind of talk about, you know, ask questions, and still have the synchronous class. SO, that way worked for me."
C.	"And then there are some that I've worked completely on my own. I still feel some sort of disconnect a little bit, because I love to interact with people. So maybe it's more of my personality and it's a skill that I need to improve on. You know, to be able to have, to be self-regulated, to be able to learn on my own."
D.	"So, I think I'm getting better at it, but initially I was like 'oh my gosh' I just pull my hair, 'no, I need to talk to someone!' you know?"
E.	"So, I guess the feedback and communication with at least one person is helpful so you don't feel like you're just out in this land all by yourself."
F.	"The courses where I did have to interact with other people in the online environment, it was forced, we had to put up comments and respond to two other peoples' comments and I didn't like that at all. It drove me crazy."
G.	"Well, first of all, I'd have to say that one of my good friends that I know and I decided to go through the program together, so I had a buddy...you have to feel like there's somebody else out there besides you"
H.	"Sometimes I would discuss the knowledge I learned and they would be impressed by what I learned in the English program. And some, sometimes remember, they notice that my language has changed to academic terms."

Verbal persuasion. All 11 participants referenced some form of verbal persuasion that that helped or didn't help to encourage progress in their online learning experience at 29 different times during the interview process. Examples can be seen in Table 25.

Table 25

Examples of Phase I, Verbal persuasion references

A.	"She keeps me to a schedule. She knew what my goal was and then she'd be able to kind of nudge me" (in speaking about his spouse).
B.	"They were able to kind of give me ideas for other avenues for information" (in speaking about peers outside the course).
C.	"It definitely casts doubts. You know. You start asking yourself is this going to be worth it? Should I maybe look at other options? Should I wait? You know, because you're already kind of unsure with online, that you're not going to have that kind of support, like you had back when you were in school. In a classroom you

were able to sit there and look at somebody, and so it, sometimes it casts doubts, but, you know, if they had actually completed it, then I knew it was possible...Yeah, but they had not completed any online courses so them saying “ahh don’t even try it” sure, I could say they’re negative, like you could take what they say with a grain of salt, ha ha, but that’s always going to be in the back of my mind” (in speaking about the words of peers that have quit online courses).

- D.** “Most people that I have talked to about it, like my husband, and my grandmothers, my dad, my grandad and my sister--people that, you know, that I just really talk to most of all, they all have told me that I shouldn’t be worrying about that [taking courses]. That I should be focusing on my children. Maybe completing my degree is not important to anybody else. It’s not important to anybody but me” (from a student who stopped taking courses).
-
- E.** “When I read this ‘rate my Professor’ reviews, people were pretty negative about him, ha ha, and I was very scared. Like, ‘uhh I don’t know if this is going to work out...should I even go there?’ You know?”
-
- F.** “Well, my husband is my number one supporter, he encourages me, and supports me.”
-
- G.** “So, they asked me to get a PhD and they were supportive of it, so that’s kind of what, I never thought at that point I’d ever go back to school because in my mind I’d already gone back to school. They twisted my arm and kind of gave me a setup that the only reason I would not do it was because I didn’t feel like it or didn’t want to put in the work. But for me, that, I’m not really wired that way, so I was convinced to do it and I found the program and [University] in [major] and kind of thought it was a great fit for me and so, I decided to pursue it” (in speaking about the student’s workplace).
-
- H.** “It’s kind of that, on the days, on the day before the semester was starting and I was not very excited about it happening, he would give me a little pep talk” (in speaking about her spouse).
-
- I.** “My kids, my family, friends, all friends who know that I’m doing this program, when I was working on the program, they supported me ‘yes, you can do it’ they kept saying ‘yes, you can do it.’”
-
- J.** “That’s what I thought too. Then I saw whatever everyone is talking about the same issues, I say ‘okay, so, it’s not just me,’ so it let me focus on my work and do it” (in speaking about hearing other students complain about a course).
-

Summary

The findings identify a wide variety of factors that may affect the self-efficacy of asynchronous online learners both positively and negatively. These findings provided a solid foundation of possible factors that affect online learner self-efficacy that were incorporated into the survey development and expert review in Phase II (see **Phase II: Creation and Expert Review of Survey Instrument** in Chapter 3) and again when distributing the survey to online participants in Phase III. Chapter 5 describes the findings from the final survey.

CHAPTER FIVE

Phase III Findings

Through the methods described in Chapter 3, the interview data from the initial phase of this study were analyzed and used in the development of a survey tool in Phase II. The development of the questions for the survey tool created in Phase II was guided by the research question, the literature review, Phase I data analysis, and the expert review feedback on the tool itself. Following review and approval by a group of experts, this survey tool was used to collect the responses that are described in this chapter. This chapter presents the Phase III findings and will be followed by Chapter 6 which discusses the findings in more depth.

Survey Response Findings

All survey questions were designed to explore respondents' online experiences, guided by one research question: *What factors affect the self-efficacy of asynchronous online learners?* The survey response findings described below follow the same order of question categories as in the survey: Student Motivation, Student Challenges, Student Strategies and Communication.

Student Motivation

Survey respondents were asked about their online learning experiences with a focus on ability beliefs surrounding motivational issues reported by Phase I respondents such as: Career goals, Verbal support, Interest, Vicarious experience, Mastery opportunities, Mastery experiences and Course/Program design. Descriptive statistics are provided below in a series of tables which show the number of participants who responded to a specific question and their responses of "no effect," "positive effect" or "negative effect." Participant open-ended responses are also presented. Because some respondents in the survey participated in multiple online courses, it was possible for a single respondent to have different experiences in those courses and, as a result, different responses to the same question. When this occurred, the total number

of respondents shown in a pair of related tables could exceed $n=215$, i.e., the total number of participants in the survey.

Career goals. Respondents were asked if they encountered instances in their online courses where they did, or did not, consider how learning the course material might have an effect on their current or future career pursuits. They also were asked how such thinking affected their beliefs in their own ability to complete their online coursework. An open-ended response option was provided for respondents to add any additional comments, which 39 respondents chose to do. Frequency distributions can be seen in Table 26 and Table 27.

Table 26

Frequency distribution of respondents who had enrolled in at least one course in which they considered online course and career connections

Effects	<i>f</i>	%
Had no effect on my ability beliefs	38	18
Had a positive effect on my ability beliefs	166*	79
Had a negative effect on my ability beliefs	5*	3
Totals (n=211)	209	100

Note: * 2 respondents chose more than one response

Table 27

Frequency distribution of respondents who had enrolled in at least one course in which they did not consider online course and career connections

Effects	<i>f</i>	%
Had no effect on my ability beliefs	45	53
Had a positive effect on my ability beliefs	29	34
Had a negative effect on my ability beliefs	11	13
Total (n=85)	85	100

Out of 39 open-ended responses to the career goals question, 6 respondents specifically discussed ability beliefs. For example “*My PURPOSE in taking online courses was to improve my understanding of how to design and deliver online courses for my current career. So YES I thought about how each course would affect my future career pursuits all the time - but that had no effect on my beliefs in my own ability.*” The remaining 33 respondents discussed their reasons

for taking online courses from the perspective of either being, or not being related to career goals. For example, *“One of my primary goals in taking the course I have selected is to improve my abilities in the subject matter to enhance my current career and open doors for my future career directions.”*

Verbal support. Respondents were asked if they encountered times in their online coursework when they did or did not receive verbal support (i.e. pep talk, someone reminding them of their skills or goals, etc.) from a teacher/peer/family member. They were also asked how such thinking affected their beliefs in their own ability to complete their online coursework. An open-ended response option was provided for respondents to add any additional comments, which 35 respondents chose to do. Frequency distributions can be seen in Table 28 and Table 29.

Table 28

Frequency distribution of respondents who had enrolled in at least one course and received verbal support.

Response Options	f	%
Had no effect on my ability beliefs	25	14
Had a positive effect on my ability beliefs	153	85
Had a negative effect on my ability beliefs	3	1
Total (n=181)	181	100

Table 29

Frequency distribution of respondents who had enrolled in at least one course and did not receive verbal support.

Response Options	f	%
Had no effect on my ability beliefs	46	51
Had a positive effect on my ability beliefs	28	31
Had a negative effect on my ability beliefs	16	18
2Total (n=90)	90	100

Out of 35 open-ended responses to the verbal support question, 17 respondents specifically discussed ability beliefs. For example *“I have done my school work for myself, not others. While their words may be kind at times, it had no bearing on my belief in my ability to do the work”* and, *“I feel like whenever a friend supports me it helps make it seem more doable.”*

The remaining 18 responses were discussions of respondent online experiences with receiving or not receiving verbal support. For example, “*I received verbal support from my online classmates much more often than from my instructors*” and “*Anyone who does not get verbal support is in a poorly designed online course.*”

Interest. Respondents were asked if they experienced times in their online coursework where they were, or were not, interested in their course material. They were also asked how interest or lack of interest affected their beliefs in their own ability to complete their online coursework. An open-ended response option was provided for respondents to add any additional comments, which 27 respondents chose to do. Frequency distributions can be seen in Table 30 and Table 31.

Table 30

Frequency distribution of respondents who had enrolled in at least one course and were interested in their online course material

Response Options	<i>f</i>	%
Had no effect on my ability beliefs	12	6
Had a positive effect on my ability beliefs	194*	92
Had a negative effect on my ability beliefs	4*	2
Total (n=209)	210	100

Note. * One respondent chose more than one response

Table 31

Frequency distribution of respondents who had enrolled in at least one course and were not interested in their online course material

Response Options	<i>f</i>	%
Had no effect on my ability beliefs	80	40
Had a positive effect on my ability beliefs	5*	2
Had a negative effect on my ability beliefs	116*	58
Total (n=198)	201	100

Note. * Three respondents chose more than one response

Out of 27 open-ended responses to the interest question, 15 respondents specifically discussed ability beliefs. For example, “*My ability beliefs didn't differ - my motivation and attention, approach to learning do though*” and “*Strong negative effect on ability beliefs*”

especially when statistics professors made little or no effort to relate statistics to anything other than pure algebra. My ability beliefs about online statistics assignments were much higher with professors who made an effort to engage students who were not interested in pure math as well as those that were.” The remaining 12 responses were discussions of respondent online experiences that entailed interest or lack of interest. For example, *“When the course material was mentally stimulating, I always looked forward to the next assignment or lecture. When it wasn't stimulating, it was very difficult to force myself to watch the lecture videos and read the readings”* and *“I did much better in an elective course called ‘Insects in Human Society’ taken for elective credit than I did in an online Calculus class that I hated.”*

Vicarious experience, question one. Respondents were asked if they encountered times in their online coursework when they either watched or did not watch a demonstration of someone else performing an action that they were being asked to perform in their online course. They were also asked how that vicarious experience affected their beliefs in their own ability to complete their online coursework. An open-ended response option was provided for respondents to add any additional comments, which 34 respondents chose to do. Frequency distributions can be seen in Table 32 and Table 33.

Table 32

Frequency distribution of respondents who had enrolled in at least one course and had watched a demonstration related to an online course

Response Options	<i>f</i>	%
Had no effect on my ability beliefs	18	9
Had a positive effect on my ability beliefs	181*	89
Had a negative effect on my ability beliefs	5	2
Total (n=200)	204	100

Note. * Four respondents chose two responses

Table 33

Frequency distribution of respondents had enrolled in at least one course who had not watched a demonstration related to an online course

Response Options	<i>f</i>	%
Had no effect on my ability beliefs	101*	52
Had a positive effect on my ability beliefs	5*	3
Had a negative effect on my ability beliefs	88*	45
Total (n=188)	194	100

* Six respondents chose more than one response

Out of 34 open-ended responses to the vicarious experience question one, 20 respondents specifically discussed ability beliefs. For example, *“Not watching didn't really hurt my ability but certainly required more effort and study to build my self-efficacy whereas watching a demonstration built my confidence faster and more accurately”* and *“This happened with one assignment. I did not watch the video and did not understand at all about what to do.”* The remaining 14 respondents discussed their online experiences with demonstrations and tutorials. For example, *“Courses which offered videos or interactive tutorials online helped to make me feel more engaged with the material as a form of active learning over most passive online course interaction”* and *“Demonstrations can be really helpful if they are produced well. However, if they are not produced well they actually can be more problematic than having nothing.”*

Vicarious experience, question two. Respondents were asked if they encountered seeing someone else succeed or fail (or hearing someone talking about succeeding or failing) in their online coursework. They also were asked how seeing someone else succeed or fail affected their beliefs in their own ability to complete their online coursework. An open-ended response option was provided for respondents to add any additional comments, which 27 respondents chose to do. Frequency distributions can be seen in Table 34 and Table 35.

Table 34

Frequency distribution of respondents who had enrolled in at least one course and had seen or heard about someone succeeding

Response Options	f	%
Had no effect on my ability beliefs	65*	31
Had a positive effect on my ability beliefs	138*	65
Had a negative effect on my ability beliefs	8*	4
Total (n=208)	211	100

Note. * Three respondents chose more than one response

Table 35

Frequency distribution of respondents who had enrolled in at least one course and had seen or heard about someone failing

Response Options	f	%
Had no effect on my ability beliefs	113*	57
Had a positive effect on my ability beliefs	23*	12
Had a negative effect on my ability beliefs	64*	31
Total (n=196)	200	100

Note. * Four respondents chose more than one response

Out of 27 open-ended responses to the vicarious experience question two, 14 respondents specifically discussed ability beliefs. For example, *“Each journey is an individual one, so someone's failure would not have an effect on my own abilities”* and *“Hearing about others' success makes me think I can do it too; but hearing about people who drop out of the program, etc., makes me analyze why they said they did and how my situation is different. It overall doesn't have an overt effect, but indirectly I think it makes me aware of pitfalls and try to avoid them.”* The remaining 13 responses were discussions of respondent online experiences with seeing or hearing about someone fail in their online coursework. For example, *“Sometimes it hurts to see others fail but other times it might encourage me to compensate and maybe take it that much more seriously”* and, *“When people share failures we learn what not to do, learn what didn't work, learn it is ok to fail.”*

Mastery opportunities. Respondents were asked if they encountered times when they were or were not allowed to resubmit coursework in their online course. They were also asked

how that affected their beliefs in their own ability to complete their online coursework. An open-ended response option was provided for respondents to add any additional comments, which 27 respondents chose to do. Frequency distributions can be seen in Table 36 and Table 37.

Table 36

Frequency distribution of respondents who had enrolled in at least one course and had been allowed to resubmit work

Response Options	<i>f</i>	%
Had no effect on my ability beliefs	26	14
Had a positive effect on my ability beliefs	153*	83
Had a negative effect on my ability beliefs	5	3
Total (n=181)	184	100

Note. * Three respondents chose more than one response

Table 37

Frequency distribution of respondents who had enrolled in at least one course and had not been allowed to resubmit work

Response Options	<i>f</i>	%
Had no effect on my ability beliefs	79*	43
Had a positive effect on my ability beliefs	9*	5
Had a negative effect on my ability beliefs	96*	52
Total (n=180)	184	100

Note. * Four respondents chose more than one response

Out of 30 open-ended responses to the mastery opportunities question, nine respondents specifically discussed ability beliefs. For example “*Knowing I could resubmit had a positive effect; I think I tried harder but stressed less because I knew I could redo it. Not being able to resubmit is more of the norm; so I just try hard the first time and hope for the best*” and, “*Not being allowed to re-submit online course work positively influence my ability beliefs because it made me learn from my mistakes and adjust for future reference.*” The remaining 21 responses were discussions of respondent experiences with either being able to or not being able to resubmit coursework. For example, “*I always try to get it right the first time because I do not have time to go back and try again*” and, “*I always met deadlines and did my best. It was before NCLB.*”

Mastery experiences. Respondents were asked to select what has had the most influence on their ability beliefs to successfully complete their online coursework. Respondents were offered five options to choose from and were asked to drag the ones that applied to their own online experience, in the order of importance, into a separate box on the page. An open-ended response option was provided for respondents to add any additional comments, which 21 respondents chose to do. Frequency distributions can be seen in Table 38.

Table 38

Frequency distribution of experiences that influenced ability beliefs selected and ordered by respondents who had enrolled in at least one course.

Online Experiences	1stChoice f %	2ndChoice f %	3rdChoice f %	4thChoice f %	5thChoice f %	Row Totals
When my professor tells me I can do it.	26 (13)	27 (14)	33 (20)	24 (22)	25 (29)	135
When my classmate(s) offer encouraging words.	8 (4)	14 (8)	35 (21)	44 (41)	25 (29)	126
When I have already successfully completed a similar task.	120 (58)	54 (29)	10 (6)	6 (6)	2 (2)	192
When I am nervous about it.	23 (11)	42 (23)	45 (27)	12 (11)	20 (23)	142
When I have been able to see someone else do the same task successfully	30 (14)	48 (26)	41 (25)	21 (20)	15 (17)	155
Column Totals	207	185	164	107	87	

Out of 21 open-ended responses to the mastery experiences question, 15 respondents specifically discussed ability beliefs. For example, “*Knowing I can succeed at a similar task has the biggest impact on my confidence and beliefs*” and “*Encouragement from professors. Once I had too many questions before starting my assignment and my instructor knew I was confused on how to get a successful outcome. All what the professor said was: ‘you can do it’... Sure enough, I successfully did it without any hesitation.*” The remaining 6 responses were discussions of respondent experiences as opposed to the ones provided in the question. For example, “*None of the above apply to me. My own will/want to complete a class to further my career is the driving*

factor to successfully complete a class and also the professor's ability to teach and assign what is relevant in the course” and, “I don't think I rely on extrinsic factors such as these. I think my confidence comes from knowing that I will work hard to succeed, but then also being provided the tools, guidance and information I need to succeed.”

Course/Program design. Respondents were asked to select items associated with course designs present in their online courses that had a *positive* effect on their beliefs in their ability to perform well in their online course. They were then asked to select items associated with course designs present in their online courses that had a *negative* effect on their beliefs in their ability to perform well in their online course. Respondents were provided space to type in items that were present in their course design that were not listed, which 40 respondents did for the “positive” question and 17 did for the “negative” question. An open-ended response option was provided for respondents to add any additional comments, which 13 respondents chose to do following the “positive” question and 15 respondents chose to do following the “negative” question. Frequency distributions can be seen in Table 39.

Table 39

Frequency distribution of respondents who had enrolled in at least one course in which they considered these factors to positively affect ability beliefs.

Items Present in Course	f %
A detailed Syllabus.	198 (92)
A detailed description of the course goals and objectives.	155 (72)
A mapped out schedule of the entire course.	199 (93)
A discussion forum where students could interact with each other.	123 (57)
A discussion forum where students could interact with the instructor.	138 (64)
Similar format for each lesson of the course.	147 (68)
Opportunities to reflect on my learning.	107 (50)
Other	40 (19)

Out of 13 open-ended responses to the course/program design “positive” effect question, three respondents specifically discussed ability beliefs. For example, *“I enjoyed speaking with*

my classmates, particularly if I was confused or overstressed. Knowing that someone else was feeling the same way helped me to not feel so anxious about my own skills and progress” and “None of this affects my beliefs, it affects my performance.” The remaining 10 responses were discussions of respondent experiences with course design elements present in their online course. For example, *“I strongly believe that giving objectives to students in the course shell is poor practice. Objectives aren't meant to be user-facing. Being confronted with a pile of Bloom's verbs instead of a list of deliverables always feels like I'm seeing the developer end of a program, not the UI”* and, *“Basically, instructional design was really important in my online coursework. Courses were better in every way when the structure was clear, students had all the information we needed, and the instructor spent some time setting a tone and creating a class community.”*

Of the 40 responses to the open ended “other” in the course/program design “positive” effect question, respondents reported additional factors that positively affected their ability beliefs, such as the availability of resources such as tutorials, student samples, recorded lectures, and extra resources (35%), authentic and consistent instructor communication and feedback (30%), projects and assignments being relevant to the coursework with real world application (20%), and clearly worded assignment instructions, quizzes and tests (15%). Frequency distributions can be seen in Table 40.

Table 40

Frequency distribution of respondents who had enrolled in at least one course in which they considered these factors to negatively affect ability beliefs'

Items Present in Course	f%
A detailed Syllabus	7 (3)
A detailed description of the course goals and objectives	12 (6)
A mapped out schedule of the entire course	8 (4)
A discussion forum where students could interact with each other	24 (11)
A discussion forum where students could interact with the instructor	12 (6)
Similar format for each lesson of the course	9 (4)
Opportunities to reflect on my learning	16 (7)
Other	22 (10)

Out of 15 open-ended responses to the course/program design “negative” effect question, five respondents specifically discussed ability beliefs. For example, *“The only thing that had a negative effect was the lack of interaction by the faculty or fellow students in the discussion areas”* and, *“None of this affects my beliefs it affects my performance.”* The remaining 10 responses discussed their negative experiences with course design elements being present in their online course. For example, *“The online feedback from instructors was limited and any personal interaction required us to make a telephone appointment which sometimes wasn't available for a number of days”* and, *“If skills are mastered, move on. If students have difficulty in a particular area, allow more time for mastery. Quality of Quantity.”*

The 22 responses to the open ended “other” in the course/program design “negative” effect question, respondents reported additional factors that negatively affected their ability beliefs; the most common responses (36%) included the “absence of projects and assignments relevant to coursework” and “real-world applications,” and “the absence of authentic and consistent instructor communication and feedback” (32%).

Student Challenges

Respondents were asked about their online learning experiences with a focus on ability beliefs surrounding challenges that students encounter when taking online courses as reported by Phase I respondents such as: Self-Doubts, Course/Program Design, Personal Life Obligations, Misunderstandings, and Technology.

Self-doubts. Respondents were asked if they encountered times in their online coursework when they did, or did not, experience situations that caused self-doubt. They were also asked how such thinking affected their beliefs in their own ability to complete their online coursework. Respondents were provided space to type in challenging experiences that they may

have had when taking online courses that were not listed in the survey. Five respondents chose to do so. An open-ended response option was provided for respondents to add any additional comments, which 18 respondents chose to do. Frequency distributions can be seen in Table 41.

Table 41

Frequency distribution of respondents who had enrolled in at least one course in which they considered challenges as positively or negatively affecting ability beliefs

Challenges	No Effect f%	Pos. Effect f%	Neg. Effect f%	n
It was my first online course.	103 (56)	37 (20)	45 (24)	185
Feeling unsure about instructor expectations about an assignment.	20 (11)	6 (3)	165 (86)	191
Feeling unsure about being on the right track about an assignment or project.	17 (9)	4 (2)	167 (89)	188
I was over-thinking a project to the point of being "stuck".	29 (19)	6 (4)	121 (77)	156
I felt too nervous about asking for help.	25 (25)	4 (4)	72 (71)	101
I felt like I was going too slowly on an assignment or project.	37 (26)	5 (3)	101 (71)	143
I didn't feel like I had the time required for a particular assignment or project.	26 (16)	7 (4)	129 (80)	162
I wanted my work to stand out, but wasn't sure it would.	68 (48)	28 (20)	46 (32)	142
I have never experienced self-doubt in an online course.	31 (41)	23 (31)	21 (28)	75
Other (specify):				5

Out of 18 open-ended responses to the self-doubts question, nine respondents specifically discussed ability beliefs. For example, “yes, I had experienced self-doubt and it negatively affected me” and “In terms of course design, all my online courses have been well designed and executed. While I've experienced stress and the balancing act needed to complete projects, I've

never experienced self-deprecating thoughts/feelings.” The remaining 9 responses were discussions of respondent experiences in their online courses. For example, *“If working on a big project, it is nice to give a sample for review by instructor to make sure ALL are on same page. VERY important to get 'hints' on what is wrong -- not saying how to fix, but maybe a better reason of 'why' it is not correct”* and, *“Instructors who choose to be so distant ruin conversation, even between peers. It almost feels like a social experiment in isolation.”*

Of the 5 responses to the open ended “other” space in the self-doubts question, respondents reported additional factors that negatively affected their ability beliefs. The most common responses included negative interactions with instructors (40%), over-scheduling courses for the semester (20%), lacking prerequisite knowledge (20%), and contacting instructors for clarification (20%).

Personal life obligations. Respondents were asked to select the personal life obligations that they experienced while taking an online course. They were also asked how such obligations affected their beliefs in their own ability to complete their online coursework. Respondents were provided space to type in personal life obligations that they may have had when taking online courses that were not listed in the survey, which five respondents chose to do. Respondents were also asked to type in specifics if they selected the “Personal health” choice, which 23 respondents did. An open-ended response option was provided for respondents to add any additional comments, which 22 respondents chose to do. Frequency distributions can be seen in Table 42.

Table 42

Frequency distribution of respondents who had enrolled in at least one course in which they considered personal life obligations effects on ability beliefs

Response Options	No Effect f %	Pos. Effect f %	Neg. Effect f %	n
Taking care of my family (i.e. the times necessary to meet family obligations, etc.).	63 (36)	23 (13)	88 (51)	174
Taking care of children (i.e. the time required to meet the needs of my children, etc.).	43 (42)	8 (8)	51 (50)	102
Work schedule.	57 (31)	25 (14)	100 (55)	182
Personal relationships (friends, family, people I work with, etc.).	82 (42)	57 (29)	57 (29)	196
Personal health (i.e. sickness, injury, need for sleep) (specify):	54 (39)	11 (8)	72 (53)	137
Financial obligations.	87 (59)	11 (7)	49 (33)	147
No personal life obligation(s) affected my beliefs in my ability to complete to online coursework.	35 (60)	12 (20)	12 (20)	59
Other (not listed):				5

Of the 5 responses to the open ended “other” in the personal life obligations question, respondents reported additional personal life obligations that affected their ability beliefs. The most common responses (40%) included the death of a loved one, followed by commuting issues (20%), time management (20%) and “*Not one thing – juggling all of them*” (20%).

Out of 23 open-ended responses to the personal life obligations question, nine respondents specifically discussed ability beliefs. For example, “*Lack of full PhD funding was a major stressor, especially during my first year, and damaged my ability beliefs*” and, “*None of this affect my beliefs, it affects my performance.*” The remaining 14 responses were discussions of respondent experiences in their online courses. For example, “*I am single, don't have any obligation except to myself, no financial burden since I take online courses according to my ability to afford it or the free of charge ones. I don't have any health issues*” and, “*The only reason I did not complete it all at once was because I was lazy initially, so completed half the*

course. I did not finish it quickly after because I prioritized other classes and my work load over it.”

Misunderstandings. Respondents were asked to select the misunderstandings that they experienced while taking an online course. They were also asked how such misunderstandings affected their beliefs in their own ability to complete their online coursework. Respondents were provided space to type in “other” misunderstandings that they may have experienced when taking online courses that were not listed in the survey, which two respondents chose to do. An open-ended response option was provided for respondents to add any additional comments, which 11 respondents chose to do. Frequency distributions can be seen in Table 43.

Table 43

Frequency distribution of respondents who had enrolled in at least one course in which they experienced misunderstandings

Response Options	No Effect f%	Pos. Effect f%	Neg. Effect f%	n
I didn't understand an assignment.	22 (12)	3 (2)	162 (86)	187
I didn't understand a peer comment.	107 (66)	0 (0)	56 (34)	163
I didn't understand an instructor's comment.	43 (26)	2 (1)	124 (73)	169
I thought I understood an assignment, but ended up doing it incorrectly.	16 (11)	7 (5)	117 (84)	140
Other (not listed):				2

Of the 2 responses to the open ended “other” in the misunderstandings question, respondents reported additional experiences with misunderstandings. One reported that misunderstandings, such as the ones included in the survey, *enhanced* confidence, and the other reported having a trust issue with a classmate.

Out of 11 open-ended responses to the misunderstandings question six respondents specifically discussed ability beliefs. For example, “*It bothers me when I misunderstand assignment directions/rubric. It makes me feel less confident*” and “*Hard to answer the question*

as I feel my belief in abilities remains the same but stress can make it appear harder.” The remaining five responses were discussions of respondent experiences in their online courses. For example, *“I had a student submit my paper as their own in a discussion assignment, and brought this to the attention of the professor. In my last course, I encountered this student again and felt it had a negative effect on my participation in the course”* and *“Understanding feedback is important to me.”*

Technology. Respondents were asked to select the technology experiences that they may have had while taking an online course. They were also asked how such experiences effected their beliefs in their own ability to complete their online coursework. Respondents were provided space to type in other technology experiences that they may have had when taking online courses that were not listed in the survey, which eight respondents chose to do. An open-ended response option was provided for respondents to add any additional comments, which 12 respondents chose to do. Frequency distributions can be seen in Table 44.

Table 44

Frequency distribution of respondents who had enrolled in at least one course in which they considered experiences with technology to have had positive or negative effects

Response Options	No Effect f %	Pos. Effect f %	Neg. Effect f %	n
My Internet reliability is very inconsistent.	30 (29)	25 (24)	49 (47)	104
It was time consuming for me to learn how to use the technology tools I needed to use in the course.	45 (43)	10 (10)	49 (47)	104
I lost assignments/projects off my computer without having a backup.	18 (33)	6 (11)	30 (56)	54
I did not have time to learn the tools that would have been helpful to my coursework.	25 (32)	3 (4)	51 (64)	79
I really enjoy learning how to use the various technologies required for my online coursework.	21 (11)	152 (83)	10 (6)	183
Other (not listed):				12

Of the 8 responses to the open ended “other” in the technology question, respondents reported additional technology experiences that affected their ability beliefs. The most common responses included having good IT support (25%), followed by peer support (12%), access to good equipment (12%), poor university server (12%), learning new software in a short amount of time (12%), mandatory software use that crashes (12%), and adjusting to new technology in general (12%).

Out of the 12 open-ended responses to the technology question, seven respondents specifically discussed ability beliefs. For example, *“Learning new tools is definitely a hindrance, but doesn't change my belief in my abilities, I know what I am capable of”* and, *“We had very good IT specialists at our university and could get help online 24/7 very quickly. That made all the difference in the world in being encouraged and being able to complete assignments on time.”* The remaining five responses were discussions of respondent experiences in their online courses. For example, *“Ten years ago I took an online course. I had an assignment due the next day and my internet went down. The Internet company took several days before they could fix it. I ended up working on the assignment at my local public library”* and, *“In a compressed one month semester curriculum, it was difficult to master various software that was required for final projects, i.e., Dreamweaver, Camstasia, Photoshop, Authorware.”*

Student Strategies

Respondents were asked about their online learning experiences with a focus on strategy use reported by Phase I respondents such as: Adaptation, Adjust schedule, Reject negativity, Make a plan, Find and use resources, Reflection, Seek help from others, and Time management.

Student Strategies. Respondents were asked about strategies that they did or did not use while taking an online course. They were also asked how strategy use or non-use may have

affected their beliefs in their own ability to complete their online coursework. An open-ended response option was provided for respondents to add any additional comments, which 13 respondents chose to do. Frequency distributions can be seen in Table 45 and Table 46.

Table 45

Frequency distribution of respondents who had enrolled in at least one course in which they used strategies that had positive or negative effects

Strategies	No Effect <i>f%</i>	Pos. Effect <i>f%</i>	Neg. Effect <i>f%</i>	n
I look more deeply into the course's subject matter than the course requires.	22 (14)	125 (80)	9 (6)	156
I use the resources my instructor provides in the online course.	19 (10)	175 (89)	3 (1)	197
If I feel like I don't have enough information or examples, I search online until I find something helpful to me.	17 (9)	154 (82)	17 (9)	188
I create a set time to study and complete my coursework.	20 (13)	130 (82)	8 (5)	158
I use the instructors, TA's or facilitators as resources by asking them questions.	17 (11)	137 (85)	7 (4)	161
If I do not get a response from my instructor, TA or facilitator after asking a question, I keep asking until I get an answer.	28 (25)	55 (49)	29 (26)	112
If I am used to studying in a particular way, but I find it is not working for me in my online course, I change how I am studying.	28 (18)	113 (74)	12 (8)	153
If I find that my online coursework requires more time than I originally planned for, I adjust my schedule.	31 (16)	134 (69)	28 (15)	193
If I find that I am getting overwhelmed or behind with my online coursework, I evaluate my actions and try to make a new plan.	24 (12)	135 (73)	27 (15)	186
If I don't feel motivated to work on my online coursework, I think about what I'm doing and how it applies to my life or my degree to get back on track.	27 (18)	103 (69)	20 (13)	150
I seek out classmates to bounce ideas off of, or discuss coursework with (not including group work).	21 (17)	97 (78)	6 (5)	124
If I have non-coursework activities that I want to participate in, I complete my coursework first and then participate.	40 (27)	87 (60)	19 (13)	146
If I want to both, participate in other activities, and complete my online coursework, I figure out a workable schedule to make it happen.	29 (16)	144 (78)	12 (6)	185
If people make negative comments to me about my online coursework, I ignore them and keep working on it.	52 (43)	55 (45)	15 (12)	122

Table 46

Frequency distribution of respondents who had enrolled in at least one course in which they were not affected by non-strategy use

Strategies	NoEffect <i>f</i>	Pos.Effect <i>f</i>	Neg.Effect <i>f</i>	<i>n</i>
I look more deeply into the course's subject matter than the course requires.	85 (89)	3 (3)	8 (8)	96
I use the resources my instructor provides in the online course.	30 (64)	5 (11)	12 (25)	47
If I feel like I don't have enough information or examples, I search online until I find something helpful to me.	40 (66)	10 (16)	11 (18)	61
I create a set time to study and complete my coursework.	48 (54)	9 (10)	32 (36)	89
I use the instructors, TA's or facilitators as resources by asking them questions.	57 (71)	6 (7)	18 (22)	81
If I do not get a response from my instructor, TA or facilitator after asking a question, I keep asking until I get an answer.	81 (63)	6 (5)	42 (32)	129
If I am used to studying in a particular way, but I find it is not working for me in my online course, I change how I am studying.	66 (76)	3 (3)	18 (21)	87
If I find that my online coursework requires more time than I originally planned for, I adjust my schedule.	26 (56)	5 (11)	15 (33)	46
If I find that I am getting overwhelmed or behind with my online coursework, I evaluate my actions and try to make a new plan.	35 (64)	4 (7)	16 (29)	55
If I don't feel motivated to work on my online coursework, I think about what I'm doing and how it applies to my life or my degree to get back on track.	54 (63)	9 (10)	23 (27)	86
I seek out classmates to bounce ideas off of, or discuss coursework with (not including group work).	90 (80)	6 (5)	17 (15)	113
If I have non-coursework activities that I want to participate in, I complete my coursework first and then participate.	61 (63)	14 (14)	22 (23)	97
If I want to both, participate in other activities, and complete my online coursework, I figure out a workable schedule to make it happen.	36 (72)	5 (10)	9 (18)	50
If people make negative comments to me about my online coursework, I ignore them and keep working on it.	80 (70)	18 (16)	17 (14)	115

Out of 13 open-ended responses to the student strategies question, four respondents specifically discussed ability beliefs. For example, *“Support by fellow students was a major factor in my developing a positive sense of my abilities because our instructors rarely praised us*

until they graded a major paper” and, “My second daughter was born with a severe birth defect that required a lengthy period of intensive medical treatment and care. That affected my ability beliefs negatively.” The remaining nine responses were discussions of respondent experiences in their online courses. For example, *“Since I participated in graduate level online course works, I believed that I need to be responsible for my learning and tasks and not relying to other people to motivate me to finish the course works”* and, *“I never had negative comments on my online work. Also, I found the online courses to improve my time management skills immensely.”*

Communication

Respondents were asked about their online learning experiences with a focus on strategy use reported by Phase I respondents such as: Peer feedback, Instructor feedback, Interaction with others, and Verbal persuasion.

Peer communication. Respondents were asked to select statements that pertained to interaction with peers that they may have experienced while taking an online course. They were also asked how such interactions affected their beliefs in their own ability to complete their online coursework. An open-ended response option was provided for respondents to add any additional comments, which 12 respondents chose to do. Frequency distributions can be seen in Table 47.

Table 47

Frequency distribution of respondents who had enrolled in at least one course in which they considered the effects of peer interaction

Peer Interactions	NoEffect <i>f</i> %	Pos.Effect <i>f</i> %	Neg.Effect <i>f</i> %	<i>n</i>
a. Discussed an assignment or project with a peer first, to get some feedback.	25 (15)	133 (82)	5 (3)	163*
b. I got negative peer feedback about my coursework.	48 (35)	42 (30)	49 (35)	139*
c. I got positive peer feedback about my coursework.	25 (13)	161 (84)	5 (3)	191*
d. Did NOT discuss an assignment with a peer first, to get some feedback.	113 (74)	14 (9)	25 (17)	152*
e. I actively looked for a classmate to talk to about an assignment before turning it in, to get some feedback.	29 (26)	78 (70)	4 (4)	111*
f. Learning that a peer had the same struggles/concerns as me, in my online course.	40 (21)	144 (76)	6 (3)	190*

Note. * “n” are the number of respondents who submitted responses to the question; respondents marked more than one response to the questions on the following questions: a) 4; b) 6; c) 4; d) 2; e) 1; f) 5

Out of 12 open-ended responses to the peer communication question, no respondents specifically discussed ability beliefs, instead, comments were focused on peer interaction they experienced in their online courses. For example, *“I felt pretty disconnected from the other students in the online course”* and, *“The asynchronous online course I participated in had almost no peer interaction. It was not encouraged, and thus I did not seek out peers to talk to (and they did not seek me out). Almost all communication was with the TA and the professor.”*

Instructor communication. Respondents were asked to select statements that pertained to interaction with instructors that they may have experienced while taking an online course. They were also asked how such interactions affected their beliefs in their own ability to complete their online coursework. An open-ended response option was provided for respondents to add any additional comments, which 11 respondents chose to do. Frequency distributions can be seen in Table 48.

Table 48

Frequency distribution of respondents who had enrolled in at least one course in which they considered the effects of instructor interaction

Response Options	No Effect f%	Pos. Effect f%	Neg. Effect f%	n
I did not receive any feedback from my online instructor about my coursework.	23 (17)	11 (8)	101 (75)	135
I received feedback from my online instructor about my coursework.	21 (11)	161 (81)	18 (8)	200
I did not receive timely feedback from my online instructor about my coursework.	48 (31)	5 (3)	104 (66)	157
I received timely feedback from my online instructor about my coursework.	21 (10)	161 (80)	19 (10)	201
I felt like I could contact my instructor as often as necessary to ask questions.	32 (16)	151 (76)	16 (8)	199
I felt like my instructor was not accessible.	26 (21)	13 (10)	87 (69)	126

Out of 11 open-ended responses to the instructor communication question, four respondents specifically discussed ability beliefs. For example, *“Instructors were very available throughout my online experiences and this positively affected my beliefs about being successful”* and *“I think my ability beliefs were informed more by my “offline” experience - I already worked in the field and was talking to people who had finished their degrees every day, and that had more of an impact on my self-perception than anything that happened in my online degree program.”* The remaining seven responses were discussions of respondent experiences in their online courses. For example, *“In five semesters, I only asked less than 10 questions. Everything I needed was in the course syllabus or resources provided. Responses, when needed, were timely”* and, *“I enjoy when instructors are available but it doesn't set me back if they aren't as long as the course is well done (videos, instructions, reading, practice exercises, assignments etc.)”*

Survey final open-ended question

The final question on the survey, *“What do you believe most affected your beliefs in your ability to successfully complete your online coursework? (This can be a factor either already*

discussed or not discussed in this survey)” was intended to provide the respondents an opportunity to add comments they may not have previously submitted. Initial descriptive codes were applied to each of the 190 responses. Similar responses were grouped together. The largest group of responses (27%) were grouped as “Self-Beliefs” representing participant comments similar to *“My own beliefs in my own abilities and trust that I am capable to successfully complete my work.”* Descriptive coding for the final open-ended responses with sample comments can be seen in Table 50 (See Appendix O).

Summary

Survey analysis findings indicated that there were multiple factors that online learner participants reported as having an effect on their ability beliefs. A discussion of these findings as well as implications, limitations and areas for future research are included in Chapter 6.

CHAPTER SIX

Summary and Discussion

An exploratory sequential mixed methods design was used to explore both qualitatively and quantitatively the research question, "*What factors affect the self-efficacy of asynchronous online learners?*" This study consisted of three phases. The first phase of the study included semi-structured interviews with 11 former or current asynchronous online learners who had previously completed at least one online course at the university level. The use of personal interviews in the initial phase of this study provided participants the opportunity to describe their first-hand experiences while learning online. Statements and/or quotes, as well as emerging themes from this qualitative data were the foundation of this study's second phase.

In Phase II of this study, a survey instrument was developed and reviewed by experts in education, educational research and educational psychology. Based on expert recommendations, a final version of the survey was completed with the goal of reaching a larger sample of asynchronous online learners than in Phase I, within the study's set schedule.

With the help of many organizations, as described in Chapter 3, the recruitment documents for Phase III of the study reached many current and former online learners. Ultimately, 215 asynchronous online learners completed the survey that was developed to specifically relate to asynchronous online learner experiences. Findings from this study, reported in Chapter 5, will be discussed below followed by practical implications, limitations, and suggested areas for future research.

Discussion of findings

The focus of the research question was on the factors that affect the self-efficacy of asynchronous online learners. Self-efficacy is just one of the self-perceptions that a person experiences in the process of learning. Self-efficacy theory suggests self-efficacy perceptions can

and do change as a result of environmental, cognitive and behavioral effects that a person experiences in the course of everyday life (Bandura, 1997; Schunk, 1991).

This study's findings describe specific factors that participants reported as having a perceived effect on their self-efficacy for their online coursework at some point during their online learning experiences. Although this exploratory study was not designed to determine the strength of participant self-efficacy beliefs or how many factors affected each participant in specific courses, the study does provide exploratory and preliminary findings that have implications in the field of instructional design and can add to the research literature.

Immediately noticeable in the findings were the many factors reported by participants as having had a perceived effect on their ability beliefs, at some level, during their online learning experiences. A closer look revealed some interesting response patterns. There were many areas where participants showed a strong agreement in perceived positive effects but there also were areas where participants showed a strong agreement in perceived negative effects.

Largest positive effect agreement. The largest agreement among participants (93%) was with those who reported perceived positive effects from the presence of *a Mapped out schedule of the entire course*. Showing similar agreement strength, were perceived positive effects reported from the presence of *Interest* (92%), and *Detailed Syllabus* (92%).

Largest negative effect agreement. The largest perceived negative effect agreement (89%) was from the presence of *Uncertainty about being on the right track about an assignment or project*. Similarly, an 86% perceived negative effect agreement from the presence of *Uncertainty about instructor expectations about an assignment* and 86% perceived negative effect agreement from the presence of *Misunderstanding the requirements of an assignment*, were reported.

Communication factors. In survey areas on communication, participants showed large perceived positive effect agreement in areas of communication reported as occurring but small perceived negative effect agreement in areas of communication reported as not occurring during their online learning experience. For example, the 85% agreement on perceived positive effects from the presence of *verbal support* differed markedly from the 18% agreement on the perceived negative effect from its absence. This indicates that although a small number of participants reported a perceived negative effect on ability beliefs from the absence of verbal support, a large number of participants reported a perceived positive effect on ability beliefs when verbal support was present. Also referred to as “social persuasion,” Bandura (1997) describes the encouragement from people who are considered “significant” to be important to a person’s ability to “sustain a sense of efficacy, especially when struggling with difficulties” (p. 101). Verbal persuasion by itself may not be enough to create enhanced self-efficacy judgements over a long period of time, however, it can and does “bolster self-change if the positive appraisal is within realistic bounds” (Bandura, 1997, p. 101). It may be that participants experienced this type of “bolstering” when needed in their online learning experiences and therefore showed a large agreement on the perceived positive effect from the presence of verbal support. It may be that it is not perceived as important until it is needed and present.

The nature of the responses related to verbal support differed noticeably from the responses of participants reporting the presence of communication in the form of instructor feedback. In the case of instructor feedback, the results showed a high level of perceived positive effects on participants’ self-efficacy perceptions when this feedback was provided. Participants showed 81% agreement on perceived positive effects from the presence of *Receiving instructor feedback* and 80% agreement if the feedback was *timely*. However, unlike the 18% agreement on

the perceived negative effects when verbal support was absent, there was 75% participant agreement on perceived negative effects from the absence of *instructor feedback*.

This indicates that not only was the presence of *instructor feedback* important to participants, but its absence was important as well. Feedback is a learning tool used to express the gap between what is to be performed by a learner and how the learner is actually performing, for the purpose of reaching the desired performance goal. “Feedback acts like a mirror, to reflect back to the learner what their performance looks like” (Molloy & Boud, 2014, p. 414). The benefit that feedback provides learners is an opportunity to discover if they have reached a particular goal in their learning process.

The results related to peer feedback more closely resembled the results related to verbal support. Although (84%) of participants agreed the presence of *positive peer feedback* had a positive effect on their perceived self-efficacy, only 17% of participants who did not discuss an assignment with a peer first to get some feedback felt it had a negative effect on their perceived self-efficacy and 74% felt it had no impact.

Once a learner has attempted to demonstrate their ability to perform a certain learning goal, the feedback they receive should help them answer the question, “Did I get it right?” If they did not get it right, the feedback they receive should help guide them to the next learning goal (Driscoll, 2005, p. 376). This type of feedback has the potential to enhance self-efficacy as “feedback from the instructor reveals progress in relation to students’ goals, helps students adjust the level or direction of their effort, and develops students’ self-efficacy beliefs as they experience enactive mastery and observe progression toward goal completion” (Artino, 2008, p. 41). Although this type of feedback guidance is typically delivered by a teacher, the accessibility of peers and their unique perspective as co-learners can be helpful in relaying timely and honest

feedback that the learner can use to evaluate their own work (Hattie & Timperly, 2005; Molloy & Boud, 2014). In this study, the importance of both peer and instructor feedback is demonstrated by the strong positive perceived effect agreement by the presence of both instructor and peer feedback as well as the strong negative perceived effect agreement by the absence of instructor feedback.

Perceived effect agreement for the presence of communication involving discussion forum use in participants' online coursework showed a 57% agreement on perceived positive effects from the presence of *Discussion forum for student interaction* and 64% agreement on perceived positive effects from the presence of *Discussion forum for student/instructor interaction*. There is also a small, but noteworthy, negative effect from the presence of *Discussion forum for student interaction* (11%) and *Discussion forum for student/instructor interaction* (6%). This indicates that although a larger number of participants reported a perceived positive effect on ability beliefs from the presence of discussion forums, a small number of participants reported a negative effect on ability beliefs when discussion forums were present. It is unknown from this study's findings what type of forums participants found to have a perceived positive effect on self-efficacy. "Simply forming an asynchronous discussion forum, providing the technology, and a question or topic of discussion is not enough to ensure success in an asynchronous discussion" (Andresen, 2009, p.250). In Andresen's (2009) literature review of asynchronous discussion forums, he points out several factors that are present in discussion forums that appear to facilitate learning: a) appropriate discussion topics that align with learning objectives, b) specific guidance from instructor, c) connections to learning must be nurtured by instructor, d) instructor takes the role of "cheerleader" and "motivator" rather than the ultimate source of knowledge (p. 251), and e) assessed so students are invested in their responses. In

addition, student participation varies based on learner preferences “(e.g. some prefer to work alone, others in groups; some tend to read more and stay invisible, others prefer writing and like to be in the spotlight, etc.) [which may] influence the discussion and the success of the forums (Beckmann & Weber, 2016, p. 56). Depending upon what factors were present in participants’ discussion forums, their experiences could be based on the design of the forum or instructor practices rather than simply being present in the course. This could also be why a percentage of participants showed a perceived negative effect from the presence of discussion forums.

Course/Program Design. When selecting elements that were present or absent from an online course design, participants showed a high percentage of agreement for the perceived positive effect from the presence of a *detailed syllabus* (92%) and *mapped out course schedule* (93%). These findings align with self-efficacy research that explains a person will rely more heavily on self-efficacy appraisals when the task is new and perceived as important. When students begin a course, they may “assess, in depth, the task demands, the environmental constraints and support, and his or her own attributes and feelings when forming self-efficacy” (Gist & Mitchell, 1992, p. 191). Therefore the presence of such factors as a detailed syllabus and mapped out schedule assist learners in their self-efficacy appraisal and the absence of these factors would hinder a student’s appraisal process.

Participants also showed a high agreement (89%) for the perceived positive effect from the presence of *demonstration(s) or tutorial(s)* in their online courses. Interestingly, participants reported a larger “no effect” (52%) than “negative effect” (45%) on self-efficacy beliefs when demonstrations and tutorials are not present. This indicates that although the presence of *demonstration(s) or tutorial(s)* seemed to draw a large perceived positive effect agreement from participants, its absence did not draw an equal agreement on perceived negative effects. Research

shows that after being exposed to modeling of a task students are being asked to perform, their self-efficacy appraisal increase in strength (Gorrell & Capron, 1990; Murphy, 2015) if they are motivated to perform the task (Schunk, 1987). These findings align with prior research in that regard. Although the presence of modeling through demonstrations or tutorials were identified by 89% of participants as having a perceived positive impact on self-efficacy, it is possible that only learners who had previously benefited from modeling would be able to indicate a perceived negative effect from its absence.

Student Challenges. With regards to findings related to participant responses to student challenges questions, participant responses showed strong agreement in perceived negative effects from the presence of challenges directly associated with coursework and medium to low agreement on perceived negative effects; not reaching higher than 59% “no effect” and 55% “negative effect.” The presence of challenges relating directly to online course experiences however, showed two areas of strong perceived negative effect agreement. Participants reported a perceived negative effect on self-efficacy from the presence of *Uncertainty about being on the right track about an assignment or project* (89%), *Uncertainty about instructor expectations about an assignment* (86%), and *the feeling of not having the time required to complete an assignment or project* (80%). Participant responses also showed strong agreement on perceived negative effects from the presence of *over-thinking/feeling stuck* (77%), *feelings of moving too slowly on a project* (71%) and, *feeling too nervous to ask for help* (71%).

The issues of uncertainty would have a negative effect on a student’s ability to adequately assess their abilities. Self-efficacy is a person’s judgement of his or her ability to successfully perform a learning or performance task (Bandura, 1997). In order to make an accurate assessment of current skills and abilities, a thorough understanding of the task they are being

asked to perform is necessary. Self-efficacy appraisals are built upon the skills students believe they have to perform the task. If they are uncertain of the task, they will not be able to adequately assess the relevance and appropriateness of their current skills. “Without standards, self-appraisal of capabilities is left in foggy ambiguity” Bandura, 1997, p. 219). This may explain the participants’ perceived negative effect of the presence of feelings of uncertainty.

Feelings of “not having time” or “moving too slowly” may be a result of weak time management skills, inadequate goal-setting (setting distal goals versus proximal goals) or unexpected obstacles while completing online coursework. In the self-regulation process there is a constant self-monitoring of progress towards learning goals (Zimmerman, 2002). If, during the self-evaluation and monitoring phase of self-regulated learning, learners do not feel they are on track, this may reduce their self-efficacy judgements.

Participant responses about the presence of certain technology issues showed one strong area of agreement. There was a perceived positive effect agreement (83%) from the presence of *Enjoyment as a result of learning new technology*. Participants reported a perceived negative effect (64%) from the presence of *not having the time to learn new technologies*. This indicates that although a smaller number of participants reported a perceived negative effect on ability beliefs from not having time to learn new technologies; a larger number of participants reported a perceived positive effect on ability beliefs when they were able to learn new technologies.

Computer self-efficacy (CSE) is a student’s belief in their ability to use a computer to successfully complete a learning or performance task. Previous studies have shown (CSE) exerts, “a significant influence on individuals' expectations of the outcomes of using computers, their emotional reactions to computers (affect and anxiety), as well as their actual computer use” (Compeau & Higgins, 1995, p. 189). Technology use, as a factor present in this study, was not

only a student's CSE, it included issues beyond the control of a participant such as internet speed and weather effects on satellite dishes. It also included students' enjoyment or stress over having to learn a new software or application quickly in a semester in order to complete their learning or performance tasks. This study's findings are similar to research findings on technology dependence (Shu, Tu, & Wang, 2011). Shu and colleagues (2011) found that technology dependent activities are accompanied by other factors that increase cognitive load and decrease self-efficacy. In their research on the effects of CSE and technology dependence on "Technostress," they found that employees with a high level of CSE were more adept at the use of positive coping strategies to handle stress caused by the use of technology. They also reported employees of organizations depending heavily on technology often experience "technology overload" when having to learn new software and hardware while also attending to their normal work duties (p. 935).

Given the above reasons it is not surprising that technology was found to be a factor affecting the self-efficacy of Phase III participants rather than computer self-efficacy alone. Although computer self-efficacy is a factor in a person's perception of his or her ability to cope with technology challenges, it is the various challenges or rewards present in the use of technology that affected participants' self-efficacy either positively or negatively in this study.

Strategy use. Strategy use seems to be important to the participants as they reported similar perceived positive effects from the presence of *using the resources provided in the course* (89%), *using instructors, TA's and facilitators as recourses* (85%), *creating a set time to study* (82%), *looking for more resources if enough are not provided* (82%) and *looking more deeply into the subject matter than the course requires* (80%). Interesting to note that there was also a strong perceived positive effect agreement (78%) from the presence of *seeking out classmates to*

bounce ideas off of, yet when not present, there was a higher perceived “No Effect” (80%) agreement. This indicates that although the presence of *seeking peer feedback* seemed to draw a large agreement of perceived positive effect from participants, its absence drew an even larger agreement on perceived no effect. Seeking help from classmates is a help seeking strategy often used by self-regulated learners as a tool to progress towards a learning goal (Zimmerman, 2002). Help seeking includes “the ability to know when help is needed, identify sources of help, and evaluate the help received” (Lynch & Dembo, 2004, p. 5). This seems to relate to similar findings in this study about the presence and absence of modeling; “seeking peer feedback” appears to draw a large perceived positive effect agreement when it is present, however when it is absent there is very little perceived negative effect which may mean that it is only considered positive when needed and present.

Mastery. Participants who rank ordered items present in their online coursework that influenced their ability beliefs, showed a 93% agreement to include “*When I have already completed a similar task*”. This same choice also ranked as the most identified first choice of participants (58%). In addition, also a mastery factor, participants reported a positive effect (83%) from the presence of *being able to re-submit coursework* and a negative effect (52%) when it was not present. Mastery performance is one of Bandura’s (1997) hypothesized information sources that learners use to make self-efficacy judgements. This study’s findings align with previous studies on self-efficacy sources that show mastery experiences to be one of the most influential sources of a learner’s self-efficacy (Zimmerman, 2000). When students experience a successful learning or performance task, their self-efficacy judgements are higher towards the same task or one slightly more difficult. This study’s participants showed a strong agreement on the perceived positive effect of “*completing a similar task*” as being most

influential to their perceived self-efficacy. With regards to participants being able to re-submit coursework, those that reported an agreement on perceived positive effect by the presence of “being able to re-submit” may have appreciated the opportunity to receive feedback and re-submit coursework to gain a mastery performance in their online learning experience. It is possible that those who previously experienced this would agree on the perceived negative effect from the absence of this opportunity.

In summary, factors that seem to be most frequently identified as being important to participants’ self-efficacy perceptions were: a) a mapped out schedule of the course (93%); b) a detailed syllabus (92%); c) interest in the course material (92%); d) being able to watch demonstrations/tutorials (89%); and e) using resources provided in the course (89%).

Factors that were consistently identified as having a negative effect were: a) unsure of instructor’s expectations on an assignment (86%); b) not understanding the assignment (86%); c) uncertainty about being on the right track (89%); d) not having enough time to complete assignment (80%); e) not receiving instructor feedback (75%); and f) over-thinking and feeling stuck (77%).

Factors that were present that showed a high percentage of agreement on perceived positive effects, and a high percentage of agreement on perceived no-effect when not present were: a) Looking more deeply into the course's subject matter than the course requires showed 80% perceived positive effect when present and 89% perceived no effect when not; b) using instructors, TA's or facilitators as resources showed 85% perceived positive effect when present and 71% perceived no effect when not; c) changing study strategies when necessary showed 74% perceived positive effect when present and 76% perceived no effect when not; d) seeking out classmates to bounce ideas off of showed 78% perceived positive effect when present and 80%

perceived no effect when not; e) make adjustments to schedule to include other activities showed 78% perceived positive effect when present and 72% perceived no effect when not; and f) interest in course material showed 92% perceived positive effect when present and 80% perceived no effect when not.

Practical Implications

This study's findings show the perceived importance of the presence or absence of certain course design elements to participants' self-efficacy judgments. There are practical implications for online instructors and online distance learning instructional designers.

Online instructors. Factors that seem to be most important to participants' self-efficacy perceptions included having access to a) *a mapped out schedule of the course*; b) *a detailed syllabus*; and c) *access to resources needed to successfully complete the course tasks*. These specific findings may provide online instructors with incentives to modify, if necessary, current course designs, pedagogical practices, and resource requirements that may have an immediate and positive effect on student self-efficacy.

Along the same lines, many participants reported the negative effects of *feeling uncertain about course requirements and instructor expectations*. One of the sources students use in judging their self-efficacy beliefs is their physiological response to a situation (Bandura, 1997). If students' physiological responses are those of stress, frustration, or anxiety, they may doubt their capabilities and not engage with the task (Bandura, 1997, p.6; Chaco'n, 2005). By adding clarity to unclear instructions, or by providing students access to sample work or tutorials, feelings of uncertainty may subside. Addressing these issues can be implemented quickly and possibly have a positive effect on student self-efficacy beliefs.

This study's findings on the effects of instructor feedback (or lack thereof), can also provide instructors with information that can immediately be implemented into instructional practices. By providing opportunities for student and instructor interaction, as well as opportunities for relevant instructor feedback, it is possible the effect on student self-efficacy perceptions will be positive.

Online distance learning instructional designers. Instructional designers have the task of analyzing the characteristics of the learners they are designing for and which variables will have a significant effect on learning achievement (Dick, Carey & Carey, 2005). This study's findings, although preliminary, demonstrate a strong agreement among participants that their self-efficacy perceptions fluctuated in their online coursework with the presence or absence of factors associated with course design. Self-efficacy research has shown that online learners' self-efficacy is still a strong predictor of their academic success. Although this study's set of factors are preliminary, the implications for online course designers is that students' self-perceptions are malleable in an online learning environment and studies show changes in self-efficacy may enhance or deter learning. Impacts on self-efficacy for certain aspects of the course design should be considered essential information to help guide the designer. Online instructional designers in higher education settings designing asynchronous online courses may want to consider including this study's findings in their learner analysis.

Instructors and online instructional designers. This study's findings also highlighted the importance of student strategy use to participants' perceived self-efficacy beliefs. Strategy use is an important behavior of self-regulated learners (Kistner, et al., 2009; Zimmerman, 2002). This study's findings showed that the presence of strategy use in an online course positively affected participant ability beliefs. By including intentional strategy use instruction and

opportunities to strengthen strategy skills into course designs, the results could have a positive effect on student self-efficacy. Strategy use is closely related to self-efficacy because it can enable people to improve their performance (Zimmerman, 1989a). Improving a student's use of learning strategies has been shown to increase self-efficacy, as the use of strategies yields better academic performance (Ramdass & Zimmerman, 2008) and mastery performances have a positive effect on a student's self-efficacy beliefs.

These types of online instruction and online instructional design practices for asynchronous online courses in higher education could be easily incorporated and may yield positive results for students.

Study Limitations

This study was designed to both, qualitatively and quantitatively, explore the experiences of asynchronous online learners for the purpose of discovering specific factors that affect their self-efficacy in asynchronous online coursework. The study was limited to asynchronous students in higher education online settings. Therefore, this may limit the impact that the findings have for corporate and K-12 online courses. It may also lower the impact that the findings have for synchronous online learning environments as all Phase I and Phase III data collection questions assumed asynchronous environments, where learners are separated not only by space, but also time.

A majority (96%) of study participants reported receiving their online education in the United States. This may limit the impact that findings have for non-U.S. online learning research as cultural differences may prevent a direct comparison of factors affecting online learner perceptions.

All of the data collected from participants and analyzed for this study were based on self-reported data. Self-reported data may be limited by the fact that it can rarely be independently verified. This means that this study has taken the comments of the participants, either provided in interviews or online surveys, at face value. There were no comparisons of student perceptions to their academic successes or failures. However, all of the participants were current or previous online learners, and therefore, were the ideal group of people to provide firsthand knowledge of online learning experiences. Participant responses are directly related to the questions asked in the interviews and surveys. It is possible that, even though attempts were made to allow a free flow of communication, questions asked differently might produce a different set of responses. My goal was, however, to create a study design that could be used by another researcher with a different set of online learners and possibly arrive at similar conclusions.

Another limitation was the use of the online survey format. Although online surveys allow for a broad reach and offer a certain amount of convenience to respondents, the survey was opened and started by 296 respondents. However, 81 respondents did not complete the survey. It is possible there were connectivity issues, unanswered questions about procedure, survey length issues, etc. There may have been formatting issues that also made the survey difficult to use or understand. There were at least three instances where a participant stated, "I don't understand the question, what I think you want to know is..." There may have been other instances as well in which the participant chose not to comment or chose not to answer the question at all. These possible questions remain unanswered because of the choice to use the online survey format instead of in-person meetings. Attempts were made to create a survey that was participant-centered, and the inclusion of a small pilot test and expert reviews helped to eliminate possible issues in advance. That being said, it is highly unlikely that I would have been able to meet with

215 participants without the use of the online survey tool. This is a definite strength of using the online survey. Using the online survey also provided a way to expand the setting from a single university to a larger variety of respondents.

A strength of this study was the methodology. Using an exploratory sequential mixed methods study design allowed for the collection of initial data through semi-structured interviews to explore the online learner experience from each participant's perspective and personal experiences. The interview data were analyzed and able to be used to develop relevant survey questions to further explore the factors that affect the self-efficacy of this important population of learners. The findings were based on the experiences of actual online learners of various ages, education levels, and online learning experiences. The Phase III survey was able to reach a larger sample group, which added strength to the study.

Future Research

This study's findings helped to lay a foundation of factors reported to affect the self-efficacy of the asynchronous online learners who participated in this study. This study was not designed to determine the strength of participant self-efficacy beliefs or how many factors affected each participant in a specific course. Therefore, this study's findings provide a starting point for future research. Possible areas for future research are:

- 1) Although this study's findings indicated certain factors that may be present or absent in an online learning environment that participants reported as having perceived positive, negative, or no effects on their self-efficacy beliefs, it is not known how participants made their determinations, how they weighted them, or how those determinations affected their ability beliefs. To better understand the process students use to evaluate their ability beliefs, suggested future research would include exploring this area further.

2) The online self-efficacy research literature shows few intervention type studies directed at specifically attempting to affect a learner's self-efficacy. In order for these types of studies to be effective, it is necessary to have an area of focus, (e.g. areas where students are experiencing lower or higher self-efficacy appraisals.) As discussed in Chapter 2, the best assessments of self-efficacy perceptions are the ones that include specific task information. In other words, self-efficacy judgements for "accomplishing all the tasks required to successfully succeed in an online course" might be less accurate than judgements for a single task in an online course. Intervention type studies designed to enhance self-efficacy have been successful in repeated classroom research for decades and have results in increased academic achievement. Future research could include using some of the specific factors from this study's findings to create more specific self-efficacy assessment questionnaires to use for future intervention research.

3) The highest negative effect responses from this study's participants included items reported as being present that are associated with a students' physiological response to their learning environment. Participants reported the presence of *being unsure, not understanding, feeling too nervous to ask for help, over-thinking, and feeling stuck*. There is no way to determine the context in which these experiences may have occurred in the participants' online learning experience or the antecedents of the presence of these feelings. A future research focus might be to explore the physiological responses of online learners towards specific online learning tasks. Such studies could produce findings that may help online learners to develop relevant strategies to use in a variety of contexts. For strategies that may already exist in the literature, the use of experimental

intervention studies with self-efficacy as one of the correlates could provide useful information for online instructors and instructional designers.

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APPENDICES

**Appendix A: Facebook Invitation to Participate in the Exploratory Phase I Interview
Instructional Technology Student Association (ITSA)**

Hi ITSA members,

My name is Alicia Johnson. I am a graduate student at Virginia Tech. I am conducting a study that involves online learners and their perceptions about their online learning experiences. I am extending an invitation to ITSA members currently enrolled at VT who have ever completed an online course at the university level to participate in the study.

The study involves a 45-60 min. interview either in-person or via Skype/Google Hangouts, during the month of June.

I know everyone is busy and time is valuable. I am offering a \$10 gift card to Starbucks as a “thank you” for your time and participation.

If you would like to learn more about the study/interview, please call me on my cell phone at 703-232-5982, or e-mail me at jalicia@vt.edu. You can also learn more by watching [THIS](#) short (1 min. and 50 sec.) video.

Thank you very much for your consideration.

I hope to hear from you.

Best regards,

Alicia Johnson
Doctoral Candidate, Instructional Design and Technology
jalicia@vt.edu
[703-232-5982](tel:703-232-5982)
[Study Website](#)

Appendix B: E-mail Invitation to Participate in the Exploratory Phase I Interview

Hello EDEP 5154 online learners,

My name is Alicia Johnson. I am a graduate student at Virginia Tech. I am conducting a study that involves online learners and their perceptions about their online learning experiences. I am extending an invitation to students enrolled in Dr. Jones' EDEP 5154 Summer Session I who have ever completed an online course at the university level to participate in the study.

The study involves a 45-60 min. interview either in-person or via Skype/Google Hangouts, during the month of June.

I know everyone is busy and time is valuable. I am offering a \$10 gift card to Starbucks as a “thank you” for your time and participation.

If you would like to learn more about the study/interview, please call me on my cell phone at 703-232-5982, or e-mail me at jalicia@vt.edu. You can also learn more by watching [THIS](#) short (1 min. and 50 sec.) video.

Thank you very much for your consideration.

I hope to hear from you.

Best regards,

Alicia Johnson
Doctoral Candidate, Instructional Design and Technology
jalicia@vt.edu
[703-232-5982](tel:703-232-5982)
[Study Website](#)

Appendix C: Participant E-mails Prior to Interview, “Thank you for Volunteering”

Dear _____,

Thank you for volunteering to be interviewed!

I appreciate your willingness to talk to me about your online learning experiences.

On the study site you will find a [Calendar](#) that shows times blocked out if other interviews have been scheduled. This should help you when deciding what day/time best suit your schedule.

Can you please suggest 1-2 dates/times for our interview? I’m available most days, as well as evenings and weekends. Our interview will take approximately 45-60 minutes.

We can set up a date and time through e-mail or you can text me or call me at 703-232-5982.

I have attached a copy of this study’s Informed Consent document for your review. I will have a copy of it at our meeting for your review and signature, should you agree to its content, before beginning the interview.

I am looking forward to meeting with you soon!

Thank you again,

Sincerely,

Alicia Johnson

Appendix D: Recruitment Website

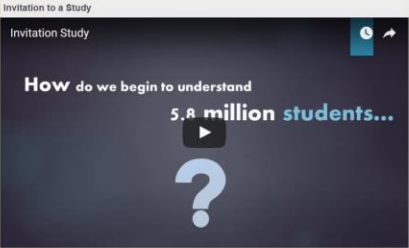
Participant Invitation Page

VirginiaTech **IDT Research Study** Search this site

[PARTICIPANT INVITATION](#) [WHAT'S NEXT?](#) [IF I VOLUNTEER...?](#) [WHAT TO EXPECT AT THE INTERVIEW](#) [HOW TO CONTACT ME](#)

PARTICIPANT INVITATION

Welcome to the "Factors That Affect the Self-Efficacy of Asynchronous Online Learners" study site. Please take 2 minutes to view an invitation to participate. Thank you.




[Click Here to Learn More](#)

What's Next? Page

Virginia Tech Homepage Help

Participant Invitation **What's Next?**

[HOW TO CONTACT ME](#)
[If I Volunteer?](#)
[Consent Form Info](#)
[Interview Calendar](#)
[Interview Locations](#)
[Scheduling Calendar](#)
[What to Expect at the Interview](#)
[What's Next?](#)
[Sitemap](#)
[Recent site activity](#)



Hi, my name is Alicia Johnson.

I am a PhD student in Virginia Tech's Instructional Design and Technology program. This June I will be interviewing students who have taken at least one asynchronous online course in a university setting for my Dissertation research. If you are one of the students who volunteers to be interviewed, your participation will involve a confidential interview with me that will take between 45-60 minutes.

These interviews will help me explore the types of experiences that affect the self-perceptions of students in asynchronous online courses. For your convenience, we can meet in person or online for the interview (If you were contacted through your current online course, be confident that your decision whether or not to participate has no effect one way or the other on your current course or course grade.)

Please explore the "[If I Volunteer?](#)" page on this site if you want to learn more about participating in this study before you make your decision to participate. Please contact me at jalicia@vt.edu before June 14th to let me know if you decide to participate or if you have any questions. You may also reach me on my cell phone at 703-232-5982.

Thank you for your consideration,
 Alicia

If I Volunteer? Page

[PARTICIPANT INVITATION](#) [WHAT'S NEXT?](#) [IF I VOLUNTEER...?](#) [WHAT TO EXPECT AT THE INTERVIEW](#) [HOW TO CONTACT ME](#)

IF I VOLUNTEER...?

If you volunteer to participate, we will proceed with the following steps:

- 1) We will discuss scheduling a date, time and place for your interview;
- 2) You will be asked to look over the [consent form](#) description slideshow;
- 3) Before the day of the interview, you will be asked to look review a [document](#) describing what to expect at the interview;
- 4) The day of the interview, you will be asked if you have any questions, and if not, you will be asked to sign the consent form and we will proceed with the interview. (Interview should take 45-60 minutes).
- 5) After the interview is complete, I will give you a \$10 gift card to Starbucks as a "thank you" for your time and participation.
- 6) Before we leave the interview, I will ask you if I may contact you should I have questions during the transcription process.
- 7) Finally, I will ask you if I may send you a copy of the transcript, when it is complete, in case you would like to review it, make comments, etc.

That's It !

If you would like to learn more about the consent form, you can follow [THIS](#) link.
 If you would like to learn more about when the interviews will be held, you can follow [THIS](#) link.
 If you would like to learn more about where the interviews will be held, you can follow [THIS](#) link.
 If you would like to see the interview scheduling calendar that shows as appointments are being schedule, you can follow [THIS](#) link.

Subpages (3): [Consent Form Info](#) [Interview Calendar](#) [Interview Locations](#)

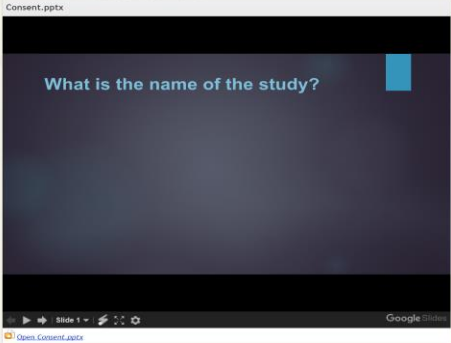
Consent Form Information Page

PARTICIPANT INVITATION WHAT'S NEXT? IF I VOLUNTEER...? WHAT TO EXPECT AT THE INTERVIEW HOW TO CONTACT ME

[# I Volunteer? >](#)

Consent Form Info.

Consent forms are used for the protection of the participant of a study. It is best for all involved in a study if the participants understand thoroughly what they are agreeing to. The Consent form for this study answers the follow questions:



[Actual Informed Consent Document](#)

Interview Calendar Page

Virginia Tech Homepage Help

[# I Volunteer? >](#)

Interview Calendar

The Interview Calendar shows the following important dates:

- Interview appointments will be finalized between June 10th - 14th (ideally all participants will have an appointment scheduled by the end of day Tuesday, June 14th).
- Interviews will be held during June 15th - 22nd.
- Internet and phone interviews can be held via Skype or Google Hangouts at any time necessary on any of the days between the 15th - 22nd (or sooner if more convenient).
- On campus interviews at [War Memorial](#) (9 a.m. - 3 p.m.) or the [Graduate Life Center](#) (8 a.m. - 4 p.m.) can only be held during the week, Monday - Friday.
- Other locations chosen by the participants can be scheduled on any day/time that is available during the 15th - 22nd.
- Special arrangements can be made to accommodate a participant's schedule conflict.



Follow [THIS](#) link for more information about on campus interview locations

Interview Locations Page

Virginia Tech Homepage Help

[# I Volunteer? >](#)

Interview Locations

There are many possibilities for interview locations to accommodate participants' schedules.

ON CAMPUS

For students on campus, interviews can be held at the following locations:

[War Memorial](#) (370 Drillfield Drive) **Room 220 (ETLab)** Monday-Friday between 9 a.m. and 3 p.m.

[Graduate Life Center](#) (155 Otey St.) **Meeting Room A** Monday-Friday between 8 a.m. and 4 p.m.

Alternate arrangements can be made based on the needs of the participant.


OFF CAMPUS

For students who cannot meet at these days/times and locations, please feel free to suggest alternate locations and times. I am available most days and times to interview participants. The location can also be your home if you would be more comfortable there. We will just need a private meeting area for about 1 hour. This can also include a coffee shop or other meeting area you have in mind.

WAY OFF CAMPUS

If you are not in Blacksburg this semester, we can meet online via [Skype](#) or [Google Hangouts](#). Simply discuss the option with me and we will schedule an online interview to accommodate your schedule. Participants who use the online option will receive an electronic version of the \$10 Starbucks giftcard.

When Participants begin to make interview appointments, I will show the blocked time on [THIS](#) calendar so other participants will know what is available and what is not.



Scheduling Calendar Page

Virginia Tech Homepage Help

Participant Invitation
HOW TO CONTACT ME
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Scheduling Calendar
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Scheduling Calendar

Interview Appt. Schedule

June 2016

Sun	Mon	Tue	Wed	Thu	Fri	Sat
29	30	31	Jun 1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	Jul 1	2

Events shown in time zone: Eastern Time

[To "How to Contact Me" Page](#)

What to Expect at the Interview Page

Virginia Tech Homepage Help

Participant Invitation
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What to Expect at the Interview

What to Expect at the Interview.docx

What to Expect at the Interview

Thank you again for volunteering to participate in this study and for providing me with convenient days/times. I'm looking forward to speaking with you soon.

Before we talk, I want to give you more information about the study so that the interview questions make sense. As you know, the purpose of the study is to understand what it is like to be an online learner and what factors affect the self-beliefs of a student's ability to succeed online.

Do you remember reading or hearing the story *The Little Engine That Could*? It is a children's story about a little train that believed she had the skills to accomplish a difficult task, and she ended up reaching her goal. We all share in the ability to make personal judgements about whether or not we believe we have certain skills. This judgement about whether or not we believe we have the skills to accomplish a particular learning or performance task is called *self-efficacy*.

According to the research, our self-efficacy is influenced by several things:

- 1) **Mastery experiences:** This is when we have already experienced the successful achievement of a learning or performance task. "I've done it before, I can do it again."
- 2) **Observing others:** Seeing someone else achieve a goal helps us to believe that we can achieve it too. "If he or she can do it, I can do it too."
- 3) **Verbal persuasion by others:** This is when others try to influence us by telling us that we have the skills and capabilities to achieve a goal. "You are good at solving problems. You will find a creative solution like you always do."
- 4) **Your mood:** Our emotions and expectations help us feel like we can cope with challenges. "I feel really good about this test, I know I can pass this."

I'm looking forward to speaking with you and learning more about your self-efficacy!

Kind regards,

[Open: What to Expect at the Interview.docx](#)

Appendix E: Follow-Up E-mail

Dear _____,

Thank you again for volunteering to participate in this study and for providing me with convenient days/times. I'm looking forward to speaking with you on (date/time).

Before we talk, I wanted to give you more information about the study so that the interview questions make sense. As you know, the purpose of the study is to understand what it is like to be an online learner and what factors affect the self-beliefs of a student's ability to succeed online.

Do you remember reading or hearing the story *The Little Engine That Could*? It is a children's story about a little train that believed she had the skills to accomplish a difficult task, and she ended up reaching her goal. We all share in the ability to make personal judgments about whether or not we believe we have certain skills. This judgement about whether or not we believe we have the skills to accomplish a particular learning or performance task is called *self-efficacy*.

According to the research, our self-efficacy is influenced by several things:

- 1) **Mastery experiences:** This is when we have already experienced the successful achievement of a learning or performance task. "I've done it before, I can do it again."
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- 3) **Verbal persuasion by others:** This is when others try to influence us by telling us that we have the skills and capabilities to achieve a goal. "You are good at solving problems. You will find a creative solution like you always do."
- 4) **Your mood:** Our emotions and expectations help us feel like we can cope with challenges. "I feel really good about this test, I know I can pass this."

I'm looking forward to speaking with you and learning more about your self-efficacy!

I will send a follow-up 24 hours before our appointment.

Kind regards,

Alicia Johnson

Appendix F: Interview Protocol

Script: Before we begin today, I would like to review the purpose of the study and your rights as a participant. You have already agreed to the Informed Consent Document items in the Qualtrics survey. Did you have any questions about your rights as a participant? Remember that you don't have to respond to a question if you don't want to and you can choose to stop the interview at any time. Let's get started.

Interview questions	Self-efficacy source
1) Tell me about yourself. 2) What prompted you to want to further your education? 3) What led you to take an online course?	N/A, Background information
4) Tell me about your experiences learning online, what has that been like for you? How are you doing overall in the program, academically?	Performance accomplishment
Script: I sent you some information about self-efficacy in my email. [Recap the following points: self-efficacy is one's belief in one's ability to achieve a goal, self-efficacy is influenced by four sources: (a) mastery experiences, "I've done it before, I can do it again,"; (b) observing others, "If he or she can do it, I can do it too"; (c) verbal persuasion by others, "You are good at solving problems, you will find a creative solution like you always do"; and (d) your mood, "I feel great, I know I can do this!"] [Clarify understanding] Do you have any questions about self-efficacy or the self-efficacy sources?	
5) Which of these four sources has the strongest impact on your belief in your ability to succeed in an online course? Why do you feel this way?	Performance accomplishment, vicarious experience, verbal persuasion, physiological and emotional states
6) Would you say that you have a high, medium, or low belief in your ability to succeed within an online course? Why do you feel this way?	Performance accomplishment, vicarious experience, verbal persuasion, physiological and emotional states
7) Tell me about the people in your life who support you and your academic goals. What do they do or say to support you? How does this make you feel?	Verbal persuasion, physiological and emotional states
8) Do you know anyone else that is taking online courses in their degree program or taking online classes? What do they tell you about their experiences? How does that make you feel?	Vicarious experience, verbal persuasion, physiological and emotional states
9) Self-efficacy is one theory on how peoples' beliefs help them to achieve their goals. Is there anything else that positively influences your belief in your ability to succeed online? What else makes you successful? (e.g., personality traits, outside circumstances, a higher power)?	Performance accomplishment, vicarious experience, verbal persuasion, physiological and emotional states

10) Tell me about a time you accomplished a goal in your current online course. How did you feel about that experience?	Performance accomplishment, physiological and emotional states
11) Have you encountered any challenges in this online course? How did you handle those challenges? How did you feel about those challenging experiences?	Performance accomplishment, physiological and emotional states
12) Tell me about your past schooling experiences, what were you like as a learner?	Background information
13) Tell me about your future career, school, and life goals.	N/A, Aspirations
14) What advice do you have for students that might be struggling with an online course?	N/A, Advice for struggling students
15) What advice or suggestions would you give to others that want to enroll in any online course?	N/A, Advice for online students

Demographic questions:

1. Gender
2. Age
3. Race/Ethnicity?
4. How many online courses have you taken at the university level?
5. How long has it been since your last online course?
6. What academic level are you currently?
7. What is your major?

Script: Thank you for participating in the interview. I am going to type up the transcript from our conversation today and send it to your e-mail. You will be able to review the transcript and ask me questions about it before I include it in the study. I will also remind you that the transcripts are verbatim and sometimes throw people off thinking that they must have sounded strange or that they did not use proper grammar or used too many incomplete sentences. This is all completely normal, as our verbal communication is much different than our written communication. Do you have any questions for me? Thank you again! (Darrow-Magras, 2015).

- - -

Here is your gift card as a thank you for your time and effort at participating in this study. If you don't mind signing this receipt just stating that you received the \$10 Starbucks gift card.

Thank you again!

Appendix G: Informed Consent Form

Script: Each participant in this study is asked to review and confirm their understanding and agreement with the Informed Consent Form. After reviewing it, please let me know if you have any questions. If you do not have any questions and you agree to the information provided, I will ask you to sign it before our interview begins.

Informed Consent Form for Interview

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Title of Project: Factors that affect the self-efficacy of Asynchronous Online Learners

Investigator(s): Alicia L. Johnson, Doctoral Candidate; Dr. Ken Potter, Dissertation Chair

I. Purpose of this Research/Project

The purpose of this study is to explore the self-efficacy sources of online learners to better understand their learning experiences, motivation and behavior during online asynchronous courses. The study is interested in your experiences as an online student. The data collected through this interview will be used to help develop a quantitative survey tool to be used in Phase II of this study. The results will be used for my Dissertation and will be published.

II. Risks and Confidentiality

There are no known risks in this study. The student consists of a recorded interview lasting 45-60 minutes. The interview questions are personal in that they ask about your educational successes and challenges in online courses. You may choose to not answer questions you do not want to answer and you may stop participating at any time. All transcripts created from the recordings will use pseudonyms. Quotes from the transcripts will be used in the dissertation, presentations, and publications, using the pseudonym.

The interview will be audio recorded for the researcher's reference only. Audio files will be kept on a password protected computer hard drive. Audio files will be transcribed and all names and personal information that could identify you will be removed from the transcripts. Hard copy files will be stored in a locked cabinet when not in use by researcher. Any identifiable data and research materials will only be accessible to the researcher. All identifiable research materials will be destroyed after five years.

You will have a chance to review all transcripts for accuracy, comments, and questions should you desire. You may ask the researcher to make any changes to your transcript, or to remove information that you feel could identify you.

III. Benefits and Compensation

Expected benefits are to inform future research and future online course designs. There is no financial compensation for participation. A \$10 gift- card to Starbucks will be given at the end of the interview as a "thank you" for your time and participation.

IV. Freedom to Withdraw

Participants are free to cease involvement at any time without prejudice, penalty, or any other negative consequence. You need not answer any questions you consider inappropriate. You may stop the interview at any point. This is not part of your coursework and will not affect your grade in any way.

V. Participant's Permission

By signing below, I am agreeing to the following:

- * I am 18 years of age or older.
- * I am allowing the researcher to audio record our interview as part of this research.
- * I understand that all recordings and identifying data will be destroyed after five years.
- * I agree to allow the researcher to use non-identifying direct quotes in research reports, Dissertation, publications or presentations.
- * I agree that I understand the information provided in this document and have no questions.
- * I understand that this interview and all participation will be completely confidential.
- * I understand that this study is not part of any coursework and my decision to participate or not will not have any effect on my course or course grade.

I agree that I have read the Consent Form and conditions of this study, I have had all my questions answered and acknowledge the above and give my voluntary consent to participant in the study:

Participant Printed Name	Participant's Signature	Date

If you have any questions about this study, please contact Alicia L. Johnson at Virginia Tech at 703-232-5982 or jalicia@vt.edu, Dr. Ken Potter, Dissertation Chair at kpotter@vt.edu.

Should you have any questions or concerns about the study's conduct or your rights as a research subject, or need to report a research-related injury or event, you may contact the VT IRB Chair, Dr. David M. Moore at moored@vt.edu or (540) 231-4991.

Appendix H: Member Check E-Mail, Transcript

Dear _____,

I hope you are doing well. Thank you again for taking the time to speak with me about your experiences as an online student. Attached please find the transcript of the interview. Please read through the transcript and let me know if you would like me to make any edits or if you have any questions. Remember I mentioned at the interview that the transcript looks a little different than written communication. All of the pauses and incomplete sentences are very normal in oral communication, so please do not worry that your responses are not complete. Your responses are very helpful and have added much to my research. If I don't hear back from you by the end of the week, (by date), I will assume you are in agreement with the transcript content.

Thank you again for sharing your experiences with me!

Kind regards,

Alicia Johnson

Appendix I: Coding Dictionary Phase I

Categories	Codes	
Student Motivation	Career Goals	When a student's coursework relates to a current or a future career it can positively affect their motivation.
	Verbal Support	The personal, non-academic support a student receives affects their confidence on their ability to succeed.
	Interest	Students interested in their subject matter have a strong effect on their belief that they can succeed.
	Vicarious Experience	Being able to see someone else complete or perform a task – i.e. other people completing their education, completing a course, and a learning or performance task, can affect a student's belief in their ability to successfully perform the same task.
	Mastery Opportunities	Students desire mastery opportunities and if they feel they have a chance or missed a chance for a mastery performance, it has an effect on their self-perceptions on their ability to succeed.
	Mastery Experiences	When a student has succeeded previously and they believe the successes related to current needs, they feel more confident in their ability to succeed again.
	Course – Program Design	How the course and/or program is designed affects student's confidence in their ability to succeed.
Student Challenges	Self-Doubts	Feeling doubtful about one's capabilities can slow down or halt success in the online environment – not doubting one's self can enhance it.
	Course-Program Design	How the course and/or program is designed affects student's confidence in their ability to succeed.
	Personal Life Obligations	The requirements of everyday life affects a student's self-perceptions on their ability to succeed.
	Misunderstandings	The requirements of everyday life affects a student's self-perceptions on their ability to succeed.
	Technology	Situations that occur involving technology or the skills required to use the technology affects a student's ability to perform their learning or performance tasks.
Student Strategies	Adaptation	Personal changes made for success in online environment.
	Adjust Schedule	Being aware of the need to change schedule and changing it, in order to succeed the online environment.
	Reject Negativity	Students try to reject the negative comments of others.
	Make a Plan	Mapping out a way to complete a task or course in the online environment affects a student's belief that they can succeed.

		Research	There is a necessity to find what one needs whether it is provided or not in order to be successful in an online environment.
		Reflection	Being mindful of the situation, what has occurred, and what has been learned affects students' self-perceptions in the online environment.
		Seek Help From Others	The practice of seeking assistance from others i.e. instructors, classmates, tutorials, etc. in order to complete the task successfully.
		Time Management	The necessity of managing one's time seems to directly affect the student's ability to perform required tasks.
		Use Resources	The purposeful use of resources either provided or "found" by the student seems to directly affect the student's ability to perform required tasks.
	Communication	Peer feedback	Feedback from peers, whether positive, negative or not available are important factors that affect their belief that they can succeed.
		Instructor Feedback	Feedback from instructors, whether positive, negative or not available are important factors that affect their belief that they can succeed.
		Interaction with Others	Students find that to interact with others (or not) has an effect on their belief that they can succeed.
		Verbal Persuasion	The things people say affect one's belief in their ability to complete a learning or performance task. – i.e. Discouragement remarks about student goals and encouragement about student goals.

Appendix J: Expert Review Survey Screen Shots

Qualtrics Link https://virginiatech.qualtrics.com/SE/?SID=SV_2mHOQwI4FzbgXD7



Dear Expert Reviewer,

I have created this survey as a means for you to provide feedback to me on the study survey tool I am asking you to review. This is NOT the actual study survey - you can see the actual student survey via the survey link provided on the e-mail I sent you. *This* survey contains images of the student survey questions for your review, however, the questions on *this* survey are directed specifically to you, for you to respond.

Please let me know if you do not prefer this approach to providing me feedback, and we could discuss an alternative response approach.

If you have any questions about the study, the study survey, or this survey, you may contact me, Alicia, at jalicia@vt.edu or my phone # is 703-232-5982 or if you prefer, you may send me your phone number and provide me with convenient times to call.

Thank you again for offering your expert review for my study.

Alicia Johnson

The following section is the Consent Form for your participation in the study. Please let me know if you have any questions.

Informed Consent Form for Expert Reviewers

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Title of Project: Factors that affect the self-efficacy of Asynchronous Online Learners

Investigator(s): Alicia L. Johnson, Doctoral Candidate; Dr. Ken Potter, Dissertation Chair

I. Purpose of this Research/Project

This study is interested in your expertise as a researcher in the field of education, academic self-efficacy and/or student motivation. The purpose of this study is to explore the self-efficacy sources of online learners to better understand their learning experiences, motivation and behavior during online asynchronous courses. This phase of the study is the second and final phase of a two-phase sequential mixed method study on the factors that affect self-efficacy in asynchronous online learners. The first phase consisted of qualitative interviews.

II. Procedures

As a study participant you are being asked to serve as an expert reviewer of the Phase 2 quantitative survey protocol. The study survey includes questions derived from Phase 1 interview data analysis regarding the factors that affect student self-efficacy in asynchronous online learners grouped in the four main categories of communication, motivation, student challenges and student strategies. As an expert reviewer you are being asked to provide your expertise on the alignment of the research question to the survey question objectives and the survey questions, the clarity of the survey questions, the types of questions, the presence of bias, the question order, the survey response options, and additional comments/suggestions. The mode of communicating your feedback will be through a survey created in Qualtrics and possible additional comments you provide via e-mail or telephone.

II. Risks and Confidentiality

There are no known risks in this study other than risks associated with normal academic discussions. You will have an opportunity to remain anonymous (option listed below) if that is your desire or you can be specifically identified as one of the expert reviewers of the survey for this study. The choice is based on your preference. Should you choose to have your name remain confidential, all requests will be honored and a pseudonym will be used in all study documents.

III. Benefits and Compensation

Expected benefits are to inform future research and future online course designs. There is no financial compensation for participation.

IV. Freedom to Withdraw

Participants are free to cease involvement at any time without prejudice, penalty, or any other negative consequence.

If you have any questions about this study, please contact Alicia L. Johnson at Virginia Tech at 703-232-5982 or jalicia@vt.edu.

Should you have any questions or concerns about the study's conduct or your rights as a research subject, or need to report a research-related injury or event, you may contact the VT IRB Chair, Dr. David M. Moore at moored@vt.edu or (540) 231

Before you begin, please check the boxes below to confirm your consent to participate and your preference about using your name versus a pseudonym.

- Please select *this* option if you agree with the following statement:

My name *may* be mentioned in the study published documents as an expert reviewer for the phase 2 study survey.

- Please select *this* option if you disagree with the above statement and agree with the following statement:

I request that my actual name *not* be used as an expert reviewer for the phase 2 study survey and that all identifying information be changed (pseudonym in place of actual name) so that data cannot be connected to me specifically in the published documents.

VII. Participant's Permission

I agree that have read and understand the Consent Form and understand that I am agreeing to be an expert reviewer for the above-mentioned study. By clicking this circle, I am giving my consent for my participation.

The expert review survey follows. Thank you again for your participation.

>>

Hello, thank you again for taking the time to participate in this study. This Expert Reviewer survey is set up in the same way as the study survey so the question order remains the same and the questions are still divided into four sections:

1. · Student Motivation
2. · Student Challenges
3. · Student Strategies
4. · Communication

Each study survey question will be shown with the possible responses as an image, and then below the image you will have a chance to rate the question on the following:

- 1) The alignment of the question and the question objective.
- 2) The alignment of the study survey question and the research question.
- 3) The clarity of the questions (do they read clearly and is there a likelihood that participants will all read the question the same way?)
- 4) The effectiveness of the types of questions.
- 5) The effectiveness of the response option choices for the types of questions.
- 6) The order of the questions.
- 7) Bias errors.
- 8) Any additional comments or feedback you may want to provide.

At the end of the expert reviewer survey, there will be another area for you to type any additional feedback if you would like. If you have questions along the way you may call me or e-mail me.

There is a progress bar running along the top of the survey to let you see your progress.

Thank you!

A black rectangular button with white double left-pointing chevrons (<<).A black rectangular button with white double right-pointing chevrons (>>).

The **objective** for the following set of questions is:

To explore the effects on online student motivation for those who make connections between their course subject matter and their current or future careers.

The **study research question** is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

Student Motivation

Can you remember a time during an online course when you thought about how learning the course material might have an effect on your current or future career pursuits?

- Yes, I can remember a time.
- No, I cannot remember a time.

If participant answers "YES" -

When you considered whether learning the course materials would have an effect on your current or future career pursuits, how did it affect your *attitude* toward your coursework?

- It had little or no effect on my attitude towards my coursework.
 It had a positive effect on my attitude towards my coursework.
 It had a negative effect on my attitude towards my coursework.

When you considered whether learning the course materials would have an effect on your current or future career pursuits, how did it affect your *effort* toward your coursework?

- It had little or no effect on my effort towards my coursework.
 It had a positive effect on my effort towards my coursework.
 It had a negative effect on my effort towards my coursework.

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

	Yes, but needs editing	Yes	No, but just needs minor editing	No, it needs major editing
1) The questions above aligns with the objective and research question.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2) This group of questions is worded clearly and easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:

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The objective for the following set of questions is:

To explore the effects on online student motivation for those who receive non-coursework support from others.

The study research question is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

Can you remember a time when, during an online course, a teacher/peer/friend/family member offered you emotional (non-coursework) support that helped you to accomplish your online coursework goals in some way? (i.e. a pep talk, reminding of your goals, etc.)

- Yes, I can remember a time.
- No, I cannot remember a time.

If participant answers "YES" -

When you consider the time(s) you received emotional support from others while taking an online course, how did it affect your *attitude* towards your coursework?

- It had little or no effect on my attitude towards my coursework.
- It had a positive effect on my attitude towards my coursework.
- It had a negative effect on my attitude towards my coursework.

When you considered the time(s) you received emotional support from others while taking an online course, how did it affect your *effort* towards your coursework?

- It had little or no effect on my effort towards my coursework.
- It had a positive effect on my effort towards my coursework.
- It had a negative effect on my effort towards my coursework.

If participant answers "NO" -

When you consider the time(s) you did *not* receive emotional support from others while taking an online course, how did it affect your *attitude* towards your coursework?

- It had little or no effect on my attitude towards my coursework.
- It had a positive effect on my attitude towards my coursework.
- It had a negative effect on my attitude towards my coursework.

When you consider the time(s) you did *not* receive emotional support from others while taking an online course, how did it affect your *effort* towards your coursework?

- It had little or no effect on my effort towards my coursework.
- It had a positive effect on my effort towards my coursework.
- It had a negative effect on my effort towards my coursework.

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

	Yes, but needs editing	Yes	No, but just needs minor editing	No, it needs major editing
1) The questions above aligns with the objective and research question.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:

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The objective for the following set of questions is:

To explore the effects of interest in course material on online student motivation.

The study research question is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

Can you remember a time during an online course when you had a strong interest in the course material?

- Yes, I can remember a time.
- No, I cannot remember a time.

If participant answers "YES" -

When you discovered you had a strong interest in the course material, how did it affect your *attitude* towards your coursework?

- It had little or no effect on my attitude towards my coursework.
- It had a positive effect on my attitude towards my coursework.
- It had a negative effect on my attitude towards my coursework.

When you discovered you had a strong interest in the course material, how did it affect your *effort* towards your coursework?

- It had little or no effect on my effort towards my coursework.
- It had a positive effect on my effort towards my coursework.
- It had a negative effect on my effort towards my coursework.

When you discovered you had a strong interest in the course material, how did it affect your *attitude* towards your coursework?

- It had little or no effect on my attitude towards my coursework.
- It had a positive effect on my attitude towards my coursework.
- It had a negative effect on my attitude towards my coursework.

When you discovered you had a strong interest in the course material, how did it affect your *effort* towards your coursework?

- It had little or no effect on my effort towards my coursework.
- It had a positive effect on my effort towards my coursework.
- It had a negative effect on my effort towards my coursework.

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

	Yes, but needs editing	Yes	No, but just needs minor editing	No, it needs major editing
1) The questions above aligns with the objective and research question.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2) This group of questions is worded clearly and easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:

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The objective for the following set of questions is:

To explore the effects on online students' motivation when watching someone else perform the task that the online student is being asked to perform (i.e. tutorials).

The study research question is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

When learning in an online environment, can you remember a time when you have watched a demonstration (i.e. online demonstration, a video, a tutorial, etc.) of someone else performing an action that you were being asked to perform in your online course?

- Yes, I can remember a time.
- No, I cannot remember a time.

If participant answers "YES" -

When you watched someone else perform the task you were being asked to perform in your online course, how did it affect your coursework performance?

- It had little or no effect on my coursework performance.
- It had a positive effect on my coursework performance.
- It had a negative effect on my coursework performance.

If participant answers "NO" -

When you did *not* watch someone else perform the task you were being asked to perform in your online course, how did it affect your coursework performance?

- It had little or no effect on my coursework performance.
- It had a positive effect on my coursework performance.
- It had a negative effect on my coursework performance.

BOTH "Yes" & "No" follow-up questions are followed by -

How do you feel about your own online coursework when you see someone else succeed or fail in theirs (in an online environment)?

- Someone else's success encourages me to succeed in my online coursework.
- Someone else's failure encourages me to succeed in my online coursework.
- Someone else's failure discourages me in my online coursework.
- Someone else's success or failure has not had any effect on my own success or failure in my online coursework.

If you would like to expand on your response from above, you may do so here:

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

	Yes, but needs editing	Yes	No, but just needs minor editing	No, it needs major editing
1) The questions above aligns with the objective and research question.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:



The **objective** for the following set of questions is:

To explore the effects that having or not having *opportunities* to successfully complete online coursework has on online students.

The **study research question** is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

Have you ever been allowed to re-submit a project or assignment in an online course?

- Yes, I have been allowed to re-submit a project or assignment in an online course.
- No, I have not been allowed to re-submit a project or assignment in an online course.

If participant answers "YES" -

When you were allowed to re-submit a project or assignment in an online course, how did it affect your *effort* towards your coursework?

- It had little or no effect on my effort towards my coursework.
- It had a positive effect on my effort towards my coursework.
- It had a negative effect on my effort towards my coursework.

When you were allowed to re-submit a project or assignment in an online course, how did it affect your *attitude* towards your coursework?

- It had little or no effect on my attitude towards my coursework.
- It had a positive effect on my attitude towards my coursework.
- It had a negative effect on my attitude towards my coursework.

If participant answers "NO" -

When you were *not* allowed to re-submit a project or assignment in an online course, how did it affect your *effort* towards your coursework?

- It had little or no effect on my effort towards my coursework
- It had a positive effect on my effort towards my coursework.
- It had a negative effect on my effort towards my coursework.

When you were *not* allowed to re-submit a project or assignment in an online course, how did it affect your *attitude* towards your coursework?

- It had little or no effect on my attitude towards my coursework
- It had a positive effect on my attitude towards my coursework.
- It had a negative effect on my attitude towards my coursework.

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

	Yes, but needs editing	Yes	No, but just needs minor editing	No, it needs major editing
1) The questions above aligns with the objective and research question.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:



The objective for the following set of questions is:

To explore the effects that successfully completing learning or performance tasks in an online environment has on online students.

The study research question is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

What has the most influence on your belief in your ability to successfully complete a learning or performance task in an online course? (please drag and drop the statements below in the order that applies best to you ranging from 1 - the biggest influence to 5 - the least influential.)

- When my professor tells me I can do it.
- When my classmate(s) offer encouraging words.
- When I have already successfully completed a similar task.
- When I am not nervous about it.
- When I have been able to see someone else do the same task successfully.

If you would like to expand on your response from above, you may do so here:

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

	Yes, but needs editing	Yes	No, but just needs minor editing	No, it needs major editing
1) The questions above aligns with the objective and research question.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2) This group of questions is worded clearly and easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:



The **objective** for the following set of questions is:

To explore the effects that online course design has on students' beliefs in their ability to succeed in an online course.

The **study research question** is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

Please check all the elements listed below that were present in one or more of your online courses that you believe had a *positive effect* on your belief in your ability to perform well in the course:

- A detailed syllabus
- A detailed description of the course goals and objectives
- A mapped out schedule of the entire course
- A discussion forum where students could interact with each other
- A discussion forum where students could interact with the instructor
- Similar format for each lesson of the course
- Opportunities to reflect on your learning
- None of the items listed had a positive effect on my belief in my ability to perform well in my course

If you would like to expand on your response from above, you may do so here:

Please check all the elements listed below that were present in one or more of your online courses that you believe had a *negative effect* on your belief in your ability to perform well in the course:

- A detailed syllabus
- A detailed description of the course goals and objectives
- A mapped out schedule of the entire course
- A discussion forum where students could interact with each other
- A discussion forum where students could interact with the instructor
- Similar format for each lesson of the course
- Opportunities to reflect on your learning
- None of the items listed had a positive effect on my belief in my ability to perform well in my course

If you would like to expand on your response from above, you may do so here:

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

	Yes, but needs editing	Yes	No, but just needs minor editing	No, it needs major editing
1) The questions above aligns with the objective and research question.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2) This group of questions is worded clearly and easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:



The **objective** for the following set of questions is:

To explore the effects that self-doubts have on online students' beliefs in their abilities to perform well in an online course.

The **study research question** is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

Student Challenges

Students sometimes have self-doubts about their ability to perform one or more tasks successfully in an online course. Please mark all of the scenarios below that you remember *having experienced* in an online course that may have caused you to experience self-doubt in an online course:

- It was my first online course.
- Feeling unsure about instructor expectations about an assignment.
- Feeling unsure about being on the right track about an assignment or project.
- I was over-thinking a project to the point of being "stuck".
- I felt nervous about asking for help.
- I felt like I was going too slowly on an assignment or project.
- I didn't feel like I had the time required for a particular assignment or project.
- I wanted my work to stand out, but wasn't sure it would.
- I have never experienced self-doubt in an online course.
- Other (specify):

If you would like to expand on your response from above, you may do so here:

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

	Yes, but needs editing	Yes	No, but just needs minor editing	No, it needs major editing
1) The questions above aligns with the objective and research question.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2) This group of questions is worded clearly and easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:



The objective for the following set of questions is:

To explore the effects of online students' personal life obligations on their beliefs in their ability to perform well in an online course.

The study research question is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

There is a constant crossover between personal life obligations and online coursework which sometimes can effect a student's beliefs in his/her abilities in an online course. Some personal life obligations include taking care of family, taking care of children, work schedule, personal relationships, financial obligations and person health (i.e. sickness or injury and the need for sleep).

Please check all of the personal life obligations (if any) listed below that you experienced while taking an online course that you believe have played a part in affecting your ability to perform as you would have liked in your online course:

- Taking care of my family (i.e. the times necessary to meet family obligations, etc.).
- Taking care of children (i.e. the time required to meet the needs of my children, etc.).
- Work schedule.
- Personal relationships (friends, family, people I work with, etc.).
- Personal health (i.e. sickness, injury or the need for sleep) (specify):
- Financial Obligations
- No personal life obligation(s) affected my ability to perform as I would have liked in my online course.
- Other not listed:

If you would like to expand on your response from above, you may do so here:

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

	Yes, but needs editing	Yes	No, but just needs minor editing	No, it needs major editing
1) The questions above aligns with the objective and research question.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:



The objective for the following set of questions is:

To explore if misunderstandings in an online learning environment effects students' beliefs in their ability to successfully complete online course requirements.

The study research question is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

This question has to do with misunderstandings that may occur in the process of taking an online course.

Please check all the the items below that apply to you when completing the following statement:

"I have been frustrated in an online course when..."

- I don't understand an assignment.
- I don't understand a peer comment.
- I don't understand an instructor's comment.
- I thought I understood an assignment but ended up doing it incorrectly.
- I have not had a misunderstanding in an online course that cased me frustration.
- Other (please specify)

If you would like to expand on your response from above, you may do so here:

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

	Yes, but needs editing	Yes	No, but just needs minor editing	No, it needs major editing
1) The questions above aligns with the objective and research question.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:



The objective for the following set of questions is:

To explore student technology issues that may affect online students' beliefs that they can successfully complete online coursework.

The study research question is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

Please check all of the items below that apply to you when completing the following statement about using technology in your online coursework:

"Sometimes my ability to perform my best in an online course is effected by..."

- My Internet reliability is very inconsistent.
- It was time consuming for me to learn how to use the technology tools I needed to use in the course.
- I lost assignments/projects off my computer without having a backup.
- I did not have time to learn the tools that would have been helpful to my coursework.
- I really enjoy learning how to use the various technologies required for my coursework.
- Other (please specify):

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

	Yes, but needs editing	Yes	No, but just needs minor editing	No, it needs major editing
1) The questions above aligns with the objective and research question.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:



The objective for the following set of questions is:

To explore online student perceptions of their strategy use when trying to successfully complete online course requirements.

The study research question is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

Student Strategies

Online students develop strategies in order to successfully complete the course requirements for their online courses. The following is a list of some statements that reflect the use of strategies in an online course. After each statement, please indicate to what degree you feel the statement applies to you and your strategic actions specifically in your online coursework:

a) I use my research skills to look more deeply into the course's subject matter than the course requires.	<input type="text" value=""/>
b) I feel better about my online learning when I use my research skills to look more deeply into the course's subject matter than the course requires.	<input type="text" value=""/>
c) In my online courses, if I feel like I don't have enough information or examples in the course materials, I will search online until I find something helpful to me.	<input type="text" value=""/>
d) In my online course, I use the instructors, TA's or facilitators as resources by asking them questions.	<input type="text" value=""/>
e) If I do not get a response from my instructor, TA or facilitator when I ask a questions, I will keep asking until I get the answer I need.	<input type="text" value=""/>
f) If I am used to studying in a particular way, and I find it is not working for me in my online course, I will change how I am studying.	<input type="text" value=""/>
g) If I find that my online coursework requires more time than I originally planned for, I will adjust my schedule so that I might successfully complete my course requirements.	<input type="text" value=""/>
h) If I find that I am getting stressed with my online coursework, I will evaluate my actions and try to make a new plan.	<input type="text" value=""/>
i) Sometimes when I don't feel motivated to work on my online coursework, I think about what I'm doing and how it applies to my life or my degree; this helps me get back on track.	<input type="text" value=""/>
j) In my online courses, I seek out classmates to bounce ideas off of or discuss coursework with (not including group work).	<input type="text" value=""/>
k) If I have non-coursework activities that I want to participate in, I will complete my coursework first and then participate.	<input type="text" value=""/>
l) If I want to both, participate in other activities and complete my online coursework, I will figure out a workable schedule to make it happen.	<input type="text" value=""/>
m) I feel better about my online coursework when I create a set time to study and complete my coursework.	<input type="text" value=""/>

- Never
- Sometimes
- About half the time
- Most of the time
- Always

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

	Yes, but needs editing	Yes	No, but just needs minor editing	No, it needs major editing
1) The questions above aligns with the objective and research question.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:



The **objective** for the following set of questions is:

To explore the effects that peer feedback has on online students' beliefs in their ability to succeed in an online course.

The **study research question** is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

Communication

The following are statements about your interaction with your online course peer(s). Please mark **all** the statements that you feel apply to you.

- I feel better about my online coursework when I have a chance to show it to a peer first and get some feedback.
- I get frustrated when I get peer feedback that isn't positive about my work.
- I will change my online coursework/project based on the opinion of a classmate.
- I feel uncomfortable if I can't talk to a classmate about an assignment or project.
- I will seek out a classmate to talk to about an assignment in order to feel more comfortable about it.
- I feel better when I know someone else has the same frustrations as me in my online course.

If you would like to expand on your response from above, you may do so here:

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

	Yes, but needs editing	Yes	No, but just needs minor editing	No, it needs major editing
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3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:

<<

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The **objective** for the following set of questions is:

To explore the effects that interaction with online course instructors have on online students' beliefs in their ability to succeed an online course.

The **study research question** is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

The following are statements about your interaction with your online instructor(s). Please mark all the statements that you feel have applied to you in your online coursework.

- a) It doesn't bother me if I don't get any feedback from my online instructor as long as I get a good grade.
- b) I get frustrated if I don't get any feedback on my online coursework from my professor.
- c) I don't know if I am doing well in a course unless the instructor tells me I am doing well.
- d) Getting comments from my instructor about my work is a motivator for me.
- e) Not getting comments from my instructor affects my motivation in the course.
- f) I don't want to ask my instructor too many questions.
- g) I don't always reach out to my instructor because their comments don't have an effect on my coursework.
- h) I may not feel comfortable asking a lot of questions, but I will if I feel that I don't understand something.
- i) I would rather take a lower grade than try to contact the online instructor about a problem I'm having.
- j) The comments from my instructor help me to feel like I'm on the right track in my online course.
- k) I don't have to ask the instructor a lot of questions if they have explained what they want in the instructions.
- l) I prefer not getting feedback from my instructor on my online coursework.

Which of the above listed statements can you relate to the most in your online coursework? (please click **one** letter that corresponds with the above listed statement that you can relate to the most).

- a
- b
- c
- d
- e
- f
- g
- h
- i
- j
- k
- l

If you would like to expand on your response from above, you may do so here:

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

	Yes, but needs editing	Yes	No, but just needs minor editing	No, it needs major editing
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3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:



The objective for the following set of questions is:

To explore the effects that interacting with others while taking an online course have on online students' beliefs in their abilities to succeed in an online course.

The study research question is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

For the following 3 questions, please rate any of the actions that you have actually done in your online coursework as "helpful" or "not helpful" MOST of the time:

What do you do if you feel alone when taking an online course?

	Helpful	Not Helpful
a) Call a friend	<input type="checkbox"/>	<input type="checkbox"/>
b) Contact the professor	<input type="checkbox"/>	<input type="checkbox"/>
c) Contact a classmate	<input type="checkbox"/>	<input type="checkbox"/>
d) Nothing	<input type="checkbox"/>	<input type="checkbox"/>
e) Other (specify): <input style="width: 280px;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

What do you do if you want to study for an online course test/exam? ("helpful" or "not helpful" MOST of the time)

	Helpful	Not Helpful
a) Call a friend or family member to study with me	<input type="checkbox"/>	<input type="checkbox"/>
b) Look for an online study tool	<input type="checkbox"/>	<input type="checkbox"/>
c) Contact a classmate to study with	<input type="checkbox"/>	<input type="checkbox"/>
d) Nothing, I study better alone	<input type="checkbox"/>	<input type="checkbox"/>
e) Other (specify): <input style="width: 280px;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

What do you do if you don't know anybody who is in your online course? ("helpful" or "not helpful" MOST of the time)

	Helpful	Not Helpful
a) Find someone in my course to get to know	<input type="radio"/>	<input type="radio"/>
b) Nothing, I prefer to work alone	<input type="radio"/>	<input type="radio"/>
c) Find someone who took the class before to talk to	<input type="radio"/>	<input type="radio"/>
d) Talk to my friends and family about it instead	<input type="radio"/>	<input type="radio"/>
e) Other (specify): <input style="width: 280px;" type="text"/>	<input type="radio"/>	<input type="radio"/>

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

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3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:



The objective for the following set of questions is:

To explore the effect that the statements others have on students' beliefs in their abilities in an online learning environment.

The study research question is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

Can you remember a time during an online course when you told someone that it was very difficult and he/she offered you encouragement?

- Yes, I can remember a time
 No, I cannot remember a time

If participant answers "YES" -

When he/she offered you encouragement, how did it make you feel?

- It had little or no effect on my attitude towards my course
 It had a positive effect on my attitude towards my course
 It had a negative effect on my attitude towards my course

The next question for "No" answers and the "Yes" follow-up question -

Can you remember a time during an online course when someone gave you a negative comment about your coursework?

- Yes, I can remember a time
 No, I cannot remember a time

If participant answers "YES" -

When he/she gave you a negative comment about your online coursework, how did it make you feel?

- It had little or no effect on my attitude towards my coursework positive
 It had a positive effect on my coursework
 It had a negative effect on my coursework

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

	Yes, but needs editing	Yes	No, but just needs minor editing	No, it needs major editing
1) The questions above aligns with the objective and research question.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:



The objective for the following question is:

Designed to give the participant an opportunity to share information they value in the form of advice to another online student.

The study research question is as follows:

What factors influence student self-efficacy beliefs in online asynchronous environments?

Final Survey Question:

What piece of advice would you give a student taking an online course based on your personal experience with online coursework?

Please click on the circle next to the response that best applies after each statement below. If you would like to comment further, you may do so below. Thank you.

	Yes, but needs editing	Yes	No, but just needs minor editing	No, it needs major editing
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3) The question response options are appropriate for the data being collected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The questions and response options avoid bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
** 5) After reviewing the entire survey, I would say that the questions are ordered logically and adequately.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to add any comments to your responses above, you may do so here:

The following is the demographic section of the survey. Please type any feedback you may have on this section in the space provided below the demographic section or check the appropriate boxes provided.

Study Survey Demographic Questions

You are almost finished! Thank you so much for taking the time to share your online learning experiences with me. What follows are some demographic information that will also help with the study. *Thank you again.*

What year of college are you currently in at this time?

- Freshman
 Sophomore
 Junior
 Senior
 Master's
 PhD
 I have already graduated (specify what level):

 I am not currently taking courses.

How many online courses have you taken (including the one you are in right now if you are currently taking an online course)?

- 1
 2-3
 4-5
 6+

Were the online course(s) you referred to when you responded to this survey from an *all* online program or just online courses as part of your traditional degree program?

- All online
 Take some online courses as part of my traditional degree program

What is the name of the college/university you were (or are currently) attending, when you took your online course(s)?

What gender do you most identify with?

- Male
 Female

When is the last time you took an online course (approx.)?

- During 2016
 During 2015
 Before the year 2015

What is or was your course of study (i.e. Math Education, Undeclared major, Biology, etc.)

What race/ethnicity do you identify with?

- White, Not Hispanic or Latino or Spanish Origin
- Hispanic or Latino or Spanish Origin
- Black or African American
- Asian
- American Indian or Alaska Native
- Native Hawaiian or Other Pacific Islander
- Other

How old are you?

If there is anything you would like to add, please feel free to do so here:

Thank you again !

- I have reviewed the demographic section and have nothing to add.
- I have reviewed the demographic section and have the following to add:

Thank you very much for taking the time to participate in my study as an expert reviewer. Your input is very valuable to me and to my study. If you have anything you would like to discuss with me, please e-mail me at jalicia@vt.edu or call me at 703-232-5982. If there is any more you would like to add to your review, please feel free to use the space I have provided below. Once again, thank you!

Thank you again !



Appendix K: Expert Review Recruitment Documents

Dear Dr. _____,

My name is Alicia Johnson. I am a doctoral student from Virginia Tech's Instructional Design and Technology program. Based on your expertise in academic research, your use of survey methodology and your specialized focus of student motivation and/or self-efficacy, I am asking if you would be willing to review a student survey I have created as part of my dissertation research. Your work in the field has helped to direct me in my research and I am hoping that you will consider reviewing my survey and completing a questionnaire that will lead to the completion of my study. I have created a questionnaire for you in Qualtrics in order for you to easily review the survey and provide feedback. Time estimated to complete the questionnaire is 1-2 hours.

The purpose of my study is to answer the following research question:

"What factors affect the self-efficacy of asynchronous online learners?"

I am using an exploratory sequential mixed method research methodology. Phase 1 of my study was to explore the experiences of asynchronous online learners using semi-structured interviews and in Phase 2 I have used the qualitative findings to create a survey tool that will be used to validate and extend the findings from Phase 1. Should you be willing to review my survey, I have included a link below to a questionnaire I have created for you to 1) view the student survey questions and 2) submit your responses. It leads with a consent form and a description of your participation in the study.

Expert reviewer questionnaire created in Qualtrics for you to provide feedback specifically on the survey's alignment with the research question, the question objectives and the survey questions. As well as feedback on question clarity, the types of questions, question order, response options, noticeable bias and any additional comments/suggestions. http://bit.ly/Expert_Reviewer_Questionnaire

Optional Documents for your review:

Survey background and context document including coding dictionary and survey question objectives. http://bit.ly/expert_review

The student survey in Qualtrics. http://bit.ly/Sample_Survey_Phase_2

Your review and feedback is appreciated Dr. _____.

Thank you for your consideration.

Sincerely,

Alicia Johnson
Instructional Designer, Learning Experience Design (LED)
Virginia Tech
703-232-5982

Phase II Survey Question Rationale and Tool Development provided to Expert Reviewers

Research Question: What factors affect the self-efficacy of asynchronous online learners?

Based on Qualitative interview analysis from Phase I of this multi-method, sequential, exploratory study, the main factors that affect a student's self-efficacy beliefs in online asynchronous environments include the following:

- Student Motivation
- Student Challenges
- Student Strategies
- Communication

Student Motivation:

Career Goals (5 out of 11 sources) 12 references

Emotional Support (10 out of 11 sources) 47 references

Interest (11 out of 11 sources) 36 references

Vicarious Experience (having models from which to learn) (5 out of 11 sources) 14 references

Mastery Opportunities (having opportunities to succeed) (9 out of 11 sources) 16 references

Mastery Experiences (successfully completing learning or performance tasks) (11 out of 11 references) 47 references

Course – Program Design (8 out of 11 sources) 15 references

Student Motivation Survey Question Objectives

Motivation is defined as a force or influence that causes a person to do something. The following objectives and questions are designed to explore the effects, if any, the above listed items have on a student's self-efficacy in an online learning environment.

Career Goals

Objective: To explore the effects on online student motivation for those who make connections between their course subject matter and their current or future careers.

1) Can you remember a time during an online course when you considered whether successfully learning the course material would have an effect on your current or future career pursuits?

A) Yes, I can remember a time.

1) When you considered whether successfully learning the course material would have an effect on your current or future career pursuits, how did it affect your *attitude* towards your coursework?

- a) It had little or no effect on my attitude towards my coursework.
- b) It had a positive effect on my attitude towards my coursework.
- c) It had a negative effect on my attitude towards my coursework.

2) When you considered whether successfully learning the course material would have an effect on your current or future career pursuits how did it affect your *effort* towards your coursework?

- a) It had little or no effect on my effort towards my coursework.
- b) It had a positive effect on my effort towards my coursework.
- c) It had a negative effect on my effort towards my coursework.

B) No, I cannot remember a time.

Verbal Support

Objective: To explore the effects on online student motivation for those who receive non-coursework support from others.

1) Can you remember time when, during an online course, that a teacher/peer/friend/family member offered you verbal (non-coursework) support that helped you to accomplish your online coursework goals?

A) Yes, I can remember a time.

1) When you considered the time(s) you received emotional support from others while taking an online course, how did it affect your *attitude* towards your coursework?

- a) It had little or no effect on my attitude towards my coursework.
- b) It had a positive effect on my attitude towards my coursework.
- c) It had a negative effect on my attitude towards my coursework.

2) When you considered the time(s) you received emotional support from others while taking an online course, how did it affect your *effort* towards your coursework?

- a) It had little or no effect on my effort towards my coursework.
- b) It had a positive effect on my effort towards my coursework.
- c) It had a negative effect on my effort towards my coursework.

B) No, I cannot remember a time.

Interest

Objective: To explore the effects of interest in course material on online student motivation.

1) Can you remember a time during an online course when you were interested in the course material?

A) Yes, I can remember a time.

1) When you discovered you were interested in the course material, how did it affect your *attitude* towards your coursework?

- a) It had little or no effect on my attitude towards my coursework.
- b) It had a positive effect on my attitude towards my coursework.
- c) It had a negative effect on my attitude towards my coursework.

2) When you discovered you were interested in the course material, how did it affect your *effort* towards your coursework?

- a) It had little or no effect on my effort towards my coursework.
- b) It had a positive effect on my effort towards my coursework.
- c) It had a negative effect on my effort towards my coursework.

B) No, I cannot remember a time.

2) Can you remember a time during an online course when you were *not* interested in the course material?

A) Yes, I can remember a time.

1) When you discovered you were *not* interested in the course material, how did it affect your *attitude* towards your coursework?

- a) It had little or no effect on my attitude towards my coursework.
- b) It had a positive effect on my attitude towards my coursework.
- c) It had a negative effect on my attitude towards my coursework.

2) When you discovered you were *not* interested in the course material, how did it affect your *effort* towards your coursework?

- a) It had little or no effect on my effort towards my coursework.
- b) It had a positive effect on my effort towards my coursework.
- c) It had a negative effect on my effort towards my coursework.

B) No, I cannot remember a time.

Vicarious Experience (having models from which to learn)

Objective: To explore the effects on online students' motivation when watching someone else perform the task that the online student is being asked to perform (i.e. tutorials).

1) When learning in an online environment, can you remember a time when you have watched a video or tutorial of someone else performing an action that you were being asked to perform in your online course?

A) Yes, I can remember a time.

1) When you watched someone else perform the task you were being asked to perform in your online course, how did it affect your coursework performance?

- a) It had little or no effect on my coursework performance.
- b) It had a positive effect on my coursework performance.
- c) It had a negative effect on my coursework performance.

B) No, I cannot remember a time.

Mastery Opportunities (having opportunities to succeed)

Objective: To explore the effects that having or not having *opportunities* to successfully complete online coursework has on online students.

1) Have you ever been allowed to re-submit a project or assignment in an online course?

A) Yes, I have been allowed to re-submit a project or assignment in an online course.

1) When you were allowed to re-submit a project or assignment in an online course, how did it affect your *effort* towards your coursework?

- a) It had little or no effect on my effort towards my coursework.
- b) It had a positive effect on my effort towards my coursework.
- c) It had a negative effect on my effort towards my coursework.

2) When you were allowed to re-submit a project or assignment in an online course, how did it affect your *attitude* towards your coursework?

- a) It had little or no effect on my attitude towards my coursework.
- b) It had a positive effect on my attitude towards my coursework.
- c) It had a negative effect on my attitude towards my coursework.

B) No, I have not been allowed to re-submit a project or assignment in an online course.

1) When you were *not* allowed to re-submit a project or assignment in an online course, how did it affect your effort towards your coursework?

- a) It had little or no effect on my effort towards my coursework.
- b) It had a positive effect on my effort towards my coursework.
- c) It had a negative effect on my effort towards my coursework.

2) When you were *not* allowed to re-submit a project or assignment in an online course, how did it affect your attitude towards your coursework?

- a) It had little or no effect on my attitude towards my coursework.
- b) It had a positive effect on my attitude towards my coursework.
- c) It had a negative effect on my attitude towards my coursework.

Mastery Experiences (successfully completing learning or performance tasks)

Objective: To explore the effects that successfully completing learning or performance tasks in an online environment has on online students.

1) What has the most influence on your belief in your ability to successfully complete a learning or performance task in an online course? (please order the following choices in order ranging from 1 – the biggest influence to 5 – the least influential).

- ___ My professor tells me I can do it
- ___ My classmate(s) offer encouraging words
- ___ I have already successfully completed a similar task
- ___ I'm not nervous about it
- ___ I have been able to see someone else do it

2) Is there any other factor, *not* listed below, that you believe influences your belief in your abilities to perform well in an online course?

- a) My professor tells me I can do it
- b) My classmate(s) offer encouraging words
- c) I have already successfully completed a similar task
- d) I'm not nervous about it
- e) I have been able to see someone else do it

A) Yes

1) Please list the factor(s) that you believe influence your beliefs of your abilities in an online course:

a) _____

B) No

Course – Program Design

Objective: To explore the effects that online course design has on student perceptions of their ability to succeed in an online course.

Some online courses include elements that affect a student's belief in their ability to perform well in the course.

1) Please check **all** the elements listed below that were present in one or more of your online courses that you believe had a *positive effect* on your belief in your ability to perform well in the course:

- a) A detailed syllabus
- b) A detailed description of the course goals and objectives
- c) A mapped out schedule of the entire course
- d) A discussion forum where students can interact with each other
- e) A discussion forum where students can interact with the instructor
- f) Similar format for each lesson of the course
- g) Opportunities to reflect on learning
- h) None of the items listed had a *positive effect* on my belief in my ability to perform well in my course.

2) Please click on **all** the elements listed below that were present in one or more of your online courses that you believe had a *negative effect* on your belief in your ability to perform well in the course:

- a) A detailed syllabus
- b) A detailed description of the course goals and objectives
- c) A mapped out schedule of the entire course
- d) A discussion forum where students can interact with each other
- e) A discussion forum where students can interact with the instructor
- f) Similar format for each lesson of the course
- g) Opportunities to reflect on learning
- h) None of the items listed had a *negative effect* on my belief in my ability to perform well in my course.

3) Is there any *other* element not listed above that has been a part of one or more of your online course design(s) that you found to have a particularly *positive* or *negative* effect on your belief in your ability to perform well in the course?

A) Yes, there is.

Please list the item(s) below the words "Positive" and/or "Negative" that you believe

1) Positive effect

2) Negative effect

B) No, there isn't.

Student Challenges:

Self-Doubts (7 out of 11 sources) 27 references

Course-Program Design (7 out of 11 sources) 10 references

Personal Life Obligations (9 out of 11 sources) 34 references

Misunderstandings (6 out of 11 sources) 9 references

Technology (7 out of 11 sources) 15 references

Self-Doubts

Objective: To explore the effects that self-doubts have on online students' belief in their abilities to perform well in an online course.

Students sometimes have self-doubts about their ability to perform one or more tasks successfully in an online course. Please mark any of the scenarios below that you remember having experienced in an online course that have caused you to feel self-doubt:

- a) Never taken an online course before
- b) Unsure about instructor expectations about an assignment
- c) Unsure if you are on the right track in a project
- d) Over-thinking a project to the point of being “stuck”
- e) Unfamiliar with the subject-matter
- f) Too nervous to ask for help
- g) Feel like you are going too slowly on an assignment or project
- h) Don’t feel like you have the time required for a particular assignment or project
- i) Want your work to stand out
- j) I have never experienced self-doubt in an online course

Course-Program Design

(topic covered in “Student Motivation” section)

Personal Life Obligations

Objective: To explore the effects of online students’ personal life obligations on their belief in their ability to perform well in an online course.

There is a constant crossover between personal life obligations and online coursework which sometimes can effect on students’ beliefs in their abilities in an online environment. Some personal life obligations include taking care of family, taking care of children, work schedule, personal relationships, and personal health (i.e. sickness or injury and the need for sleep).

1) Please check the personal life obligations listed below that you experience while taking an online course that you believe have played a part in affecting your ability to perform as you would have liked in your online course:

- a) Taking care of family
- b) Taking care of children
- c) Work schedule
- d) Personal relationships
- e) Personal health (i.e. sickness, injury or the need for sleep)
- f) Other not listed: _____
- g) No personal life obligation affected my ability to perform as I would have like in my online course

Misunderstandings

Objective: To explore if misunderstandings in an online learning environment have an effect on students’ confidence in their ability to successfully complete online course requirements.

This next question has to do with the idea of misunderstandings that may occur in the process of taking an online course.

1) Please check all of the items below that apply to you when completing the following statement:

“I have been frustrated in an online course when...”

- a) I don't understand an assignment.
- b) I don't understand a peer comment.
- c) I don't understand an instructor's comment.
- d) I thought I understood an assignment but ended up doing it incorrectly.
- e) Other (please specify) _____
- f) I have not had a misunderstanding in an online course that caused me frustration.

Technology

Objective: To explore student technology issues that may affect online students' beliefs that they can successfully complete online coursework.

2) Please check all of the items below that apply to you when completing the following statement about using technology in your online coursework:

“Sometimes my ability to perform my best in an online course is effected by...”

- a) My internet is very inconsistent
- b) It was hard for me to learn how to use the technology tools I need to use in the course
- c) I lost assignments/projects off my computer without backing up
- d) I did not have time to learn the tools that would have been helpful to my work
- e) I really enjoy learning how to use the various technologies required for my course
- f) Other (specify): _____
- g) Other (specify): _____

Student Strategies:

Use Resources (9 out of 11 sources) 17 references
Research Skills (7 out of 11 sources) 11 references
Adaptation (8 out of 11 sources) 21 references
Adjust Schedule (10 out of 11 sources) 46 references
Reject Negativity of Others (6 out of 11 sources) 8 references
Make a Plan (11 out of 11 sources) 29 references
Reflection (8 out of 11 sources) 15 references
Seek Help from Others (9 out of 11 sources) 36 references
Time Management (11 out of 11 sources) 60 references

Objective: To explore online student perceptions of their strategy use when trying to successfully complete online course requirements.

1) Online students develop strategies in order to successfully complete the course requirements for their online courses. The following is a list of some statements that reflect the

use of strategies in an online course. After each statement, please indicate to what degree you feel that the statement applies to you and your strategic actions specifically in your online coursework:

- a) I use my research skills to look deeper in to the subject matter than my course requires.

Never Sometimes Most of the time Always

- b) I feel better about my online learning when I use my research skills to look deeper in to the subject matter than my course requires.

Never Sometimes Most of the time Always

- c) In my online courses, if I feel like I don't have enough information or examples in the course materials, I will search online until I find something helpful to me.

Never Sometimes Most of the time Always

- d) In my online courses, I use the instructors, TA's or facilitators as resources by asking them questions.

Never Sometimes Most of the time Always

- e) If I do not get a response from my instructor, TA or facilitator when I ask a question, I will keep asking until I get the answer I need.

Never Sometimes Most of the time Always

- f) If I am used to studying in a particular way, and I find it is not working for me in my online course, I will change how I am studying.

Never Sometimes Most of the time Always

- g) If I find that my online coursework requires more time than I originally planned for, I will adjust my schedule so that I might successfully complete my course requirements.

Never Sometimes Most of the time Always

- h) If I find that I am getting stressed with my online coursework, I will evaluate my actions and try to make a new plan.

Never Sometimes Most of the time Always

- i) Sometimes when I don't feel motivated to work on my online coursework, I think about what I'm doing and how it applies to my life or my degree; this helps me get back on track.

Never Sometimes Most of the time Always

- j) In my online courses, I seek out classmates to bounce ideas off of or discuss coursework with (not including group work).

Never Sometimes Most of the time Always

- k) If I have non-coursework activities that I want to participate in, I will complete my coursework first and then participate.

Never Sometimes Most of the time Always

- l) If I want to both participate in other activities *and* complete my online coursework, I will figure out a workable schedule to make it happen.

Never Sometimes Most of the time Always

- m) I feel better about my online coursework when I create a set time to study and complete my coursework.

Never Sometimes Most of the time Always

- n) Other (specify): _____

- o) Other (specify): _____

Reject Negativity of Others (*topic covered in "Communication" section*)

Communication:

Peer Feedback (8 out of 11 sources) 29 references

Interaction with Instructor (11 out of 11 sources) 21 references

Interaction with Others (8 out of 11 sources) 83 references

Verbal Persuasion (11 out of 11 sources) 37 references

Peer Feedback

Objective: To explore the effects that peer feedback has on online student perceptions of their abilities in an online course.

- 1) The following are statements about your interaction with your online course peer(s). Please mark all the statements that you feel apply to you.

- a) I feel better about my online coursework when I have a chance to show it to a peer first and get some feedback.
- b) I get frustrated when I get peer feedback that isn't positive about my work.
- c) I will change my online coursework/project based on the opinion of a classmate.
- d) I feel uncomfortable if I can't talk to a classmate about an assignment or project.
- e) I will seek out a classmate to talk to about an assignment in order to feel more comfortable about it.

- f) I feel better when I know someone else has the same frustrations as me in my online course.

Interaction with Instructor

Objective: To explore the effects that interaction with an online course instructor has on online student perceptions of their abilities in an online course.

1) The following are statements about your interaction with your online instructor(s). Please mark all the statements that you feel have applied to you in your online coursework.

- a) It doesn't bother me if I don't get any feedback from my online instructor as long as I get a good grade.
- b) I get frustrated if I don't get any feedback on my online coursework from my professor.
- c) I don't know if I am doing well in a course unless the instructor tells me I am doing well.
- d) Getting comments from my instructor about my work is a motivator for me.
- e) Not getting comments from my instructor affects my motivation in the course.
- f) I don't want to ask my instructor too many questions.
- g) I don't always reach out to my instructor because their comments don't have an effect on my coursework.
- h) I may not feel comfortable asking a lot of questions, but I will if I feel that I don't understand something.
- i) I would rather take a lower grade than try to contact the online instructor about a problem I'm having.
- j) The comments from my instructor help me to feel like I'm on the right track in my online course.
- k) I don't have to ask the instructor a lot of questions if they have explained what they want in the instructions.
- l) I prefer not getting feedback from my instructor on my online coursework.

2) Based on the previous list, please choose the 2 (from a-l) that you feel are the closest to how you feel *most* of the time in your online coursework.

- 1)
- 2)

Interaction with Others

Objective: To explore the effect that interacting with others while taking an online course has on online students' beliefs in their abilities while taking an online course.

With the 3 questions that follow, please check *any that you have actually done* in your online coursework.

1) What do you do if you feel alone when taking an online course?

- a) Call a friend
- b) Contact the professor
- c) Contact a classmate
- d) Nothing

e) Other
(specify): _____

2) What do you do if you want to study for an online course test/exam?

a) Call a friend or family member to study with me
b) Look for an online study tool
c) Contact a classmate to study with
d) Nothing, I study better alone
e) Other
(specify): _____

3) What do you do if you don't know anybody who is in your online course?

a) Find someone in my course to get to know
b) Nothing, I prefer to work alone
c) Find someone who took the class before to talk to
d) Talk to my friends or family about it instead
e) Other
(specify): _____

Verbal Persuasion

Objective: To explore the effect that the statements others have on students' beliefs in their abilities in an online learning environment.

1) Can you remember a time during an online course when you told someone that it was too difficult and he/she offered you encouragement?

A) Yes, I can remember a time.

1) When he/she offered you encouragement, how did it make you feel?

- a) It had little or no effect on my attitude towards my course.
- b) It had a positive effect on my attitude towards my course.
- c) It had a negative effect on my attitude towards my course.

B) No, I cannot remember a time.

2) Can you remember a time during an online course when you told someone that you were going to drop the course and he/she offered you encouragement?

A) Yes, I can remember a time.

1) When he/she offered you encouragement, how did it make you feel?

- a) It had little or no effect on my attitude towards my course.
- b) It had a positive effect on my attitude towards my course.
- c) It had a negative effect on my attitude towards my course.

B) No, I cannot remember a time.

3) Can you remember a time during an online course when someone gave you his/her opinion about your coursework?

A) Yes, I can remember a time.

1) When he/she gave an opinion (positive or negative), how did it make you feel?

- a) It had little or no effect on my attitude towards my course.
- b) It had a positive effect on my attitude towards my course.
- c) It had a negative effect on my attitude towards my course.

B) No, I cannot remember a time.

4) Can you remember a time during an online course when someone gave you a pep talk about your course?

A) Yes, I can remember a time.

1) When he/she gave a pep talk, how did it make you feel?

- a) It had little or no effect on my attitude towards my course.
- b) It had a positive effect on my attitude towards my course.
- c) It had a negative effect on my attitude towards my course.

B) No, I cannot remember a time.

5) Can you remember a time during an online course when someone suggested you should give up taking the course?

A) Yes, I can remember a time.

1) When he/she gave the suggestion that you should give up the course, how did it make you feel?

- a) It had little or no effect on my attitude towards my course.
- b) It had a positive effect on my attitude towards my course.
- c) It had a negative effect on my attitude towards my course.

B) No, I cannot remember a time.

6) Can you remember a time during an online course when someone you know told you that you shouldn't have taken that course in an online format?

A) Yes, I can remember a time.

1) When he/she told you that you shouldn't have taken that course in an online format, how did it make you feel?

- a) It had little or no effect on my attitude towards my course.
- b) It had a positive effect on my attitude towards my course.
- c) It had a negative effect on my attitude towards my course.

B) No, I cannot remember a time.

7) Can you remember a time during an online course when someone you know told you that he/she did well in the same (or similar) online course you were taking at the time?

A) Yes, I can remember a time.

1) When he/she told you that they did well in the same (or similar) online course that you were taking at the time, how did it make you feel?

- a) It had little or no effect on my attitude towards my course.
- b) It had a positive effect on my attitude towards my course.
- c) It had a negative effect on my attitude towards my course.

B) No, I cannot remember a time.

8) Can you remember a time during an online course when someone you know gave you some advice about taking online courses?

A) Yes, I can remember a time.

1) When he/she gave you advice about taking online courses, how did it make you feel?

- a) It had little or no effect on my attitude towards my course.
- b) It had a positive effect on my attitude towards my course.
- c) It had a negative effect on my attitude towards my course.

B) No, I cannot remember a time.

9) What 2 pieces of advice would you give a student taking an online course who was struggling?

Appendix L: Informed Consent Form Sample (Part of Expert Reviewer's Survey)

Informed Consent Form for Expert Reviewers

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Title of Project: Factors that affect the self-efficacy of Asynchronous Online Learners

Investigator(s): Alicia L. Johnson, Doctoral Candidate; Dr. Ken Potter, Dissertation Chair

I. Purpose of this Research/Project

This study is interested in your expertise as a researcher in the field of education, academic self-efficacy and/or student motivation. The purpose of this study is to explore the self-efficacy sources of online learners to better understand their learning experiences, motivation and behavior during online asynchronous courses. This phase of the study is the second and final phase of a two-phase sequential mixed method study on the factors that affect self-efficacy in asynchronous online learners. The first phase consisted of qualitative interviews.

II. Procedures

As a study participant you are being asked to serve as an expert reviewer of the Phase 2 quantitative survey protocol. The study survey includes questions derived from Phase 1 interview data analysis regarding the factors that affect student self-efficacy in asynchronous online learners grouped in the four main categories of communication, motivation, student challenges and student strategies. As an expert reviewer you are being asked to provide your expertise on the alignment of the research question to the survey question objectives and the survey questions, the clarity of the survey questions, the types of questions, the presence of bias, the question order, the survey response options, and additional comments/suggestions. The mode of communicating your feedback will be through a survey created in Qualtrics and possible additional comments you provide via e-mail or telephone.

II. Risks and Confidentiality

There are no known risks in this study other than risks associated with normal academic discussions. You will have an opportunity to remain anonymous (option listed below) if that is your desire or you can be specifically identified as one of the expert reviewers of the survey for this study. The choice is based on your preference. Should you choose to have your name remain confidential, all requests will be honored and a pseudonym will be used in all study documents.

III. Benefits and Compensation

Expected benefits are to inform future research and future online course designs. There is no financial compensation for participation.

IV. Freedom to Withdraw

Participants are free to cease involvement at any time without prejudice, penalty, or any other negative consequence.

If you have any questions about this study, please contact Alicia L. Johnson at Virginia Tech at 703-232-5982 or jalicia@vt.edu.

Should you have any questions or concerns about the study's conduct or your rights as a research subject, or need to report a research-related injury or event, you may contact the VT IRB Chair, Dr. David M. Moore at moored@vt.edu or (540) 231

Before you begin, please check the boxes below to confirm your consent to participate and your preference about using your name versus a pseudonym.

- Please select *this* option if you agree with the following statement:

My name *may* be mentioned in the study published documents as an expert reviewer for the phase 2 study survey.

- Please select *this* option if you disagree with the above statement and agree with the following statement:

I request that my actual name *not* be used as an expert reviewer for the phase 2 study survey and that all identifying information be changed (pseudonym in place of actual name) so that data cannot be connected to me specifically in the published documents.


- VII. Participant's Permission**

I agree that have read and understand the Consent Form and understand that I am agreeing to be an expert reviewer for the above-mentioned study. By clicking this circle, I am giving my consent for my participation.

The expert review survey follows. Thank you again for your participation.

Appendix M: Final Version of Survey Created in Phase II

Hello

 My name is Alicia Johnson. I am a PhD student in the Instructional Design & Technology program at Virginia Tech. As a current or former online student, you are being invited to participate in a research study on factors that affect student self-perceptions in an online asynchronous learning environment. Your participation will contribute to research that may influence changes in future online asynchronous course designs.

Your voluntary study participation consists of completing one survey which takes approximately 15-20 min. Results will be used in my dissertation and other publications. If you are currently enrolled in an online course, your grade will not be affected, regardless of whether or not you participate. You must be 18 years of age or older and either currently enrolled in or have completed at least one online course at the university level. You may stop the survey at any time or choose to not answer questions should you so desire. I am asking, should you choose to end your survey before it is completed, that you still fill out the demographic questions at the end so that I may still use whatever responses you were able to provide. (Thank you.)

At the end of the survey is a space to enter your e-mail address if you would like to be entered into a drawing for a \$25 Amazon gift card. Chances of winning are approximately 1 in 40. For every forty survey respondents who register for the drawing, a drawing for one \$25 gift card will be held. Your e-mail address will not be used for any other purpose than to contact those whose e-mail addresses are selected to receive the gift card and will be deleted upon completion of the drawing.

If you have any questions about the study, you may contact me at jalicia@vt.edu. **Thank you** for your time.

Alicia Johnson

(should you have any questions or concerns about the study, the researcher's conduct or your rights as a research participant, or need to report a research injury or event, you may contact the VT IRB Chair, Dr. David M. Moore at moored@vt.edu or (540) 231-4991).

By clicking on this circle I agree to the following: I am 18 years or older, I agree to participate in the study, my responses are anonymous, I can stop taking the survey at any time, and the data and data analysis will be part of a published document.



Intro.



Hello, thank you again for taking the time to participate in this study. Your online learning experiences are very helpful in understanding the factors that affect online learners. The survey is divided into four sections.

1. Student Motivation
2. Student Challenges
3. Student Strategies
4. Communication

There will be a few questions in each section that have to do with the particular category and there will be a few demographic questions at the end of the survey. There is no wrong answer so please feel free to be as honest and thorough as you feel comfortable with. My main request is that your responses *only* be focused on your *online learning experiences*. There are opportunities to expand on your responses if you would like to. However, you do not have to.

There is a progress bar running along the top of the survey to let you see your progress.

Thank you!



Student Motivation



While taking an online course, have you thought about how learning the course material might have an effect on your current or future career pursuits? Please mark all of the options below that apply to you, and the effect that thinking about, or not thinking about, your future career pursuits had on your beliefs in your ability to complete your online coursework.

	Had no effect on my ability beliefs	Had a positive effect on my ability beliefs	Had a negative effect on my ability beliefs	Does not apply
A. I have thought about how learning the course material might have an effect on my current, or future career pursuits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. I have not thought about how learning the course material might have an effect on my current, or future career pursuits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Q2 Think about the times when you did or did not receive verbal support (i.e. a pep talk, someone reminding you of your skills or goals, etc.) from a teacher/peer/family member while taking an online course, and mark your response as to how it affected your beliefs in your ability to successfully complete your online coursework.



	Had no effect on my ability beliefs	Had a positive effect on my ability beliefs	Had a negative effect on my ability beliefs	Does not apply
A) I have received verbal support from others while taking an online course.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) I did not receive verbal support from others while taking an online course, but if I did, I think it would have affected my beliefs in my ability to complete my online coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- If you would like to expand on your answer, you may do so here:

Q2.a



- Q3 Think about the times when you were or were not interested in the online course material. How did your interest or lack of interest affect your beliefs in your ability to successfully complete your online coursework?




	Had no effect on my ability beliefs	Had a positive effect on my ability beliefs	Had a negative effect on my ability beliefs	Does not apply
A) When I was interested in my course material.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) When I was <i>not</i> interested in my course material.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>


- If you would like to expand on your response, you may do so here:


Q3.a




- Q4  How does either watching or *not* watching a demonstration (on screen demonstration, video, tutorial, etc.) of someone else performing an action that you were being asked to perform in your online course affect your belief in your ability to successfully complete your online coursework? Please below, all *you have experienced* (watching and *not* watching demonstrations) in your online course.

	Had no effect on my ability beliefs	Had a positive effect on my ability beliefs	Had a negative effect on my ability beliefs	Does not Apply
A. Watching a demonstration.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. <i>Not</i> watching a demonstration.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Q4.a  If you would like to expand on your response, you may do so here:

- Q5  How does seeing someone else succeed or fail (or hearing someone else talk about succeeding or failing) in their online coursework affect your belief in your ability to successfully complete your online coursework?

	Had no effect on my ability beliefs	Had a positive effect on my ability beliefs	Had a negative effect on my ability beliefs	Does not apply
A. Seeing, or hearing about, someone else <i>succeeding</i> in their online coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Seeing, or hearing about, someone <i>failing</i> in their online coursework	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Q5.a  If you would like to expand on your response from above, you may do so here:

Q6


If you have ever been allowed or NOT allowed to re-submit coursework in an online course, how did being allowed or not allowed to re-submit coursework affect your beliefs in your ability to successfully complete your online coursework?

	Had no effect on my ability beliefs	Had a positive effect on my ability beliefs	Had a negative effect on my ability beliefs	Does not apply
A. Being allowed to re-submit coursework in an online course.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. NOT being allowed to re-submit coursework in an online course.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q6.a



If you would like to expand on your response, please do so here:

 Q7


What has had the most influence on your belief in your ability to successfully complete a learning or performance task in an online course? (Please drag the statements that apply to you into the box to the right. Drag them in order, beginning with the statement that had the most influence on your beliefs, then the 2nd most influential, then the 3rd, etc. (you can adjust the order in the box by dragging the statement). If the statement does not apply, leave it where it is.

- Items
- A. When my professor tells me I can do it.
 - B. When my classmate(s) offer encouraging words.
 - C. When I have already successfully completed a similar task.
 - D. When I am *not* nervous about it.
 - E. When I have been able to see someone else do the same task successfully.

Drag Here

Q7.a



If you would like to expand on your response from above, you may do so here:

QB


Please check all the elements listed below that were present in one or more of your online courses, and that you believe had a *positive effect* on your belief in your ability to perform well in the course:

- A detailed syllabus
- A detailed description of the course goals and objectives
- A mapped out schedule of the entire course
- A discussion forum where students could interact with each other
- A discussion forum where students could interact with the instructor
- Similar format for each lesson of the course
- Opportunities to reflect on my learning
- None of the items listed had a positive effect on my belief in my ability to perform well in my course

 Other (Specify)

 Other (Specify)

 QB.a


If you would like to expand on your response from above, you may do so here:

 QB.b


Please check all the elements listed below that were present in one or more of your online courses, and that you believe had a *negative effect* on your belief in your ability to perform well in the course:

- A detailed syllabus
- A detailed description of the course goals, and objectives
- A mapped out schedule of the entire course
- A discussion forum where students could interact with each other
- A discussion forum where students could interact with the instructor
- Similar format for each lesson of the course
- Opportunities to reflect on my learning
- None of the items listed had a *negative effect* on my belief in my ability to perform well in my course

 Other (specify)

 Other (specify)

 QB.c


If you would like to expand on your response from above, you may do so here:

□ Q9

Student Challenges

Please mark all of the scenarios below that you remember *having experienced* in an online course that affected (positively or negatively) your belief in your ability to complete your online coursework:

	Had no effect on my ability beliefs	Had a positive effect on my ability beliefs	Had a negative effect on my ability beliefs	Does not apply
a. It was my first online course.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Feeling unsure about instructor expectations about an assignment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Feeling unsure about being on the right track about an assignment or project.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I was over-thinking a project to the point of being "stuck".	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. I felt too nervous about asking for help.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. I felt like I was going too slowly on an assignment or project.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. I didn't feel like I had the time required for a particular assignment or project.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. I wanted my work to stand out, but wasn't sure it would.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. I have never experienced self-doubt in an online course.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify): <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

□
Q9.a

If you would like to expand on your response from above, you may do so here:



Q10



Please check all of the personal life obligations (if any) listed below that you experienced while taking an online course, and how the personal life obligations affected your beliefs in your ability to complete your online coursework:

	Had no effect on my ability beliefs	Had a positive effect on my ability beliefs	Had a negative effect on my ability beliefs	Does not apply
a. Taking care of my family (i.e. the times necessary to meet family obligations, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Taking care of children (i.e. the time required to meet the needs of my children, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Work schedule.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Personal relationships (friends, family, people I work with, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Personal health (i.e. sickness, injury or the need for sleep) (specify): <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Financial Obligations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. No personal life obligation(s) affected my beliefs in my ability to complete to online coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Other not listed: <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q10.a



If you would like to expand on your response from above, you may do so here:

Q11



Please check all the statements listed below having to do with misunderstandings, *that you have experienced* in an online course, and what effect the misunderstanding had on your belief in your ability to complete your online coursework:

	Had no effect on my ability beliefs	Had a positive effect on my ability beliefs	Had a negative effect on my ability beliefs	Does Not Apply
a. I didn't understand an assignment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I didn't understand a peer comment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. I didn't understand an instructor's comment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I thought I understood an assignment, but ended up doing it incorrectly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Other (please specify) <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q11.a



If you would like to expand on your response from above, you may do so here:

Q12



Please check all the statements listed below having to do with computer technology, *that you have experienced* in an online course, and what effect the technology issue had on your belief in your ability to complete your online coursework:

	Had no effect on my ability beliefs	Had a positive effect on my ability beliefs	Had a negative effect on my ability beliefs	Does Not Apply
a. My Internet reliability is very inconsistent.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. It was time consuming for me to learn how to use the technology tools I needed to use in the course.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. I lost assignments/projects off my computer without having a backup.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I did not have time to learn the tools that would have been helpful to my coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. I really enjoy learning how to use the various technologies required for my online coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Other (please specify): <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Other (please specify): <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q12.a



If you would like to expand on your answer, you may do so here:



Please check all the statements listed below, *that you have or have not experienced in an online course*, and how (if at all) each affected your belief in your ability to complete your online coursework.

	Have you experienced this behavior in an online course?		If you DID experience this behavior, how did it affect your ability beliefs?			If you did NOT experience this behavior, how did it affect your ability beliefs?		
	Yes	No	Positively	Negatively	No effect	Positively	Negatively	No effect
a) I look more deeply into the course's subject matter than the course requires.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I use the resources my instructor provides in the online course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) If I feel like I don't have enough information or examples, I search online until I find something helpful to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) I create a set time to study and complete my coursework.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) I use the instructors, TA's or facilitators as resources by asking them questions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) If I do not get a response from my instructor, TA or facilitator after asking a question, I keep asking until I get an answer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) If I am used to studying in a particular way, but I find it is not working for me in my online course, I change how I am studying.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) If I find that my online coursework requires more time than I originally planned for, I adjust my schedule.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i) If I find that I am getting overwhelmed or behind with my online coursework, I evaluate my actions and try to make a new plan.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j) If I don't feel motivated to work on my online coursework, I think about what I'm doing and how it applies to my life or my degree to get back on track.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k) I seek out classmates to bounce ideas off of, or discuss coursework with (not including group work).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l) If I have non-coursework activities that I want to participate in, I complete my coursework first and then participate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m) If I want to both, participate in other activities, and complete my online coursework, I figure out a workable schedule to make it happen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n) If people make negative comments to me about my online coursework, I ignore them and keep working on it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.a

If you would like to expand on your response, you may do so here:



Q14

Communication



Please check all the statements listed below having to do with interacting with online course peer(s), *that you have experienced in an online course*, and what effect the peer interaction had on your belief in your ability to complete your online coursework:

	Had no effect on my ability beliefs	Had positive effect on my ability beliefs	Had negative effect on my ability beliefs	Does not apply
a. Discussed an assignment or project with a peer first, to get some feedback.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I got negative peer feedback about my coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. I got positive peer feedback about my coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Did NOT discuss an assignment with a peer first, to get some feedback.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. I actively looked for a classmate to talk to about an assignment before turning it in, to get some feedback.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Learning that a peer had the same struggles/concerns as me, in my online course.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q14.a

If you would like to expand on your response from above, you may do so here:



Q15



Please check all the statements listed below having to do with interacting with online course instructor(s), *that you have experienced in an online course*, and what effect the instructor interaction had on your belief in your ability to complete your online coursework:

	Had no effect on my ability beliefs	Had a negative effect on my ability beliefs	Had a positive effect on my ability beliefs	Does not apply
a) I did not receive any feedback from my online instructor about my coursework.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I received feedback from my online instructor about my coursework.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I did not receive timely feedback from my online instructor about my coursework.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) I received timely feedback from my online instructor about my coursework.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) I felt like I could contact my instructor as often as necessary to ask questions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) I felt like my instructor was not accessible.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q15.a



If you would like to expand on your response from above, you may do so here:

Q16



What do you believe *most* affected your beliefs in your ability to successfully complete your online coursework? (This can be a factor either already discussed or not discussed in this survey).

Q17

You are almost finished! Thank you so much for taking the time to share your online learning experiences with me. What follows are some demographic questions that will also help with the study. *Thank you again.*



What year of college are you currently in at this time (or what year were you in when you stopped taking courses)?

- Freshman
- Sophomore
- Junior
- Senior
- Master's
- PhD
- I have already graduated (specify what level):

Q18

How many online courses have you taken (including the one you are in right now if you are currently taking an online course)?



- 1
- 2-3
- 4-5
- 6+

Q19

Were the online course(s) you referred to when you responded to this survey from an *all* online program or just online courses as part of your traditional degree program?



- All online program
- I have taken some online courses as part of my traditional degree program

Q20

What is the geographical location of the college/university you attended when taking your online course(s)?



- US
- US - As an international Student
- Non-US University

Q21

What gender do you most identify with?



- Male
- Female
- Other

Q22 When is the last time you took an online course (approx.)?



- During 2016
- During 2015
- Before the year 2015

Q23 What is or was your course of study (i.e. Math Education, Undeclared major, Biology, etc.)



Q24 What race/ethnicity do you identify with?



- White, Not Hispanic or Latino or Spanish Origin
- Hispanic or Latino or Spanish Origin
- Black or African American
- Asian
- American Indian or Alaska Native
- Native Hawaiian or Other Pacific Islander
- Other

Q25 How old are you?



Q26 If there is anything you would like to add or any discussion points that you believe have been left out that you think are important aspects to your online learning experience, please mention them below. This is a research tool and your input is very helpful. Thank you again for your participation.



Q27 **Remember, if you would like to participate in the drawing for 1 of 4 \$25 Amazon gift cards, please go to the next page and enter your e-mail address. E-mails will not be used for any other purpose other than to notify the winners. All e-mails will be deleted directly following the drawing. Good luck!! (and thank you again).**



Q28 E-mail address:

Appendix N: Recruitment Materials Phase III

E-mail for Instructors, Associations and Student Organizations and Twitter

Dear _____,

My name is Alicia Johnson. I am a doctoral student from Virginia Tech's Instructional Design and Technology program. I am in the 2nd and final stage of my dissertation study and asking if you would be willing to forward my invitation to participate in a survey (provided below) to your students/members? Participation involves completing a 15 to 20 min. survey. Each survey begins with a consent form, then questions about their online learning experiences, and ends with demographic questions.

I am specifically seeking participants who are either currently in or have completed at least one asynchronous online course at the university level that is why I am inviting students/members from your program. Participants are eligible to enter their e-mail into a drawing for one of four \$25 Amazon gift cards. Chances of winning are approximately 1 in 40. For every forty survey respondents who register for the drawing, a drawing for one \$25 gift card will be held.

The survey has IRB approval and has gone through the expert review process. If you would be willing to assist me, please forward to your students the e-mail I have provided below.

If you have any questions, please let me know.

Many thanks _____ I appreciate your consideration.

Sincerely,

Alicia Johnson
Instructional Designer, Learning Experience Design (LED)
Virginia Tech
703-232-5982

E-mail to Send to Your Students:

Hello,

My name is Alicia Johnson. I am a doctoral student from Virginia Tech's Instructional Design and Technology program. Part of my dissertation research is to explore the experiences of asynchronous online learners. This survey asks questions about online learning experiences. The survey is completely voluntary. The results will be used for my dissertation and other publications.

If you are currently enrolled in or have completed at least one online course at the university level (any university), please take 15-20 minutes to complete the survey. Each survey begins with a consent form, then questions about your online learning experiences, and ends with demographic questions. Your participation is very helpful and appreciated. There will be a place on the survey for you to enter your e-mail if you are interested in participating in the drawing for one of four \$25 Amazon gift cards. Chances of winning are approximately 1 in 40. For every forty survey respondents who register for the drawing, a drawing for one \$25 gift card will be held. Your e-mail is used for notification purposes only.

Link to the survey - _____

Thank you again,

Alicia Johnson
Instructional Designer, Learning Experience Design (LED)
Virginia Tech
jalicia@vt.edu

Recruitment Materials Phase III
Invitation via Student or Education Association Social Media Page

Hello,

My name is Alicia Johnson. I am a doctoral student from Virginia Tech's Instructional Design and Technology program. Part of my dissertation research is to explore the experiences of asynchronous online learners. This survey asks questions about online learning experiences. The survey is completely voluntary. The results will be used for my dissertation and other publications.

If you are currently enrolled in or have completed at least one online course at the university level (any university), please take 15-20 minutes to complete the survey. Each survey begins with a consent form, then questions about your online learning experiences, and ends with demographic questions. Your participation is very helpful and appreciated. There will be a place on the survey for you to enter your e-mail if you are interested in participating in the drawing for one of four \$25 Amazon gift cards. Chances of winning are approximately 1 in 40. For every forty survey respondents who register for the drawing, a drawing for one \$25 gift card will be held. Your e-mail is used for notification purposes only.

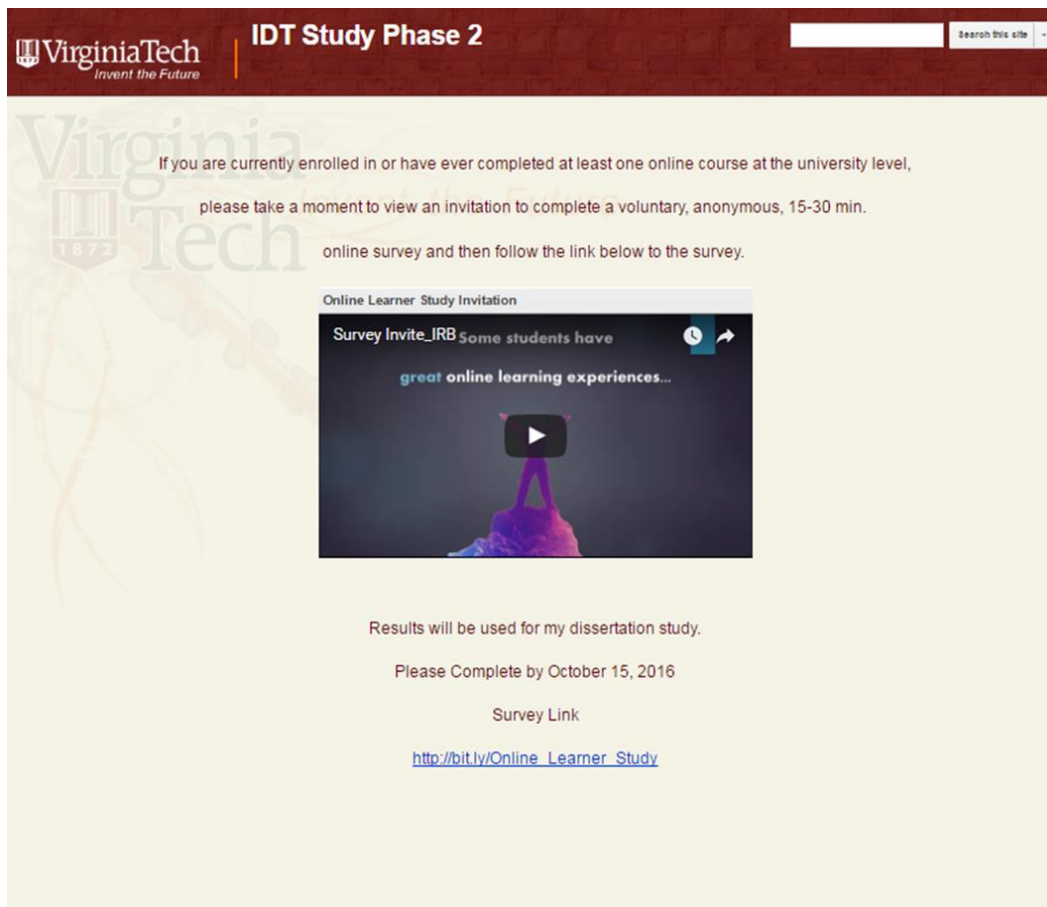
Link to the survey - _____

Thank you again,

Alicia Johnson
Instructional Designer, Learning Experience Design (LED)
Virginia Tech
jalicia@vt.edu

Recruitment Materials Phase III
Screen Shot and Link to Study Site For Twitter Post Only

<https://sites.google.com/a/vt.edu/idt-study-phase-2/>



The screenshot shows a recruitment page for the IDT Study Phase 2 at Virginia Tech. The page has a dark red header with the Virginia Tech logo and the text "IDT Study Phase 2". Below the header, there is a search bar and a "Search this site" button. The main content area is light yellow and contains the following text:

If you are currently enrolled in or have ever completed at least one online course at the university level, please take a moment to view an invitation to complete a voluntary, anonymous, 15-30 min. online survey and then follow the link below to the survey.

Below this text is a video player titled "Online Learner Study Invitation". The video player shows a thumbnail with the text "Survey Invite_IRB Some students have great online learning experiences..." and a play button. Below the video player, there is a paragraph of text:

Results will be used for my dissertation study.

Please Complete by October 15, 2016

Survey Link

http://bit.ly/Online_Learner_Study

Appendix O: Descriptive coding for survey final response

Table 50

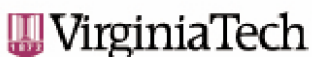
Frequency distribution of respondents who had enrolled in at least one course in which they considered specific factors to affect ability beliefs

Factors	Examples	f %
Self-Beliefs	<p>“My own beliefs in my own abilities and trust that I am capable to successfully complete my work.”</p> <p>“My own confidence in my academic abilities most affected my beliefs in my ability to succeed.”</p>	51 (27)
Goals	<p>“My personal goal to complete my degree.”</p> <p>“The desire to meet my own personal goals is what kept me believing in my abilities.”</p>	3 (2)
Past Performance	<p>“My past accomplishments in school, work, or hobbies have taught me that I am capable of accomplishing anything I set my mind to. This was, by far, the biggest factor in my beliefs in my ability to successfully complete any online coursework.”</p> <p>“Previous successes, even small ones made me more confident.”</p>	24 (13)
Time Management	<p>“Being able to successfully schedule time to work on coursework uninterrupted had a positive effect on my beliefs that I would succeed. The only time I had negative beliefs was when I was overbooked with family, work, and school.”</p> <p>“Sometimes with online courses, I have a difficult time setting aside time to do the work because I don't actually have to attend a class.”</p>	27 (14)
Course Design/Content	<p>“Effective course design and delivery. / Clear explicit instructions (syllabus, course materials), adequate time to complete assignments, scaffolded work, and instruction/feedback consistent with course design and delivery.”</p> <p>“All the information about expectations, grading criteria, schedule, resources, etc. was provided in the syllabi and related course materials. This was very reassuring and created confidence that I could find and/or figure out everything I needed to do or complete.”</p>	22 (12)
Perceived Relevance	<p>“Assignments being applied in real world scenarios. If it cannot be applied in the actual workforce, what's the</p>	1 (>1)

Instructor Feedback	<p>point of teaching it.”</p> <p>“Instructor Feedback and Guidance. Grades determined whether I was going to make it, or not.”</p>	22 (12)
Interaction with Instructor	<p>“Peer and instructor feedback was key to my success. The ability to bounce ideas off of peers and the instructor is key to my knowledge and understanding and positive ability beliefs. I have been in courses where peer feedback and instructor feedback was slow , inefficient or non-existent. Not having the ability to work collaboratively made some courses unbearable and very difficult to navigate.”</p> <p>“My accessibility to my teacher”</p> <p>“Positive, frequent interaction with the instructor.”</p>	5 (3)
Instructor’s Attitude	<p>“The attitude of the professor especially if he or she was condescending or unwilling to provide useful feedback.”</p> <p>“The teacher’s engagement and enthusiasm for the subject being taught.”</p>	6 (3)
Interaction with Peers	<p>“Early on I hooked up with fellow students and we worked with one another to provide feedback to one another for assignments. I think that this was instrumental in getting me through my program by having peers in the online environment as both an encouragement and to have someone else who could provide constructive feedback and encouragement before submitting assignments, especially in those courses where the faculty feedback/attendance was minimal.”</p> <p>“The peer communication aspect of an online course gave me the confidence to complete my coursework positively knowing that I had others in my same situation to reach out to with questions, concerns, praise, etc.”</p>	19 (10)
Interest	<p>“I feel like being interested in the class (having a relevant class) gave me the most belief that I could do it, because I was motivated to prove that to myself. I was willing to put the effort into it, even it was a lot of effort. As I would put the effort in, it would show in my results, which would boost my belief even higher. It creates a positive cycle!”</p> <p>“Being interested in the course topic, because if I am not, I would not want to put extra work into the class during my free time.”</p>	6 (3)
Family	<p>“The support and time of my family was (is) key. The</p>	3 (2)

Support	time needed to be successful in a class is more than I had anticipated and is a major factor.”	
	“My family and support network at work that allowed me to participate in an online course. Most of my beliefs about success were shaped by my personal, not in-class mentor network as an adult learner.”	
Technology	“Network issues (network not being steady).”	1 (>1)
Totals		190 (100)

Appendix P: IRB Documentation



Office of Research Compliance

Institutional Review Board
 North End Center, Suite 4120, Virginia Tech
 300 Turner Street NW
 Blacksburg, Virginia 24061
 540/231-4606 Fax 540/231-0959
 email irb@vt.edu
 website <http://www.irb.vt.edu>

MEMORANDUM

DATE: June 10, 2016
TO: Ken Potter, Alicia Leinaala Johnson
FROM: Virginia Tech Institutional Review Board (FWA00000572, expires January 29, 2021)
PROTOCOL TITLE: Factors That Influence Student Self-Efficacy Beliefs in Asynchronous Online Learning Environments.
IRB NUMBER: 16-577

Effective June 9, 2016, the Virginia Tech Institutional Review Board (IRB) Chair, David M Moore, approved the New Application request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

<http://www.irb.vt.edu/pages/responsibilities.htm>

(Please review responsibilities before the commencement of your research.)

PROTOCOL INFORMATION:

Approved As: **Expedited, under 45 CFR 46.110 category(ies) 6,7**
 Protocol Approval Date: **June 9, 2016**
 Protocol Expiration Date: **June 8, 2017**
 Continuing Review Due Date*: **May 25, 2017**

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

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Office of Research Compliance
 Institutional Review Board
 North End Center, Suite 4120, Virginia Tech
 300 Turner Street NW
 Blacksburg, Virginia 24061
 540/231-4606 Fax 540/231-0959
 email irb@vt.edu
 website <http://www.irb.vt.edu>

MEMORANDUM

DATE: November 16, 2016
TO: Ken Potter, Alicia Leinaala Johnson
FROM: Virginia Tech Institutional Review Board (FWA00000572, expires January 29, 2021)
PROTOCOL TITLE: Phase 2 of Factors that Affect the Self-Efficacy of Asynchronous Online Learners
IRB NUMBER: 16-808

Effective November 16, 2016, the Virginia Tech Institution Review Board (IRB) Chair, David M Moore, approved the Amendment request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

<http://www.irb.vt.edu/pages/responsibilities.htm>

(Please review responsibilities before the commencement of your research.)

PROTOCOL INFORMATION:

Approved As: **Exempt, under 45 CFR 46.110 category(ies) 2,4**
 Protocol Approval Date: **September 16, 2016**
 Protocol Expiration Date: **N/A**
 Continuing Review Due Date*: **N/A**

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

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