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# Influencing a Swift Trust for Elevating Communications of a Virtual Learning Community

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**Doctor of Education in Organizational Leadership**



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Influencing a Swift Trust for Elevating Communications of a Virtual Learning Community

A dissertation submitted in partial satisfaction  
of the requirements for the degree of  
Doctor of Education in Organizational Leadership

by

Edward S. Fitch

September, 2018

## Dedication

To my wife Shelley, for extending her patience and support throughout the many years of coursework to the conclusion of the dissertation process. To Christian, Jonathan, Camryn, Noelle, Scarlett, and Charlotte, who—along with Shelley—mean the world to me; as such, their mere existence was a motivating influence always. To Drs. Davenport and Ramos, whose comments and guidance helped to define the difference between acceptable and satisfactory, towards attaining an understanding of what it meant to produce a successful work product. To Dr. Wade Fish, my chairperson, without whose unwavering dedication, patience, knowledge, and support throughout the dissertation development process, this dedication would not be possible. What I accomplished here was unattainable, if not for the divine wisdom of God.

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## Abstract

The reduced range of online communication means that less information is available for the parties in a communication to acquire an accurate meaning of words, phrases, or concepts in an exchange process. In online communication, encoded emotional information is often subtle and difficult to interpret with any degree of accuracy; this interpretation is even more difficult in academic discussions that are lacking in emotion. The resulting misunderstandings contribute to a degree of uncertainty and confusion with some students, and to full-blown conflict with others. Uncertainty is problematic because it can inhibit or altogether collapse a conventional trust perception. The most valuable communications, therefore, develop on a foundation of trust. This study was designed to explore swift trust, a lesser form of trust that can form instantly from the initial communications expressed in a community. A swift trust perception can bridge social development and allow communicants to ignore the communication and environmental challenges that impede a conventional form of trust from developing for virtual communities. This quantitative study utilized multiple regression analysis to predict relationships between the predictive variables and examine the criterion variables in focus. The multiple regression analysis was used to interpret the survey data and provide insight into the trust-inducing potential of a fragile swift trust perception for elevating online discussions to a higher level.

*Keywords:* swift trust, online learning, critical dialogue, knowledge sharing, multiple regression

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## Chapter 1: Introduction to the Study

Online learning is a virtual-world experience. The structure of an online/virtual classroom is different from one student to the next because it exists in a virtual world constructed from individual perception (Campbell, 2010; Powell, 2013; Saerberg, 2010). Often, online students find themselves communicating with others separated by time and space. If prospective students own computers and have Internet access, the online learning environment is equally accessible globally from numerous remote geographical locations (Espinosa, Nan, & Carmel, 2015; Lai, 2015). However, the theories of symbolic interactionism and sameness state that cultural differences, in-group alignment, experience, and education influence individual perception. A person's age, gender, status, income, experiences, friends, and family all influence individual perception; a well-traveled individual may, therefore, understand a different reality altogether than someone who is less well-traveled (Campbell, 2010; Hauser, Paul, Bradley, & Jeffrey, 2012; Powell, 2013; Stryker, 2011). An unlimited number of unique influencing factors can theoretically combine to shape a person's worldview in directions that others might not be able to comprehend (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Saerberg, 2010; Stryker, 2011).

This study specifically examined online students' experiences within collaborative discussions, where divergences in worldview and comprehension are important factors. Online learners are often required to participate in collaborative discussions, responding to questions and topics posed by faculty and other students. In these discussions, metaphysical differences from one person to the next mean that each student understands a unique experience compared to her virtual learning community collaborators. The uniqueness of individual experiences relative to others exists, in part, because each participant understands slight or significant differences in

the meaning of words, phrases, and concepts exchanged in communication (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Saerberg, 2010; Stryker, 2011).

Trust is an essential element of any collaborative discussion process, including online learning. This trust underlies a participant's most productive collaborations and helps to drive the most valuable interactions forward and beyond (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller, Mennecke, Nah, & Luse, 2014). Because trust underlays the interactions of a virtual community, its mere existence helps to encourage a dynamic communication exchange process to develop. Without trust, a critical exchange process is unlikely to develop among participants. If a negligible degree of trust exists under a participant's interactions, this limited trust negates the potential for valuable knowledge construction, and any subsequent knowledge exchange would be suboptimal (Lai, 2015; Robert, Dennis, & Hung, 2009). In contrast, an active, quality communication process leads to higher levels of shared meaning and ultimately an exchange of critical dialogue over time (Espinosa et al., 2015; Lai, 2015).

Under consideration is the asynchronous communications that occur among online learners and the role of trust in motivating an interaction process. Students collaborate frequently in typical asynchronous virtual learning environments. In the majority of collaborations, online students provide written responses to central questions posed by faculty in achieving a particular learning objective. Virtual, online, computer-mediated, or asynchronous communications are synonymous, and interchangeable concepts as are face-to-face and synchronous communications (Duncan, Kenworthy, & McNamara, 2012; Plešec Gasparic & Pecar, 2016).

A conventional type of trust forms and develops more slowly within virtual communications; its development is made more complicated without occasional face-to-face

interaction. It is difficult for communicators to identify and interpret emotions accurately within an entirely written exchange of information. Unlike the sensory experience that communicators gain in a synchronous exchange process, emotions are less apparent within online communication and are easily misinterpreted because of differences in perception (Giesbers & Rienties, 2014; Saerberg, 2010). In contrast, face-to-face communication provides communicating parties with distinct visual and audio cues; these cues allow for valuable emotional understanding in gaining expressive clarity (Saerberg, 2010). Unlike a written informational exchange, the visual cues that come attached to face-to-face dialogue extend the range of communication for participants. The reduced dynamic range of online communication means that less information is made available for sending and receiving parties to accurately interpret the meaning of words, phrases, or concepts being exchanged (Morgan, Paucar-Caceres, & Wright, 2014; Saerberg, 2010).

These factors make online messages open to interpretation and more easily confused (Giesbers & Rienties, 2014; Diemer, Alpers, Peperkorn, Shiban, & Mühlberger, 2015; Saerberg, 2010). It is therefore understandable that trust develops more slowly in an online learning environment compared to a fully synchronous one because synchronous interaction offers participants emotional context and a distinct range advantage (Booth, 2012; Chae, 2016; Geise & Baden, 2015; Lai, 2015; Morgan et al., 2014). Online communication requires multiple delayed back-and-forth conversations to gain a similar level of shared understanding to what can often be acquired in a single face-to-face attempt (Espinosa et al., 2015). It is thus problematic for online students' academic development if a conventional form of trust develops more slowly in a virtual learning community that does not have a synchronous element (Crisp & Jarvenpaa, 2013; Ennen, Stark, & Lassiter, 2015). Identifying virtual environment conditions that support rapidly forming

a trust type is important for optimizing online students' learning and academic development potential.

An essential aspect of this study was to understand whether *swift trust*, which forms instantly in temporary virtual learning communities from the very first communications exchanged, served as a suitable alternative to a more traditional trust type (Robert et al., 2009; Schiller et al., 2014). A conventional form of trust takes much longer to develop because of the absence of emotional clarity within an online exchange of information. In lacking emotional clarity, the reduced range of online communication contributes to uncertainty and miscommunication among students; these factors inhibit trust from forming or developing (Morgan et al., 2014). Without trust, participants are unable to move beyond an automatic exchange of information to a critical development process and the construction and sharing of knowledge—the natural progression of an exchange process elevated on trust (Birdie & Jain, 2016; Ford, Piccolo, & Ford, 2017; Robert et al., 2009; Schiller et al., 2014).

Swift trust is similar to a conventional form of trust except for its greater fragility. Once formed, the more fragile swift trust dissipates quickly in ignoring its trust-inducing properties, low levels of activity, and communication delays of consequence (Birdie & Jain, 2016; Ford et al., 2017; Robert et al., 2009; Schiller et al., 2014). Maintaining the integrity of an already-developed swift trust requires an active, community-wide exchange process (Ford et al., 2017; Robert et al., 2009; Schiller et al., 2014).

The statement of the problem, purpose, research questions, and significance of study were used to guide the focus and direction of this study. The definitions that follow provide clarity for valuable terms, leading to the assumptions, limitations, and delimitations, all of which help to explain the research and its potential beyond the inherent limitations noted. Chapter 1

concludes with a summary and includes a transition to the Literature Review (Chapter 2). The other chapters focus on the Methodology (Chapter 3), Results (Chapter 4), and Discussion (Chapter 5).

## **Background**

Swift trust has been defined as “a unique form of collective perception and relating that is capable of managing issues of vulnerability, uncertainty, risk, and expectations” (Meyerson, Weick, & Kramer, 1996, p. 167). Popa (2005) summarized swift trust as

an individual’s willingness to take risks in a temporary group, and it has a behavioral manifestation that involves the actual act of risk-taking. Swift trust deals with issues of vulnerability, uncertainty, risk, and expectations, all being characteristics of temporary virtual systems. (p. 9)

Three elements lead to maximizing a perception of swift trust in virtual temporary environments.

First, the participant must hold the perception of sharing similar characteristics with other members of the community (Crisp & Jarvenpaa, 2013). Second, she must have the capacity to apply a positive trust judgment on others, despite not having any prior history or working knowledge (Ennen et al., 2015). Third, the first communications expressed by participants must be of sufficient quality to support the trust judgment applied and confirm the perception of their sharing similar characteristics with others (Cleveland-Innes & Campbell, 2012; Crisp & Jarvenpaa, 2013; Ennen et al., 2015; Ford et al., 2017; Robert et al., 2009).

With a perception of swift trust in place, participants can freely express personal information by reflecting and pulling from relevant experiences in responding to task-based discussions (Crisp & Jarvenpaa, 2013). Continuous, minimally delayed communication among participants preserves the integrity of a swift trust perception and, over time, the discussions become more valuable (Lai, 2015; Robert et al., 2009). Critical dialogue, knowledge construction, and sharing are natural progressions in a quality, continuous exchange process

(Booth, 2012; Cleveland-Innes & Campbell, 2012; Lai, 2015; Saonee, Manju, Suprateek, & Kirkeby, 2011; Tseng & Yeh, 2013).

It is the perception of trust that helps participants to automatically elevate their conversation beyond an exchange of information to a critical exchange of dialogue involving higher order thinking processes over time (Lai, 2015). A conventional form of trust develops over time as members of a virtual community begin to connect socially and gather positive information about the attitude, behavior, and intentions of the other party (Cleveland-Innes & Campbell, 2012; Geise & Baden, 2015; Wenbo, Straub, Xiao, & Pengzhu, 2017). It is more challenging, compared to a traditional in-person teaching and discussion environment, to develop a traditional form of trust in an online community of learners. This challenge stems from virtual learners being constrained by time and the limitations of the virtual environment when deciding whether to extend or withhold trust of others' actions and behaviors (Crisp & Jarvenpaa, 2013; Ennen et al., 2015). Without trust, a critical exchange of dialogue, knowledge creation, and knowledge sharing is less likely to occur for participants (Lai, 2015). In not having developed some form of trust in a virtual learning environment, students and facilitators can only set their expectations for a suboptimal learning experience (Jung, Kudo, & Choi, 2012; Keopuhiwa, Srivastava, Oonge, & Maundu, 2012; Tsai, Liang, Hou, & Tsai, 2015).

Trust is the essential element that helps to engage in academic development from communicated thought. This trust is an integral element for influencing a critical exchange process out of communications. A critical exchange of dialogue helps to ignite virtual students' learning and academic development potential beyond a suboptimal experience. Knowledge construction and sharing develop over time, to a degree, as the exchange progresses (Booth, 2012; Carter, 2015; Morgan et al., 2014; Pinjani & Palvia, 2013; Schiller et al., 2014). In

contrast to a conventional trust type, swift trust is a lesser form of trust. Swift trust is fragile and fleeting; swift trust can develop instantly from a student's first communications and collapse on substandard interaction (Cleveland-Innes & Campbell, 2012; Crisp & Jarvenpaa, 2013; Ennen et al., 2015; Ford et al., 2017; Robert et al., 2009).

The fragile swift trust contains similar trust-inducing properties to a conventional trust type. Swift trust is more likely to develop in virtual temporary environments among transient members than a traditional form of trust (Cleveland-Innes & Campbell, 2012; Crisp & Jarvenpaa, 2013; Ennen et al., 2015; Ford et al., 2017; Robert et al., 2009). A swift trust can evolve instantly from the first communications among a virtual community, assuming participants hold a positive perception of others in the community, perceive similar characteristics, and demonstrate a willingness to trust others in general (Crisp & Jarvenpaa, 2013). However, unlike a traditional trust type, the integrity of a swift trust collapses with a lack of activity or in ignoring its valuable trust-inducing properties (Birdie & Jain, 2016; Cleveland-Innes & Campbell, 2012; Crisp & Jarvenpaa, 2013; Ennen et al., 2015; Espinosa et al., 2015; Ford et al., 2017; Robert et al., 2009; Saonee et al., 2011; Toprak & Genc-Kumtepe, 2014; Wenbo et al., 2017).

Swift trust therefore requires an active and continuous community-wide process of verification to ensure that its properties support the vulnerabilities of the community in communication (Honglei, Lai, & Luo, 2016; Toprak & Genc-Kumtepe, 2014). A swift trust also requires lively and minimally delayed interaction take place among members; this interaction helps in slowing the ultimate erosion of a swift trust (C. Kim, Park, & Cozart, 2014; Ford et al., 2017; Saonee et al., 2011; Vázquez-Cano, López Meneses, & Sánchez-Serrano, 2015). Once formed, a swift trust does not develop further from its initial point of development (Cleveland-



Innes & Campbell, 2012; Geise & Baden, 2015; Wenbo et al., 2017), and dissipates over time from the diminishing characteristics of others in the community (Espinosa et al., 2015; Robert et al., 2009). A fragile swift trust can stand in for a conventional trust type; its existence encourages a critical exchange of dialogue among a learning community until a conventional form of trust develops (Lai, 2015). Preventing the rapid erosion of swift trust is, therefore, of paramount importance to virtual learning and academic development. Trust is the critical element found in the most productive communications. Because trust and its benefits within discussions are cumulative, it is logical to want to pursue a course of action that influences a trust perception to develop (Espinosa et al., 2015; Keopuhiwa et al., 2012; Nam, 2014; Vater & Schröder-Abé, 2015).

The benefits of trust are evident after the first few weeks of online studies, when most students have learned how to comfortably navigate the virtual classroom. A virtual learning environment is a temporary community of learners who collaboratively engage in a program and class of study. As an online student progresses through a specific course curriculum, she might come to find that she has little knowledge or previous experience with some or all of her virtual classmates (Crisp & Jarvenpaa, 2013; Ennen et al., 2015). Weekly discussions help to fulfill a specific learning objective and develop around relevant topics (Chandra, Srivastava, & Theng, 2012; Palmer & Huo, 2013; Y.D. Wang, 2014). Often, students form an opinion of their virtual classmates from their very first interactions (Birdie & Jain, 2016; Ford et al., 2017; Robert et al., 2009; Schiller et al., 2014). In these discussions, some students' communications flow effortlessly from an already developed set of writing skills, while others may be less developed and replete with grammatical issues.

A sloppily written discussion post could mean something different for every learner: A student could be ill, overtired, overstressed, or challenged for time, or have rushed to complete a discussion post to meet a deadline (Jung et al., 2012; Saerberg, 2010). It would be rare for the student to explain everything that is going on in her life in class discussions or within a supplemental attachment. Those of the community more inclined to hold a high, positive trust intention of others are more likely to consider factors such as stress, illness, time, job, or family commitments as potential causes for a few poorly written posts (Ennen et al., 2015; Jung et al., 2012). In contrast, others with low trust intentions may apply a negative attribution to that student's poorly written post—attributions that might be hard to alter positively going forward (Ennen et al., 2015). An incorrect/wrong word choice in a post is problematic if it leads to misunderstandings; a correctly worded post can be equally problematic if it is misinterpreted (Hauser, Paul, & Bradley, 2012).

These misunderstandings and misinterpretations contribute to a degree of uncertainty and confusion for some students and a full-blown conflict for others, depending on the circumstance (Hauser et al., 2012). Online communication is more complicated for individuals who encounter difficulty in extending a positive trust judgment on others, and is further complicated by a failure to perceive any form of trust in the process (Ennen et al., 2015). With online communication, emotional information is subtle, and it is difficult to interpret with any degree of accuracy; interpretation becomes even more difficult in academic discussions that are lacking emotional context (Booth, 2012; Chae, 2016; Geise & Baden, 2015; Lai, 2015; Saerberg, 2010). Compared to synchronous communication, online communication is much harder to achieve a valuable level of shared understanding in a written discussion process that mostly obscures emotional information from participants (Morgan et al., 2014). Typically, women communicate more

frequently in online discussions than men, which makes them more susceptible to experiencing misunderstandings (Tsai et al., 2015).

A conventional form of trust develops more slowly within virtual interactions. Emotions are less apparent in online interaction and harder to identify and interpret accurately (Diemer et al., 2015; Saerberg, 2010). Having emotional context helps to fill in those emotional blanks in communication that may have gone misunderstood (Booth, 2012; Chae, 2016; Geise & Baden, 2015; Lai, 2015; Saerberg, 2010). It is easier to achieve accurate meaning when the information exchanged provides parties a complete picture rather than a partial one to gain understanding (Diemer et al., 2015; Saerberg, 2010). When students are engaged in online communication, they have limited emotional information available to explain elicited actions or behaviors.

Another student may be ill, laughing, crying, depressed, or happy, yet this information is often out of anyone's perceptive view or earshot (Booth, 2012; Chae, 2016; Geise & Baden, 2015; Lai, 2015; Saerberg, 2010). Online learners on the receiving end fill in these informational blanks from their perceptive interpretation of reality as a way of mediating or reducing uncertainty in constructing meaning that may be inaccurate (Diemer et al., 2015; Saerberg, 2010).

An individual's belief system dictates whether she is more or less inclined to positively fill in these informational blanks (Pinjani & Palvia, 2013; Saerberg, 2010). Online students who hold higher trusting beliefs have a positive disposition to trust the intentions of others; as such, they may perceive a better reality than others who do not (Nam, 2014; Pinjani & Palvia, 2013). What this difference means for the virtual student challenged by the environment, communication, and potential conflict is a subpar learning experience. One student's adverse experiences, actions, or attitude could lessen the academic experience for others in the community (Pinjani & Palvia, 2013). An optimal online learning environment develops from the

perception of trust of a community in the environment and the actions of others (Nam, 2014). Critical dialogue, knowledge construction, knowledge sharing, social development, and knowledge-based trust can develop if some form of trust underlies the interactions of a community (Lai, 2015).

If learners communicate on task-based discussions with trust underlying their communications, they are likely to ignore minor uncertainties that tend to pop up from time to time (Robert et al., 2009). With trust, students are more likely to become fully engaged in their interactions. An energetic back-and-forth dialogue contains self-correcting properties. Similar to the potential benefits coming from an open exchange of feedback with others for purposes of clarity, participants gain higher levels of shared understanding over time as the communication progresses (Espinosa et al., 2015). A critical exchange of dialogue leads to knowledge construction and sharing (Lai, 2015). If a trust underlies the communication among a community of online learners, it has the potential to engage higher order thinking processes and encourage a quality exchange of information forward and beyond (Lai, 2015; Liu, Rau, & Wendler, 2015). It is challenging to develop a conventional form of trust in temporary environments and settings. A swift trust offers similar benefits to a more traditional form of trust. In effectively and correctly navigating both the formation of swift trust and its need for continuous maintenance, learners enjoy an optimal learning experience (Crisp & Jarvenpaa, 2013; Ennen et al., 2015).

### **Statement of the Problem**

Online graduate students who have not acquired some form of trust, either socially or in the learning process, limit their learning potential and the learning experience of others (Ennen et al., 2015). If the virtual student has not acquired some form of trust with any aspect of the online

learning experience, this lack of trust could lead to her experiencing communication challenges more frequently than others who have (Tseng & Yeh, 2013). The first-year online student is susceptible due to her inexperience; female students are even more susceptible than male students because they tend to communicate more often than male students in task-based discussions (Jung et al., 2012; Keopuhiwa et al., 2012; Tsai et al., 2015). A student's learning and development benefits are measurably less when she does not trust the learning process or peers (Collisson, 2014; Hauser et al., 2012; Puig, Erwin, Evenson, & Beresford, 2015). When trust is missing for one or more students of a community, the learning environment is suboptimal and impedes the construction and exchange of knowledge to a degree (Jung et al., 2012; Keopuhiwa et al., 2012; Tsai et al., 2015). Unlike synchronous communication, which includes distinct emotional information, emotions are less apparent in online discussions (Giesbers & Rienties, 2014; Saerberg, 2010). The reduced range of online communication complicates sensemaking for exchange participants; sensemaking is further complicated if students have not yet acquired some form of trust (Giesbers & Rienties, 2014; Saerberg, 2010). Without trust underlying interactions, the student is more susceptible to encounter misunderstandings; as such, she can expect to face confrontation and unhealthy levels of anxiety from disagreements more frequently than those who experience a trust perception (Campbell, 2010; Hauser et al., 2012).

### **Purpose Statement**

The purpose of this quantitative, nonexperimental study was to determine whether the presence of swift trust in a temporary learning community led to a critical exchange of dialogue, knowledge sharing, and social development within the task-based discussions of online graduate students of 4-year universities in the United States. A multiple regression analysis (MRA) was used to determine the relationship between the predictive variables: (a) similar characteristics,

(b) communication quality, (c) gender, (d) experience, and (e) age, to the criterion variables: (f) swift trust, (g) critical dialogue, (h) knowledge sharing, and (i) social development. Pinjani and Palvia granted permission to incorporate 23 survey questions selected from a previously validated swift trust survey into this study (Pinjani & Palvia, 2013). Pinjani and Palvia's (2013) findings showed how swift trust influenced knowledge sharing benefits for teams and team members of a temporary virtual community.

### **Research Questions**

The design of the four research questions extends from the theoretical model; together, they respond to the purpose of the study in conducting an MRA on the survey data. The purpose of the study was to predict whether a swift trust perception existed for participants and, if successful, to predict whether the influence of a trust perception elevated virtual communications to a critical exchange of dialogue and beyond. If the results of the MRA conducted on the first model significantly predict a positive swift trust perception, then subsequent models could potentially confirm the initial prediction and predict whether a swift trust perception leads to a critical exchange of dialogue, knowledge sharing, and social development in discussions over time (Creswell, 2014; Y. Kim, 2015; Lai, 2015; Rumrill & Bellini, 2000; Wrench, 2016).

**Q1.** To what extent did similar characteristics, mutual trust, communication, gender, experience, and age predict a swift trust perception in online graduate students' discussions within universities in the United States?

**Q2.** To what extent did similar characteristics, communication quality, gender, experience, and age predict the influence of swift trust on critical dialogue in online graduate students' discussions within universities in the United States?

**Q3.** To what extent did similar characteristics, communication quality, gender, experience, and age predict the influence of swift trust on knowledge sharing in online students' discussions within universities in the United States?

**Q4.** To what extent did similar characteristics, mutual trust, communication quality, gender, experience, and age predict the influence of swift trust on social development in online students' discussions within universities in the United States?

### **Significance of the Study**

The results of this study have both theoretical and practical significance. This study adds value to scientific research, joining a small number of peer-reviewed studies available that focus on the conceptual development of swift trust. Along with the discussion are numerous solutions for maximizing the virtual learning and academic development experience. The discussion highlights future research opportunities in the field of swift trust (Espinosa et al., 2015; Keopuhiwa et al., 2012; Nam, 2014; Vater & Schröder-Abé, 2015). Online universities can utilize the knowledge coming from the findings as a valuable reference source to design and motivate an optimal virtual learning environment. Potentially, the findings might apply to both public and private online universities at the graduate and undergraduate levels in the United States and beyond.

Several factors supported the need for this study and its importance to scientific research. Trust is a critical element of any learning experience. Online students must acquire some form of trust to influence critical thinking processes and critical dialogue to develop in discussions (Espinosa et al., 2015; Keopuhiwa et al., 2012; Lai, 2015; Nam, 2014; Vater & Schröder-Abé, 2015). Because the benefits of perceiving trust are cumulative, the logic for motivating a rapid perception of trust is inarguable because the trust solution influences a valuable learning

experience for all parties affected (Nam, 2014). Conversely, without trust or in low trust conditions, the online student is more likely to encounter uncertainty, contributing to abnormal stress, unhealthy levels of anxiety, and interpretive challenges leading to conflict. Under duress, the student is more likely to drop out, which is an unacceptable potential outcome (Boton & Gregory, 2015; Hauser et al., 2012). The results of this study revealed a significant relationship between the predictor and criterion variables; as such, solutions also include recommendations for developing a swift trust instantly and maintenance strategies to slow its dissolution (Terrell, 2015).

### **Definition of Key Terms**

The operational definitions of key concepts in this study are included here to bring additional clarity to the continuing discussion. These definitions appear in alphabetical order.

**Action cues.** Action cues help to maintain the integrity of an already developed swift trust. Action cues include minimally delayed active, energetic, lively communication. Swift trust is a lesser form of trust; as such, as part of its ongoing maintenance, a continuous community-wide process of verification helps to provide assurances that its properties support the vulnerabilities of the community in discussions. Action cues contribute to stabilizing the properties of a swift trust, slowing its dissipation (Honglei et al., 2016; Toprak & Genc-Kumtepe, 2014).

**Cognition-based trust.** Cognition-based trust is relied upon by online students to make rational assessments of other learners' levels of trustworthiness. For example, students perform trust assessments in analyzing other students' levels of competence, character, benevolence, contribution, and integrity in making trustworthiness determinations (W. Wang, Qiu, Kim, & Benbasat, 2016).



**Cognitive presence.** As an exchange of communication progresses and continues to develop among a virtual community, participants come to enjoy a higher level of cognitive presence over time. Cognitive presence is the degree of shared meaning students achieve in a back-and-forth discourse supported by sustained reflection (Weber, Lehr, & Gersch, 2014).

**Critical dialogue.** Critical dialogue develops from a reflexive exchange of information that motivates discussions beyond a simple and automatic sharing of details to involve higher order thinking processes (Lai, 2015). As discussions develop from a continuous back-and-forth interaction, higher order thinking processes kick in, and the conversation further elevates to a critical exchange of dialogue and to the sharing of information over time (Lai, 2015). A critical exchange process is a cognitive communication process that develops through questioning, reasoning, and intuition. Learners communicate to identify and resolve problems while considering alternative viewpoints and by making value judgments (Brudvig, Mattson, & Guarino, 2016).

**Experience.** Experience refers to the total number of months of online academic instruction the student has experienced thus far at any level.

**Institutional trust.** Institutional trust is a student's degree of willingness to extend trust to the virtual learning environment, platform, technology, leadership, and the institution (Palmer & Huo, 2013). If a student experiences a sense of uncertainty using online technologies, she may be prevented or delayed in gaining an institutional trust perception (Booth, 2012; Chae, 2016; Cleveland-Innes & Campbell, 2012; Geise & Baden, 2015). Without having established trust, a learning experience would more than likely be unsatisfactory.

**Interpersonal trust.** Interpersonal trust is a virtual student's implicit belief that her peers would not act opportunistically or attempt to take advantage of her or others within the learning process (Liu et al., 2015; Palmer & Huo, 2013).

**Knowledge-based trust.** Knowledge-based trust builds on the positive attitudes and behaviors that others exhibit; this trust includes a high level of task commitment and open expression and concern for others in the community (Saonee et al., 2011). The traditional definition of knowledge-based trust helps to explain that this trust forms from a direct cognitive assessment of the other party and her relevant attributes. The trustor determines another student's level of trustworthiness and considers perceived ability, integrity, and benevolence in her assessment (Robert et al., 2009).

**Knowledge sharing.** Knowledge sharing extends from the valuable construction of knowledge during a critical exchange of dialogue among students, to knowledge sharing on relevant concepts and topics of discussion (Carter, 2015; Morgan et al., 2014; Patel, 2014).

**Online communication.** Online communication is a computer-mediated exchange of information that occurs without emotional context. Online communication is the primary method used to communicate with faculty and peers in virtual discussions, and is contrasted with synchronous communication or face-to-face exchange processes. Asynchronous, online, virtual, and computer-mediated communication are one and the same (Giesbers & Rienties, 2014). Students' online communications and communication experiences were the central focus of this study.

**Shared meaning.** Shared meaning is the back-and-forth sharing of ideas and experiences, and elevates shared meaning for participants over time as an exchange progresses (Espinosa et al., 2015). If members experience minimal send-and-receive delays in discussions,

then over time, they gradually come to understand a similar meaning in the concepts discussed (Espinosa et al., 2015). Over time, this understanding of similar meaning encourages a higher level of shared understanding as the dialogue continues to develop among others of the community (Espinosa et al., 2015; Smith, Hayes, & Shea, 2017). A learning community that is fully engaged in sharing and developing knowledge shapes the learning trajectory for all involved (Smith et al., 2017).

**Social identity.** Social identity is constructed by students through a perception of actions and communications, or from information known, passed on, or perceived about them (Sergeeva, 2017).

**Social presence.** From frequent interaction with others in a learning community students' gain social presence. Social presence is a student's perception of a social connection to others in a computer-mediated environment (J. Kim, Song, & Luo, 2016).

**Swift trust.** Swift trust is a lesser form of trust (Birdie & Jain, 2016; Cleveland-Innes & Campbell, 2012; Ford et al., 2017; Robert et al., 2009; Saonee et al., 2011; Toprak & Genc-Kumtepe, 2014; Wenbo et al., 2017). Unlike conventional trust, which develops and grows over time, swift trust achieves its full trust-inducing potential at its initial point of development. As a result, swift trust is fragile, fleeting, and collapses easily if/when students ignore this trust perception (Honglei et al., 2016; Toprak & Genc-Kumtepe, 2014). A swift trust contains similar qualities and benefits of a traditional form of trust (Honglei et al., 2016; Toprak & Genc-Kumtepe, 2014). Unlike a conventional trust, swift trust forms in ignoring social development or knowledge of the other (Cleveland-Innes & Campbell, 2012; Crisp & Jarvenpaa, 2013; Ennen et al., 2015; Ford et al., 2017; Robert et al., 2009). Swift trust is more likely to develop in temporary, virtual environments among transient membership than develop in other

environments (Cleveland-Innes & Campbell, 2012; Crisp & Jarvenpaa, 2013; Ennen et al., 2015; Ford et al., 2017; Robert et al., 2009). A swift trust may evolve in a learning community if its members hold a positive perception of the other party, perceive similar characteristics to others, and show a willingness to trust others in general (Crisp & Jarvenpaa, 2013). Swift trust dissipates over time from the diminishing characteristics of others (Cleveland-Innes & Campbell, 2012; Geise & Baden, 2015; Wenbo et al., 2017). Conventional and traditional forms of trust are one and the same.

**Synchronous communication.** Synchronous communication includes visible emotional information, providing participants with valuable context; emotions in an asynchronous online exchange are less apparent and easily misinterpreted (Giesbers & Rienties, 2014; Saerberg, 2010). In this study, synchronous and face-to-face communication were interchangeable concepts.

**Trust assessments.** Students decide whether to extend or withhold trust on another member. This decision to extend or withhold trust is a trust assessment. Students apply trust assessments on each other in learning communities. Trust assessments are mostly driven by a perception of the other; students analyze the other students' levels of competence, benevolence, and integrity in making a trust determination (W. Wang et al., 2016).

**Virtual world.** The virtual world is the place where coursework takes place in an online university. It is accessible from almost anywhere globally with a computer and Internet access. In online universities, the virtual learning platform, online learners, instruction, discussions, assignments, and the virtual library are accessible with computer-mediated technologies.

## **Assumptions**

Influencing the direction of the research is a theoretical assumption that advances symbolic interactionism theory and sameness as a useful way to understand the influencing factors that affect individual perception and communication. Symbolic interactionism is one of two elements in the theoretical perspective guiding this study and choice of variables in focus. The theory advances that everyone perceives symbols and navigates the world differently from one person to the next (Campbell, 2010). An individual's primary influences include her close family connections. Her primary influences, along with her historical narrative, composed of a set of validated experiences from birth to present, and her secondary influences from her reference group associations, define her self-construct (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Saerberg, 2010; Stryker, 2011). Each person's self-construct and perception form, change, and develop over time from confluence of what she perceives herself to be relative to the external perceptions that others have of her, as deduced from her interpersonal interactions (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Saerberg, 2010; Stryker, 2011). (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Saerberg, 2010; Stryker, 2011).

As each new validated experience comes to be, this new experience influences a change to her self-construct, refining her perception at the micro level. Whether a change is significant or meaningless to her self-construct and perception depends on her level of cognitive resources. The self-construct forms on a unique set of influencing factors; she perceives symbols differently from another (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Saerberg, 2010; Stryker, 2011).

Sameness expands on symbolic interaction to include reference point understanding. A culmination of individual experiences accumulated over a lifetime comprises a unique set of

cognitive reference points from one person to the next (Saerberg, 2010). A simple informational exchange occurs automatically, without engaging higher order thinking processes (Morgan et al., 2014). Doing so, she pulls information from individual cognitive reference points in applying meaning to particular concepts, words, and emotions. The two theories advance a similar perspective. With sameness, individual reference points influence a unique perception of particular concepts, different from one person to the next (Saerberg, 2010). Differences in understanding can be meaningless or significant; the degree of difference largely depends on the experience encountered that evoke recollection (Campbell, 2010; Hauser et al., 2012; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). New or refined knowledge of concepts influences a change in reference point understanding and perception at the micro level. Significant differences in perception can contribute to conflict. It is more challenging to interpret online communication in its emotional obscurity. Unlike a face-to-face exchange that provides participants a high level of emotional clarity, sensemaking is disadvantaged in online communication from its reduced range (Morgan et al., 2014).

Swift trust forms in the first communications exchanged among a virtual community of learners (Ford et al., 2017; Lai, 2015). Because the reduced range of online communication makes it more complicated for participants to acquire accurate meaning in a written exchange of dialogue (Morgan et al., 2014), an assumption exists that a swift trust develops from an online student's initial communications. However, the challenges that can arise within an online communication experience are potential barriers to forming a swift trust. Another assumption rests in any belief expressed within the material that the theory of symbolic interactionism and sameness are valid theories to understand differences of perception from one person to the next,

design a useful methodology, and identify and organize variables in order of importance; as such, this theoretical approach may prove unreliable.

Swift trust is an unconventional form of trust, and an assumption exists that a lesser trust type fosters the development of a quality exchange of information within task-based discussions (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). An assumption extends to the research participants that, in responding to each question in the survey instrument, they registered an honest and unwavering response. There is an assumption about the validity of the relevant literature and previous research regarding a swift trust being both accurate and reliable. An assumption exists by inference expressed within the material that previous research into swift trust would port to other virtual environments, including online education, thus supporting an online student's development at all other online universities within the United States and beyond (Terrell, 2015). Finally, there is an assumption made that a participant's enjoyment in the process equated to a high degree of quality interaction (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014; Oh & Lee, 2016).

### **Limitations**

The results may not be generalizable to all graduate students in the United States or other countries. The same rule would apply to an undergraduate student population anywhere in the world. Swift trust is a relatively new concept; as such, there are a limited number of research studies available to contrast (Birdie & Jain, 2016; Cleveland-Innes & Campbell, 2012; Crisp & Jarvenpaa, 2013; Ennen et al., 2015; Espinosa et al., 2015; Ford et al., 2017; Robert et al., 2009; Saonee et al., 2011; Toprak & Genc-Kumtepe, 2014; Wenbo et al., 2017). There is general agreement in the existing body of research into swift trust, how it forms, and the action cues required for its continued maintenance (Honglei et al., 2016; Toprak & Genc-Kumtepe, 2014).

Swift trust and its antecedents are highly subjective concepts; as such, any scaled selection is subject to a participant's perception that is subject to slight or significant differences from one person to the next (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Saerberg, 2010; Stryker, 2011). As an example, those participants inclined to hold high trusting beliefs may have responded more positively to the survey questions than others; this difference could mean that the participants with high trusting beliefs could have overestimated their experience, skewing the results and findings (Ennen et al., 2015). Accidental misinterpretation of the findings or applying perceptive bias into an interpretation, whether it be unintentional, may have severely affected the integrity and credibility of this research (Terrell, 2015).

There is a high degree of reliance placed on Likert-type survey questions coming from a validated survey mechanism to measure the relationship between key predictive independent variables and the dependent variables in focus (Pinjani & Palvia, 2013). The potential for measurement error with a Likert-type instrument, with minor modifications made to the wording of questions, places another limitation on the findings generated in this study (Terrell, 2015). Optimally, the more appropriate choice, albeit impractical, for this research objective might be in tailoring the design of the survey instrument to the study. The validated survey instrument appeared to be adequate for addressing the stated purpose; however, certain applicability limitations within the range of questions of and categories of the instrument may have presented a liability (Pinjani & Palvia, 2013).

Stone-Romero and Rosopa (2004) challenged the widely used multiple regression analysis to test a mediated effect. Stone-Romero and Rosopa recommend using an experimental design approach to test and manipulate the independent variables in two separate experiments as the only correct way to determine an effect with a high degree of accuracy. Future studies might



consider employing an experimental design to manipulate the conditions for a swift trust and its continued maintenance, and to establish causal links between a swift trust and communication and the behaviors in focus (Stone-Romero & Rosopa, 2004). It may be more appropriate to employ a qualitative research design and monitor the discussion postings of a learning community for contextual information to support the problem statement and purpose, and to obtain an answer to the research questions in this study.

Finally, asking participants for their retrospection of an event or series of events assumes that they would recall the totality of the experience with clarity. An online class can last 7 weeks or longer; as such, the participants may have encountered some degree of memory distortion associated with their online experience. There is no guarantee that the participants recalled a past event accurately (Michaelian & Sutton, 2017). A person might have remembered an event that she believed to be authentic, yet what she experienced may be subject to a significant misperception of what occurred (Saerberg, 2010). There is always benefit in finding participants who recently completed an online class or course of study; the more recent the learning experience, the less chance of encountering a meaningful level of memory distortion (Michaelian & Sutton, 2017).

### **Delimitations**

A delimited narrow focus helped in determining the presence of swift trust in an online learning environment and the relationship between communication, critical dialogue, knowledge sharing, and social development when a swift trust underlies task-based online discussions (Terrell, 2015). The research focus delimited a study of online graduate students of 4-year universities located within the borders of the United States, excluding any participants outside of these boundaries. Only those persons who met the eligibility requirements participated.

Participants were required to have English language fluency, be comfortable with online technologies; be interested in the topic, and be currently enrolled or have recently completed a degree program. Only those online graduate students of a master of business (MBA) and master of education (MEd) program who had recently engaged in relevant online courses with asynchronous discussion forum activities participated in the survey (see Appendix D).

### **Summary and Overview**

If an online learning experience, its environment, and its discussions are not developed within the community on a foundation of trust, online students are at an elevated risk of communication challenges that can hinder their academic development (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014; W. Wang & Benbasat, 2016). Without the benefit of trust and its mediating influence on online communication, this absence would impede a learner's growth and academic development potential. Without trust or in low-trust conditions, the student is less likely to engage in critical dialogue during her task-based discussions with other students than if the student has trust (Chae, 2016). Without a foundation of trust underlying discussions, valuable knowledge construction, sharing, and social development are unlikely to occur (Robert et al., 2009).

Without trust, online learners are more likely to respond negatively to uncertainty than if a trust perception existed. Uncertainty inhibits a trust perception and valuable communications from developing (Booth, 2012; Chae, 2016; Cleveland-Innes & Campbell, 2012; Geise & Baden, 2015). Limited discussions tend to be underdeveloped and of poor quality. For communicators, higher levels of shared meaning develop over time from a continuous exchange process and not one that falls short.

Students gain higher levels of shared understanding over time from a continuously developing discussion process (Espinosa et al., 2015). Active, quality communication among a learning community can lead to a critical exchange process that encourages knowledge construction, sharing, and social development as an additional benefit of the ongoing interaction (Brudvig et al., 2016; Lai, 2015; Liu et al., 2015). Without engaging a learner's higher order thinking processes, the online learning environment is shortchanging the student by inhibiting a construction of new and refined knowledge. A valuable academic experience occurs when trust underlies online communication processes (Brudvig et al., 2016; Lai, 2015; Plešec Gasparic & Pecar, 2016). Knowing how to develop a swift form of trust instantly and how to slow its dissipation is optimal for a student's academic development.

Chapter 2, the Literature Review, lends additional support to the findings by providing a degree of confirmation of the results. The discussion begins with an introduction, followed by the theoretical foundation, moving to a discussion of key concepts. The concepts of focus are (a) the theoretical framework, (b) trust (c) emotions, (d) critical dialogue, (e) knowledge sharing, (f) social development, and (g) swift trust. Chapter 2 concludes with a summary that includes solutions.

## Chapter 2: Literature Review

Advancements in technology have made it much easier for adult students to advance their education and enjoy the potential benefit of an improved quality of life as a result. Online learning continues to gain greater institutional acceptance worldwide in its versatility and value to academic development. Online learning is a natural extension of the traditional brick-and-mortar setting. Leading online universities now offer students a similar academic experience with world-class instruction and the added advantage of reduced costs, smaller class sizes, and flexibility. From virtually anywhere on the planet, online students can access online classrooms and vast quantities of information from a theoretically unlimited selection of digital resources available online and within the online library systems of universities (Caetano & Lori, 2015).

Today, online learning programs at 4-year universities can implement a similar brick-and-mortar syllabus in virtual learning settings without difficulty (Caetano & Lori, 2015). From almost anywhere in the populated world, online students can access and enjoy a quality academic experience via a suitable computer and Internet access (Patel, 2014). With a computer and sufficient resources, international students who are challenged by political and socioeconomic issues at home may have opportunities to fulfill their educational goals at premier academic institutions in the United States and abroad (Caetano & Lori, 2015). If qualified, these online students only need to weigh the credibility of a particular program to select an appropriate fit and acquire an education of quantifiable value (Patel, 2014).

In another sense, technology serves to complicate online students' learning experience because an element of risk underlies the communication that takes place on an embedded technology platform (Robert et al., 2009). The limitations of an exchange of information online only serve to complicate the social development of a virtual community. Online communication

is inferior to a face-to-face interaction process; it fails to provide a clear sense of a participant's emotional state or a clear sense of visual or vocal expressions during the interaction (Booth, 2012; Chae, 2016; Geise & Baden, 2015; Lai, 2015). Online students could be laughing or crying, depressed, exhausted, or excited, but this information is mostly unavailable in discussions. Stated emotions, as in a written digital exchange of information, are subtle and easily misinterpreted (Booth, 2012; Chae, 2016; Geise & Baden, 2015; Lai, 2015).

Unlike the emotional limitations of online communication, a face-to-face exchange process provides participants additional emotional clarity. Participants interacting face to face have the advantage of an extended range of interpretable information available for sensemaking (Anshari, Alas, Yunus, Sabtu, & Hamid, 2016; Nam, 2014; Pettersen, 2016). The reduced range of online communication makes it harder for participants to acquire an accurate meaning of words, phrases, and concepts. Online communication likely requires multiple exchange attempts to gain an understanding similar to that obtained within a single face-to-face exchange of information (Morgan et al., 2014). Without face-to-face contact, an essential social exchange process is less likely to develop as valuable emotional information is unavailable thus opening the potential for miscommunication and conflict; any degree of development is challenging to maintain among a temporary virtual community of students (Pettersen, 2016; Sadykova, 2014).

### **Trust: A Mediating Influence**

Trust is an essential element that positively influences the development of important communication processes in online learning environments. With a trust perception underlying an exchange process, over time, communication can move forward and beyond to a critical exchange of dialogue and subsequent academic development (Morgan et al., 2014). Unlike online interaction, the extended range of synchronous communication influences a degree of

social development at a much faster rate (Morgan et al., 2014). Under the right conditions, a conventional trust type develops naturally within a learning community over time as members gather information about others (Morgan et al., 2014). Mode of delivery, knowledge of the other, and the type of environment aside, when a form of trust underlies a discussion process, learners are more willing to take risks with their communications (Booth, 2012; Robert et al., 2009; Saonee et al., 2011). With trust and a willingness to take risks, the interaction process moves from an exchange of information to an exchange of critical dialogue, knowledge construction, and sharing over time (Lai, 2015).

It is challenging to establish a conventional trust perception among temporary members of a virtual community because online communications are disadvantaged by emotional obscurity. Unlike the face-to-face exchange process, it is more difficult to gain accurate understanding while communicating information online. Essential to sensemaking, valuable emotional information such as observable behaviors, body language, and facial expression are mostly unavailable within a written exchange process (Alsharo, Gregg, & Ramirez, 2017; Anshari et al., 2016; Cooke, 2016; Lilian, 2014; Nam, 2014). With limited emotional informational available for sensemaking, some students can expect to experience misunderstandings within their discussions. Miscommunication challenges impede the development of a traditional form of trust (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Saerberg, 2010; Stryker, 2011).

Inaccurate interpretation of the information exchanged within task-based discussions leads to uncertainty for some students. If online students experience uncertainty more often than on-campus students because of limitations of the range of online communication, forming or developing a trust perception is inhibited sufficiently to be cause challenges to academic

development (Morgan et al., 2014). Online communication can often leave a chasm of uncertainty for students to resolve (Booth, 2012; Chae, 2016; Geise & Baden, 2015; Short, 2014).

Unresolved uncertainty can influence a negative trust assessment by others in the community. Applying a negative trust assessment impedes the formation of trust as well as learning and development for the student and her classmates (Booth, 2012; Robert et al., 2009; Saonee et al., 2011). The principal advantage to utilizing a variable range of communications with emotions attached is it provides participants a high degree of informational clarity to resolve emotional uncertainties in an exchange process (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Saerberg, 2010; Stryker, 2011). The meaning of words, phrases, and concepts develops more quickly in virtual environments that employ face-to-face technologies. Synchronous communication provides valuable emotional context that can help to make sense of the information exchanged (Anshari et al., 2016; Nam, 2014). Without trust, students' online discussions are more likely to be less frequent and of lower quality than when they trust their classmates. An inactive discussion process can leave some students feeling disconnected from others of the community (Cheng & Macaulay, 2014; Lilian, 2014; Short, 2014).

Facilitators can compensate for the lack of physical contact and potential feelings of anonymity by using diverse technologies to deliver information to participants, thereby influencing increased interactions among the whole of the learning community (Cheng & Macaulay, 2014; Lilian, 2014; Short, 2014). There is a positive correlation between active discussions and a student's learning and development; instructors can help to minimize social distance among members of a learning community by motivating a dynamic and active discussion process (Çelik, 2013; Oh & Lee, 2016). Limited interactions among a community

decrease the potential for a trust perception to develop; trust is essential for developing social capital, as well as for relationship building (Chae, 2016; Hartman, Gedro, & Masterson, 2015; Mays, 2016; Tseng & Yeh, 2013).

Trust is a necessary element underlying communication that can influence a quality interaction process and learning and development forward and beyond. Trust contributes to automatically moving the conversation from an exchange of information to a critical exchange of dialogue involving higher order thinking processes (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). Critical dialogue influences knowledge construction and sharing. Having a low level of trust in others can be a source of stress for students (Jung et al., 2012). Trust helps to mediate the cohesiveness of a community of learners, and it opens the door to more efficient collaborations than if a trust were underdeveloped (Ennen et al., 2015; Morgan et al., 2014).

A theoretical foundation helped to influence the direction of the study; it aided me in identifying the key predictive and criterion variables of focus. Communication quality is a key predictive variable. In this study, communication quality, perception, and emotion are interrelated concepts. Communication plays a major role in whether a swift trust forms or develops to its full potential (Birdie & Jain, 2016; Crisp & Jarvenpaa, 2013). It is a participant's perception that helps to influence a trust assessment and judgment. Perception influences whether the communication is more or less active and whether the student applies a positive or negative trust judgment on others (Cleveland-Innes & Campbell, 2012; Geise & Baden, 2015; Wenbo et al., 2017). Unlike face-to-face communication, online discussions occur without providing valuable emotional clarity (Booth, 2012; Chae, 2016; Geise & Baden, 2015; Lai, 2015). The limitations of online communication mean that individual perception influence the initial formation of swift trust and its continued integrity. The theoretical foundation provides



clarity to understanding the challenges of online communication. Virtual exchanges of information are positively and negatively affected by differences in perception from one person to the next. These differences can be profound and problematic for communicated thought, or they can be meaningless and benign (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Saerberg, 2010; Stryker, 2011).

### **Theoretical Foundation**

The theory of symbolic interactionism and sameness help to explain differences in perceptive reality from one person to the next. Perception influences how individuals interpret symbols and navigate the world differently from one person to the next (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Robert et al., 2009; Saerberg, 2010; Stryker, 2011). Each person defines words and concepts differently from another; these differences in interpretation can be meaningless or significant (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Robert et al., 2009; Saerberg, 2010; Stryker, 2011). If the combination of symbolic interactionism and sameness can identify the elements that induce differences in understanding from one person to the next, that information could provide a roadmap for forming and maintaining the integrity of a swift trust perception from one community to another. Once defined, these two theories provide additional clarity to the variables in focus.

**Symbolic interactionism.** Symbolic interactionism is one of two elements in the theoretical perspective that guided the direction of the study and a choice of variables. Campbell (2010) was a major influence on the investigator's interpretation of the theory. The theory of symbolic interactionism advances a notion that everyone perceives symbols and navigates the world differently from one person to another (Campbell, 2010). Primary influences such as a person's mother, father, grandparents, and close familial relationships all help to form a unique self-

construct (Campbell, 2010; Hauser et al., 2012; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). A historical narrative composed of a person's validated set of experiences from birth to present influences her self-construct and perception. New validated experiences along the historical narrative influence change to the self-construct, refining perception over time (Campbell, 2010; Hauser et al., 2012; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). A person's secondary influences such as workplace, friends, and reference group memberships further refine her self-construct and perception (Campbell, 2010; Hauser et al., 2012; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). Each person's self-construct and perception form, change, and develop over time from confluence of what she perceives herself to be relative to the external perceptions that others have of her, as deduced from her interpersonal interactions (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Saerberg, 2010; Stryker, 2011).

Depending on a person's level of cognitive resources, each new validated experience influences change in the self-construct, altering how she interprets symbols and navigates the world (Campbell, 2010; Hauser et al., 2012; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). Changes to the self-construct can be nonexistent, imperceptible, meaningful, or significant at the micro level. The combination of primary influences (e.g., cultural rituals and norms), a validated set of experiences from birth to present, and secondary influences (e.g., workplace and friendships) combine into a unique self-construct from one to another (Campbell, 2010; Hauser et al., 2012; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). No individual navigates the world or perceives concepts or symbols the same way as another. What this difference means to communicated thought, is that there are differences of interpretation from one person to the next (Campbell, 2010; Hauser et al., 2012; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). Online communication is more complicated because of its

reduced range, as compared to synchronous communication and its advantage of an extended range (Morgan et al., 2014). An initial exchange of online information between communicating parties is further complicated because of differences in individual perception (Campbell, 2010; Hauser et al., 2012; Potts, 2015; Powell, 2013; Robert et al., 2009; Saerberg, 2010; Stryker, 2011).

**Sameness.** The theory of sameness helps to expand upon symbolic interactionism to understand how differences in perception from one person to the next can also apply to interpretive differences of individual words, phrases, and concepts (Saerberg, 2010). A vivid sensory experience helps to explain sameness. For example, there is a taste and sensory experience associated with biting into a peach. In this example, a person consumes peaches with some degree of regularity and has done so throughout her life. As a result of this history, she has developed a cognitive reference point associated with this experience composed of hundreds (and potentially thousands) of peach taste experiences over her lifetime. If each peach were to taste juicy, sweet, and flavorful 99% of the time, then the first bite of each subsequent peach would automatically register as sweet, juicy, and flavorful for a millisecond, until her taste buds and cognition registered its actual taste (Saerberg, 2010). If the peach were rotten or unripe and tasted unpleasant, this experience would do little to affect a reference point that was already an accumulation of a lifetime of pleasant, peach-tasting experiences. Cognitive reference points apply to individual experiences and can include word meaning, phrases, colors, concepts, theories, sensory experiences, and emotional understanding, all of which have developed based on knowledge acquired over a lifetime (Saerberg, 2010).

New and improved knowledge can refine reference point understanding. Often, new learning revises reference point understanding at the micro level. Because a lifetime of

experiences combines into a unique set of cognitive reference points from one person to another, concepts, phrases, and individual word meaning can be entirely different to someone else. A unique set of experiences has shaped each person's perception of reality over time (Campbell, 2010; Hauser et al., 2012; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). Typically, a person navigates cognitive reference points automatically, essentially functioning on automatic pilot (Saerberg, 2010). When a person utilizes higher order thinking processes, she tends to be more thoughtful in her decision making and considers a multitude of options in selecting one choice over another.

Similar to a person's historical narrative (her validated experiences from birth to present), sameness is the culmination of a multitude of individual experiences that build a cognitive reference point of understanding over a lifetime (Campbell, 2010; Hauser et al., 2012; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). Sameness helps to expand on symbolic interactionism by advancing the concept that a culmination of individual experiences accumulated over a lifetime exists as a unique set of cognitive reference points from one person to the next (Saerberg, 2010). In sensemaking, while navigating the world on automatic processes, a person pulls from her cognitive reference points to apply a meaning to concepts, words, and emotions and decide on a particular response or an appropriate course of action (Saerberg, 2010). The two theories advance a similar perspective: concepts, words, and experiences are different from one person to the next because each person has experienced a unique set of cognitive reference points over a lifetime. These differences can be meaningless or important, and the degree of difference largely depends on encounters that evoke recollection (Campbell, 2010; Hauser et al., 2012; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). Somehow, the online student must resolve the unknown emotional information. The online

learner makes sense of any missing information by applying her perception of reality to complete an incomplete narrative. One person's reality can be vastly different from another; if a major difference exists, this difference could contribute to conflict (Campbell, 2010; Hauser et al., 2012; Potts, 2015; Powell, 2013; Robert et al., 2009; Saerberg, 2010; Stryker, 2011). A conflict of this type would be problematic to forming a swift trust and maintaining its integrity. In this study, the two theories helped to identify the key variables in focus. The variables used in this study can explain the particular relationship of a variable to others in either forming or maintaining an already developed swift trust perception.

**Theoretical model helped in identifying key variables.** Initially determined by logic and then confirmed by the theoretical model, the key predictive variables analyzed in this study were similar characteristics and communication quality. Communication, emotion, enjoyment, value, and perception was determined to be interrelated concepts. The key criterion variables in this study were swift trust, critical dialogue (critical thinking), knowledge sharing (knowledge construction), and social development. Highlighted in italics and reasoned through a theoretical example, the discussion that follows helps to bring clarity to the choice of variables used in this study. The theories of symbolic interactionism and sameness served as the basis for explaining the complications of online communication and trust building in the virtual world (Campbell, 2010; Hauser et al., 2012; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011).

*Online interaction* provides little *emotional clarity* to determining the meaning of words, phrases, and concepts. Without *emotional context*, the net effect is a potential for *misunderstandings* within an *exchange of communication* severely limited by range. Because of the reduced range of *online communication*, participants have less information with which to determine the meaning of words or concepts. Valuable *emotional information* is mostly

unavailable within an *online communication process*. With *emotional context* mostly obscured, *online communication* limited by range is more likely to be *misinterpreted* by virtual students, compared to when a full range of communication is available in a physical class environment (Campbell, 2010; Hauser et al., 2012; Morgan et al., 2014; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). If a participant were to apply a meaning to the missing information, she would do so by filling in the unknown information from her *perception* of reality. She understands concepts, words, and phrases differently than others (Campbell, 2010; Hauser et al., 2012; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). Her validated set of experiences over a lifetime comprises her historical narrative. Her primary and secondary influences and her historical narrative determine whether differences in understanding are unimportant or meaningful (Campbell, 2010; Hauser et al., 2012; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011).

Participants engaging in *online communication* encounter *communication* challenges because their *interactions* lack *emotional clarity* (Anshari et al., 2016; Nam, 2014; Pettersen, 2016). It is more difficult, compared to a physical class environment, to develop a conventional *form of trust* within a *virtual exchange process* that inhibits *emotional understanding* because of its obscurity (Giesbers & Rienties, 2014). Because of the limitations of *online communication*, a student's *enjoyment* of the *discussion process* suggests the presence of a *swift trust* (Morgan et al., 2014). If a *swift trust* fails to develop, the indication is that an *exchange of information* occurred without *higher order thinking processes* being engaged (Killingsworth, Xue, & Liu, 2016). Consequently, in lacking a *form of trust* in discussions, this learner has failed to engage in *critical dialogue*, *knowledge sharing*, or *social development* of any measure of significance (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014).

The theories of symbolic interactionism and sameness advance that a *swift trust* has developed to a degree if the *online learner* gains a *sense of enjoyment* and *value* from the academic learning process (Campbell, 2010; Hauser et al., 2012; Morgan et al., 2014; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). A student's *enjoyment* of the learning process suggests that an *active, energetic, and quality exchange process* occurred, influencing the *morale* of the community to a high level. If efficient *quality communication* takes place, then a *swift trust* is present, motivating the task-based *discussions* (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). In turn, an *active and energetic process of interaction* can explain why *critical dialogue* developed among the community, and subsequent *knowledge construction, sharing, and relationship development* occurred (Çelik, 2013; Oh & Lee, 2016).

If a measurable degree of *social development* occurred, the existence of this condition also suggests that a *swift trust* influenced the development of *critical dialogue* and an *exchange of knowledge* to occur (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014). *Perception*, different from one person to the next, determines whether she withholds or extends *trust* relative to another person or to the institution and whether she *perceives similar characteristics* to others of the community (Campbell, 2010; Potts, 2015; Robert et al., 2009; Saerberg, 2010; Schiller et al., 2014). If a student experienced a limited measure of *critical thinking, knowledge sharing, or social development*, it is more likely that a *swift trust* either developed and collapsed or failed to develop at all (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014).

The literature review expands on the theoretical foundation of this dissertation study with a discussion of literature on the essential elements that lead to *trust forming* and developing out of an individual's *trust intention*. *Trust* serves as the foundation for valuable academic

development to occur. The essential elements discussed are emotion (e.g., from enjoyment), critical dialogue (i.e., critical thinking), knowledge construction and sharing, social development, and *swift trust* (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014). The conclusion includes a synthesis of the critical concepts discussed in the literature.

## **Emotions**

The limited range of virtual communication adds to the complexity of an online exchange process. It is easy to misunderstand or misinterpret meaning from information in a delayed virtual exchange process limited by emotional obscurity (Booth, 2012; Chae, 2016; Geise & Baden, 2015; Lai, 2015). For the virtual student, a trust exchange takes longer to develop than for a traditional, on-campus student because of the range limitations of online communication. In online communication, trust is hindered in its development by emotional scarcity. In lacking emotional information, the range of virtual communication is limited, complicating the interpretation of information, unlike in a face-to-face exchange process that provides participants with valuable emotional context, clarity, and distinct range advantage (Booth, 2012; Chae, 2016; Geise & Baden, 2015; Lai, 2015). For learning and academic development to be valuable, some form of trust must underlie the communication process (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014).

An active communication exchange process supports trust development as communication progresses, which leads to higher levels of shared understanding over time (Pettersen, 2016). Higher levels of shared understanding help in resolving uncertainty in an exchange process, but uncertainty from a decreased sense of trust belief can impede the development of trust (Booth, 2012; Robert et al., 2009; Saonee et al., 2011). Active communication leads to a reduction in coordination problems and increases knowledge



development for the broader community (Carter, 2015; Morgan et al., 2014). Mediating the effectiveness on tasks by a virtual learning community involves active collaborations among students (Booth, 2012; Cleveland-Innes & Campbell, 2012; Lai, 2015; Saonee et al., 2011; Tseng & Yeh, 2013). When online students engage in learning about topics that evoke self-interest, the result can be an excitement that leads to self-induced emotional contagion and distributed positive energy among the whole community (Alsharo et al., 2017; Wu, Jiang, & Chen, 2016). Meaningful conversation is a social lubricant of sorts. Frequent communication on topics of interest in which membership shares common ground elevates shared meaning for the whole of the group; this shared meaning induces valuable social interaction at the same time (Pettersen, 2016).

**Emotional range.** Virtual communicators express emotions by emotional contagion in a collaborative exchange process. Emotional contagion can influence the repetitive use of words that convey a particular emotion (Alsharo et al., 2017; Wu et al., 2016). Language diffusion occurs through frequently used words that express an emotional effect; with repetition, the words eventually lead to confirming an emotion being expressed (Cleveland-Innes & Campbell, 2012; Wu et al., 2016). Without the visible expressions and intonations of real-time, face-to-face contact, virtual students often lack the important emotional contexts available to their on-campus counterparts; as a result, virtual students are more likely than on-campus students to misinterpret the information being exchanged and experience misunderstandings (Booth, 2012; Chae, 2016; Geise & Baden, 2015; Lai, 2015; Wu et al., 2016). The concepts of emotion and cognition influence each other as an ongoing process; as a process of interaction develops, so does the complexity of emotional tone (Cleveland-Innes & Campbell, 2012; Wu et al., 2016). Unlike face-to-face communication, virtual communication does not provide clear emotional

information such as vocal inflection and visual cues. Voice and expression are essential emotional elements exchanged in face-to-face dialogue. For sensemaking, voice and expression help to refine understanding by providing an almost complete informational picture, unlike online communication that is limited by emotional obscurity (Booth, 2012; Chae, 2016; Geise & Baden, 2015; Lai, 2015).

Lack of emotional context places a range limitation on virtual communication, and this range limitation places barriers on the development possibilities of a virtual exchange process (Cleveland-Innes & Campbell, 2012). Chae (2016) theorized a similar view, adding that a cognitive-based trust can influence virtual collaborative creativity moving forward. Emotions and cognition influence each other; cognition ignites emotion, just as emotion induces cognition toward encouraging more valuable interaction (Alsharo et al., 2017; Chae, 2016). With the emotional cues detached from communication, as is the case of online communication, cognition influences online discussions without an emotional driver helping to lift an exchange upward and beyond (Alsharo et al., 2017; Chae, 2016). Without emotional cues included in an interpretation process, there are severe limits on the potential for critical dialogue to develop in an exchange process (Alsharo et al., 2017; Anshari et al., 2016; Cooke, 2016; Lilian, 2014; Nam, 2014).

Likewise, if online students experience negative emotions, there is a narrowing of focus in discussions if the negative emotions are unresolved. Because emotions are both socially constructed and personally enacted, online discussions subsequent to a negative emotion increasingly exclude the important social elements of communication (C. Kim et al., 2014). Instructors can help to support the interaction among a virtual community of learners. An instructor's presence in discussions helps to enhance social presence for the community (Bhagat, Wu, & Chang, 2016). Negative emotions help to color perception, which influences a negative

trust assessment (Booth, 2012; Chae, 2016; Geise & Baden, 2015). The unconscious emotional valence attached to visual perception defines all subsequent communication and its interpretation going forward (Geise & Baden, 2015). Emotional responses serve to amplify a visual effect, but without the clear understanding of what these emotional responses might express to others found in face-to-face communication, this component is often absent from virtual exchanges of information. The audio and visual cues missing from virtual communication must come from somewhere to complete the missing element in the narrative (Geise & Baden, 2015). Without having previous working knowledge of the person on the other side of an exchange process, the virtual participant constructs this information from her perception of reality (Campbell, 2010; Hauser et al., 2012; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). Her created reality is open to individual interpretation, one that could be vastly different from another person's version of reality (Espinosa et al., 2015); Geise & Baden, 2015; Robert et al., 2009).

Limited interactions among students are problematic to the collaborative process. A limited exchange process—one that is limited in quantity and quality—can create fear and anxiety in discussions (C. Kim et al., 2014). Interactions that lead to enhancing online learners' social presence are a motivating influence (C. Kim et al., 2014). Positive emotions are necessary drivers to active, energetic communication (C. Kim et al., 2014), as is the perception of obtaining some measure of quantifiable value within a virtual exchange process. Virtual students' enjoyment of the task or topic helps to broaden the focus of communication among fellow students (C. Kim et al., 2014). Because emotions are both socially constructed and personally enacted, a negative emotional experience leads to narrowing the focus of discussions, which is challenging for the social presence of a community (C. Kim et al., 2014; Saerberg, 2011).

Instructors can help to support the interaction process and enhance social presence for the community with their active participation (Bhagat et al., 2016).

Uncertainty can lead to virtual students' alienation and a need for connectedness (Booth, 2012; Chae, 2016; Cleveland-Innes & Campbell, 2012; Geise & Baden, 2015). Ultimately, online students must resolve any uncertainties they may feel; how they come to find a resolution to uncertainty can color a trust assessment, either positively or negatively. A negative trust assessment is a barrier to trust development, hindering the growth potential of trust development in collective virtual discussions (Geise & Baden, 2015; Robert et al., 2009; Schiller et al., 2014; Toprak & Genc-Kumtepe, 2014). Uncertainty is attached to any new experience: new learners may find themselves embracing a unique set of terms and challenges that describe virtual learning and the virtual world. Online students must navigate new concepts such as the virtual library, virtual collaborations, a virtual syllabus, and the challenges of navigating different communication styles and perceptive differences among a diverse community of learners (Booth, 2012; Chae, 2016; Cleveland-Innes & Campbell, 2012; Geise & Baden, 2015). A student's emotional experiences moderate her self-efficacy; as such, positive emotions lead to support a personal belief that she can handle and navigate tasks efficiently (C. Kim et al., 2014). Effective communication relies on trust underlying a discussion process (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). It is this trust that allows dialogue to develop, and the virtual communicator to shed her inhibitions and uncertainty in communicating with others (Booth, 2012; Chae, 2016; Geise & Baden, 2015).

### **Critical Thinking, Knowledge Sharing, and Social Development**

The traditional multifaceted concept of trust at the interpersonal or social level within a virtual community helps members to risk their vulnerabilities in discussions (Booth, 2012;

Robert et al., 2009; Saonee et al., 2011). Trust is a vital element underlying the most productive communications. Trust in a communication process influences learning and development within a community of online students. Trust helps to influence the environment to the degree that participants feel uninhibited in exchanging personal information with others. In feeling a freedom to express thoughts or opinion, the communication process moves to an exchange of quality dialogue that becomes more valuable over time (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014).

A virtual learning community contributes value to its overall learning and development when members of the community freely and openly exchanges quality information as an ongoing process (Oh & Lee, 2016). The learning community must actively engage in productive dialogue for the co-construction of knowledge to occur (Carter, 2015; Lai, 2015; Morgan et al., 2014). Without trust underlying in the learning process, the community is shortchanged on its learning and development potential (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). Quality communication finds its support from the bedrock of trust that underlies an exchange process. When a trust perception underlies the communication processes of a virtual community, in-depth and thought-provoking communication can take place (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014).

Online learners perform at their optimum potential for the online instructional environment when they engage in activities that spark self-interest on assigned tasks; interest-driven activities help to facilitate learning and academic development for the student and the community as a whole (Alagoz, 2013). Although quality communication can induce and preserve a swift trust, Chae (2016) found no correlation between communication quality and virtual team performance, but found cultural adaptation and interpersonal trust have a positive

relationship to communication quality and team performance. Oh and Lee (2016) advocated for driving quality communication rather than quantity of communication to motivate a critical exchange process and knowledge sharing forward; in contrast, Chae found quality communications was of little value to the performance of a virtual team.

**Positive trust assessment.** A form of trust can begin to develop based on a person's willingness to extend trust and, in doing so, apply a positive trust assessment of the characteristics of others in the community (Booth, 2012; Robert et al., 2009; Saonee et al., 2011). The perception of a lack of psychological closeness among members of a virtual community can impede a learner's trusting beliefs and prevent the development of trust (Păstae, 2016). In extending trust on another, the virtual student exhibits confidence in other members of the community. In doing so, she has made a cognitive assertion that she understands another participant's level of benevolence, reliability, competency, honesty, and openness (Booth, 2012; Robert et al., 2009). As trust builds, that trust helps the student to maintain exchange relationships, a precursor for knowledge sharing to occur within a virtual community (Booth, 2012). The sharing of experiences that invoke passion and excitement in discussions spawns higher order thinking processes and aids in deepening interactions among participants over time (Booth, 2012). Typically, the virtual student refers to available information about the other in determining a level of trustworthiness (Schiller et al., 2014). In placing a positive trust judgment on others of a virtual community, communication continues to develop unimpeded through this expression of confidence, unless the confidence is breached (Cleveland-Innes & Campbell, 2012; Geise & Baden, 2015; Wenbo et al., 2017).

In trusting the learning environment, the member of a virtual community feels a sense of freedom of expression. In sensing the freedom to express her thoughts and feelings in

discussions, the virtual student is more inclined to perceive others in the community as trustworthy (Booth, 2012; Cleveland-Innes & Campbell, 2012; Geise & Baden, 2015; Wenbo et al., 2017). With trust, the virtual student is more likely to extend a positive risk assessment on others. In doing so, she may find it easier to communicate openly and be inclined to address topics by pulling from her experiences in thinking reflexively (Booth, 2012; Robert et al., 2009; Saonee et al., 2011). Cognitive presence is the extent to which learners in a learning community can construct and confirm meaning from a discourse through sustained reflection (Lai, 2015). Reflexive thinking encourages higher order thinking processes, and the discussion is elevated beyond an information exchange to a critical exchange process (Ripamonti, Galuppo, Gorli, Scaratti, & Cunliffe, 2016). Critical thinking processes, when fully engaged, helps to encourage a critical exchange of dialogue, allowing knowledge construction and sharing to occur among participants as a benefit (Booth, 2012; Carter, 2015; Lai, 2015; Morgan et al., 2014; Schiller et al., 2014). Liliana (2014) countered in noting that some students might not perceive knowledge sharing as a benefit, but as a loss of relative advantage; as such, they might be reluctant to share knowledge with others in the community.

**Shared meaning.** Similar to a quality dialogue process that develops from a foundation of trust among participants, higher levels of shared meaning can reduce the potential for uncertainty, leading to an increased sense of trust belief (Espinosa et al., 2015; Lai, 2015). The perception of trust within the interactions of a community helps to resolve uncertainty and lift the level of dialogue for exchange participants (Schiller et al., 2014). A lack of shared understanding in online communications makes virtual students more likely to experience misunderstandings induced by uncertainty, as compared to on-campus students and virtual students with a shared understanding (Lai, 2015). Difficulties in communication, such as lack of

shared understanding, can lead to an imbalance of commitment among exchange participants and feelings of frustration among the broader community (Espinosa et al., 2015; Schiller et al., 2014). The potential consequences of not having gained a high degree of shared meaning in an exchange process could result in reduced problem-solving ability among the broader community (Lai, 2015). Faulty decision-making processes could threaten relationship development, leading to conflict and limiting the potential benefits that are attached to productive collaborative engagement (Tseng & Yeh, 2013).

A high frequency of communications among a learning community creates higher levels of shared meaning for participants over time, as compared to a learning community with infrequent communications (Espinosa et al., 2015). Frequent interaction helps in overcoming feelings of isolation in a virtual community of learners. The quality of the communications is more important than the quantity; as a meaningful exchange process develops, the process helps to lift the conversation among the broader population of the learning community (Oh & Lee, 2016). Raising the communication from the simple information exchange to a critical exchange of dialogue leads to knowledge construction and sharing among participants (Booth, 2012; Chae, 2016; Killingsworth et al., 2016).

**Social connectedness and knowledge construction.** Social trust develops within a virtual learning community when members decide it is worth the risk to engage productively with others (Booth, 2012). Plešec Gasparic and Pecar (2016) theorized that social interaction establishes a value for a learning community; a community relies on social development to motivate higher order thinking processes, leading to knowledge sharing among exchange participants. The virtual student sends the right message to others in the community by supporting the learning process socially and academically, and by eliciting ideas that express a



willingness to collaborate (Booth, 2012; Cleveland-Innes & Campbell, 2012; Lai, 2015).

Ultimately, sending a positive message to others helps encourage a sense of community belonging. Community belonging provides verification that the student is committed to the betterment, academic development, and welfare of others in the community (Lai, 2015; Li, Shi, & Dang, 2014; Schroeder, Baker, Terras, Mahar, & Chiasson, 2016). A student's positive behavioral attributes help to nurture an optimal learning environment that encourages higher order knowledge construction to occur (Lai, 2015). Plešec Gasparic and Pecar (2016) cautioned that too much social interplay can be counterproductive to virtual students' academic development. Overly exuberant social interaction among members of the learning community hinders the elevation of discussions to a critical exchange of dialogue. Instructors can help to mediate the level of social interplay in a community to avert inhibiting the virtual student's learning and academic development objective (Plešec Gasparic & Pecar, 2016).

Less social interplay means less opportunity for social or informal contact and less familiarity with others in the community; as such, the online learner likely will not connect with others socially (Morgan et al., 2014). Not bonding socially with others in the community impedes an exchange of critical dialogue and a valuable exchange of knowledge among a virtual membership (Morgan et al., 2014). Other studies found that communicating identity-descriptive information helps to induce an exchange of knowledge among online students in a discussion process (Carter, 2015; Ma & Agarwal, 2007; Vaast & Walsham, 2005). Collaboration is a shared process of creation; there must be a trust perception underlying a collaborative process for this partnership to be valuable to academic development (Booth, 2012; Tseng & Yeh, 2013). Efficient collaboration helps to drive forward both learning and development; the goal of any

instructional process is to move beyond an informational exchange toward an exchange of critical dialogue (Booth, 2012; Chae, 2016; Killingsworth et al., 2016).

The collaborative instructional design of an online program works efficiently if a community of learners holds a diverse set of perspectives, knowledge, and skills (Patel, 2014). Previous experience among the collective of the learning community is a valuable currency (Alagoz, 2013). Task-focused, problem-centered learning activities may lead to knowledge sharing and development under the correct conditions (Buvik & Tvedt, 2017; Carter, 2015; Morgan et al., 2014; Patel, 2014). Fostering sustained knowledge construction and knowledge sharing is challenging in the virtual world (Booth, 2012). Trust is the glue that keeps members of a community integrated and connected (Booth, 2012). Influential members of a community can play an important role in the discussion process; their participation helps to engage and drive forward the social learning and development process (Booth, 2012; Killingsworth et al., 2016). Trust is the critical facilitating concept that underlies valuable communication; it moves aside a superficial exchange of information, allowing a path for critical thinking, dialogue, and knowledge sharing to develop in its place (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014).

**Trust, social development, critical dialogue, and knowledge construction.** Having prior knowledge of other members of the community and knowledge of the emotions attached to the information exchanged in dialogue leads to well-constructed and articulated arguments and counterarguments (Alagoz, 2013). Knowledge is a socially constructed process, and trust promotes a friendly atmosphere for an exchange to occur among virtual community members (Serdyukov, 2015). With the perception of trust acknowledged among the community, members interact without fear of reprisal or feelings of judgment by others (Serdyukov, 2015). Members

of a learning community who perceive a mutual benefit tend to have a favorable attitude toward sharing knowledge among others (Killingsworth et al., 2016).

Trust is the trigger necessary for a positive attitudinal expression among the virtual learning community; it is a trust that paves the way for knowledge sharing to develop from an exchange of critical dialogue as the catalyst (Killingsworth et al., 2016). Those in the community who derive pleasure from helping others in the community by openly sharing their knowledge tend to have a positive influence on the attitude of the broader community (Killingsworth et al., 2016). This positive behavioral expression could induce groupthink, a practice that discourages creativity and individual responsibility, and encourages trusting behaviors among others within the community (Breitsohl, Wilcox-Jones, & Harris, 2015).

Positive behaviors exhibited by members help to encourage a trust perception to develop and grow; dynamic attitudinal expression encourages communication to become an increasingly valuable continuous process (C. Kim et al., 2014). Knowledge sharing occurs when critical dialogue rises beyond an information exchange to a more valuable interaction process and the construction of new or improved knowledge of critical concepts (Killingsworth et al., 2016). A simple informational exchange utilizes only automatic cognitive processes; consequently, anything exchanged without critical thinking is less valuable to virtual students' academic development than exchanges that involve critical thinking (Chae, 2016; Duncan et al., 2012; Fish & Wickersham, 2009; Oh & Lee, 2016).

Fostering sustained knowledge creation and sharing is challenging in the virtual world (Booth, 2012). Influential members of a community can play an important role in the discussion process; their participation keeps a community focused and on task. Cohesiveness of the community helps to engage and drive forward a social learning process (Booth, 2012;

Killingsworth et al., 2016). The concept of trust, communication, and behavior support and complement each other (Ford et al., 2017; Schiller et al., 2014). The influence of a trust perception helps to elevate the communications for an online community of learners; in turn, quality communication processes positively influence behavior and a trust perception over time (Ford et al., 2017; Schiller et al., 2014).

**Optimizing the online environment.** An online instructor or discussion facilitator's direct involvement in the virtual classroom can help in shaping a participant's understanding of essential concepts, so these concepts are more useful in the real world. A facilitator's participation can aid in refining perspectives for students; this refined perspective helps build cognitive structures necessary for students to absorb new and improved knowledge (Duncan et al., 2012). Newly advanced knowledge combined with existing knowledge leads to enriching students' understanding of critical concepts over time (Duncan et al., 2012; Oh & Lee, 2016; Saerberg, 2011). There is agreement in the literature that the online learning process must allow students sufficient time for embedded reflection and engagement among peers; supportive facilitator guidance helps to maximize the learning benefit potential by encouraging student reflection (Duncan et al., 2012; Lai, 2015; Vázquez-Cano et al., 2015).

Toward the goal of ensuring an optimal virtual learning experience, instructors should pay attention to the duration of discussions. Online discussions must be sufficiently lengthy to develop course concepts adequately for students; instructors can ensure this development of concepts and ideas by monitoring the virtual student's facilitation techniques, such as finding enjoyment in the learning materials and the achievement of shared learning goals (Păstae, 2016). Leadership of a university must consider group size because a large group of online learners must navigate around numerous differences of individual perception (Păstae, 2016). A learning

community that is too large could lead the majority of the community to experience confusion and uncertainty; as such, an abnormally large number of participants offers members little more than hardship from an unproductive learning and development process (Păstae, 2016). Too much ambiguity can lead to frequent misunderstandings, unnecessary stress, and unhealthy levels of anxiety for the community as a whole (Booth, 2012; Chae, 2016; Geise & Baden, 2015). Feelings or expressions of uncertainty are a sign that trust is underdeveloped or potentially nonexistent (Booth, 2012; Chae, 2016; Geise & Baden, 2015).

A less than optimal learning and development process is an unacceptable proposition, given current understandings of solutions for the common problems in the virtual learning process (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). It is harder to develop trust and to trust the actions of others in an online community without having valuable knowledge elicited from emotional cues available for sensemaking. Emotions, including verbal and facial expression and body language, made available through face-to-face exchanges can help to resolve uncertainty and misunderstandings (Booth, 2012; Chae, 2016; Geise & Baden, 2015; Lai, 2015). The emotional component is less evident in virtual communication, a limitation in a digital information exchange that inhibits immediate and accurate understanding and increases the potential for confusion (Booth, 2012; Chae, 2016; Geise & Baden, 2015; Lai, 2015).

Unlike a conventional trust that forms and grows over time through gaining confidence in the actions or benevolence of another or a particular environment, swift trust is a lesser form of trust that is fragile and fleeting (Toprak & Genc-Kumtepe, 2014). A swift trust can develop instantly in temporary learning environments. A virtual setting is highly conducive to the formation of a swift trust perception (Birdie & Jain, 2016; Cleveland-Innes & Campbell, 2012;

Crisp & Jarvenpaa, 2013; Ennen et al., 2015; Espinosa et al., 2015; Ford et al., 2017; Robert et al., 2009; Saonee et al., 2011; Toprak & Genc-Kumtepe, 2014; Wenbo et al., 2017). With the introduction of swift trust underlying virtual communications, and in acknowledging that dialogue grows and develops on a foundation of trust, a communicator's critical thinking processes can develop on a lesser form of trust. Similarly, knowledge construction and the acquisition of new or improved knowledge are refined and developed over time, ideally while maintaining the trust-inducing properties of a swift trust (Lai, 2015).

Knowledge sharing occurs among the virtual community as a benefit of members of the community perceiving the existence of a trust (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014). Knowledge-based trust and relationships develop to a degree as an additional benefit if a continued, active, quality back-and-forth interaction process occurs among members of a community (Espinosa et al., 2015; Robert et al., 2009). Over time, members of the virtual community obtain information about the ability, benevolence, and integrity of others in the community (Booth, 2012; Robert et al., 2009). In accumulating positive information about others in the community, a swift trust begins to disintegrate on the diminishing characteristics of others in the community and a knowledge-based trust develops in its place (Espinosa et al., 2015; Robert et al., 2009).

### **Swift Trust**

Robert et al. (2009) theorized that a cognitive trust grows on one of two paths. In the first path, cognitive trust develops swiftly and automatically through cognitive processes, referencing a script built on a historical narrative that invokes similarities to a current situation and foretells a positive outcome (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Robert et al., 2009; Stryker, 2011). In the second path, cognitive trust emerges from knowledge acquired between

the trustor and trustee during previous collaborations (Robert et al., 2009). The first path builds a swift trust, and the second path encourages a knowledge-based trust to develop on knowledge learned about the other party from within a shared experience (Robert et al., 2009). Trusting intentions and trusting beliefs are essential to developing a high level of swift trust. These two key concepts differ: the notion of trusting beliefs is a perception that one holds about another person's level of trustworthiness, while trusting intentions reflects a party's willingness to engage in trusting behaviors with others (Pinjani & Palvia, 2013; Robert et al., 2009).

Unlike a swift trust, knowledge-based trust develops cognitively on the influences of antecedents of the trust, the traditional definition of the trust being a perceived level of ability, benevolence, and integrity of the other party (Espinosa et al., 2015; Robert et al., 2009). The operationalized definition of knowledge-based trust is made in the context of the online learner. A *knowledge-based trust* is what a person perceives about others in a working relationship. A knowledge-based trust is one that considers attitude, behavior, commitment to the task and a person's concern for others in the community in its formation (Carter, 2015; Morgan et al., 2014; Patel, 2014; Robert et al., 2009). While swift trust eventually collapses on the diminishing characteristics of others in the community over time, a knowledge-based trust continues to grow on experiences with another party, thus conforming to the operationalized definition (Espinosa et al., 2015; Robert et al., 2009).

Toprak and Genc-Kumtepe (2014) advanced the concept of a swift trust, noting that it is fragile and temporal, and more likely than traditional trust to dissipate over time without having an occasional face-to-face connection among the community as a whole. In communication, students acquire information, leading to understanding the habits and reliability of others over

time. As a swift trust dissipates, a knowledge-based trust develops if a particular trust assessment supports its development (Toprak & Genc-Kumtepe, 2014).

**To extend or withhold trust.** Unlike online communication, a face-to-face exchange process provides an extended range of information for the virtual student to use in making a trust assessment; in synchronous communications, voice and visual expression are attached to a communication experience and provide almost a complete informational narrative (Morgan et al., 2014; Toprak & Genc-Kumtepe, 2014). Because online communication affords participants only limited emotional information, a participant's perception at that moment in time has an influence on the trust assessment she proffers on another party (Booth, 2012; Chae, 2016; Geise & Baden, 2015). A strong group identification with the learning community and intragroup alignment with other students in virtual collaborations increase the likelihood of positive biases toward other virtual students (Robert et al., 2009).

Swift trust develops as a category-matching process. Students are more inclined to trust other students in a community if they perceive similar in-group characteristics (Robert et al., 2009; Schiller et al., 2014). People tend to focus their attention on information that explains the other in a community and that confirms an initial trust judgment. Once applied, an initial trust judgment can survive, to a degree, any contradictory information expressed after the fact (Robert et al., 2009). For example, people tend to ignore future positive or negative information that might provide them with a more accurate understanding of people with whom they have previously interacted than with people they have only just met and about whom they are relying on initial impressions (Robert et al., 2009). Individual perception influences the initial development of a swift trust; a negative first impression impedes or limits the potential for this trust to develop (Robert et al., 2009).



There are three requirements for the initial formation of a swift trust: two such requirements are perceiving similar characteristics and applying a positive trust assessment of others' intentions (Robert et al., 2009; Schiller et al., 2014). The final requirement is communication: the first communications expressed among a community can elicit a swift trust perception (Ford et al., 2017; Lai, 2015).

**Influence of communication on a swift trust.** Ongoing, frequent, and minimally delayed interactions maintain the integrity of a fragile swift trust perception (Booth, 2012; Cleveland-Innes & Campbell, 2012; Lai, 2015; Saonee et al., 2011; Tseng & Yeh, 2013). A swift trust has properties similar to those of a traditional trust. With a swift trust in place, without fear of judgment, the participant expresses personal information or pulls from experiences in providing a quality response in task-based discussions (Crisp & Jarvenpaa, 2013). Over time, and as the discussion process develops, so does the level of dialogue; as critical dialogue develops, so does knowledge-based trust, building on the positive actions and behaviors exhibited by others (Espinosa et al., 2015; Robert et al., 2009). A continuous discussion process aids in promoting a sense of community identification, which keeps the properties of a swift trust intact (Robert et al., 2009). Computer-aided communication adversely affects trust and development of trust because users perceive an increased risk from the technology (Robert et al., 2009).

Schiller et al. (2014) observed that a high level of trust develops in new virtual relationships. Schiller et al. argued that new virtual communities possess a high degree of trust that gives community members a mutual predisposition to place trust in others, the institution, and other people's actions that promote this illusory trust. Social categorization based on the perception of community affiliation can lead the online learner to have high levels of trusting

beliefs (Pinjani & Palvia, 2013; Schiller et al., 2014). Lively, continuous, active, and enthusiastic interactions among new online students maintain an already developed swift trust (Birdie & Jain, 2016; Honglei et al., 2016; Schiller et al., 2014). Communications among virtual participants must flow with minimal send-receive delays. Frequent communication and verification among the community that the learning environment is suitable and vulnerabilities and the unexpected can be managed are action cues necessary for maintaining the integrity of the swift trust (Honglei et al., 2016; Saonee et al., 2011; Schiller et al., 2014; Toprak & Genc-Kumtepe, 2014). If members suddenly become disengaged from active task-based discussions and communication stop, the swift trust and its trust-inducing benefits collapse (Saonee et al., 2011).

Swift trusts promote active communication that, in turn, reinforces the existence of the swift trust. Members understand there is a need for a high degree of confidence in managing uncertainty, risk, and points of vulnerability associated with active participation of the whole community (Birdie & Jain, 2016). However, swift trusts do not require a highly developed social connection, unlike traditional trust; as a result, strong interpersonal relationships are unimportant to the development of a swift trust (Birdie & Jain, 2016). In fact, the social component is not emphasized in a swift trust; the swift trust is predicated on the perception of members of the community having similar characteristics with others in the community and through sharing a common identity thread with other members (Birdie & Jain, 2016). Ford et al. (2017) theorized a slightly different perspective on swift trust, emphasizing the importance of active communication over other influences in its initial formation (Honglei et al., 2016; Saonee et al., 2011; Schiller et al., 2014; Toprak & Genc-Kumtepe, 2014).

**First impressions matter in a swift trust.** Communication is more valuable to the formation of a swift trust than some researchers have identified (Birdie & Jain, 2016; Robert et al., 2009; Schiller et al., 2014). Swift trust forms on the first communications among members of a virtual learning community; these first communications help to frame whether one member is perceived more similar or less similar from one to the next (Ford et al., 2017; Lai, 2015). The information expressed in the initial communications within a virtual community, influences members to apply a positive or negative trust judgment on others within the community; as such, first impressions do matter in forming and developing a swift trust (Ford et al., 2017). Once an impression forms from a judgment made, it is hard to alter that impression positively or negatively in subsequent communications (Ford et al., 2017). Maintaining a swift trust and preventing it from dissipating requires action from the whole of the community (Ford et al., 2017; Honglei et al., 2016; Saonee et al., 2011; Schiller et al., 2014; Toprak & Genc-Kumtepe, 2014).

Communications among virtual participants must flow with minimal send-receive delays; participants who delay an exchange process are perceived as less credible than participants who respond promptly, and are thus deemed untrustworthy (Ford et al., 2017). The transient nature of a swift trust is explained by the way it was formed: through cognitive processes within a collective of a virtual temporary community (Crisp & Jarvenpaa, 2013). In cognitively processing information, individuals emphasize belief in another person's abilities, reliability, and capabilities; as such, an unexpected negative experience of consequence among one or more members of a virtual community can cause a swift trust to evaporate rapidly (Crisp & Jarvenpaa, 2013). When swift trust underlies a virtual community, members exchange information as if a conventional trust were present. Participants continuously verify that conditions allow for

managing vulnerabilities and the unexpected in communicating (Crisp & Jarvenpaa, 2013). The active communication that reinforces the properties of a swift trust helps to mediate the potential for overconfidence (Crisp & Jarvenpaa, 2013).

**Characterizations, initial communications, and a swift trust.** Swift trust is more commonly associated, observed, and found in virtual temporary environments that have a transitory membership (as is the case in a virtual learning community), as compared to face-to-face environments (Crisp & Jarvenpaa, 2013; Ennen et al., 2015; Robert et al., 2009). Swift trust forms in temporary groups, communities, and settings where members do not feel a sense of permanency or belongingness (Ennen et al., 2015; Li et al., 2014; Schroeder et al., 2016). In a virtual learning community, students new to online learning likely lack experience with the underlying technology or knowledge of other participants in the community. For new participants, tasks are likely perceived as unfamiliar and complicated (Ennen et al., 2015). New participants have little time to socialize with others because, beyond adapting to the technology, they must manage complicated tasks that are accompanied by strict deadlines (Crisp & Jarvenpaa, 2013; Ennen et al., 2015). Because a social exchange is unimportant to the formation of a swift trust, a participant's positive perception of other members of the learning community is crucial to the initial formation of swift trust (Crisp & Jarvenpaa, 2013).

A person's categorical information represents her in-group characteristics, including her gender, age, physical features, intelligence, and status. Holding a positive trust intention of others at the onset is valuable to forming a swift trust perception; holding a negative trust intention impedes development of the trust (Crisp & Jarvenpaa, 2013; Ennen et al., 2015; Robert et al., 2009). For a swift trust to achieve its full potential, members must perceive similar characteristics with other members of the community (Crisp & Jarvenpaa, 2013; Ennen et al.,

2015; Robert et al., 2009). The member makes a trust judgment on others from any available information and decides whether to hold back or extend trust (Ennen et al., 2015). Jarvenpaa, Knoll, and Leidner (1998) theorized that swift trust originates from the first electronic communications between parties (Ford et al., 2017; Lai, 2015); the initial level of trust extended to others at the onset helps to frame anticipated behaviors of the community going forward.

A swift trust develops no further from its initial point of inception (Ford et al., 2017; Jarvenpaa et al., 1998; Lai, 2015). A swift trust reaches its maximum degree of development when it first forms and does not grow over time (Ennen et al., 2015). For a swift trust to underlie the communication process, all of the community must initiate and reply to discussions promptly. Action cues help to verify that there is a high level of commitment to the task in a virtual community and a willingness of members to be vulnerable within discussions (Ennen et al., 2015).

Institutional trust is essential to the development of a swift trust; this assertion is especially true when members of the community have no prior knowledge of another member's cultural or social background (Wenbo et al., 2017). A variety of factors influences a participant's decision-making process over her willingness to extend or withhold institutional trust (Wenbo et al., 2017). Infrequent communication with other participants challenges the integrity of swift trust; if virtual participants experience an identity violation or question the integrity of the institution (loss of institutional trust), they might fear the disclosure of personal information is not worth the risk, thus collapsing an existing swift trust perception (Saonee et al., 2011). A loss of institutional trust damages the collaborative engagement process (Saonee et al., 2011). Collaborative discussions are most effective when the entire community expresses strong

commitment to the community at large through an active exchange of communications (Saonee et al., 2011).

A participant's high level of responsiveness within an exchange process is critical for the integrity of a swift trust perception. A trust judgment considers a participant's level of commitment to support the academic process (Saonee et al., 2011; Wenbo et al., 2017). A participant demonstrates by action her level of willingness to address tasks responsibly; others in the community base their trust decisions to extend or withhold trust from that information (Saonee et al., 2011). Virtual students' communication styles can have a considerable impact on the degree of swift trust that initially develops (Saonee et al., 2011). Students can support a swift trust and its initial formation, as well as maintain its integrity by employing a social communication style and expressing enthusiasm in interactions from the onset (Saonee et al., 2011). Leadership should never assume that the virtual student understands the rules to interact effectively with others (Saonee et al., 2011).

Any level of interaction within a community, if consistent and enthusiastic, is helpful for sustaining the trust-inducing properties of a swift trust from dissipating too quickly (Saonee et al., 2011). Members of a virtual learning community likely have limited information on other members and limited historical information on which to make an initial trust assessment. It is essential that members of the community maintain their focus on collaborative tasks; by having a set goal in mind, there is less chance of experiencing distraction and loss of focus (Saonee et al., 2011; Yang, Tong, & Teo, 2015).

## **Conclusion**

Aside from the complexity of engaging in virtual communication, it is more complicated to build a traditional form of trust in a virtual setting that participants perceive is temporary than

to build trust among a community in a traditional brick-and-mortar setting (Crisp & Jarvenpaa, 2013; Ennen et al., 2015). If members of the community are inclined to extend trust to others based on others' actions, behaviors, and intentions, then an interpersonal or knowledge-based trust type can form on information gathered from others over time. Knowledge-based trust forms from positive information that defines the character, actions, and credibility of the other party (Booth, 2012; Ennen et al., 2015; Robert et al., 2009; Saonee et al., 2011). If the virtual student is socially awkward in a temporary learning environment, she can expect to encounter difficulty extending a valuable character assessment on other members (Booth, 2012; Chae, 2016; Geise & Baden, 2015). Social exchange and development among online students are a necessary driver for elevating communication processes. While engaging in social communications in an online environment can be a blessing or a curse: too much socializing can inhibit academic development, but too little inhibits trust from forming or growing (Plešec Gasparic & Pecar, 2016).

The complexity of social development in the confines of a virtual environment cannot be understated (Pettersen, 2016; Sadykova, 2014). In the development of a conventional form of trust, social development is a key element (Pettersen, 2016; Sadykova, 2014). Trust is an essential element to all learning and academic development; it serves as a mediating influence when it underlies virtual communications (J. Kim et al., 2016; Plešec Gasparic & Pecar, 2016; Sergeeva, 2017). When trust underpins a discussion process, the interaction can move from an exchange of information involving automatic cognitive processes to engage others in reflexive dialogue and higher order thinking (Alsharo et al., 2017; Anshari et al., 2016; Cooke, 2016; Lilian, 2014; Nam, 2014). Unlike a traditional trust type, the initial formation of a swift trust

does not rely on social development (Cleveland-Innes & Campbell, 2012; Crisp & Jarvenpaa, 2013; Ennen et al., 2015; Ford et al., 2017; Robert et al., 2009).

Swift trust includes all the benefits of a traditional trust type, but it is fragile and fleeting; the online learner must verify from action cues that she can comfortably manage her vulnerabilities, as well as unexpected events, or swift trust collapses (Honglei et al., 2016; Toprak & Genc-Kumtepe, 2014). Swift trust is a lesser form of trust, compared to a conventional trust type. A virtual learning community is temporary and transient; as such, it requires a nontraditional form of trust solution (Cleveland-Innes & Campbell, 2012; Crisp & Jarvenpaa, 2013; Ennen et al., 2015; Ford et al., 2017; Robert et al., 2009). Trust is the element found in all optimal learning environments; trust helps to influence perception and communication more positively than if a trust were minimal or nonexistent (Cleveland-Innes & Campbell, 2012; Geise & Baden, 2015; Wenbo et al., 2017).

**Toward improving the online learning experience.** If members of the online community perceive others as sharing characteristics similar to their own and trust others in general, then a swift trust can form based on the initial communications of the community (Birdie & Jain, 2016; Ford et al., 2017; Robert et al., 2009; Schiller et al., 2014). It is essential to the formation of a swift trust to ensure that members of the community apply positive information in their first communications. Those in the community who derive pleasure from helping others in the community by openly sharing their knowledge have a positive influence on the attitude of the broader community (Killingsworth et al., 2016). This positive behavioral expression could induce groupthink, contributing to encouraging trusting behaviors among others in the community (Breitsohl et al., 2015). Groupthink could help drive a positive trust



assessment, so it is important that the majority of students, from one class to the next, extend a positive trust assessment onto others (Breitsohl et al., 2015).

Swift trust does not develop beyond its initial formation (Birdie & Jain, 2016; Ford et al., 2017; Robert et al., 2009; Schiller et al., 2014). A swift trust disintegrates over time on the diminishing characteristics of others in the community (Espinosa et al., 2015; Robert et al., 2009). Communication and verification are the action cues that help to slow the erosion process of a swift trust (Ennen et al., 2015). Additional action cues are a participant's active, energetic, and quality communications; responding to task-based discussions promptly; and the continuous verification of willingness of the community to be vulnerable in communication (Ennen et al., 2015). A virtual student who acknowledges the complexities of her virtual learning environment as part of her ongoing and active participation in the environment also demonstrates signs that a swift trust is present (Booth, 2012; Robert et al., 2009; Saonee et al., 2011).

When trust underlies the communications of a learning community, discussions are more productive (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). A swift trust promotes a reflexive discussion process and allows interactions to develop over time beyond a simple exchange of information to a critical exchange of dialogue (Booth, 2012; Robert et al., 2009; Saonee et al., 2011). As task-based discussions continue to grow and develop, members of the community begin to construct new knowledge and, over time, refine reference point understanding with increased value (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014; Saerberg, 2010). A continuous back-and-forth exchange of information in virtual discussions is self-correcting because this exchange creates shared meaning between participants (Carter, 2015; Espinosa et al., 2015; Lai, 2015; Morgan et al., 2014). Eventually, members come to understand a similarity in words, phrases, and concepts exchanged; a valuable learning

community benefits from an active, quality communication process (Casey, 2012; Oh & Lee, 2016; Wenger, 1998).

Eventually, a swift trust erodes, reflecting the diminishing characteristics of others in the community (Espinosa et al., 2015; Robert et al., 2009). An active, energetic communication process among participants helps to maintain the integrity of a swift trust perception (Birdie & Jain, 2016; Schiller et al., 2014). A knowledge-based trust is based on attitude, behavior, commitment to the task, and a person's level of benevolence for others in the community, particular at the time of its formation (Espinosa et al., 2015; Robert et al., 2009). The community must work together as a collective to keep a swift trust intact, their actions contain the necessary elements for a knowledge-based trust to develop and grow (Espinosa et al., 2015; Robert et al., 2009). An instructor's involvement in discussions could help to promote the conditions of an optimal environment in which to maintain a swift trust perception and develop a knowledge-based trust as a benefit of continued maintenance of the swift trust (Çelik, 2013; Oh & Lee, 2016). Online instructors should encourage a dynamic online discussion exchange with minimal delays to create a knowledge-based trust, the growth of which eventually replaces the swift trust, which diminishes over time (Espinosa et al., 2015; Robert et al., 2009). Eventually, the more robust knowledge-based trust can replace the fragile swift trust (Espinosa et al., 2015; Robert et al., 2009).

Online discussion facilitators should never assume that online students understand all of the rules for effectively interacting with others in an online environment (Saonee et al., 2011). As an ongoing process, facilitators should monitor the interactions and discussions of a community, elevating the conversation when appropriate, to ensure full involvement throughout the membership. A facilitator's participation can aid in refining students' perspectives, helping

them to refine their cognitive structures and thereby absorb new and improved knowledge (Duncan et al., 2012). The interactions of a community must be of sufficient quality to promote the development of shared concepts for ongoing discussion and knowledge exchange (Păstae, 2016). The community must actively engage in productive dialogue for the co-construction of knowledge to occur (Carter, 2015; Lai, 2015; Morgan et al., 2014). Influential members of a community can play an important role in the discussion process; their participation helps to engage and drive social learning and academic development for all involved (Booth, 2012; Killingsworth et al., 2016).

There is a positive correlation between active discussions and a student's academic development; instructors can help to minimize social distance among students by motivating a dynamic and active discussion process (Çelik, 2013; Oh & Lee, 2016). Interaction that enhances a student's social presence is a motivating influence (C. Kim et al., 2014). A community relies on social development to motivate higher order thinking processes (Plešec Gasparic & Pecar, 2016). Engaging students in topics that evoke self-interest can elevate their excitement in discussions; this excitement is contagious, and can promote positive energy throughout the community (Alsharo et al., 2017; Wu et al., 2016). Members of the community who perceive a mutual benefit of engaging in discussions tend to have a favorable attitude toward sharing knowledge with others (Killingsworth et al., 2016).

Frequent communication on topics of interest elevates shared meaning for the community, encouraging social interaction to develop at the same time (Pettersen, 2016). A lack of shared understanding can lead to an imbalance of commitment and uncertainty among members of the community, causing frustration. Participants' negative emotional experiences, if unaddressed, can negatively impact not only their individual participation, but also the whole

community due to the loss of involvement (Espinosa et al., 2015; Schiller et al., 2014). Members of the community who have diverse perspectives, knowledge, and skills help to maximize task-based discussions in the community (Patel, 2014). Learners perform better when they engage in activities that spark self-interest on assigned tasks; interest-driven activities help to facilitate learning and development for students and the broader community (Alagoz, 2013).

Small, intimate class size encourages productivity and is conducive to developing and effectively maintaining a swift trust. Learners must navigate numerous individual perceptible differences in communicating, and an overly large class size only leads to confusion and uncertainty (Akcaoglu & Lee, 2016; Păstae, 2016). It is essential to a swift trust perception that students maintain a task-based focus and avoid distractions (C. Kim et al., 2014). It is more efficient to direct the student's attention toward task goals from one task to another because this approach promotes an optimal focus (C. Kim et al., 2014; Yang et al., 2015). Facilitators can encourage an optimal virtual learning platform by explaining the risks of the environment and limitations of online communication to students at the beginning of the virtual learning experience (Espinosa, 2015; Morgan et al., 2014). Any level of interaction among members of a community, if consistent and enthusiastic, is helpful for sustaining the trust-inducing properties of a swift trust and protecting them against dissipating too quickly (Saonee et al., 2011).

### **Chapter 3: Methodological Approach and Rationale**

Chapter 3 provides the framework that composes the methodology utilized in this study. The chapter begins with an introduction to explain multiple regression (MR), followed by a discussion about the logic for implementing this particular quantitative research paradigm. After the introduction, the discussion moves on to highlight the methodological framework guiding the study to include: (a) population, (b) sampling plan, (c) operational definition of the variables, (d) materials/instruments, (e) data collection and analysis procedures, (f) ethical considerations, and (g) assumptions. The chapter concludes with a discussion highlighting the research method, data collection strategy, the rationale of this methodological design, ending with a summary (Chen, 2006; Jones, 2013).

The methodological design in this study utilized MR to predict whether a statistically significant relationship existed between the predictor and criterion variables in focus (Chen, 2006; Jones, 2013; Tang, 2014). In achieving that objective, a multiple regression analysis (MRA) of the predictive and criterion variables predicted the degree of contribution of a predictive variable to an overall effect (Chen, 2006; Jones, 2013; Tang, 2014). The MRA applied to the survey data predicted the contribution of a predictor in four MR models, arriving at criterion values from one predictive model to the next (Chen, 2006; Jones, 2013; Tang, 2014). Each of the contributing predictor and criterion values captured in each MRA supplied the statistical information to answer the research questions in focus successfully (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). In having established the contribution of a predictive variable to an overall effect, the statistical information composing the predictive models tested and confirmed the validity of the underlying

theoretical framework (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014).

This particular methodology was wholly appropriate for the objective of the study—to understand the trust-inducing properties of a swift trust (Creswell, 2014; Rumrill & Bellini, 2000). Performing the MRA enabled the successful capture of the nature and magnitude of the relationships between the predictor variables and criterion variables of focus (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). In concert with addressing the purpose and research questions in this study, the MRA first predicted virtual students' trust perception. The relationship between the predictive variables to the criterion variable of swift trust analyzed virtual students' level of swift trust perception (Chen, 2006; Jones, 2013; Tang, 2014). Having predicted whether the virtual student perceived a swift trust among others of the learning community from results of the MRA conducted using the first model, the MRA conducted using the subsequent models could proceed to predict the relationship between the predictive variables and the criterion variables of critical dialogue, knowledge sharing, and social development (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). The results of the MRA conducted on all four predictive models predicted whether a swift trust led to critical dialogue, knowledge sharing, and social development (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014; Tang, 2014). The predictive variables in this study were (a) similar characteristics, (b) communication quality, (c) gender, (d) age, and (e) experience (in months). The criterion variables were (f) swift trust, (g) critical dialogue, (h) knowledge sharing, and (i) social development (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Schiller et al., 2014; Tang, 2014).

The logic for choosing one methodology over another was the effectiveness of a particular methodology in addressing the purpose and the research questions in this study appropriately (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016). Several previous studies on swift trust and their associated methodologies aided in determining the usefulness of a quantitative design at providing an effective response. Seven similar swift trust studies utilized a quantitative methodological design to determine the influence of swift trust on communication (Brahm & Kunze, 2012; Chandra et al., 2012; Crisp & Jarvenpaa, 2013; Ennen et al., 2015; Robert et al., 2009; Schiller et al., 2014). These studies employed a non-experimental design at a minimum; all seven studies contributed valuable knowledge toward advancing scientific research (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016).

It is vital to ensure that a particular methodological design produces generalizable findings. In this study, a random sample of a defined population helped to ensure a degree of generalizability in the findings (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016). The data in this study came from responses to a survey administered to online students in the United States (see Appendix F). Survey participants arrived at the survey voluntarily and proceeded anonymously at all times (NIH Office of Extramural Research, 2017). The data in this study and any related findings came from a participant's responses to a previously validated swift trust survey instrument, see Appendix H (Pinjani & Palvia, 2013). A random sample of a defined population of online students helped in safeguarding a degree of generalizability (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016). As such, the findings produced from the data may have a degree of relevance to other online students at the graduate level in the United States (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016). Having generalizable findings

supports the replicability of a research study. The value of a replicable study is in its potential value for advancing scientific research (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016).

Secondarily, an optimal design choice had to be a methodology that posed the least amount of risk to study participants (NIH Office of Extramural Research, 2017; Schuh & Jones, 2011). Much thought went into the initial development as choosing a practical design merited significant consideration; a design type that was least likely to affect a participant's time or academic potential negatively (NIH Office of Extramural Research, 2017; Schuh & Jones, 2011). Many of the participants were mature adults, which meant they likely had to navigate their academic activities around full-time employment, as well as home and family obligations (Jung et al., 2012; Keopuhiwa et al., 2012; Tsai et al., 2015). This combination of commitments likely impinged on their available time, limiting any extracurricular involvement (Jung et al., 2012; Keopuhiwa et al., 2012; Tsai et al., 2015). If a particular methodological design limited a participant's academic potential, it is logical to assume this factor would negatively affect survey participation (NIH Office of Extramural Research, 2017; Schuh & Jones, 2011).

Although the initial data collection strategy failed to gather even a single response, this failure provided valuable knowledge, leading to a workable alternative strategy. Upon Institutional Research Board (IRB) approval, the initial design goal of the data collection strategy was to target leadership at five faith-based universities (See Appendix A and J). When contacted, the department heads targeted at each of the institutions (Best Colleges, 2017; U.S. News & World Report, 2017) expressed or implied a similar experience and objection. They were overwhelmed by the number of external requests received to conduct scientific research on their online student population. They voiced their reluctance to distract from a student's academic potential (Best Colleges, 2017; U.S. News & World Report, 2017). If a particular



methodology was perceived to require an excessive time commitment from students, regardless of its potential value to scientific research, the study likely would be objectionable to the leadership of the university (NIH Office of Extramural Research, 2017).

In deciding on a particular methodology over another, logic dictated that the majority of university leadership or the online students from one institution to the next would likely find it problematic if a particular methodological design would have had me communicating directly with students (NIH Office of Extramural Research, 2017). Beyond the more obvious constraints of time that come attached to an interview process, university leadership likely would be unable to intervene if parties encountered difficulty during the interview. Direct researcher-student interaction is fraught with potential risk; therefore, the best option was to minimize any form of distraction that could negatively affect a student's academic potential (NIH Office of Extramural Research, 2017). Comparatively, participants could complete the 28-question survey incorporated into this study in approximately four minutes (Pinjani & Palvia, 2013; SurveyMonkey, 2018). This combination of concerns—with students' lack of free time the overriding concern—led to choosing a non-experimental research design as the most appropriate option, adequate to respond to the research objective (Creswell, 2014; Schuh & Jones, 2011). In ultimately deciding on a non-experimental methodology, this researcher sought approval to use a validated 23-question swift trust survey instrument and five additional demographic questions (see Appendix G). The 28-question survey, along with an efficient data collection strategy, supported a process for collecting a sufficient quantity of data from participants for the results of each analysis to contain some value to scientific research (Creswell, 2014; Pinjani & Palvia, 2013; Rumrill & Bellini, 2000).

## Population

There are approximately 208,000 master's degree students enrolled in distance learning programs at Title IV-eligible, 4-year public colleges and universities in the United States (U.S. Department of Education, 2014). Some 93,600 (45%) of these students are enrolled in Master of Business (MBA) and Master of Education (MEd) programs (National Center for Education Statistics [NCES], 2018; U.S. Department of Education, 2014), and made up the study population from which participants were recruited. The two primary sources utilized for recruiting the majority of survey participants were the websites FindParticipants and LinkedIn. SurveyMonkey (2008) staff referred a small percentage of qualifying participants (see Appendix B and D). The total target population composing the primary and secondary sources was  $N = 3,197$  (FindParticipants, 2018; LinkedIn, 2018; SurveyMonkey, 2018). In placing the highest level of restrictions on the data collection process, the anonymity features of the SurveyMonkey platform protected participants' anonymity throughout the survey process (NIH Office of Extramural Research, 2017). The data collection environment on the SurveyMonkey platform protected participant confidentiality, a feature that added value to the reliability of the data (Creswell, 2014; Rumrill & Bellini, 2000; SurveyMonkey, 2018; Wrench, 2016).

## Sample

The total number of participants surveyed was  $N = 102$  (see Appendix E). The target population of online graduate students in MBA or MEd programs at 4-year universities within the United States was 3,197 (FindParticipants, 2018; LinkedIn, 2018; SurveyMonkey, 2018). Using the formula  $n = [Z^2 * p * (1 - p) / C^2]$ , the  $Z$  value was set at a 95% confidence level, with a 10% margin of error when calculated for  $S = 94$  (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016). Several exclusionary factors limited participation: (a) degree program of study,

(b) interest for the topic, (c) familiarity with online technologies, (d) enrollment status, (e) online student, (f) English language fluency, and (g) 4-year colleges and universities in the United States.

### **Operational Definitions of Variables**

The following operational definitions of the variables in this research design were used to provide clarity and insight in understanding the relationships between variables and the purpose of this study (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016). Detailed definitions were used to define the key variables of focus in this study operationally. The key predictive variables in this study were similar characteristics and communication quality. Additional predictive variables were gender, experience (online learning experience, in months), and age (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). The criterion variables were swift trust, critical dialogue, knowledge sharing, and social development (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Kahane, 2007; Schiller et al., 2014; Tang, 2014; Jeong & Jung, 2016). Each variable is operationally defined and listed in alphabetical order below.

Age, as measured in years, was a predictive variable in this study (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). Additional demographic data collection may lead to a more accurate coefficient (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Robert et al., 2009; Saerberg, 2010; Stryker, 2011).

Communication quality was a key predictive variable in this study (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). Communication quality is operationally defined by virtual students' perception of task efficiency, harmony, timeliness on tasks, and the level of morale of the whole of the learning

community, learning enjoyment, and the quality of the work product produced by other students (Pinjani & Palvia, 2013). A swift trust develops from the initial communications expressed among students (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). Communication quality helps to protect the integrity of swift trust perception. Frequent discussions among the learning community indicate the presence of swift trust (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). Quality interactions suggest the development of critical dialogue and the potential for knowledge sharing and social development (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Robert et al., 2009; Saerberg, 2010; Stryker, 2011).

Critical dialogue was a criterion variable in this study; there are several factors that produce or suggest the presence of swift trust (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). A virtual student's perceptions of the communication quality and quantity of the work product produced by other members of the community operationally defined critical dialogue (Pinjani & Palvia, 2013). A statistically significant relationship between communication and critical dialogue suggests that knowledge sharing has taken place. The development of critical dialogue suggests that a stable swift trust has developed and underlays the student's online discussions (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Robert et al., 2009; Saerberg, 2010; Stryker, 2011).

Experience was a predictive variable. Factoring in additional variables, even though they might provide less valuable information, may lead to a more accurate coefficient (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Robert et al., 2009; Saerberg, 2010; Stryker, 2011). The new student is more likely to encounter communication challenges and uncertainty in interacting in discussions than would the more experienced student who has more familiarity with others and the online learning process. Communication challenges inhibit trust from developing for the

new virtual student (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Robert et al., 2009; Saerberg, 2010; Stryker, 2011).

Gender was also a predictive variable in this study (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). Factoring in additional variables, even though they might provide less valuable information, may lead to a more accurate coefficient. Women tend to communicate more than men in discussions (Jung et al., 2012; Keopuhiwa et al., 2012; Tsai et al., 2015). Women are a moderating influence on communication. It is not surprising to learn that critical dialogue developed among members who had a higher than average communications frequency in the online discussions (Campbell, 2010; Carter, 2015; Hauser et al., 2012; Powell, 2013; Robert et al., 2009; Saerberg, 2010; Stryker, 2011).

Knowledge sharing was a criterion variable in this study (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). A virtual student's perception of other students in sharing functional experience and know-how, and drawing on unique experiences in discussions with others in the community, defines knowledge building operationally (Pinjani & Palvia, 2013). If critical dialogue developed for the learner, there could be a significant relationship found between communication and knowledge sharing. The existence of knowledge exchanges suggests that a swift trust was present and influenced virtual communications; knowledge sharing/exchange could also indicate that the student was beginning to develop socially (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Robert et al., 2009; Saerberg, 2010; Stryker, 2011).

Having similar characteristics was also a key predictive variable in this study (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014).

If a student perceives others' characteristics as similar to her own, there is a higher likelihood of developing a swift trust perception than if the student perceives no characteristics similar to her own (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Robert et al., 2009; Saerberg, 2010; Stryker, 2011).

Social development was a criterion variable in this study (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). Social development was operationally defined by students' level of willingness to share information, and by their being helpful, friendly, reliable, and trustworthy (Pinjani & Palvia, 2013). The presence of social development both suggests the presence of a swift trust and indicates that a valuable exchange of dialogue occurred in discussions. The presence of social development also suggests that knowledge sharing has taken place between online students (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Robert et al., 2009; Saerberg, 2010; Stryker, 2011).

Swift trust was a criterion variable in this study; it shares a relationship with positive trust intention. A swift trust can explain why a quality communication process developed and knowledge sharing occurred among members of an online course, which is an inherently temporary virtual community (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). A swift trust perception can develop from the virtual participant's willingness to extend trust onto the actions of others in a temporary virtual community. In doing so, the participant perceives similar characteristics with others in the community and holds a positive trust intention based on their character and actions (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). All else being equal, a quality and frequent sustained exchange of communication within a virtual community leads to forming, developing, and helping to preserve the integrity of swift trust (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). A form of trust residing beneath

the discussions of a virtual community helps to encourage a critical exchange process to develop for the community over time (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). The relationship between the predictive variables of similar characteristics and communication quality to the criterion variable of critical dialogue can determine the degree of swift trust development. If social development occurred, a knowledge exchange would have occurred, and critical dialogue would have developed on the foundation of swift trust. If the discussions were productive throughout, a swift trust perception would have developed, and its integrity remained intact (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Robert et al., 2009; Saerberg, 2010; Stryker, 2011).

Trust intention was neither a predictive variable nor a criterion variable in this study, but shares a relationship with swift trust in terms of acquiring a swift trust perception (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). Students who are generally inclined to extend trust to others and trust others' intentions are more likely to develop a swift trust than students who do not extend trust (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Robert et al., 2009; Saerberg, 2010; Stryker, 2011).

### **Materials/Instruments**

Online graduate students who met the eligibility and exclusionary criteria and responded to a 28-question swift trust survey served as the source of the data for this quantitative design paradigm. Pinjani and Palvia (2013) granted permission to incorporate 23 survey questions selected from a previously validated swift trust survey into this study (see Appendix G). In Pinjani and Palvia's study, the findings predicted how swift trust influenced knowledge sharing benefits for teams and team members of a temporary virtual community. Acquiring author permission was a necessary element for adopting the survey instrument. Twenty-three survey

questions and five additional demographic questions were posed to the participants, and the answers were used to predict the relationship between the predictive and criterion variables (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). The interpretable data underwent an MRA to establish whether the trust-inducing properties of swift trust would lead to a critical exchange of dialogue, knowledge sharing, and social development in task-based discussions over time (Pinjani & Palvia, 2013).

Upon receiving IRB approval, potential participants proceeded of their own volition to a landing page on SurveyMonkey (See Appendix A and F). The landing page provided the potential participants with exclusionary information, followed by information on the purpose of the study and a detailed set of instructions designed to facilitate a quality, accurate, unbiased response process from one response to the next (Creswell, 2014; NIH Office of Extramural Research, 2017; Rumrill & Bellini, 2000; Wrench, 2016). Those participants who met the qualifications had the option to proceed and respond anonymously to the 28-question swift trust survey or leave (Pinjani & Palvia, 2013). The anonymous nature of the recorded survey prevented any potential for unethical contact (Creswell, 2014; Rumrill & Bellini, 2000; SurveyMonkey, 2018; Wrench, 2016). The data for this study came from participants' survey responses, which were recorded using a 7-point Likert scale (*strongly disagree* to *strongly agree*) that provided interpretable data (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016). The survey questions were sufficient and adequate for addressing the purpose and the research questions in this study (Creswell, 2014; Y. Kim, 2015; Pinjani & Palvia, 2013; Rumrill & Bellini, 2000; Wrench, 2016).

**Reliability and validity.** Pinjani and Palvia (2013) pretested their survey instrument to refine the wording of survey questions; this pretesting ensured that participants understood the



survey questions accurately. Pinjani and Palvia conducted an assessment on the survey scales for reliability, construct, convergent, and discriminate validity. James Rwg(J) indexes, with ICC(1) and ICC(2), were used to assess aggregated individual responses to group-level responses (Pinjani & Palvia, 2013). Pinjani and Palvia used Cronbach's alpha to establish internal consistency. The reliability coefficients of the variables used in Pinjani and Palvia's study ranged between 0.64 and 0.93—an acceptable range. In assessing construct validity, item-to-correlated-total variable correlations was 0.04—below the acceptable limit (Pinjani & Palvia, 2013). Pinjani and Palvia conducted a factor analysis on principal components of the survey instrument with Kaiser criterion and VARIMAX rotation; each of the components was within an acceptable range. Shared knowledge had factor loadings ranging from .082 to 0.86, mutual trust ranged from 0.74 to 0.86, and member satisfaction a single factor structure of .056 to 0.86 (Pinjani & Palvia, 2013). A multitrait/multimethod matrix approach was used to examine convergent and discriminant validity; with each construct, the correlations on the validity diagonal were greater than zero ( $p < 0.001$ ), indicating that convergent validity was established (Pinjani & Palvia, 2013). Pinjani and Palvia reassessed and analyzed all scales to determine a most reliable design for measuring the variables and constructs.

### **Procedure for Data Collection and Analysis**

Participant anonymity and data security were priorities in the methodological design (NIH Office of Extramural Research, 2017). Unauthorized access to confidential data was prevented by the integrity of the SurveyMonkey platform (a secured cloud storage platform), data-file encryption, and password protection, all of which provided an appropriate degree of digital security (NCH Software, 2017; PasswordsGenerator.net, 2017). A randomly generated password was used to increase security, protecting the stored data, because using a complicated

string of text makes decrypting the data impossible with currently published technology (PasswordsGenerator.net, 2017). This level of protection afforded participants a high degree of confidence, ensuring the security of private digital information (NCH Software, 2017; PasswordsGenerator.net, 2017).

In addition to storing files digitally behind encrypted access, a locked filing cabinet secured any physical documents, including notes, forms, receipts, copies, and acknowledgments (Chen, 2006; Jones, 2013; NIH Office of Extramural Research, 2017). All items stored will remain available for authorized retrieval for a 5-year period after the study formally concludes (Chen, 2006; Jones, 2013; NIH Office of Extramural Research, 2017). Although unusual with an anonymous survey, participants could request to receive a summary report of the findings and results, subject to permission from the dissertation committee. Any communication or exchange of documents with participants of any variety is subject to a review and subsequent approval of the dissertation committee (Chen, 2006; Jones, 2013; NIH Office of Extramural Research, 2017). Potential participants stated that they understood prior to participating that the survey was strictly voluntary and that the SurveyMonkey platform (including landing pages, instructions, and the survey) kept their participation strictly anonymous (NIH Office of Extramural Research, 2017). Participants were informed via the instructions that they could leave the survey at any time and without reason, and without responding to a single question (Creswell, 2014; NIH Office of Extramural Research, 2017; Rumrill & Bellini, 2000; Wrench, 2016).

**Collection procedures.** After digesting the instructions, potential participants who met the eligibility and exclusion criteria could proceed to the survey instrument (see Appendix F). Qualifying potential participants indicated their gender, age, online learning experience in months, employment and student status, and level of education before responding to the 28

survey questions (Pinjani & Palvia, 2013). Participants acknowledged that they had the option to opt out of participation at any time in the process (NIH Office of Extramural Research, 2017). In having acquired a sufficient number of responses, the survey was closed and made inaccessible. The SurveyMonkey platform organized the data in an accessible format to analyze, transfer, and store them (NIH Office of Extramural Research, 2017). In utilizing IBM SPSS Software, Version 25 (IBM, 2017) to perform the MR, each MRA conducted on the four predictive models predicted the relationships between the predictive and criterion variables and allowed for inferences to be drawn from the values obtained from the MRAs (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016). An ethical obligation always exists in ensuring full disclosure of any data exclusion and whether that exclusion influenced a change in the result, either positively or negatively (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016).

**Eligibility and exclusion criteria.** The following list identifies the eligibility and exclusion criteria incorporated for use in determining participation for this study:

- Subjects had to have English language fluency.
- Subjects had to be both computer- and technology-literate.
- Subjects had to be interested in the topic.
- Subjects had to be students of an online MBA or MEd program at a 4-year college or university in the United States.
- Preferably, students had completed a course of instruction recently.
- Students with a direct connection to Abilene Christian University were ineligible to participate in the study.

**Data analysis.** The data analyzed in this study consisted of 102 participants' responses to a 28-question survey (see Appendix C and F). An MRA was conducted to review the predictive

model (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). Unlike a simple regression (in which  $X$  is the predictive variable and  $Y$  is the criterion variable), with an MR, multiple predictive variables  $X$  predict a relationship with the criterion variable  $Y$  (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). For example, in the equation with three predictive variables  $Y_i = B_0 + B_1X_i + B_2M_i + B_3X_iM_i + \varepsilon_i$ , there is a coefficient for the three variables and an error term because a certain amount of uncertainty exists in the equation (Bodner, 2016). For a single unit of change in  $X_i$ ,  $Y_i$  and  $B_1$  also change; the slope similarly applies to all predictive variables in the calculation (Bodner, 2016). A  $p$  value measures the significance of the relationship between the multiple predictive variables and the criterion variable in focus (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014).

A statistically significant relationship requires a  $p$  value of less than 0.05, assuming a confidence of 95% (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). If the variables lacked multicollinearity, then each subsequent predictive variable addition would allow for an examination of the difference in variation of a particular criterion variable relationship (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014).

In this study, the criterion variables were (a) swift trust, (b) critical dialogue, (c) knowledge sharing, and (d) social development (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). The predictive variables in this study were (a) similar characteristics, (b) communication quality, (c) gender, (d) age, and (e) experience in months (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Schiller et al., 2014; Tang, 2014). When a linear relationship exists between the predictive and criterion variables, a

significant difference in variation predicts the relative importance of an individual variable to the relationship (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014).

As with all statistical tests, a set of assumptions describes the characteristics of interpretable data (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). Preserving the integrity of the results requires that the findings not violate any of the assumptions. The data collected by surveying the participants underwent tests for linearity, homoscedasticity, normality, and independence (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). A visual inspection of scatter plots revealed both linearity and homoscedasticity. For data to be linear, the plot of standardized residuals between the X and Y intercepts illustrates a random pattern (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). Homoscedasticity is represented as a random scattering of residuals around the zero point on the horizontal line of the scatterplot. Distribution of the residuals should either be normally distributed or bell-shaped (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). The Shapiro-Wilk test was used to determine normality (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Kahane, 2007). Durbin-Watson statistics were used to determine data interdependence: any result outside of 1.5–2.5 suggests a linear autocorrelation in the data and a violation (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). Finally, a variance inflation factor was used to test for multicollinearity in diagnosing the correlation between variables and tolerance; tolerance should be between .2 and 1.0, and the variance inflation factor should not exceed 10. The correlation coefficient should be less than .70 between predictor variables and be greater than .30

between predictor and criterion variables (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014).

### **Ethical Considerations**

This research study underwent an exempt review process conducted by the Abilene Christian University IRB. Although the research relied on human subjects for information, the anonymous design of the research insulated participants from incidental contact (NIH Office of Extramural Research, 2017). The methodological design led to an exempt approval (see Appendix A). The IRB did not request any changes to the design in issuing approval of the study (NIH Office of Extramural Research, 2017).

Using SurveyMonkey to capture participants' anonymous responses to the survey shielded the participants from potentially unethical contact (NIH Office of Extramural Research, 2017; SurveyMonkey, 2018). The anonymous design helped to prevent any direct researcher contact with participants during or after data collection. All documents and all data related to the survey underwent security and safe handling procedures that were subject to external committee review (NIH Office of Extramural Research, 2017). I took these steps to ensure the confidentiality of participant information by not collecting personally identifiable information in the survey itself (NIH Office of Extramural Research, 2017).

Informing and educating on arriving at the SurveyMonkey landing page, potential participants had an opportunity to digest a detailed set of instructions, including the purpose of the study (NIH Office of Extramural Research, 2017). The instructions emphasized the anonymous provisions of the survey and the platform, and that any participation was entirely voluntary (see Appendix F). These instructions were intended to provide participants with a clear understanding that they could leave at any time in the process (NIH Office of Extramural

Research, 2017). The data encryption and limited collection of personally identifiable information helped ensure participant anonymity in the data review and analysis process—a valuable aspect of this design type (Chen, 2006; Jones, 2013; NIH Office of Extramural Research, 2017).

### **Assumptions**

One of the assumptions of this doctoral study was that an exempt IRB approval would be granted, allowing an expedited data collection process (NIH Office of Extramural Research, 2017); this assumption was upheld by receipt of approval from the ACU IRB. Another assumption was that once the study was approved, a sufficient number of students would agree to participate and complete a survey; this assumption was not upheld, so a study modification to recruit participants was necessary. A third assumption was that some students would have little interest in the purpose of the study or be too busy to participate; this assumption was upheld when the leadership at several contacted universities stated that the participant survey could negatively affect students' focus and academic potential, and permission to advertise the survey was not granted. The data collection strategy was therefore modified, resulting in the recruitment of 102 qualified participants who agreed to engage in the study and complete the survey (see Appendix C and J).

Another assumption was that the data collected from 102 participants would provide enough information to confirming significant variable relationships. Having a limited number of responses meant that the data were more susceptible to assumption violations, potentially negating any findings of statistical significance (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016). Based on the size of the population and the number of survey participants, any value predicted by an MRA contained a 10% margin of error. The high degree of margin of

error in the results limited the potential value of any significant finding (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016).

Anticipating and responding to an unknown potential concern in advance is not realistic. If it is determined after the fact that the severity of an assumption violation is problematic to a particular finding, the dissertation committee must decide an appropriate course of action (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016). One of the study assumptions was that any level of trust development would correspond to the presence of a swift trust; however, this trust could be an institutional trust perception and not a sufficient swift trust perception to generate higher-level communications (Booth, 2012; Chae, 2016; Cleveland-Innes & Campbell, 2012; Geise & Baden, 2015). Finally, in an anonymous survey design of this type, without the ability of direct student–researcher interaction, there was no way to know whether participants met the stated exclusionary requirements and were eligible to participate in the survey.

## **Conclusion**

The theoretical background provided valuable information that aided in selecting the quantitative design of this study. This study employed a nonexperimental research design (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016). An MRA was conducted on data from 102 participants, consisting of responses to 28 survey questions, and produced an interpretable set of results. The MRA is a useful statistical formula for analyzing and determining predictive variable relationships (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). The MRA confirmed the predictive relationships between the criterion variables identified by the theoretical foundation (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Tang, 2014). The predictive variables in this study were: (a) similar characteristics, (b) communication



quality, (c) gender, (d) age, and (e) online learning experience in months. The criterion variables were: (a) swift trust, (b) critical dialogue, (c) knowledge sharing, and (d) social development (Allison, 1999; Bodner, 2016; Eryilmaz & Kara, 2017; Jeong & Jung, 2016; Kahane, 2007; Schiller et al., 2014; Tang, 2014).

The study methodology was chosen to fulfill the study purpose while minimizing the potential risk to the virtual student participants. The study was also designed to meet the requirements of an exempt IRB review process, with a reduced risk level due to the use of a survey instrument that anonymously recorded student responses; IRB approval to conduct the study was received without conditions (NIH Office of Extramural Research, 2017). The discussion moves to the description of the sample population, data collection, research questions, explanation of the variable design, the assumptions of MR, and the results of the MRA conducted on four predictive models, followed by a summary in Chapter 4.

## Chapter 4: Results

A multiple regression analysis in IBM SPSS Software, Version 25.0 (IBM, 2017) was used to predict a potential swift trust perception and associated learning and development benefits in four first-order, multiple linear regression models (Prinsloo, Rogers, & Harvey, 2018). The four models extend from a theoretical foundation that encompassed a swift trust perception, including the associated benefits of holding a trust perception in online discussions. The four predictive models followed an orderly progression, aligning with the theoretical perspective, to respond effectively to the purpose of the study and research questions. The purpose of this quantitative, non-experimental study was to determine whether the presence of swift trust in a temporary learning community led to a critical exchange of dialogue, knowledge sharing, and social development within the task-based discussions of online graduate students of 4-year universities in the United States. If the results of the MRA conducted on the first model predicted a positive trust perception, then subsequent models would potentially predict whether a swift trust perception would lead, over time, to a critical exchange of dialogue, knowledge sharing, and social development in discussions (Creswell, 2014; Y. Kim, 2015; Lai, 2015; Rumrill & Bellini, 2000; Wrench, 2016).

**Designing an appropriate predictive model.** Applying the theory of sameness supplied valuable guidance for gaining insight into how a virtual student might approach a set of Likert scale survey questions (see Table 1, Table 2, and Table 3). The majority of participants completed the 28-question survey in approximately four minutes, a pace that left little time for the participants to reflect on the questions or their responses. The majority of participants likely responded to each question in the survey automatically, pulling information from a set of cognitive reference points that combine to influence understanding, perception, and a choice of

response (Saerberg, 2010). Cognitive reference points are a culmination of similar experiences acquired over a lifetime, all of which influence perception in deciding an appropriate response (Saerberg, 2010). If this culmination of knowledge represents a limited amount of experience, then any additional experience of consequence would have a significant influence in shaping the student's understanding and altering her perception of related concepts (Saerberg, 2010). If thousands of similar experiences have led to developed knowledge and understanding of concepts, another such experience has minimal influence in altering or refining vast amounts of existing and refined knowledge (Campbell, 2010; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011).

Approximately 53% of the participants had less than one year of total online learning experience to reference when selecting an appropriate response (see Table 1). One of the eligibility requirements limiting students' potential participation in the study was their having less than 2 years of online learning experience in a university setting. This limited experience meant that an event could influence and alter perceptions for the majority of participants (Campbell, 2010; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). In considering the theoretical perspective, when navigating a cognitive exercise automatically, the participant would decide on an appropriate course of action by referencing a culmination of refined experiences (Saerberg, 2010). The majority of participants likely decided a course of action from a limited source of reference. Therefore, from one participant to the next, students' automatic responses to an online learning survey would capture everything that the students had experienced in online learning to that precise moment in time (Campbell, 2010; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). Whether the totality of her experiences is an accurate depiction of a typical online learning experience or distorted might rest on the most

recent experience. If the most recent experience elicited emotion and left an indelible cognitive impression, that experience would shape the student's understanding, altering perception (Campbell, 2010; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). For the inexperienced online student, a particular response likely pulled from limited sources of reference of a culmination of experiences that crossed imaginary boundaries of time and space (Morgan et al., 2014; Saerberg, 2010). A progressive set of predictive models would best interpret a participant's perception of her total online learning experience. In considering the majority of online students, the progressive model would capture a vivid picture that predicts with a high degree of accuracy online students' total online learning experience (Campbell, 2010; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011).

### **Description of the Sample Population**

Statistics from the U.S. Department of Education (2014) showed 208,000 distance learning students in master's degree programs at Title IV institutions in the United States. The total number of students enrolled in an MBA or MEd program was 45% of that number, or 93,600 students (NCES, 2018; U.S. Department of Education, 2014). The target population was much smaller, representing the larger population  $N = 3,197$  from FindParticipants (2018), LinkedIn (2018), and SurveyMonkey (2018) utilized for this study.

The study was focused on an online student population who met the following eligibility criteria:

- English was their primary or working language.
- Their institution was in the United States.
- Their degree program was an MBA, a business-related master's program, or an MEd.
- They had recently completed an online class in their degree program.

- The majority of the program took place online without a face-to-face component.
- They were comfortable navigating online learning technologies.
- They had less than 2 years of online learning experience in an online university setting.
- They expressed an interest in the topic of this study, as described in the Purpose Statement.

The potential participants arrived at the anonymous Swift Trust Survey landing page on SurveyMonkey by invitation and, on arrival, determined their eligibility before proceeding (see Appendix F). The primary data source used to recruit survey participants was FindParticipants (2018), a network that has connected researchers from 1,267 universities to participants spanning 127 countries and crossing 1,074 disciplines. Tools were available on the website to refine the demographics of a defined target population within the borders of the United States. As part of the recruitment strategy, a call for participants was e-mailed to the defined target population in the FindParticipants database in a series of 10 invitations sent over a span of 21 days to  $N = 2,900$  potential participants (see Appendix C). With each e-mail sent, a published announcement was generated and displayed on the FindParticipants website (see Appendix B). According to Alexa (n.d.) seven unique visitors surfed the public pages of the FindParticipants site daily during the period the survey was open to participation. Over a span of 21 days, these visits potentially expanded the target population by 147 participants, yielding a revised  $N = 3,047$ .

After refining the target population on the LinkedIn platform, each member identified as a potential participant received a private invitation by way of a message that included a link to the anonymous survey without any subsequent interaction (see Appendix D). The LinkedIn strategy proved to be ineffective: out of 100 messages sent to LinkedIn members, only seven

completed the anonymous survey, yielding a revised  $N = 3,147$ . SurveyMonkey staff sent a call for participants to those within the SurveyMonkey database who met a basic set of demographic parameters. The defined parameters limited the potential pool of candidates to 50. The SurveyMonkey service proved to be ineffective: only 14 participants of a target population of 50 met the eligibility requirements and went on to complete the anonymous survey, final revised target population size  $N = 3,197$ .

Table 1

*Participation Rate by Source*

Source	Target ( <i>n</i> )	Responses ( <i>n</i> )	Response Rate (%)	Total (%)
FindParticipants.com	3,047	81	2.66%	2.53
LinkedIn	100	7	7.00%	.22
SurveyMonkey	50	14	28.00%	.44
Total	3,197	102	3.19%	100.00

### Data Collection

After confirming eligibility and reading the survey instructions, participants could choose to proceed and complete the survey questions or leave the survey at any point in the process. Pinjani and Palvia (2013) granted permission to incorporate 23 survey questions selected from their validated swift trust study (see Appendix G). The findings of the Pinjani and Palvia study significantly predicted swift trust and the influence of a swift trust perception in motivating knowledge sharing for teams and team members of a temporary virtual community. The data collection procedures were therefore modeled after Pinjani and Palvia, a 7-point Likert scaled instrument was used to collect the data generated from participants' responses to the survey questions. A total of 81 participants completed the survey via the FindParticipants website, 14 participants completed it via SurveyMonkey, and 7 participants completed the survey by via LinkedIn (see Appendix E). Placing the highest level of restrictions on the data collection

process meant selecting the anonymous features on the SurveyMonkey platform, protecting participants' anonymity at all times in the survey process (NIH Office of Extramural Research, 2017). The data collection environment within the SurveyMonkey platform protected participants' confidentiality, adding value to the reliability of the data (Creswell, 2014; Rumrill & Bellini, 2000; SurveyMonkey, 2018; Wrench, 2016).

The total number of participants completing the survey was  $N = 102$  ( $81 + 14 + 7$ ). The total number of online graduate students composing the target population was 3,197 (FindParticipants, 2018; LinkedIn, 2018; SurveyMonkey, 2018); the participant demographics are described in Table 2. With the formula  $n = [Z^2 * p * (1 - p) / C^2]$ , the  $Z$  value was at a 95% confidence level with a 10% margin of error when calculated for  $S = 94$  (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016).  $N$  varied in the four predictive models from 97 to 99.

### **Descriptive Statistics: Demographics of the Sample**

The sample population comprised 102 online master's degree students who met the eligibility criteria for participation in this study (see Appendix I). These participants' demographics are summarized in Table 2; the majority of the participants were under 35 years in age, worked a full-time job in addition to their studies, and had some master's level course credits but less than 1 year of online learning experience. The response distribution is found in Table 3.

Table 2

*Gender, Age Range, Best Describes Student Type, Online Learning Experience, and Level of Education*

Demographic	<i>n</i>	%
Gender		
Female	58	56.86
Male	44	43.14
Age range		
18–24	19	18.63
25–34	51	50.00
35–44	16	15.69
45–54	10	9.80
55–64	6	5.88
Best describes student type		
Employed full-time	61	59.80
Employed part-time	13	12.75
Full-time student	24	23.53
Retired	0	0.00
Other	4	3.92
Online learning experience		
1–5 months	21	20.59
6–11 months	33	32.35
12–17 months	21	20.59
18+ months	27	26.47
Level of education		
Some master's degree credits	60	59.41
Master's degree	30	29.70
Some postgraduate degree credits	7	6.93
PhD, doctorate, or equivalent	4	3.96
No response	1	.98

*Note.* *N* varies from 97 to 99.



Table 3

*Distribution of Responses in the Swift Trust Survey*

Category/survey question	Response distribution						
	STA	A	SA	N	SD	D	STD
<b>Functional characteristics</b>							
1. Classmates were similar in terms of their functional expertise	13	37	22	5	14	7	4
2. Classmates were similar in terms of their educational background	16	23	24	4	18	12	5
3. Classmates were similar in terms of online learning experience	9	24	27	13	16	10	3
<b>Deep-level characteristics</b>							
4. Classmates were similar in terms of their personal values	8	21	27	12	13	14	7
5. Classmates were similar in terms of their personalities	7	20	17	18	14	20	6
6. Classmates were similar in terms of their attitudes towards tasks	11	31	26	9	10	11	4
7. The well-being of classmates was important to others	11	34	17	19	8	9	4
8. It was important for classmates to maintain harmony with others	15	38	24	8	7	5	5
9. Classmates liked sharing information with others	23	34	32	4	5	2	2
10. Classmates helped others in times of difficulty	16	32	23	15	9	3	2
<b>Mutual trust</b>							
11. Classmates were considerate of the feelings of others	17	36	23	14	6	4	2
12. Classmates were friendly towards others	21	38	32	6	2	1	2
13. Classmates could rely on their fellow learners	12	45	26	5	10	2	2
14. Classmates were trustworthy	12	41	25	14	4	3	3
15. Classmates shared their functional experience and know-how with others	17	49	23	4	4	3	2
16. Classmates shared knowledge with others by drawing on their unique experiences	19	41	22	9	4	5	2
<b>Learning community and communication effectiveness</b>							
17. Classmates met their learning objective(s)	19	46	21	9	2	3	2
18. Classmates completed their work on time	16	36	34	8	4	2	2
19. Classmates were efficient in performing tasks	15	45	24	10	2	2	0
20. Classmates produced work of the highest quality	12	37	23	11	11	5	3
21. Classmates input was valued by others	15	46	25	8	2	4	2
22. The morale among the learning community was high	21	37	26	10	2	4	2
23. Classmates enjoyed being part of a learning community	22	37	24	10	2	4	3

*Note.* *N* varies from 97 to 99. STA = Strongly Agree, A = Agree, SA = Somewhat Agree, N = Neutral, SD = Somewhat Disagree, D = Disagree, STD = Strongly Disagree.

### **Theoretical Perspective: Swift Trust Perception and Choice of Variables**

Swift based-trust develops as a category matching process (see Table 4, Table 5, and Table 6). Students are more inclined to trust other students in a community if they perceive similar in-group characteristics (Robert et al., 2009; Schiller et al., 2014). Perceiving similar characteristics and applying a positive trust assessment onto the intentions of others are two requirements for the initial formation of a swift trust (Robert et al., 2009; Schiller et al., 2014). The final requirement is communication: the first communications expressed among a community can elicit a swift trust perception (Ford et al., 2017; Lai, 2015). An ongoing, frequent, and minimally delayed interaction process maintains the integrity of a fragile swift trust (Booth, 2012; Cleveland-Innes & Campbell, 2012; Lai, 2015; Saonee et al., 2011; Tseng & Yeh, 2013).

**Theoretical model and choice of variables.** The theories of symbolic interactionism and sameness are useful for interpreting the elements that elicit a swift trust perception, along with the survey instrument and choice of variables (see Table 4, Table 5, and Table 6). The two theories advance that a swift trust has developed to a degree if the online learner gains a sense of enjoyment and value from the academic learning process (Campbell, 2010; Hauser et al., 2012; Morgan et al., 2014; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). A participant's enjoyment of the learning process suggests that an active, energetic, and quality exchange process occurred, influencing a high level of morale among the community (Campbell, 2010; Hauser et al., 2012; Morgan et al., 2014; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). If an efficient quality communication process takes place at the onset of interactions and continues unimpeded, then a swift trust is helping to motivate student's task-based discussions (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). In turn, an active and energetic

process of interaction can explain why critical dialogue developed among the community, and subsequent knowledge construction, sharing, and relationship development occurred (Çelik, 2013; Oh & Lee, 2016).

A measurable degree of social development indicates that a swift trust perception has influenced the development of critical dialogue and facilitated an exchange of knowledge (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014). Perception, different from one person to the next, determines whether a person withholds or extends trust relative to another party and whether she perceives similar characteristics with others of the community (Campbell, 2010; Potts, 2015; Robert et al., 2009; Saerberg, 2010; Schiller et al., 2014). If a learner experienced a limited measure of critical thinking, knowledge sharing, or social development, it is more likely that a swift trust either developed and collapsed or failed to develop at all (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014). This theoretical perspective is used to interpret individual questions of the survey instrument and the choice of predictive and criterion variables of interest in this study.

**From the theoretical perspective onward and beyond the analysis.** The theoretical perspective and the design of the research questions address the purpose of the study. The research questions help to define and clarify the choice of variables (see Table 4, Table 5, and Table 6). If the design of one predictive model significantly predicts a trust perception while another significantly predicts critical dialogue, the choice of predictive variables would aid in interpreting whether the student perceived a conventional or a fragile swift trust perception (Campbell, 2010; Hauser et al., 2012; Morgan et al., 2014; Potts, 2015; Powell, 2013; Robert et al., 2009; Saerberg, 2010). A finding that subsequent predictive models significantly predict critical dialogue, knowledge sharing, or social development would further confirm the results of

earlier predictive models. This finding would confirm that a fragile swift trust, and not another form of trust, was motivating further virtual discussions (Booth, 2012; Robert et al., 2009).

Table 4

*Key Predictive Variables*

Category	Predictive variable	Survey question
Similar functional characteristics		
Classmates were similar in terms of their functional expertise	Functional characteristics	Q1
Similar deep-level characteristics		
Classmates were similar in terms of their personal values	Deep-level characteristics	Q4
The well-being of classmates was important to others	Deep-level characteristics	Q7
Expression of mutual trust		
Classmates were friendly towards others	Mutual trust	Q12
Community and communication effectiveness		
The morale among the learning community was high	Communication	Q22
Classmates enjoyed being part of a learning community	Communication	Q23

Table 5

*Predictive Models and Associated Predictive Variables*

MRA model no.	Ref: Table 2 predictor variables including demographic info	Ref: Table 6 criterion variable	Predicts
1	Q1, 4, 22: gender, age, and experience	Q14	Swift trust perception
2	Q1, 12, 23: gender, age, and experience	Q20	Critical dialogue
3	Q7, 12, 23: gender, age, and experience	Q15	Knowledge sharing
4	Q7, 12, 23: gender, age, and experience	Q13	Social development

Table 6

*Criterion Variable Model to Model*

Category	Criterion variable	MR model	Survey question
<i>Swift trust perception</i>			
Classmates were trustworthy	Potential for a swift trust perception	1	Q14
Trust, critical dialogue, knowledge sharing, relationship development			
Classmates produced work of the highest quality	Critical dialogue	2	Q20
Classmates shared their functional experience and know-how with others	Knowledge sharing	3	Q15
Classmates could rely on their fellow workers	Social development	4	Q13

## Research Questions

The design of the four research questions extends from the theoretical model; together, they respond to the purpose of the study within an analysis of the survey data. The purpose of the study was to determine whether a swift trust perception existed for participants in a virtual learning environment, and determine whether the presence of a swift trust led to a critical exchange of dialogue, knowledge sharing, and social development. If the results of the MRA conducted on the first predictive model significantly predict a positive trust perception, then subsequent models could confirm whether some students perceived either a conventional trust or a fragile swift trust perception in discussions. Models 2, 3, and 4 were intended to predict whether a swift trust perception helped, over time, to elevate discussions from a simple exchange of information to a critical exchange of dialogue, knowledge sharing, and social development in discussions (Creswell, 2014; Y. Kim, 2015; Lai, 2015; Rumrill & Bellini, 2000; Wrench, 2016). The design of the research questions aligns with the four predictive models for confirming a swift trust perception and any associated learning and development benefits to address the purpose of the study (Lai, 2015; Morgan et al., 2014; Robert et al., 2009).

**RQ1.** To what extent did similar characteristics, mutual trust, communication, gender, experience, and age predict a swift trust perception in online graduate students' discussions in universities within the United States?

**RQ2.** To what extent did similar characteristics, communication quality, gender, experience, and age predict the influence of swift trust on critical dialogue in online graduate students' discussions within universities in the United States?

**RQ3.** To what extent did similar characteristics, communication quality, gender, experience, and age predict the influence of swift trust on knowledge sharing in online students' discussions within universities in the United States?

**RQ4.** To what extent did similar characteristics, mutual trust, communication quality, gender, experience, and age predict the influence of swift trust on social development in online graduate students' discussions within universities in the United States?

### **Ordered Model Progression**

Extending from the theoretical perspective and the research questions are four predictive models in an ordered progression that moves from a swift trust perception prediction to predict the influence of a trust perception on discussions in a community. The model progression addressed the purpose of the study and potentially would have confirmed the research questions and the theoretical foundation. The choice of predictive variables to the criterion variable in Model 1 can potentially predict a swift trust perception. A statistically significant relationship between the predictive variable, communication, to a trust perception can hint at a potential swift trust perception because communication is vital to forming and maintaining a swift trust (Birdie & Jain, 2016; Robert et al., 2009; Schiller et al., 2014). However, if Predictive Model 1 failed to predict a swift trust perception, then this result would have ended the analysis because a critical exchange process develops on a foundation of trust, irrespective of trust type (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014).

Knowledge sharing and relationship building develop from a critical exchange process. Models 2–4 were designed in part to evaluate Model 1. If Models 2–4 identified significant positive relationships between variables, these correlations would provide supporting

information for the trust perception described in Model 1 being a swift trust perception, rather than a conventional form of trust (Booth, 2012; Carter, 2015; Lai, 2015; Morgan et al., 2014; Schiller et al., 2014). A statistically significant relationship to critical dialogue, knowledge sharing, or social development in Models 2–4 would have further confirmed a swift trust perception (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014). These models were interdependent: if a given set of variables significantly predicted knowledge sharing, this prediction would suggest that another set of one or more variables would also predict critical dialogue, and a choice of variables significantly predicting social development would suggest that another set of one or more variables should significantly predict knowledge sharing (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014).

### **The Assumptions in Multiple Linear Regression**

An examination of assumptions is a critical element of the MRA because violating any one of the assumptions may distort or bias the analysis, making it difficult or impossible to interpret with any degree of accuracy. An assumption for a multiple linear regression includes independence of operations. The relationship between the criterion and predictive variables should be linear. Multicollinearity should not influence the model because the predictive variables should be independent and not highly correlated (Williams, Grajales, & Kurkiewicz, 2013).

It is natural for covariates to influence the criterion variable to a degree. There should not be any influential cases biasing the model, such as significant outliers, leverage points, or influential data points (Moscalu, Dimitriu, Dascalu, & Boiculese, 2018; Williams et al., 2013). An unbiased estimator will not over- or underestimate a true parameter (Williams et al., 2013). The variance of the residuals should be consistent and evenly distributed in a test of

homoscedasticity. Finally, the values of the residuals should exhibit a normal distribution. In being normally distributed, the residuals would mostly align visually along a diagonal line on the P-P plot. A Shapiro-Wilk test can confirm the accuracy of a visual inspection.

**Independence of observations.** The Durbin-Watson test was included in the analysis conducted with IBM SPSS Software, Version 25.0 (IBM, 2017) to ensure that no autocorrelation or high levels of correlation exist in the residuals. An acceptable Durbin-Watson score is between 1.5 and 2.5. Lower scores (below 2.0) indicate a positive correlation, and higher scores (above 2.0) indicate a negative correlation. In each of the four predictive models, the Durbin-Watson score was within an acceptable range, meeting this assumption (see Table 7). The independence of observations assumption was not accurate for this case because the assumption of independence is limited to the independence of errors and not the observations themselves (Williams et al., 2013).

**Linearity.** A test for linearity ensures the combined predictive variables exhibit a linear relationship with the criterion variable. In reviewing the scatterplots of the residuals in each of the four MRA models in IBM SPSS, each scatterplot exhibited a linear relationship and met the tested assumption. Even if the relationship between the predictive and criterion variables was nonlinear, a nonlinear relationship might not have affected the analysis because some types of nonlinear relationships can be modeled inside a linear regression framework (Williams et al., 2013). In some cases, transformations can achieve a linear function (Williams et al., 2013).

**Homoscedasticity.** A violation of homoscedasticity is heteroscedasticity; a violation of homoscedasticity means the size of the error term differs across the values of the predictor variables. As heteroscedasticity increases, so would the impact of the assumption violation. An analysis of variance assumes equal variances across groups. The residuals in each of the four



MRA models appear to be relatively consistent across the majority of the values associated with the predictive variables, indicating no statistical significance or unequal variances across groups. This observation suggests homoscedasticity in meeting this assumption. In encountering homoscedasticity, several viable options are available for drawing reliable conclusions from the MRA. These options include variance stabilizing transformations, bootstrap methods, and the specification of the generalized linear model (Williams et al., 2013).

**Multicollinearity.** The predictive variables should not exhibit a high correlation. Using SPSS Software (IBM, 2017), a Pearson's test for correlation was conducted to test all four predictive MRA models, one of two tests used in determining the independence of predictive variables (Williams et al., 2013). The values in a Pearson analysis should not exceed .70 between the predictive variables, and the value of the predictive variables to the criterion variable should fall between .30 and .70. Erring on the side of caution, an SPSS test of tolerance less than .3 and a corresponding variance inflation factor score greater than 10.0 may indicate multicollinearity. Each of the four predictive models met the multicollinearity assumption (see Table 7).

**Outliers.** The analysis conducted using IBM SPSS Software, Version 25 (IBM, 2017) identified outliers in each of the four predictive models; these outliers were identified using the software's *explore* feature and by a model-to-model examination of histograms. Other functions and tests used to identify outliers included CaseWare diagnostics, Mahalanobis distance, Cook's distance, centered leveraged value, and a visual inspection of scatterplots. Failing to remove outliers from a predictive model could result in skewing the results (Williams et al., 2013). Outliers were identified and removed from each of the predictive models and the regression performed (see Table 8).

**Normal distribution.** Important to small sample sizes numbering 50 to 100, the residuals should substantially align along the diagonal line of the P-P plot to meet this assumption. A Shapiro-Wilk test was performed to test the validity of a visual inspection. All four predictive models violated the assumption of normality in recording a statistically significant value with the Shapiro-Wilk test in SPSS (see Table 7). According to Williams et al. (2013), only the assumption of normally distributed errors is relevant to multiple regression. In fact, dichotomous predictive variables might record a faulty normality violation (Williams et al., 2013). The rule of thumb is to have at least 20 cases for each predictive variable in meeting the normality assumption, and additional cases to satisfy a normality violation.

In small samples, a normality violation may degrade estimator efficiency (Williams et al., 2013). As the size of a sample increases, so does the accuracy of the MRA (Williams et al., 2013). Comprising each model were three key predictors and a criterion variable.

Table 7

*Independence of Observations, Correlation, Collinearity, and Normality*

MR model	Durbin-Watson		Pearson correlation key predictors only				Collinearity stats key predictors only		Shapiro-Wilk
			= >.30	= <.70			= >.30	= < 10	
			CV	PV1	PV2	PV3	Tolerance	VIF	
1	2.183	CV	1.000	.323	.336	.557			.020*
		PV1	.323	1.000	.406	.355	.803	1.246	
		PV2	.336	.406	1.000	.484	.703	1.421	
		PV3	.557	.355	.484	1.000	.736	1.359	
2	1.793	CV	1.000	.519	.387	.454			.000*
		PV1	.519	1.000	.173	.346	.878	1.139	
		PV2	.387	.173	1.000	.384	.851	1.175	
		PV3	.454	.346	.384	1.000	.772	1.295	
3	2.074	CV	1.000	.456	.350	.545			.003*
		PV1	.456	1.000	.501	.443	.672	1.489	
		PV2	.350	.501	1.000	.367	.723	1.383	
		PV3	.545	.443	.367	1.000	.776	1.289	
4	1.994	CV	1.000	.605	.471	.459			.006*
		PV1	.605	1.000	.520	.442	.855	1.526	
		PV2	.471	.520	1.000	.359	.709	1.411	
		PV3	.459	.442	.359	1.000	.782	1.279	

*Note.* Demographic variables were excluded from the results illustrated in this table. CV = Criterion Variable, PV1 = Predictive Variable 1, PV2 = Predictive Variable 2, PV3 = Predictive Variable 3, VIF = variance inflation factor; \* = [normality violation].

In each model,  $N$  varied from 97 to 99, which was adequate for determining each the statistical significance of each model (Williams et al., 2013). Each of the four models had  $p < .001$ , showing a statistically significant likelihood that the predictions were reliable. Each multiple regression incorporated an  $R^2$  to measure the strength of association.

Table 8

*Removed and Missing Cases, Mahalanobis, and Cooks Distance*

MRA model	Case #s removed	Case #s missing	Mahalanobis	Cook's
1	71, 68 from PV4; 56, 35 from PV22; 79, 56, 35 from CV14	None	11.733	.235
2	71, 56, 46, 35 from PV23; 56, 35 from PV12; 38 from PV1	None	12.132	.085
3	56, 35 from PV12; 71, 56, 35 from PV23; 69, 35, 32 from CV15	None	15.579	.281
4	71, 56, 35 from PV12; 56, 35 from PV23; 56, 35 from PV13	None	15.585	.287

*Note.* Demographic variables excluded from the results illustrated in this table.

### The Multiple Regression Analysis

**Predictive Model 1: Swift trust perception.** Predictive Model 1 was used to answer RQ1.

**RQ1.** To what extent did similar characteristics, mutual trust, communication, gender, experience, and age predict a swift trust perception in online graduate students' discussions within universities in the United States?

Guided by the theoretical foundation, the virtual student must acquire a trust perception for a critical exchange of dialogue to develop out of virtual discussions (Crisp & Jarvenpaa, 2013; Ennen et al., 2015; Robert et al., 2009). The results of the regression analysis for swift trust perception are shown in Table 9.

Table 9

*Regression Analysis for Swift Trust Perception*

Predictor variables					
Category	Name	<i>B</i>	<i>SEB</i>	$\beta$	<i>pr</i> <sup>2</sup>
Functional characteristics	Expertise	.095	.068	.129	.171
Deep-level characteristics	Personal values	.054	.071	.076	.452
Communication effectiveness	Communication	.412	.096	.432	.000
Demographic	Gender F	.190	.201	.081	.347
Demographic	Age 18–24	.449	.264	.147	.092
Demographic	Exp. 12–17 months	.413	.241	.144	.089

*Note.*  $N = 97$ ,  $R^2 = .372$ ,  $R^2$  adj = .33,  $F(6,90) = 8.895$ ,  $p < .001$ .

With outliers removed ( $N = 97$ , see Table 8), the MRA tested three key predictive variables—expertise (similar functional characteristics), personal values (deep-level characteristics), and communication—and three demographic variables (gender, age, and experience) to predict trust perception to respond to RQ1. The results of the analysis expressed in Table 9 include standardized (beta) and unstandardized (*B*) coefficients.

As reflected in Table 9, the results of the MRA indicated that a lone key predictor accounted for approximately 43% of the total variance ( $R^2$  adj = .33,  $F(6,90) = 8.895$ ,  $p < .001$ ). The key predictive variable of communication significantly predicted a positive trust perception, as explained by  $\beta = .432$ ,  $p < .05$ . There was a positive relationship between the predictive variable of communication to the perception of a trust type in discussions. This result means that, subject to confirming a swift trust perception, improvements made to the discussion process likely will lead to acquiring, maximizing, or solidifying a swift trust perception in virtual discussions. The key predictive variable of similar expertise (functional characteristics) was found to have no statistical significance in the predictive model, as illustrated by  $\beta = .129$ ,  $p = .171$ , but it did account for approximately 17% of the total variance. Likewise, the key predictive variable of personal values was found to have no statistical significance in the predictive model,  $\beta = .076$ ,  $p = .452$ ; however, personal values accounted for approximately 7%

of the total variance. The demographic variables of age (18–24 years) and experience (12–17 months) accounted for approximately 29% of the variance as explained, respectively, by  $\beta = .147, p = .092$  and  $\beta = .144, p = .089$ , respectively, while gender (female) accounted for approximately 8% of the variance in the predictive model, as illustrated by  $\beta = -.081, p = .347$ .

**Predictive Model 2: Critical dialogue.** Predictive Model 2 was used to answer RQ2.

**RQ2.** To what extent did similar characteristics (functional or deep level), mutual trust, communication quality, gender, experience, and age predict the influence of swift trust on critical dialogue in online graduate students' discussions within universities in the United States?

Guided by the theoretical foundation, a quality communication process prevents dissipation of the fragile swift trust (Toprak & Genc-Kumtepe, 2014). On a foundation of trust, over time, a quality discussion process can move from an exchange of critical dialogue to knowledge construction. With a trust perception, the student is more willing to be vulnerable in discussions than students who do not perceive trust, encouraging higher order reflexive thinking to occur. This trust is an important factor in creating a natural progression of communication using higher-order thinking processes, a necessary step for improving discussion quality over time from a simple exchange of information to a process with critical dialogue and in-depth development of ideas (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014). The virtual participant experiences enjoyment of the communication process, and a friendly exchange and development process occurs. Critical development within discussions occurs as a natural progression of a quality exchange and development process (Morgan et al., 2014). With outliers removed ( $N = 97$ , see Table 8), the MRA tested three key predictive variables—well-being (deep-level characteristics), friendliness (mutual trust), and communication—and three demographic variables (gender, age, and experience) to predict critical dialogue in virtual

discussions to respond to RQ2. The results of the analysis are reflected in Table 10 and include standardized (beta) and unstandardized (B) coefficients.

Table 10

*Regression Analysis for Critical Dialogue*

Predictor variables					
Category	Name	<i>B</i>	<i>SEB</i>	$\beta$	$pr^2$
Functional characteristics	Expertise	.364	.079	.398	.000
Mutual trust	Friendliness	.358	.131	.239	.007
Communication effectiveness	Communication	.261	.111	.219	.020
Demographic	Gender M	.081	.233	.029	.996
Demographic	Age 45–54	.522	.372	.114	.187
Demographic	Exp. 12–17 months	.217	.280	.063	.467

*Note.*  $N = 97$ ,  $R^2 = .417$ ,  $R^2 \text{ adj} = .379$ ,  $F(6,90) = 10.745$ ,  $p < .001$ .

As shown in Table 10, the results of the MRA revealed that three key predictors accounted for approximately 86% of the total variance ( $R^2 \text{ adj} = .379$ ,  $F(6,90) = 10.745$ ,  $p < .001$ ). The three key predictive variables of expertise (functional expertise), friendliness (mutual trust), and communication significantly predicted critical dialogue in discussions as explained, respectively, by  $\beta = .398$ ,  $p < .05$  (expertise);  $\beta = .239$ ,  $p < .05$  (friendliness); and  $\beta = .219$ ,  $p < .05$  (communication).

There was a positive relationship between the key predictive variables of expertise, friendliness, and communication to critical dialogue in discussions. This positive relationship suggests that these variables are interrelated and each variable must be present to sustain a productive critical dialogue over time and meet virtual learning discussion goals. The demographic variables of age (45–54) and experience (12–17 months) accounted for approximately 18% of the total variance, explained by (d)  $\beta = .114$ ,  $p = .163$ , and  $\beta = .063$ ,  $p = .440$ , respectively. Gender (male) had virtually no influence in the model, as illustrated by  $\beta = .029$ ,  $p = .727$ .

**Predictive Model 3: Knowledge sharing.** Predictive Model 3 was used to answer RQ3.

**RQ3.** To what extent did similar characteristics, communication quality, gender, experience, and age predict the influence of swift trust on knowledge sharing in online students' discussions within universities in the United States?

Guided by the theoretical foundation, a quality communication process prevents dissipation of the fragile swift trust. Over time, a foundation of trust facilitates a quality discussion process moving from an exchange of critical dialogue to the co-construction of knowledge and knowledge sharing. With trust, the student is more willing to be vulnerable in discussions; over time, discussions improve beyond a critical exchange of dialogue to a sharing of functional experience and know-how with others as the discussion continue (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014). With outliers removed ( $N = 97$ , see Table 8), the MRA tested three key predictive variables—education (similar functional characteristics), helpfulness (deep-level characteristics), and communication—along with the demographic variables of gender, age, and experience to predict knowledge sharing in virtual discussions to respond to RQ3. The results of the analysis are illustrated in Table 11 and include standardized (beta) and unstandardized (B) coefficients.

Table 11

*Regression Analysis for Knowledge Sharing*

Predictor variables					
Category	Name	<i>B</i>	<i>SEB</i>	$\beta$	<i>pr</i> <sup>2</sup>
Deep-level characteristics	Well-being	.146	.071	.210	.043
Mutual trust	Friendliness	.106	.116	.095	.361
Communication effectiveness	Communication	.347	.077	.420	.000
Demographic	Gender F	.097	.174	.046	.577
Demographic	Age 55–64	.112	.383	.026	.770
Demographic	Exp. 1–5 months	.572	.211	.222	.008

*Note.*  $N = 97$ ,  $R^2 = .411$ ,  $R^2$  adj = .372,  $F(6,90) = 10.464$ ,  $p < .001$ .

As shown in Table 11, the results of the MRA indicated that two key predictors accounted for approximately 63% of the total variance ( $R^2$  adj = .372,  $F(6,90) = 10.464$ ,  $p <$



.001). Two key predictive variables of well-being (deep-level characteristics) and communication significantly predicted knowledge sharing in discussions as explained, respectively, by  $\beta = .210, p < .05$ , and  $\beta = .420, p < .05$ . There was a positive relationship between the predictive variables of well-being and communication to knowledge sharing in discussions. This finding suggests that virtual learning communities will experience increased knowledge sharing when students gain an increased perception of well-being among others of the virtual community and make improvements to the discussion process. The key predictive variable of friendliness (mutual trust) was found to have no statistical significance in the model; however, it accounted for approximately 10% of the total variance, as illustrated by  $\beta = .095, p = .361$ . The demographic variable of experience (1–5 months) was statistically significant and accounted for approximately 22% of the total variance, as explained by  $\beta = .222, p < .05$ . The demographic variables of gender (male) and age (55–64 years) accounted for approximately 7% of the total variance, as explained, respectively, by  $\beta = .046, p = .577$ , and  $\beta = .026, p = .770$ .

**Predictive Model 4: Social development.** Predictive Model 4 was used to answer RQ4.

**RQ4.** To what extent did similar characteristics, mutual trust, communication quality, gender, experience, and age predict the influence of swift trust on social development in online graduate students' discussions within universities in the United States?

Guided by the theoretical foundation, a quality communication process prevents dissipation of a fragile swift trust perception (Toprak & Genc-Kumtepe, 2014). Over time, on a foundation of trust, a quality discussion process can move from an exchange of critical dialogue to knowledge construction, knowledge sharing, and to social development. Students who exhibit a trust perception are more willing to be vulnerable in discussions than students who do not exhibit trust a trust perception. Exhibiting trust creates a natural progression in the critical

dialogue process of sharing functional experiences and know-how with others (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014). With trust, the virtual student experiences enjoyment for the process encouraging a social exchange and development to occur. Social development among the virtual community is the natural progression of a quality exchange process developing on a foundation of trust (Morgan et al., 2014). With outliers removed ( $N = 99$ , see Table 8), the MRA tested three key predictive variables of well-being (deep-level characteristics), friendliness (mutual trust), and communication, and three demographic variables of gender, age, and experience to predict social development in virtual discussions to respond to RQ4. The results of the analysis are reflected in Table 12 and include standardized (beta) and unstandardized (B) coefficients.

As shown in Table 12, the results of the MRA indicated that two key predictors accounted for approximately 69% of the total variance,  $R^2_{adj} = .40.5$ ,  $F(6,92) = 12.119$ ,  $p < .001$ . The key predictive variables of well-being (deep-level characteristics) and communication significantly predicted social development in discussions:  $\beta = .444$ ,  $p < .05$ , and (b)  $\beta = .226$ ,  $p < .05$ , respectively.

Table 12

*Regression Analysis for Social Development*

Predictor variables					
Category	Name	<i>B</i>	<i>SEB</i>	$\beta$	<i>pr</i> <sup>2</sup>
Deep-level characteristics	Well-being	.341	.076	.444	.000
Mutual trust	Friendliness	.185	.127	.145	.149
Communication effectiveness	Communication	.214	.085	.226	.013
Demographic	Gender M	.089	.194	.037	.649
Demographic	Age 55–64	.389	.426	.078	.363
Demographic	Exp. 6–11 months	.101	.201	.039	.617

*Note.*  $N = 99$ ,  $R^2 = .441$ ,  $R^2_{adj} = .40.5$ ,  $F(6,92) = 12.119$ ,  $p < .001$ .

There was a positive relationship between the predictive variables of well-being and communication to social development. This finding suggests that a combination of students having an increased emphasis on the well-being of others and seeking to improve discussions with others increases the potential for social development among online students. The key predictive variable of friendliness (mutual trust) was found to have no statistical significance; however, friendliness accounted for approximately 15% of the total variance, as illustrated by  $\beta = .145, p = .149$ . The demographic variables of gender (male) and experience (6–11 months) together accounted for approximately 7% of the total variance, as explained by  $\beta = .037, p = .649$ , and  $\beta = .039, p = .617$ , respectively, while age (55–64) accounted for 8% of the variance, as illustrated by  $\beta = -.078, p = .363$ .

### **Summary**

The purpose of this study was threefold. First, the study design was crafted to predict a trust perception from a virtual student's discussions. Second, the study design was created to confirm whether or not the predicted trust perception was a conventional form of trust or a fragile swift trust, and thus to evaluate the predictive design of the subsequent models. Finally, the study was designed to determine if the properties of a swift trust perception influence virtual discussions beyond a simple exchange of information, determining whether exchanges with specific qualities develop automatically to critical dialogue, knowledge construction, and sharing, and onward to social development over time (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014).

Beyond the limitations of the data, limited in the number of cases and further limited because all four predictive models violated the assumption of normality, the regression equations in all of the models were statistically significant at  $p < .001$ . These findings confirm the

reliability of the evaluated models and support the emphasis of the theoretical framework on the importance of perceiving similar characteristics with others of a community. These findings also showed that influencing a quality and friendly communication process facilitates developing a fragile swift trust perception to its maximum potential and maintaining its integrity as an ongoing process (Oh & Lee, 2016).

The findings suggest a course of action to maximize a virtual student's trust perception and academic development benefits. The course of action should include a strategy for influencing an increased perception of expertise and well-being among others of the virtual community, by exhibiting a friendly attitude with others, and by facilitating improvements to the discussion process as an ongoing commitment. The findings confirm all four research questions and the purpose of this study. There was an uneven distribution of participants in the age demographic in two range groups: 10 participants aged 45–54 years represented 9.8% of the sample, and six participants aged 55–64 years represented 5.88% of the sample population. The MRA conducted on Predictive Model 2, Predictive Model 3, and Predictive Model 4 included an unevenly distributed age range. The statistical information associated with the age demographic in Predictive Model 2, Predictive Model 3, and Predictive Model 4 may provide unreliable information, while it is also important to note that none of the standardized (beta) and unstandardized (B) coefficients revealed a statistically significant contribution in the age demographic in any one of the four predictive models. The discussion moves to the findings and associated implications to the recommendations, followed by the conclusion in Chapter 5.

## Chapter 5: Discussion, Conclusion, and Implications

The potential challenges to acquiring a conventional trust perception go well beyond merely making a rational assessment to determine another party's level of trustworthiness within a temporary virtual environment. In fact, aside from the reputation of an institution and the potential for perceiving institutional trust at the onset of an online degree program, a conventional trust perception would take much longer to develop from the discussions limited by emotional obscurity within a virtual community. Having emotional information readily available to reference, as in a face-to-face exchange of dialogue, helps to minimize the chance of a misperception (Campbell, 2010; Potts, 2015; Robert et al., 2009; Saerberg, 2010; Schiller et al., 2014). In online learning, virtual students express emotions in a collaborative exchange process by emotional contagion. Emotional contagion can influence the repetitive use of words that convey a particular emotion experienced (Alsharo et al., 2017; Wu et al., 2016). Language diffusion occurs over frequently used words that express an emotional effect; with repetition, this diffusion eventually confirms the particular emotion expressed (Cleveland-Innes & Campbell, 2012; Wu et al., 2016).

Stated expressions in an online academic setting are subtle and often difficult to interpret accurately. Valuable emotional context is missing for virtual exchange participants; in dialogue, participants are more likely to misinterpret information exchanged and experience misunderstandings (Booth, 2012; Chae, 2016; Geise & Baden, 2015; Lai, 2015; Wu et al., 2016). A significant misperception could lead to feelings of uncertainty and lead to conflict; from uncertainty and conflict, the affected parties could experience unhealthy levels of anxiety. Such experiences in communication could inhibit a trust perception or cause an existing trust

perception to collapse, and can negatively alter students' perceptions (Campbell, 2010; Potts, 2015; Robert et al., 2009; Saerberg, 2010; Schiller et al., 2014).

A person's historical narrative (her validated set of experiences over a lifetime) and her primary influences (her close familial ties), her secondary influences (workplace, friends, other associations) construct a unique self-construct and perception from one person to the next (Campbell, 2010; Potts, 2015; Robert et al., 2009; Saerberg, 2010; Schiller et al., 2014). Each person's self-construct and perception form, change, and develop over time from confluence of what she perceives herself to be to the external perceptions that others have of her as induced from her interpersonal interactions (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Saerberg, 2010; Stryker, 2011). While one person may experience little difficulty in extending a trust perception on others, another person might experience difficulty navigating uncertainty, preventing trust perceptions altogether. Intercultural influences and validated experiences that shape a person's worldview are inhibiting to a trust perception. How one person navigates uncertainty or permits a trust perception to exist, if at all, is dissimilar from one person to another (Campbell, 2010; Potts, 2015; Robert et al., 2009; Saerberg, 2010; Schiller et al., 2014).

Adding to the potential perceptive challenges that an online student might understand is the potential for uncertainty in classroom discussions or collaborative activities. The online student encounters communication challenges frequently because her interactions lack emotional clarity (Anshari et al., 2016; Nam, 2014; Pettersen, 2016). Developing trust in a virtual exchange process requires more action and effort than perfunctory communication, which hinders students' emotional understandings (Giesbers & Rienties, 2014). Without this added investment in developing trust, virtual students are more likely than on-campus students to misunderstand other students' intent and experience negative emotions; these negative emotional

experiences are important because they can cause a narrowing of focus that decreases discussion quality. The logical consequence of students not investing in developing trust is that they will eventually ignore social elements in their discussion, further limiting the students' discussion board interactions (C. Kim et al., 2014). Limited interactions among students are problematic to the collaborative process because these interactions make it more likely that discussion board posts will induce fear and anxiety in students (C. Kim et al., 2014). Limited interactions are also problematic for students who are more inclined than average to trust others; when these trusting students have negative reactions to discussion postings, these reactions can negatively color future interactions and inhibit future trust perceptions (Booth, 2012; Chae, 2016; Geise & Baden, 2015).

The majority of virtual students have a limited set of experiences to reference to resolve uncertainty in their discussion board interactions. Inexperienced virtual students only have a small number of experiences to draw on (Morgan et al., 2014; Saerberg, 2010), so negative prior experiences are more likely to negatively frame these students' understanding of the virtual environment and related future interactions, compared to experienced on-campus students (Campbell, 2010; Potts, 2015; Powell, 2013; Saerberg, 2010; Stryker, 2011). Whether the virtual student's experience was accurate or distorted, her perception of her online learning experience at that moment could rest on the last experience encountered (Campbell, 2010; Potts, 2015; Robert et al., 2009; Saerberg, 2010; Schiller et al., 2014).

Swift trust is transient because this trust type forms through the cognitive processes within the temporary interactions of a virtual community (Crisp & Jarvenpaa, 2013). In cognitively processing information, people emphasize belief in another person's abilities, reliability, and capabilities; as such, an unexpected negative experience of consequence among

one or more members of a virtual community can cause a swift trust perception to evaporate rapidly (Crisp & Jarvenpaa, 2013).

Table 13 includes some of the challenges that online students might encounter in their communications that can hinder a conventional trust perception in virtual temporary communities disadvantaged by emotional obscurity. The threats to acquiring a traditional trust perception in virtual environments are theoretically unlimited; those included in Table 13 are documented in the literature as potentially preventing a traditional form of trust from developing in virtual communications (Alsharo et al., 2017; Booth, 2012; Breitsohl et al., 2015; Campbell, 2010; Çelik, 2013; Chae, 2016; Cheng & Macaulay, 2014; Espinosa et al., 2015; Ford et al., 2017; Geise & Baden, 2015; C. Kim et al., 2014; Lai, 2015; Lilian, 2014; Nam, 2014; Oh & Lee, 2016; Păstae, 2016; Plešec Gasparic & Pecar, 2016; Potts, 2015; Robert et al., 2009; Saerberg, 2010; Saonee et al., 2011; Schiller et al., 2014; Short, 2014; Toprak & Genc-Kumtepe, 2014). It is important that educators be aware of these challenges because these challenges can, if unaddressed, hinder the potential for a conventional trust perception altogether.



Table 13

*Factors Inhibiting a Conventional Trust Perception in Discussions*

Misunderstandings	Deficits	Perceptions	Other
General misunderstandings	Institutional trust challenges	Perceived character flaws	Inability to connect socially
Gender misunderstandings	Imbalance of knowledge	Low self-esteem	Inability to trust others in general
Cultural misunderstandings	Communication delays	Heightened sensitivity	Illness of others
Unresolved incident	Lack of confidence	Fear	Inability to connect with others
Perceived discrimination	Lack of enthusiasm	Inflated sense of self-worth	Inexperience
Imbalance of commitment	Lack of empathy	Faulty understanding	Inability to commit
Low-quality communications	Lack of humility	Negative emotional experience	Unhealthy levels of anxiety
Misperception	Lack of motivation	Being overly aggressive	Inability to accept criticism
Faulty perception of intentions	Lack of psychological closeness	Being overly critical	Embarrassment
Faulty interpretation	Lack of shared understanding	Feelings of frustration	Technology challenges
	Lapses in communication		Too much social interplay
			Negative behavior
			Broken promises
			Conflict

**Beyond a conventional trust: A swift trust perception.** The findings from this study emphasize the valuable role that communication plays in eliciting a trust perception in virtual temporary environments. The theoretical perspective lends support for promoting the behaviors and conditions conducive for influencing a form of trust that can bridge social development and communication and environmental challenges that impede a conventional trust from developing in virtual communities (Cleveland-Innes & Campbell, 2012; Crisp & Jarvenpaa, 2013; Ennen et

al., 2015; Ford et al., 2017; Robert et al., 2009). Cognitive trust can develop swiftly and automatically through cognitive processes referencing a script built on a historical narrative that invokes similarities to a current situation that foretells a positive outcome (Campbell, 2010; Hauser et al., 2012; Powell, 2013; Robert et al., 2009; Stryker, 2011).

The fragile swift trust is a lesser form of trust; this type of trust is both fragile and fleeting and dissipates when a community does not acknowledge and manage the trust-inducing properties of a swift trust. Jarvenpaa et al. (1998) proposed that a swift trust originates from the first electronic communications between parties; the initial level of trust extends to others at the onset, helping to frame behaviors for the community going forward (Ford et al., 2017; Lai, 2015). A swift trust forms in temporary groups, communities, and settings in which members do not feel a sense of permanency or belongingness (Ennen et al., 2015; Li et al., 2014; Schroeder et al., 2016). Swift trust can stand in for a conventional trust perception and encourage a critical exchange of dialogue among a learning community before a conventional trust perception develops (Lai, 2015).

Positive emotions are the necessary drivers for active, energetic communication to develop—the essential element necessary for motivating a swift trust perception in a virtual community (C. Kim et al., 2014). A virtual student's emotional experiences moderate self-efficacy; as such, positive emotions can lead to support a personal belief that she can handle and navigate tasks efficiently (C. Kim et al., 2014). Emotions and cognition influence each other; as cognition ignites emotion, so does emotion induce cognition toward encouraging more valuable interaction forward (Alsharo et al., 2017; Chae, 2016). Positive behavioral expressions could induce groupthink, contributing to encouraging trusting behaviors and positive emotions among others in the community (Breitsohl et al., 2015).

When a trust perception is present underneath discussions, virtual students are more willing to take risks with their communications; interactions change from a simple exchange of information involving automatic cognitive processes to interactions that engage others in reflexive dialogue and higher-order thinking (Alsharo et al., 2017; Anshari et al., 2016; Cooke, 2016; Lilian, 2014; Nam, 2014). A trust perception can move external noise and clutter to the side from a virtual student's willingness to take risks in her communications. In doing so, the conversation is elevated from an automatic exchange of information to a critical exchange of dialogue and to knowledge construction and sharing over time (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014).

### **Summary of the Findings and Implications**

The data for this study were collected from 102 virtual students who self-indicated their eligibility and voluntarily responded to a 28-question anonymous swift trust survey (Pinjani & Palvia, 2013). Pinjani and Palvia (2013) granted permission for this study to use 23 survey questions selected from their 2013 validated swift trust study. Five additional questions were posed to help to determine selective demographical information from participants' responses. The earlier findings by Pinjani and Palvia significantly predicted swift trust and the influence of a swift trust perception in motivating knowledge sharing among teams and team members of a temporary virtual community. Pinjani and Palvia predicted the influence of a swift trust perception on knowledge sharing for teams and team members in a temporary virtual community. This doctoral study built on these results, confirming that a swift trust perception can trigger a critical dialogue process that promotes knowledge construction and increased sharing in online discussions, promoting positive social development in online graduate-level students.

**Revisiting the purpose of the study and research questions.** The design of four research questions extends from the theoretical model; together, they address the purpose of the study from the results of a series of MRAs conducted to interpret the survey data. The purpose of the study was to determine whether a swift trust perception was present in virtual students, and to determine whether this perception (if confirmed) predicted virtual communications becoming a critical exchange of dialogue. If the results of the MRA conducted on the first model significantly predict a positive swift trust perception, then subsequent models would potentially predict whether a swift trust perception led to a critical exchange of dialogue, knowledge sharing, and social development in discussions over time (Creswell, 2014; Y. Kim, 2015; Lai, 2015; Rumrill & Bellini, 2000; Wrench, 2016). The design of the research questions aligns with the four predictive models in confirming a swift trust perception and associated learning and development benefits in addressing the purpose of the study (Lai, 2015; Morgan et al., 2014; Robert et al., 2009).

***RQ1.*** To what extent did similar characteristics, mutual trust, communication, gender, experience, and age predict a swift trust perception in online graduate students' discussions within universities in the United States?

***RQ2.*** To what extent did similar characteristics, communication quality, gender, experience, and age predict the influence of swift trust on critical dialogue in online graduate students' discussions within universities in the United States?

***RQ3.*** To what extent did similar characteristics, communication quality, gender, experience, and age predict the influence of swift trust on knowledge sharing in online students' discussions within universities in the United States?

**RQ4.** To what extent did similar characteristics, mutual trust, communication quality, gender, experience, and age predict the influence of swift trust on social development in online graduate students' discussions within universities in the United States?

In summarizing the findings, the related concepts that extend from the theoretical foundation and the literature that address the logic for the design of the four predictive models help to confirm or reject the theoretical perspective, literature, the research questions, and purpose in this study.

### **Summary of the Findings and Implications: RQ1**

RQ1 was as follows: To what extent did similar characteristics, mutual trust, communication, gender, experience, and age predict a swift trust perception in online graduate students' discussions within universities in the United States?

Without a positive trust perception, the potential for a social exchange process, critical dialogue, and knowledge sharing is unlikely. Trust helps to influence the environment to the degree that virtual learning students feel uninhibited in exchanging personal information with others. In feeling a freedom to express thoughts or opinion, the communication process moves to an exchange of quality dialogue that becomes more valuable over time (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). Trust is the essential facilitating concept underlying the most valuable communications in an online learning community.

Ford et al. (2017) stated that it is the information expressed within the initial communications among a virtual community that influences members to apply a positive or negative trust judgment on another within the community; as such, first impressions do matter in forming and developing a swift trust. Ford et al. (2017) and Lai (2015) contended that the first communications expressed among a community could elicit a swift trust perception. The fragile

swift trust perception develops no further from its initial point of inception (Ford et al., 2017; Jarvenpaa et al., 1998; Lai, 2015). A swift trust reaches its maximum degree of development when it first forms and does not grow over time (Ennen et al., 2015). Once an impression forms from a judgment made, it is hard to alter that impression positively or negatively in later communications (Ford et al., 2017). For a swift trust to reside underneath the communication process, all of the community must initiate and reply to discussions promptly.

The results of the MRA indicated that a lone key predictor, communication, accounted for approximately 43% of the total variance in the regression equation,  $R^2 \text{ adj} = .33$ ,  $F(6,90) = 8.895$ ,  $p < .001$ , as explained by  $\beta = .432$ ,  $p < .05$ . Improvements made to the discussion process would lead to an increased trust perception among the community. Model 1 successfully predicted trust perceptions, suggesting that this model can be used to successfully predict whether online students perceive a conventional form of trust or a fragile swift trust in discussions. Because communication accounted for the majority of the variance in this model, and the theoretical foundation emphasized the importance of communication to a fragile swift trust perception, some virtual learning students likely perceived a swift trust. The relationship between communication and trust extends from the theoretical foundation: a particular student's enjoyment of the learning process suggests that an active, energetic, and quality communication process occurred, influencing the morale of the community to a high level. If efficient, quality communication took place, then a swift trust would have motivated the task-based discussions (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). Successfully predicting the presence of significant swift trust perceptions in discussions suggests that virtual learning participants with this swift trust exchange information as if a conventional form of trust were present. The active communication that forms and reinforces the properties of a swift trust

simultaneously helps to mediate the potential of an exaggerated level of overconfidence (Crisp & Jarvenpaa, 2013). Schiller et al. (2014) theorized that a high degree of trust in a new virtual community explains students' mutual predisposition and desire to place trust in others, the institution, and individual cognitive processes that permit that illusion. The successful predictive variable relationship of the MRA conducted on Predictive Model 1 found a significant relationship between the predictors and a potential swift trust perception. Subject to confirmation, the MRA results potentially confirmed the theoretical perspective and RQ1. However, the statistical analysis showed that the predictive model results violated the assumption of normality, and consequently may be unreliable.

### **Findings and Implications for RQ2**

RQ2 was as follows: To what extent did similar characteristics, communication quality, gender, experience, and age predict the influence of swift trust on critical dialogue in online graduate students' discussions within universities in the United States?

Crisp and Jarvenpaa (2013) contended that a fragile swift trust has trust-inducing properties similar to those of a traditional trust type. With a swift trust in place, virtual students can share personal information and experiences without fear of judgment when responding to task-based discussions. Ongoing, frequent, and minimally delayed interactions maintain the integrity of a fragile swift trust (Booth, 2012; Cleveland-Innes & Campbell, 2012; Lai, 2015; Saonee et al., 2011; Tseng & Yeh, 2013). As Espinosa et al. (2015) and Robert et al. (2009) stated, as the discussion process develops over time, so does the level of dialogue; as critical dialogue develops, virtual students begin to construct new knowledge and refine existing knowledge to be more valuable. Having a creative exchange and development process that

facilitates critical thinking, critical dialogue, and knowledge sharing also promote further productive communications (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014).

The results of the MRA indicated that three key predictors accounted for approximately 86% of the total variance,  $R^2 \text{ adj} = .379$ ,  $F(6,90) = 10.745$ ,  $p < .001$ . The three key predictive variables significantly predicted critical dialogue in discussions: expertise (functional expertise),  $\beta = .398$ ,  $p < .05$ ; friendliness (mutual trust),  $\beta = .239$ ,  $p < .05$ ; and communication,  $\beta = .219$ ,  $p < .05$ .

There was a positive relationship found between the key predictive variables of expertise, friendliness, and communication to critical dialogue in discussions. Because communication significantly predicted a trust perception for a second time, this positive relationship further confirmed the importance of the relationship of communication to a swift trust perception. The theoretical foundation also emphasized the importance of communication to a fragile swift trust perception: If efficient quality communication took place, then a swift trust would have motivated the task-based discussions (Booth, 2012; Crisp & Jarvenpaa, 2013; Schiller et al., 2014). In turn, an active and energetic process of interaction can explain why critical dialogue developed among the community, and the potential of knowledge construction, sharing, and relationship development occurred (Çelik, 2013; Oh & Lee, 2016).

A continuous discussion process aids in promoting a sense of community identification and keeps the properties of swift trust intact (Robert et al., 2009). The predictive variable relationship of the MRA identified using Predictive Model 2 suggests a significant relationship between the predictors and critical dialogue, a result that supports the accuracy of the MRA results obtained from Predictive Model 1. Predictive Model 2 confirmed the underlying



theoretical perspective and RQ2. However, this predictive model also violated the assumption of normality assumption, so the MRA results may be unreliable.

### **Findings and Implications for RQ3**

RQ3 was as follows: To what extent did similar characteristics, communication quality, gender, experience, and age predict the influence of swift trust on knowledge sharing in online students' discussions within universities in the United States?

Killingsworth et al. (2016) wrote that trust is the trigger necessary for a positive attitudinal expression among the virtual learning community; a trust perception paves the way for knowledge sharing to develop from an exchange of critical dialogue as the catalyst. Knowledge sharing occurs when critical dialogue rises beyond an information exchange to a more valuable interaction process and the construction of new or improved knowledge of critical concepts over time (Killingsworth et al., 2016). Newly advanced knowledge combined with existing knowledge leads to enriching the understanding of critical concepts as the communication progresses (Duncan et al., 2012; Oh & Lee, 2016; Saerberg, 2011). The MRA revealed that two key predictors—well-being and communication—accounted for approximately 63% of the total variance,  $R^2 \text{ adj} = .372$ ,  $F(6,90) = 10.464$ ,  $p < .001$ . The two key predictive variables of well-being (deep-level characteristics) and communication significantly predicted knowledge sharing in discussions as explained, respectively, by  $\beta = .210$ ,  $p < .05$ ; and  $\beta = .420$ ,  $p < .05$ . The predictive variable of well-being proved to be statistically significant in the regression model, highlighting the importance of demonstrating actions that promote the well-being of the entire community. The choice of the predictive variables to the criterion variable composing this model further confirmed the accuracy of the results of the MRA conducted on Predictive Model 1 and Predictive Model 2. The significant relationship between

communication and a swift trust perception in three of the predictive models and the relationship between communication to knowledge sharing further confirmed the value of communication to a swift trust perception and the role of trust on a critical exchange and development process and beyond.

The demographic variable of experience (1–5 months) was statistically significant and accounted for approximately 22% of the total variance, as explained by  $\beta = .222, p < .05$ . Schiller et al. (2014) provided the basis for this significant finding; they observed that a high level of trust developed in new virtual relationships. Schiller et al. theorized that a high degree of trust in a new virtual community explains students' mutual predisposition and desire to place trust in others, the institution, and with an individual's cognitive processes that permit that illusion. Wenbo et al. (2017) argued that institutional trust is essential to development of a swift trust, especially when people have no prior history with each other's cultural or social background. A variety of factors influences a person's decision-making process over her willingness to extend or withhold institutional trust (Wenbo et al., 2017).

The theoretical foundation of this study emphasized the importance of the individual perceptions in determining whether an individual withholds from or extends trust to another party or the underlying institution, and whether she perceives characteristics similar to others of the community (Campbell, 2010; Potts, 2015; Robert et al., 2009; Saerberg, 2010; Schiller et al., 2014). Infrequent communication with other students thus challenges the integrity of swift trust; if virtual students experience an identity violation or question the integrity of the institution (loss of institutional trust), they might exhibit a fear of disclosure (Saonee et al., 2011). A loss of institutional trust is damaging to the collaborative engagement process (Saonee et al., 2011).

Wenbo et al. (2017) and Saonee et al. (2011) are among the few authors in the literature who noted the importance of institutional trust to a swift trust perception.

Knowledge sharing occurs among the virtual community as a benefit of perceiving the existence of a trust (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014). The MRA conducted on Predictive Model 3 showed a statistically significant relationship between the predictors and knowledge sharing, further confirming the accuracy of the MRA results of Predictive Model 1 and Predictive Model 2. Predictive Model 3 confirmed the underlying theoretical perspective and RQ3. This predictive model violated the assumption normality assumption; consequently, the MRA results may be unreliable, limiting their applicability.

#### **Findings and Implications for RQ4**

RQ4 was as follows: To what extent did similar characteristics, mutual trust, communication quality, gender, experience, and age predict the influence of swift trust on social development in online graduate students' discussions within universities in the United States?

A swift trust deemphasizes the social component because this type of trust develops from the perceptions of having characteristics similar to those of others in the community, and of sharing a common identity thread with other members of the community (Birdie & Jain, 2016). Ford et al. (2017) theorized a slightly different perspective on swift trust, emphasizing the importance of active communication over other influences in its initial formation (Honglei et al., 2016; Saonee et al., 2011; Schiller et al., 2014; Toprak & Genc-Kumtepe, 2014). The MRA results indicated that two key predictors—well-being and communication—accounted for approximately 69% of the total variance,  $R^2 \text{ adj} = .40.5$ ,  $F(6,92) = 12.119$ ,  $p < .001$ . The key predictive variables of well-being (deep-level characteristics) and communication significantly

predicted social development in discussions, as explained, respectively, by  $\beta = .444, p < .05$ ; and  $\beta = .226, p < .05$ .

There was a positive relationship found between the key predictive variables of well-being and communication to social development in discussions. For a second time, well-being was statistically significant in a regression model. This result confirmed value in reinforcing the notion of well-being among the whole community. The predictive variables of well-being and expressions of mutual trust (the criterion variable) share a common thread with social development. Serdyukov (2015) affirmed this notion in advancing that knowledge is a socially constructed process, and a mutual trust promotes a friendly atmosphere for an exchange to occur among a virtual community of members. Without face-to-face contact, an essential social exchange process is less likely to develop in a virtual learning environment than in a traditional, on-campus learning environment; any degree of development is challenging to maintain among a temporary virtual community of students (Pettersen, 2016; Sadykova, 2014). With the perception of trust acknowledged among the community, members interact together without fear of reprisal or feelings of judgment by others of the community (Serdyukov, 2015). Frequent communication on topics of interest in which members share common ground helps to elevate shared meaning for the whole of the group, creating valuable social interactions at the same time (Pettersen, 2016). There is a danger in being overly friendly, Plešec Gasparic and Pecar (2016) cautioned; social development can be a blessing or a curse at the same time because too much social development can inhibit academic development, but not enough would inhibit trust from forming or growing. Communication significantly predicts social development; this fact highlights the importance of ensuring that a quality communication process develops and continues to develop unimpeded among the entire of the community with minimal send-receive

delays. Infrequent communication with other virtual students challenges the integrity of swift trust; delays create uncertainty in students' perceptions of each other. This situation is problematic because virtual learning students who have more uncertain perceptions of their fellow experience are more likely than other students to lose swift trust if there is an identity violation or other factor that makes them question the integrity of the institution (Saonee et al., 2011).

The theoretical foundation emphasized the importance of communication in social development, knowledge sharing, and a critical exchange of dialogue: an active and energetic process of interaction can explain why critical dialogue developed among the community and subsequent knowledge construction, sharing, and relationship development occurred (Çelik, 2013; Oh & Lee, 2016). A social exchange process promotes knowledge sharing among others in the community; a measurable degree of social development suggests that a swift trust influenced the development of critical dialogue, facilitating an exchange of knowledge (Booth, 2012; Carter, 2015; Morgan et al., 2014; Schiller et al., 2014). The predictive variable relationship of the MRA conducted on Predictive Model 4 showed a statistically significant relationship between the predictors and social development, which confirmed the accuracy of the MRA results for Predictive Model 1, Predictive Model 2, and Predictive Model 3. Predictive Model 4 confirmed the underlying theoretical perspective, RQ4, and the purpose of the study. This predictive model violated the assumption of normality, so the MRA results may be unreliable.

### **Limitations of the Data and Summary**

Although the MRA conducted on four predictive models revealed statistically significant findings, some factors limited the reliability of the results. All four predictive models violated

the assumption of normality in recording a statistically significant value from the Shapiro-Wilk test, conducted with SPSS Software (IBM, 2017); however, all the models were statistically significant at  $p < .001$ . The significant regression equation found in all four models  $p < .001$  added confidence for the reliability of the predictions. The small sample size ( $N = 102$ ) further limited the reliability of the data; after removing outliers that influenced each model,  $N$  varied in the predictive models from 97 to 99. The small sample size increased the probability of error, as indicated with the formula  $n = [Z^2 * p * (1 - p) / C^2]$ . The  $Z$  value was at a 95% confidence level with a 10% margin of error when calculated for  $S = 94$  (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016). Participants arrived at the survey anonymously; as such, there is no way to determine a level of accuracy in their responses. The data sources used in this study—FindParticipants, LinkedIn, and SurveyMonkey—were reliable, which adds a degree of value to the accuracy of the data collected. Finally, there was an uneven distribution of participants in the age demographic in two range groups: 10 participants aged 45–54 years represented 9.8% of the sample, and six participants aged 55–64 years represented 5.88% of the sample population. The MRA conducted on Predictive Model 2, Predictive Model 3, and Predictive Model 4 included an unevenly distributed age range. The statistical information associated with the age demographic in Predictive Model 2, Predictive Model 3, and Predictive Model 4 may provide unreliable information, while it is also important to note that none of the standardized (beta) and unstandardized (B) coefficients revealed a statistically significant contribution in the age demographic in any one of the four predictive models.

### **Summary**

A statistically significant relationship between the predictive variable of communication and the criterion variables in four predictive models confirmed the importance of communication

in influencing a trust perception in virtual temporary environments. Potentially, communication is even more valuable than surmised for a swift trust perception and subsequent academic benefits that might develop when a form of trust underlies the discussions of an online community. Swift trust forms on the first communications among members of a virtual learning community; it is the first communications that help to frame whether one member is perceived as more or less similar from one to the next (Ford et al., 2017; Lai, 2015). An initial exchange of poor quality and delayed communication would prevent or collapse a fragile swift trust perception. Communication must occur with minimal delays and be of sufficient quality to form and maintain the trust-inducing properties of swift trust.

An energetic back-and-forth dialogue contains self-correcting properties, similar to the potential benefits coming from an open exchange of feedback with others for purposes of clarity; as the communication progresses, participants gain higher levels of shared meaning over time (Espinosa et al., 2015). In acquiring high levels of shared meaning from an exchange process, participants gain a high degree of confidence in managing uncertainty, risk, and points of vulnerability from the active participation of the whole community (Birdie & Jain, 2016). In accumulating positive information about the other in a community over time, as swift trust begins to disintegrate on the diminishing characteristics of others in the community, a knowledge-based trust can develop in its place (Espinosa et al., 2015; Robert et al., 2009).

A positive correlation exists between active discussions and a student's academic development; instructors can help to minimize social distance among participants by motivating a dynamic and active discussion process (Çelik, 2013; Oh & Lee, 2016). Communication and verification are the action cues that help to slow the erosion process of a swift trust perception (Ennen et al., 2015). Comprising the action cues are a participant's active, energetic, and quality

communications, responding to task-based discussions promptly, and the continuous verification of the willingness of members of a community to be vulnerable in their communications (Ennen et al., 2015).

The coefficients table produced in IBM SPSS, Version 25 (IBM, 2017) reflected the results of the MRA (model-to-model) and revealed the following information: (a) communication significantly predicted and confirmed a swift trust perception in four predictive models,  $p < .001$ ,  $p < .05$ ,  $p < .001$ , and  $p < .05$ , respectively; (b) communication significantly predicted and confirmed critical dialogue and knowledge sharing in two predictive models at  $p < .05$ , and  $p < .001$ , respectively; (c) communication significantly predicted and confirmed social development in one predictive model  $p < .05$ ; (d) similar deep-level characteristics (well-being) significantly predicted social development in one predictive model at  $p < .001$ ; (e) similar deep-level characteristics (well-being) significantly predicted and confirmed a swift trust perception in two predictive models at  $p < .05$ , and  $p < .001$ , respectively; (f) similar deep-level characteristics (well-being) significantly predicted knowledge sharing in one predictive model,  $p < .05$ ; (g) functional characteristics (expertise) significantly predicted critical dialogue and confirmed a swift trust perception in one predictive model,  $p < .001$ ; and (h) friendliness (mutual trust) significantly predicted critical dialogue and confirmed a swift trust perception in one predictive model,  $p < .05$ .

The findings generated from the data supported much of the literature, the theoretical perspective, and successfully addressed the research questions and purpose of this study. The purpose of this study was to determine whether the presence of swift trust in a temporary learning community led to a critical exchange of dialogue, knowledge sharing, and social development within the task-based discussions of online graduate students of 4-year universities



in the United States. This determination proved correct; four regression equations revealed that nearly one-third ( $R^2$  average 36%,  $\varepsilon = 10\%$ ) of the study participants perceived that a swift trust perception motivated their discussions, leading to critical dialogue, knowledge sharing, and social development.

One final observation: the coefficients table generated in IBM SPSS, Version 25 (IBM, 2017) revealed unusual information from the MRA conducted on Predictive Model 3. Experience of 1–5 months significantly predicted knowledge sharing,  $p < .05$ . It is conceivable that some inexperienced virtual learning students perceived institutional trust to a degree. Wenbo et al. (2017) argued that institutional trust is essential to the development of a swift trust, which is especially important when students have no prior history of another community member's cultural or social background. A variety of factors influence a student's decision-making process over her willingness to extend or withhold institutional trust (Wenbo et al., 2017). The theoretical foundation emphasized that perception, different from one person to the next, determines whether an individual withholds or extends trust on another party or the underlying institution and whether she perceives similar characteristics with others of the community (Campbell, 2010; Potts, 2015; Robert et al., 2009; Saerberg, 2010; Schiller et al., 2014). The predictive variable of experience (1–5 months) did not appear in the other predictive models, but communication significantly predicted all of the criterion variables.

### **Recommendations**

Maximizing the potential for a swift trust perception requires online students to perceive a similar level of functional expertise, express well-being, and exhibit a friendliness among others in the community. Students are more inclined to trust other students in a community if they perceive similar in-group characteristics (Robert et al., 2009; Schiller et al., 2014), which

can be facilitated by having students develop growth mindset mantras (Heslin & Keating, 2017). For example, the facilitator might request that students recite the following mantras with purpose before entering into classroom discussions:

- “It is always possible to improve on the academic experience; in doing so, I will perceive others in the learning community to have a similar level of functional expertise to my own”;
- “I will always endeavor to express the well-being of other students when appropriate and exhibit a friendly, positive attitude because I know that expressing their well-being affords me the maximum learning benefit possible”;
- “I will always respond to communication promptly and communicate my thoughts frequently because prompt communication demonstrates respect for others and to the academic development process.”

Instructors can support this activity with inspirational activities that illustrate success (Heslin & Keating, 2017). Instructors can refine this approach by giving feedback that emphasizes hard work, being a team player, and persistence without criticism or celebrating innate talent (Heslin & Keating, 2017).

Eventually, a swift trust erodes on the diminishing characteristics of others in the community (Espinosa et al., 2015; Robert et al., 2009). An active, energetic communication process among participants helps to maintain the integrity of a swift trust perception (Birdie & Jain, 2016; Schiller et al., 2014). A knowledge-based trust develops in considering attitude, behavior, commitment to the task, and a person’s level of benevolence to others in the community in its formation (Espinosa et al., 2015; Robert et al., 2009). With members of the community working as a collective to keep a swift trust intact, their actions contain the necessary

elements for a knowledge-based trust to develop and grow (Espinosa et al., 2015; Robert et al., 2009). An instructor's involvement in discussions could provide an optimal environment in which to maintain a swift trust perception and develop a knowledge-based trust as a benefit of continued maintenance of the swift trust (Çelik, 2013; Oh & Lee, 2016). As the instructor helps to ensure that a minimally delayed and a dynamic exchange process takes place among the community, a knowledge-based trust will grow while a swift trust diminishes over time (Espinosa et al., 2015; Robert et al., 2009). Eventually, the more robust knowledge-based trust might replace the fragile swift trust (Espinosa et al., 2015; Robert et al., 2009).

Facilitators should never assume that the virtual student understands the rules to interact effectively with others of a community (Saonee et al., 2011). As an ongoing process, facilitators should monitor the interactions of members of a community in discussions, elevating the conversation when appropriate to ensure all members' full involvement. A facilitator's participation can aid in refining perspectives for students, which refines cognitive structures to accept the absorption of new and improved knowledge (Duncan et al., 2012). The interactions of a community must be of sufficient quality for the adequate development of concepts (Păstae, 2016). The community must actively engage in productive dialogue for the co-construction of knowledge to occur (Carter, 2015; Lai, 2015; Morgan et al., 2014). Influential members of a community can play an important role in the discussion process; their participation helps to engage and drive social learning and academic development for all involved (Booth, 2012; Killingsworth et al., 2016).

A positive correlation exists between active discussions and a student's academic development; instructors can help to minimize social distance among virtual students by motivating students through a dynamic and active discussion process (Çelik, 2013; Oh & Lee,

2016). Interactions that lead to enhancing a student's social presence are a motivating influence (C. Kim et al., 2014). Students can support a swift trust perception from its initial formation and maintain its integrity by employing a social communication style and expressing enthusiasm in interactions from the outset (Saonee et al., 2011). A community relies on social development to motivate higher-order thinking processes (Plešec Gasparic & Pecar, 2016). Engaging students in topics that evoke self-interest can lift their excitement in discussions, leading to a self-induced emotional contagion, thus influencing positive energy among the community (Alsharo et al., 2017; Wu et al., 2016). If participants perceive a mutual benefit, they likely will have a favorable attitude toward sharing knowledge with others (Killingsworth et al., 2016).

Frequent communication on topics of interest elevates shared meaning for the community and induces a degree of social interaction at the same time (Pettersen, 2016). A lack of shared understanding leads to an imbalance of commitment and uncertainty among participants and frustration. If a participant has a negative emotional experience that goes unaddressed, this experience likely will have a negative impact on her participation and that of the whole community from a loss of involvement (Espinosa et al., 2015; Schiller et al., 2014). Participants having a diverse set of perspectives, knowledge, and skills help to maximize the task-based discussions of a community (Patel, 2014). Learners perform better when engaging in activities that spark self-interest on assigned tasks; interest-driven activities help to facilitate learning and development for the student and the broader community (Alagoz, 2013).

Small, intimate class size encourages productivity and is conducive to developing and maintaining a swift trust effectively. Learners must navigate numerous individual perceptive differences in communicating, and too large a class size only leads to confusion and uncertainty (Akcaoglu & Lee, 2016; Păstae, 2016). It is essential to a swift trust perception that students

maintain a task-based focus and avoid distractions (C. Kim et al., 2014). A recommended action is to direct students' attention toward task goals from one task to another because this action promotes an optimal and efficient focus compared to not directing them to tasks and task goals (C. Kim et al., 2014; Yang et al., 2015). Facilitators can encourage an optimal virtual learning platform by explaining the risks of the environment and limitations of online communication to virtual students early in the process (Espinosa et al., 2015; Morgan et al., 2014). Any level of interaction among a community, if consistent and enthusiastic, is helpful for sustaining the trust-inducing properties of a swift trust from dissipating too quickly (Saonee et al., 2011).

Face-to-face discussions should be used in moderation in virtual learning, according to Plešec Gasparic and Pecar (2016). Social development in online discussions can be a blessing or a curse because too much social development can inhibit academic development, and not enough will inhibit trust from forming or growing. Communication significantly predicts social development; this fact highlights the importance of ensuring that a quality communication process develops and continues to develop unimpeded among the entire community with minimal send-receive delays. Infrequent communication with other participants challenges the integrity of swift trust; with delays comes uncertainty, potentially contributing to an identity violation. If virtual students experience an identity violation or question the integrity of the institution (loss of institutional trust), they might exhibit a fear of disclosure (Saonee et al., 2011), and a swift trust perception will collapse.

### **Suggestions for Future Research**

A practical suggestion for future researchers is investigate the contribution of institutional trust to online discussions. In this dissertation study, the 28 survey questions did not include questions for predicting institutional trust perceptions (Pinjani & Palvia, 2013). As Wenbo et al.

(2017) stated, institutional trust is essential to development of a swift trust, especially when participants have no prior history of another member's cultural or social background. The theoretical foundation also emphasized that perception, different from one person to the next, determines whether an individual withholds or extends trust on another party or the underlying institution and whether she perceives similar characteristics with others of the community (Campbell, 2010; Potts, 2015; Robert et al., 2009; Saerberg, 2010; Schiller et al., 2014).

Another suggestion is to conduct the same study with a much larger audience than the 102 students who participated in this study. A word of caution: It was extraordinarily difficult to recruit a sufficient number of participants for this survey. Perhaps the exclusionary criteria used in this study could have been less restrictive on participation. If access to potential participants is not a problem, then replicating this study might prove valuable. Another alternative study would be to conduct a qualitative swift trust survey to analyze the development or absence of online discussions. The theoretical foundation used in this study would be a valuable tool in interpreting data collected from online discussions.

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## Appendix A: Institutional Review Board Exempt Approval Letter

**ABILENE CHRISTIAN UNIVERSITY***Educating Students for Christian Service and Leadership Throughout the World*

Office of Research and Sponsored Programs  
320 Hardin Administration Building, ACU Box 29103, Abilene, Texas 79699-9103  
925 674 2885



11/9/2017

Edward Fitch  
School of Educational Leadership

Abilene Christian University

Dear Mr. Fitch,

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled **Influencing a Swift Trust for Elevating Communications of a Virtual Learning Community** (IRB# 17-079 ) is exempt from review under Federal Policy for the Protection of Human Subjects (45 CFR 46.101(b)(2)).

If at any time the details of this project change, please resubmit to the IRB so the committee can determine whether or not the exempt status is still applicable.

I wish you well with your work.

Sincerely,

A handwritten signature in cursive script that reads "Megan Roth".

Megan Roth, Ph.D.  
Director of Research and Sponsored Programs

## Appendix B: FindParticipants Call for Participants E-mail and Posting

### **Influencing a Swift Trust to Elevate Communications of a Virtual Learning Community**

“Final call for participants, this survey will close today, Sunday, March 4, 2018, at midnight”

Please tell me a little bit about your online academic experience by participating in a **3-minute<sup>1</sup> anonymous survey**. My name is Edward Fitch (Ed); I am a Doctoral Candidate at Abilene Christian University (ACU). As gratitude for your participation, you will be eligible to win one of three **\$100.00 Amazon Gift Cards** in as many random drawings. You may be eligible to participate if you are a full or part-time “Online” Masters-level student of a “Business” or “Education” program in the United States.

Your participation in a **3-minute anonymous survey** may confirm concepts and strategies identified that could prove essential for maximizing a virtual learning experience. In responding to the **23 survey questions<sup>2</sup>**, I hope to gain valuable information from your thoughts surrounding your digital interactions with classmates. Should you meet the eligibility criteria, please know that your participation is **strictly voluntary**. Upon completion of the survey, you will find an optional link where you can register to win one of three **\$100.00 Amazon Gift Cards** in as many random drawings. I provide my contact information on the first page of the survey should you have questions or comments. I will respond to all queries within 24-hours. To gain access to the survey and gift card opportunity place this secured SurveyMonkey link into your browser now. <https://www.surveymonkey.com/r/swiftrust>

<sup>1</sup> The average completion time for this survey is 3–4 minutes.

<sup>2</sup> There are 28 questions in total (questions 1–5 seek demographic information).

**Compensation:** Random drawing, three \$100.00 Amazon gift cards

**Location:** <https://www.surveymonkey.com/r/swiftrust>

## Appendix C: FindParticipants Message Performance Statistics

## Appendix C

**FindParticipants: Message Performance Statistics**

Total number in the defined target: 2,900

First message sent: February 13, 2018

Survey Closed: March 4, 2018 at midnight

<b>Message</b>	<b>Sent</b>	<b>Messages</b>	<b>Opened</b>	<b>Unsubscribes</b>	<b>Reported</b>
<u>Ends Today Online Masters...</u>	<b>5 months ago</b>	2,900	333	6	0
<u>Last Call Online Masters...</u>	<b>5 months ago</b>	2,898	348	4	0
<u>3 min Survey for...</u>	<b>5 months ago</b>	2,878	414	3	0
<u>Online Masters M.Ed. Students...</u>	<b>5 months ago</b>	2,837	405	7	0
<u>Online MBA Students, 3...</u>	<b>5 months ago</b>	2,872	392	5	0
<u>Online Masters Students, 3...</u>	<b>5 months ago</b>	2,004	293	4	0
<u>Survey 3 mins, Online...</u>	<b>5 months ago</b>	2,101	273	8	0
<u>3 min Survey Online...</u>	<b>5 months ago</b>	2,850	448	4	0
<u>A Call to online...</u>	<b>5 months ago</b>	2,003	289	3	0
<u>Calling Online Masters Students...</u>	<b>5 months ago</b>	2,002	297	4	0
<u>A Call to Online...</u>	<b>5 months ago</b>	2,892	400	5	0
<u>Elevating Virtual Communications 4...</u>	<b>5 months ago</b>	2,835	277	7	0

<https://www.findparticipants.com/researcher/>

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#### Appendix D: LinkedIn Posting Call for Participants

<https://www.linkedin.com/pulse/call-online-masters-students-3-min-survey-gift-cards-ed-fitch/>

Total views = 5

LinkedIn Corporation © 2018

Published on February 18, 2018

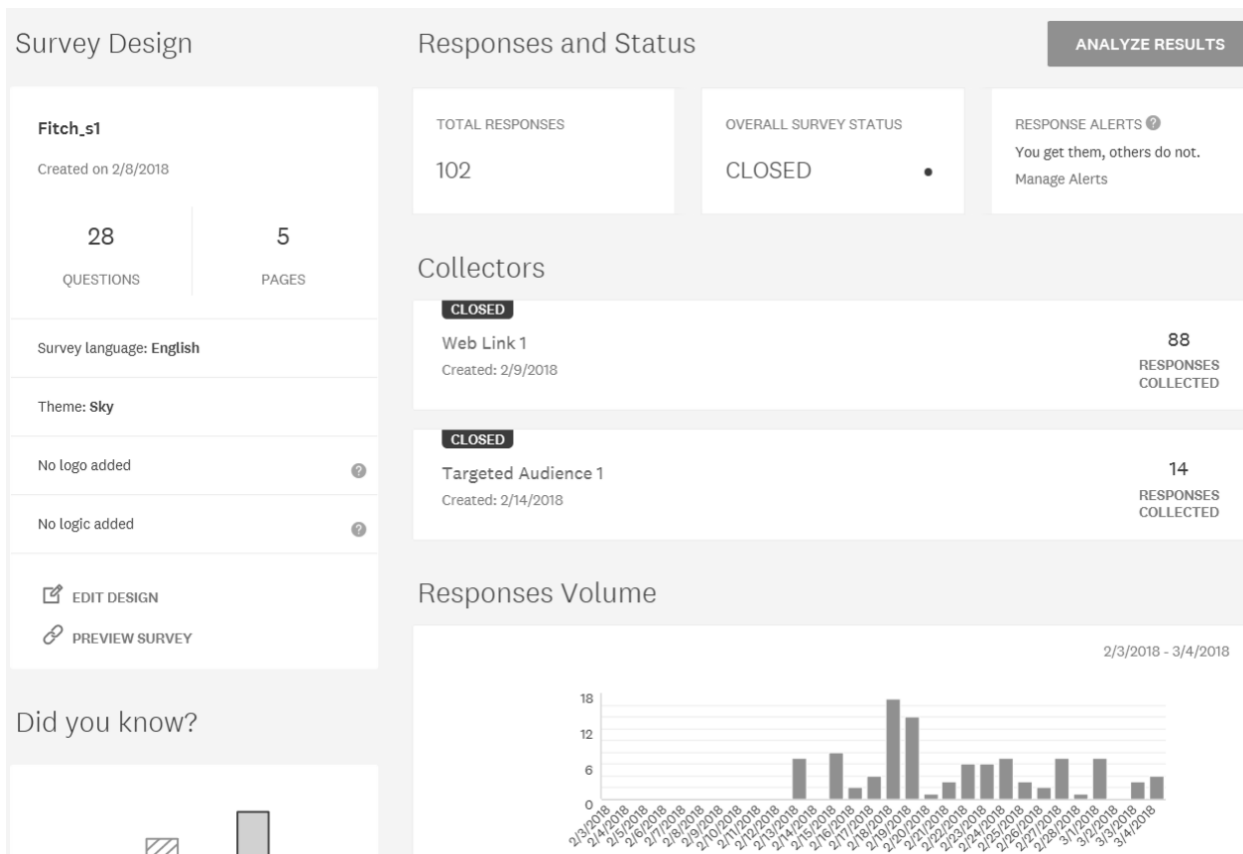
#### **A Call to Online Master's Students, 3- to 4-Minute Survey, Gift Cards**

Please tell me a little bit about your online academic experience by participating in a **3-minute<sub>1</sub> anonymous survey**. My name is Edward Fitch (Ed); I am a doctoral candidate at Abilene Christian University (ACU). As gratitude for your participation, you will be eligible to win one of three **\$100.00 Amazon Gift Cards** in as many random drawings. You may be eligible to participate if you are a full or part-time online master's-level student of a business or education program in the United States.

Your participation in a **3- to 4-minute anonymous survey** may confirm concepts and strategies identified that could prove essential for maximizing a virtual learning experience. In responding to the **23 survey questions**, I hope to gain valuable information from your thoughts surrounding your digital interactions with classmates. Should you meet the eligibility criteria, please know that your participation is **strictly voluntary**. Upon completion of the survey, you will find an optional link where you can register to win one of three **\$100.00 Amazon Gift Cards** in as many random drawings. I provide my contact information on the first page of the survey should you have questions or comments. I will respond to all queries within 24 hours. To gain access to the survey and gift card opportunity place this secured SurveyMonkey link into your browser now. <https://www.surveymonkey.com/r/swiftrust>

**The average completion time for this survey is 4 minutes.**

## Appendix E: SurveyMonkey Message Performance Statistics



## Appendix F: SurveyMonkey Introduction, Eligibility, Purpose, Instructions, and Survey

### **Introduction**

Greetings, and welcome to my survey. My name is Edward Fitch (Ed), and I am a Doctoral Candidate at Abilene Christian University (ACU). Your participation could allow me to understand your perception surrounding crucial aspects of the online learning experience. In responding to **23 questions**, I hope to gain valuable information gleaned from your thoughts surrounding your digital interactions with classmates including potential associations to learning and development. First, you will need to determine your eligibility to participate. Should you meet the eligibility criteria outlined below, in proceeding know that your participation is **strictly voluntary and anonymous**. Voluntary participation in this study means you always have the freedom to exit the survey at any point in the process. Should you have questions or concerns you may contact me directly (e-mail: [REDACTED]); I will respond to e-mails within 24 hours.

As mentioned, your first step will be to ensure your eligibility to participate. Should you qualify for and subsequently complete this **short 3-minute survey**, you will find a link where you can potentially **win a \$100.00 Amazon Gift Card**. You have three chances to win one of three gift cards in as many random drawings (good luck, but more importantly, thank-you)!

### **Eligibility**

You may meet the eligibility requirement of the survey if you are a full- or part-time online student of a 4-year public, private, or non-profit university or college in the United States

currently, you are not a student at ACU, and you meet the eligibility criteria as noted below.

### **Eligibility Criteria**

To participate in this **short 3-minute voluntary, anonymous** survey, you must first ensure that you meet the following criteria.

- English is your primary or working language.
- Your academic institution is in the United States.
- Your degree program is a master of business (MBA) or business-related masters, or a master's of education (MEd).
- You recently participated in an online class within your degree of study.
- The majority of your program is online with limited or no face-to-face interaction.
- You are comfortable with navigating online learning technologies.
- You have less than two years of online learning experience in an online university setting.
- You are interested in the topic described in the Purpose Statement (next page).

### **Purpose Statement**

The purpose of this quantitative non-experimental study is to determine whether the presence of swift trust in a temporary learning community leads to a critical exchange of dialogue, knowledge sharing, and social development within the task-based discussions of online graduate students within 4-year colleges and universities in the United States of America (USA).

### **Are you eligible?**

If so, please continue, on the next page, you will find the survey instructions and five questions that will allow us to understand a little bit about you!

### **Survey Instructions**



The design of this survey is to gain an understanding of your perception of particular aspects of your online learning experience thus far within your academic journey. Keep in mind that a recent experience could color your judgment leaving out essential information at the same time. Whether you are new to online learning or very familiar with the process, in approaching this survey, please consider the majority of your academic experience with faculty and peers. You will want to reflect on the quality of your interactions, level of participation, and work product produced by others in selecting an appropriate response. Read each question carefully before deciding on a particular response. You will have seven possible options to choose from in making an appropriate selection: Strongly Agree, Agree, Somewhat Agree, Neither Agree nor Disagree, Somewhat Disagree, Disagree, and Strongly Disagree.

## Advancing Scientific Research

I am very grateful for your participation but much more than that, critical advances coming from the scientific research community would not be possible without your voice!

### Survey Questions: SQ 1 – 5 Demographics

\* 1. What is your gender?

- Female
- Male

2. What is your age?

- 18 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 to 74
- 75 or older

3. Which of the following best describes you as a Student?

- Employed – working full time
- Employed – working part time
- Full time student
- Not employed – retired
- Other

4. Online Learning Experience in Months

- One - Five Months
- Six - Eleven Months
- Twelve - Seventeen Months |
- Eighteen Months or More

5. Current Level of Education

- Some Master's Degree Credits
- Master's Degree
- Some Post Graduate Degree Credits
- PhD, Doctorate Degree or Equivalent

## Survey Questions: SQ 6 – 28 Swift Trust Survey

**The Survey**

As a reminder, please reflect on the quality of your interactions, level of participation, and work product produced by your classmates in selecting an appropriate response. Keep in mind, it is your perception of the actions exhibited by others class-to-class that determines the best choice when responding to individual questions. Read each query carefully, relax, and have fun!

6. Classmates were similar in terms of their functional expertise

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

7. Classmates were similar in terms of their educational background

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

8. Classmates were similar in terms of online learning experience

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

9. Classmates were similar in terms of their personal values

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

10. Classmates were similar in terms of their personalities

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

11. Classmates were similar in terms of their attitudes towards tasks

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

12. The well-being of classmates was important to others

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

13. It was important for classmates to maintain harmony with others

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

14. Classmates liked sharing information with others

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

15. Classmates helped others in times of difficulty

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

16. Classmates were considerate of the feelings of others

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

17. Classmates were friendly towards others

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

18. Classmates could rely on their fellow learners

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

19. Classmates were trustworthy

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

20. Classmates shared their functional experience and know-how with others

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

21. Classmates shared knowledge with others by drawing on their unique experiences

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

22. Classmates met their learning objective(s)

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

23. Classmates completed their work on time

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

24. Classmates were efficient in performing tasks

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly Disagree

25. Classmates produced work of the highest quality
- Strongly agree
  - Agree
  - Somewhat agree
  - Neither agree nor disagree
  - Somewhat disagree
  - Disagree
  - Strongly Disagree
26. Classmates input was valued by others
- Strongly agree
  - Agree
  - Somewhat agree
  - Neither agree nor disagree
  - Somewhat disagree
  - Disagree
  - Strongly Disagree
27. The morale among the learning community was high
- Strongly agree
  - Agree
  - Somewhat agree
  - Neither agree nor disagree
  - Somewhat disagree
  - Disagree
  - Strongly Disagree
28. Classmates enjoyed being part of a learning community
- Strongly agree
  - Agree
  - Somewhat agree
  - Neither agree nor disagree
  - Somewhat disagree
  - Disagree
  - Strongly Disagree

Should you wish to enter your email address into a random drawing for a chance to win one of three **\$100.00 Amazon Gift Cards**, this is your opportunity. To claim your three chances to **win a \$100.00 Amazon Gift Card**, please copy and paste the following link into your browser now:  
<https://www.surveymonkey.com/t/click2win>

**Thank-you for your participation, and good luck!!**



## Appendix G: 23 Survey Questions, Permission Request and Correspondence

### **Functional Characteristics**

- 1 Students were similar in terms of their functional expertise
- 2 Students were similar in terms of their educational background
- 3 Students were similar in terms of online learning experience

### **Deep Level Characteristics**

- 4 Students were similar in terms of their personal values
- 5 Students were similar in terms of their personalities
- 6 Students were similar in terms of their attitudes towards tasks
- 7 The well-being of fellow learners was important to others of the community
- 8 It was important for students to maintain harmony with other learners
- 9 Students liked sharing information with their fellow learners
- 10 Students helped fellow learners in times of difficulty

### **Mutual Trust**

- 11 Students were considerate of the feelings of other learners
- 12 Students were friendly towards other learners
- 13 Students could rely on their fellow learners
- 14 Students in the community were trustworthy
- 15 Students shared their functional experience and know-how with other learners
- 16 Student's shared knowledge with other learners by drawing on their unique experiences

### **Learning Community and Communication Effectiveness**

- 17 Students met their learning objective(s)
- 18 Students completed their work on time

- 19 Students were efficient in performing tasks
- 20 Students produced work of the highest quality
- 21 Student's input was valued by other learners
- 22 The morale among the learning community was high
- 23 Student's enjoyed being part of a learning community

Adapted from "Trust and Knowledge Sharing in Diverse Global Virtual Teams," by P. Pinjani and P. Palvia, 2013, *Information & Management*, 50, 144–153. Copyright 2013 by Elsevier. Reprinted with permission.

Author was granted permission to use and make minor revisions to 23 questions selected from a previously validated swift trust survey (see accompanying correspondence with author on the following page).

Permission Request E-mail Correspondence: Continued next page

**From:** Ed Fitch [REDACTED]

**To:** Dr. Praveen Panjani

**Cc.** Dr. [REDACTED], Dissertation Chairperson

**Subject:** Seeking Permission to use your Survey

**Dated:** July 14, 2017



Edward Fitch [REDACTED]

**Seeking a Permission to Use Your Survey Instrument**

Edward Fitch [REDACTED] Fri, Jul 14, 2017 at 2:33 PM  
 To: ppanjani [REDACTED]  
 Cc: [REDACTED]

July 14, 2017

Dear Dr. Pinjani and Dr. Palvia,

My name is Ed Fitch, and I am a doctoral student (organizational leadership) at Abilene Christian University currently developing on my dissertation; its focus is on the benefits of a swift trust to an online student's learning and development. More specifically, the direction of my study is to understand the potential in a swift trust (assuming that I determine that a swift trust resides under an online graduate student's discussions class-to-class) for encouraging critical dialogue, knowledge construction (sharing), and social development within a 4-year university in the United States. My dissertation chair recommended that I reach out to you directly, and I have reached a point in the development of my proposal where I could conceivably conduct my research sometime in September of this year (subject to permission, successful prospectus defense, and IRB approval).

Respectfully, I am asking for your permission to use your survey instrument that you developed for your study titled: *Trust and knowledge sharing in diverse global virtual teams* published in 2012. I will provide several acknowledgments in my dissertation including, Chapter 3 Methodology, Chapter 4 Results, and in the References section.

I would have to make minor modifications to 23 of your survey questions that I would hope to use facilitate my research objective. I have attached the 23 questions and the proposed revisions. I would also need your approval to implement these minor modifications at the same time.

I have copied my chair, [REDACTED], into this email [REDACTED]. I thank-you in advance for your kind consideration on this matter.

Yours Sincerely,

Edward S. Fitch  
 (Ed)

Cc: [REDACTED]

E-mail Response and Permission: Continued next page

**To:** Ed Fitch

**From:** Dr. Praveen Pinjani

**Cc.** Dr. P. Palvia

**Cc.** Dr. [REDACTED]

**Subject:** You have my Permission

**Dated:** July 17, 2017

Praveen Pinjani [REDACTED]

Jul 17

to me, pcpalvia, [REDACTED]

You have my permission.

Thanks

Praveen Pinjani

---

Associate Dean

College of Business

Delaware State University

1200 N. Dupont Highway

Dover, DE 19901

302. [REDACTED]

[http://www.linkedin.com/in/\[REDACTED\]](http://www.linkedin.com/in/[REDACTED])

From: Edward Fitch [mailto:[REDACTED]]

Sent: Friday, July 14, 2017 5:34 PM

To: Praveen Pinjani <[REDACTED]>; [REDACTED]

Cc: [REDACTED] <[REDACTED]>

Subject: Seeking a Permission to Use Your Survey Instrument

Appendix H: The Original and Revised Set of 23-Survey Questions With Explanation Key  
 “Trust and Knowledge Sharing in Diverse Global Virtual Teams”

Praveen Pinjani and Prashant Palvia

**Original Set of Survey Questions**

Functional diversity

- 1 Members of the team are similar in terms of their functional expertise
- 2 Members of the team are similar in terms of their educational background
- 3 Members of the team are similar in terms of their length of organizational experience

Deep-level diversity

- 4 Members of the team are similar in terms of their personal values
- 5 Members of the team are similar in terms of their personalities
- 6 Members of the team are similar in terms of their attitudes towards the project
- 7 The well-being of fellow team members is important to members of the team
- 8 It is important for members to maintain harmony within the team
- 9 Members of the team like sharing information with my fellow team members
- 10 Members help fellow team members in their time of difficulty

Mutual trust

- 11 Team members in this team are considerate of other’s feelings
- 12 Team members are friendly towards others
- 13 Team members can rely on fellow team members
- 14 Members in the team are trustworthy
- 15 Members of this team share their functional experience and know-how with others on the team

- 16 Members of this team share their knowledge from education or training with other members of the team

#### GVT effectiveness

- 17 The team, at present, is meeting its business objectives
- 18 Completion of work is generally on time
- 19 In the past, the team has been efficient in performing the task
- 20 The team, at present, is producing work of the highest quality
- 21 Each member's input is valued by the team
- 22 The team members' morale is high in this team
- 23 Members enjoy being a part of this team

#### **Revised set of Survey Questions** (minor revisions)

##### Functional characteristics

- 1 Students were similar in terms of their functional expertise
- 2 Students were similar in terms of their educational background
- 3 Students were similar in terms of online learning experience

##### Deep-level characteristics

- 4 Students were similar in terms of their personal values
- 5 Students were similar in terms of their personalities
- 6 Students were similar in terms of their attitudes towards tasks
- 7 The well-being of fellow learners was important to others of the community
- 8 It was important for students to maintain harmony with other learners
- 9 Students liked sharing information with their fellow learners
- 10 Students helped fellow learners in times of difficulty

### Mutual trust

- 11 Students were considerate of the feelings of other learners
- 12 Students were friendly towards other learners
- 13 Students could rely on their fellow learners
- 14 Students in the community were trustworthy
- 15 Students shared their functional experience and know-how with other learners
- 16 Student's shared knowledge with other learners by drawing on their unique experiences

### Learning community and communication effectiveness

- 17 Students met their learning objective(s)
- 18 Students completed their work on time
- 19 Students were efficient in performing tasks
- 20 Students produced work of the highest quality
- 21 Student's input was valued by other learners
- 22 The morale among the learning community was high

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### Question Key

Original layout of Survey questions and the revised version accompanied by an explanation from category to category

### Category

Original: Functional diversity

Revised: Functional characteristics

**Questions 1–3**

Original: Members of the team are similar in terms of their functional expertise

Revised: Students were similar in terms of their functional expertise

Predictive variable: A foundational swift trust construct important for forming and developing a swift trust perception

Original: Members of the team are similar in terms of their educational background

Revised: Students were similar in terms of their educational background

Predictive variable: A foundational swift trust construct important for forming and developing a swift trust perception

Original: Members of the team are similar in terms of their length of organizational experience

Revised: Students were similar in terms of online learning experience

Predictive variable: A foundational swift trust construct important for forming and developing a swift trust perception

**Category**

Original: Deep level diversity

Revised: Deep level characteristics

**Questions 4-10**

Original: Members of the team are similar in terms of their personal values

Revised: Students were similar in terms of their personal values

Predictive variable: A foundational swift trust construct important for forming, developing, and ensuring the trust-inducing properties of a swift trust perception

Original: Members of the team are similar in terms of their personalities

Revised: Students were similar in terms of their personalities



Predictive variable: A foundational swift trust construct important for forming, developing, and ensuring the properties of a swift trust perception

Original: Members of the team are similar in terms of their attitudes towards the project

Revised: Students were similar in terms of their attitudes towards tasks

Predictive variable: A foundational swift trust construct important for forming, developing, and ensuring the properties of a swift trust perception

Original: The well-being of fellow team members is important to members of the team

Revised: The well-being of fellow learners was important to others of the community

Predictive variable: A foundational swift trust construct important for forming, developing, and ensuring the properties of a swift trust perception

Original: It is important for members to maintain harmony within the team

Revised: It was important for students to maintain harmony with other learners

Predictive variable: A foundational swift trust construct important for forming, developing, and ensuring the properties of a swift trust perception

Original: Members of the team like sharing information with my fellow team members

Revised: Students shared information with their fellow learners

Predictive variable: A foundational swift trust construct important for forming, developing, and ensuring the properties of a swift trust perception

Original: Members help fellow team members in their time of difficulty

Revised: Students helped fellow learners in times of difficulty

Predictive variable: A foundational swift trust construct important for forming, developing, and ensuring the properties of a swift trust perception

**Category**

Original: Mutual trust (unchanged)

**Questions 11-16**

Original: Team members in this team are considerate of other's feelings

Revised: Students were considerate of the feelings of other learners

Predictive variable: Valuable to determine whether the potential for a social exchange and development process can grow from the virtual discussions

Original: Team members are friendly towards others

Revised: Students were friendly towards other learners

Predictive variable: Valuable to determine whether the potential for a social exchange and development process can grow from the virtual discussions

Original: Team members can rely on fellow team members

Revised: Students could rely on their fellow learners

Criterion Variable: A significant relationship between the right combinations of predictive variables can indicate that some online students are communicating with a trust perception underlying their discussions; under the right conditions, a social exchange can develop from a critical exchange of dialogue and a co-construction and sharing of knowledge for some in the community.

Original: Members in the team are trustworthy

Revised: Students in the community were trustworthy

Criterion variable: A significant relationship between selected predictive variables would be valuable in determining whether some online students can acquire a trust perception and whether they perceive a trust perception in discussions

Original: Members of this team share their functional experience and know-how with others on the team

Revised: Students shared their functional experience and know-how with other learners

Criterion variable: A significant relationship between selected predictive variables can indicate whether some online students are developing their discussions from a critical exchange of dialogue beyond to knowledge construction and sharing among the community, and social development.

Original: Members of this team share their knowledge from education or training with other members of the team

Revised: Students shared knowledge with other learners by drawing on their unique experiences

Criterion variable: A significant relationship between selected predictive variables can indicate whether some students are developing their discussions from a critical exchange of dialogue beyond to knowledge construction and sharing among the community, and social development.

### **Category**

Original: GVT effectiveness

Revised: Learning community effectiveness

### **Questions 17–23**

Original: The team, at present, is meeting its business objectives

Revised: Students met their learning objective(s)

Criterion variable: A significant relationship between selected predictive variables can indicate that quality minimally delayed discussions among some in the learning community are taking place: a swift trust perception potentially underlies discussions

Original: Completion of work is generally on time

Revised: Students completed their work on time

Criterion variable: A significant relationship between selected predictive variables can indicate among some in the community that quality minimally delayed discussion processes influenced by a swift trust perception are taking place.

Original: In the past, the team has been efficient in performing the task

Revised: Students were efficient in performing tasks

Criterion variable: A significant relationship between selected predictive variables can indicate among some in the community that quality minimally delayed discussion processes influenced by a swift trust perception are taking place.

Original: The team, at present, is producing work of the highest quality

Revised: Students produced work of the highest quality

Criterion variable: A significant relationship between selected predictive variables can indicate among some in the community that quality minimally delayed discussion processes influenced by a swift trust perception are taking place. Potentially discussions have elevated from a swift trust perception to a valuable exchange of dialogue, social development and knowledge construction and sharing in producing work of the highest quality.

Original: Each members input is valued by the team

Revised: Students input was valued by other learners

Criterion variable: A significant relationship between selected predictive variables can indicate among some in the community that quality minimally delayed discussion processes influenced by a swift trust perception and are taking place.

Original: The team members morale is high in this team

Revised: The morale among the learning community was high

Predictive variable: This can indicate that communication among some in the online community have motivated positive behaviors for some in the community optimal for forming, developing, and maintaining a swift trust perception.

Original: Members enjoy being a part of this team

Revised: Students enjoyed being part of a learning community

Predictive variable: This can indicate that communication among some in the online community have motivated positive behaviors for some in the community optimal for forming, developing, and maintaining a swift trust perception.

**Total no. questions = 23**

## Appendix I: Supporting Research for Data Collection Strategy

### Research Article Title I

“Institutional Boundaries and Trust of Virtual Teams in Collaborative Design: An Experimental Study in a Virtual World Environment”

Citation:

Schiller, Z., Mennecke, B. E., Nah, F. F., & Luse, A. (2014). Institutional boundaries and trust of virtual teams in collaborative design: An experimental study in a virtual world environment. *Computers in Human Behavior, 35*, 565–577.  
doi:10.1016/j.chb.2014.02.051

Sample specifics:

A total of 282 MBA students from two institutions (600 miles apart) participated in a Second Life collaborative design project (Schiller et al., 2014, p. 568).

### Research Article Title II

“Is Anybody Out There? Antecedents of Trust in Global Virtual Teams”

CitationL

Jarvenpaa, S. L., Knoll, K., & Leidner, D. E. (1998). Is anybody out there? Antecedents of trust in global virtual teams. *Journal of Management Information Systems, 14*(4), 29–64.  
doi:10.1080/07421222.1998.11518185

Sample specifics:

A total of 385 master’s students from 28 universities around the world elected to participate in the exercise. Of these students, 350 students sent at least one message to their teammates. The teams had the following characteristics: (a) each member on a team

resided on a different continent or subcontinent of the world, and (b) each team had a mix of students from low- and high-context cultures (Jarvenpaa et al., 1998, p. 34).

### **Research Article Title III**

“The Effect of Synchronous and Asynchronous Participation on Students’ Performance in Online Accounting Courses.”

Citation:

Duncan, K., Kenworthy, A., & McNamara, R. (2012). The effect of synchronous and asynchronous participation on students' performance in online accounting courses. *Accounting Education*, 21, 431–449. doi:10.1080/09639284.2012.673387

Sample specifics:

A total of 272 executive MBA students enrolled at an Australian university participated in this study: the first class (85 students), second class (67 students), and third class (120 students). All students were enrolled in the online MBA programme and they were participating in a required accounting course (Duncan et al., 2012, p. 437).

### **Research Article Title IV**

“Increasing Social Presence in Online Learning Through Small Group Discussions”

Citation:

Akcaoglu, M., & Lee, E. (2016). Increasing social presence in online learning through small group discussions. *The International Review of Research in Open and Distributed Learning*, 17(3), 1–17. doi:10.19173/irrodl.v17i3.2293

Sample specifics:

Participants in this study ( $n = 33$ ) were graduate students pursuing a master’s degree in education and were enrolled in a fully online and asynchronous masters course on

assessment and data analysis in teaching at a comprehensive university in the southeastern region of the United States (Akcaoglu & Lee, 2016, p. 8).



## Appendix J: Original Data Targets, Population Data, and Supporting Information

**1. Dallas Baptist University**

Mission statement:

The mission of Dallas Baptist University is to provide Christ-centered quality higher education in the arts, sciences, and professional studies at both the undergraduate and graduate levels to traditional age and adult students in order to produce servant leaders who have the ability to integrate faith and learning through their respective callings. (Dallas Baptist University, 2017, para. 1)

Affiliation	Baptist
State/City headquarters	Dallas, Texas
Classification	Private
Best online Christian colleges ranking	# 8 of 25 Christian Colleges
<i>US News</i> best colleges ranking	#175 online MBA & RNP education (#202 national)
School year	Semester system
Collegiate athletic association	NCAA II
Total university enrollment	5,156
Online graduate education enrollment	80
Online MBA enrollment	39
Student/faculty ratio	12:1
Format	Online (asynchronous, blackboard)

**2. Southeastern University**

Mission statement:

Equipping students to discover and develop their divine design to serve Christ and the world through Spirit-empowered life, learning, and leadership. (Southeastern University, 2017, para. 2)

Affiliation	Assemblies of God
State/city headquarters	Lakeland, Florida
Classification	Private
Best online Christian colleges ranking	# 11 of 25 Christian colleges
<i>US News</i> best colleges ranking	RNP education
School year	Semester system
Collegiate athletic association	NAIA
Total university enrollment	5,800
Online graduate education enrollment	124
Online MBA enrollment	NA
Student/faculty ratio	20:1
Format	Online

### 3. Concordia University Wisconsin

#### Mission statement:

Concordia University Wisconsin is a Lutheran higher education community committed to helping students develop in mind, body, and spirit for service to Christ in the Church and the world. (Concordia University Wisconsin, 2017, para. 3)

Affiliation	Lutheran Church-Missouri Synod
State/city headquarters	Mequon, Wisconsin
Classification	Private
Best online Christian colleges ranking	# 20 of 25 Christian colleges
<i>US News</i> best colleges ranking	#51 Midwest, online # 105 MBA & 113 education
School year	Semester system
Collegiate athletic association	NCAA III
Total university enrollment	7,721
Online graduate education enrollment	1,490
Online MBA enrollment	166
Student/faculty ratio	11:1
Format	Online (asynchronous, blackboard)

### 4. Concordia University Chicago

#### Mission statement:

As a distinctive, comprehensive university of The Lutheran Church–Missouri Synod, centered in the Gospel of Jesus Christ, and based in the liberal arts, Concordia University Chicago equips men and women to serve and lead with integrity, creativity, competence, and compassion in a diverse, interconnected, and increasingly urbanized church and world. (Concordia University-Chicago, 2017, para. 1)

Affiliation	Lutheran Church-Missouri Synod
State/city headquarters	River Forest, Illinois
Classification	Private
Best online Christian colleges ranking	# 22 of 25 Christian colleges
<i>US News</i> best colleges ranking	#66 best online graduate education & # 168 MBA
School year	Semester system
Collegiate athletic association	NCAA III
Total university enrollment	5,603
Online graduate education enrollment	NA
Online MBA enrollment	167
Student/faculty ratio	15:1
Format	Online (asynchronous, blackboard)

## 5. California Baptist University

Mission statement:

California Baptist University believes each person has been created for a purpose. CBU helps students understand and engage this purpose by providing a Christ-centered educational experience that integrates academics with spiritual and social development opportunities. Graduates are challenged to become individuals whose skills, integrity, and sense of purpose glorify God and distinguish them in the workplace and in the world.

(California Baptist University, 2017, para. 1)

Affiliation	Baptist Church
State/city headquarters	Riverside, California
Classification	Private
Best online Christian colleges ranking	# 24 of 25 Christian colleges
<i>US News</i> best colleges ranking	#101 best online graduate education & #95 MBA
School year	Semester system
Collegiate athletic association	NCAA II (Division I in progress)
Total university enrollment	9,157
Online graduate education enrollment	243
Online MBA enrollment	28
Student/faculty ratio	17:1
Format	Online (blackboard)

### Institution--Student Online Population Totals: Graduate Education    MBA Program

Institution	Graduate education	MBA program
Dallas Baptist	80	39
Southeastern	124	NA
Concordia Wisconsin	1490*	166
Concordia Chicago	NA	167
California Baptist	243	28
Total	447**	400***

*Note.* \* Omitted from the total population calculation. \*\* According to data from the US Department of Education (2014), the part-time student population is 38.25% of population total. Total population shown below reflects total number of FT students (“The best Christian colleges,” 2017; “The best colleges in America,” 2017). \*\*\* Sample size was calculated with the following formula  $n = [Z^2 * p * (1 - p) / C^2]$ , the Z value was set at a 95% confidence level and the confidence interval expressed as a decimal of 0.05 (Creswell, 2014; Rumrill & Bellini, 2000; Wrench, 2016). Total population = 523 (All) sample size @ 95 C.L. /5 M.O.A. = 222.

Total population modified one = 482 sample size @ 95 C.L. /5 M.O.A. = 215. Total population modified two = 324 sample size @ 95 C.L. /5 M.O.A. = 177. Total population modified three = 118 sample size @ 95 C.L. /5 M.O.A. = 91.

## Curriculum Vitae

**Edward S. Fitch****Summary**

I have achieved high levels of success and acquired experience in a diverse group of organizational settings: high technology, education (academics and teaching), finance, restaurant ownership, real estate, and non-profit. I thrive on developing the best from others in a leadership capacity as a teacher, communicator, coach, and mediator. I have refined my communication skills within my studies and through an intensive focus on writing and research. I have gained additional communication benefits by developing on my emotional intelligence and foreign language skills. My style of interpersonal interaction respects personality, cultural, and interpretative differences.

**Work Experience****DirectEd Educational Services****Dec 2017–Present***Teacher K-12*

- Teaching multiple subjects in associated K-12 charter schools located in Sacramento, California
- Position demands significant understanding of cultural and economic diversity

**Teacher, Lammersville Unified School District and Elk Grove, CA Sept 2016–Present***Substitute teacher, K-12*

- Teaching multiple subjects within a K-12 public school district located in San Joaquin County
- Knowledge and experience skillset useful for responding to a special needs setting

**Mediation / Arbitration, Sacramento, CA****March 2013–Present***Mediator & Arbitrator*

- Represent clients in a variety of disputes, facilitating interest-based mediation to nullify conflict
- Area specialties include, interpersonal, marital, relationship, workplace and business disputes
- Successfully resolved more than 100 complex disputes

**Fitch Properties, Sacramento, CA****Sept 1998–Present**

## Real Estate Broker

- Closed more than 500 residential real estate transactions over a 15-year span
- Mentored, motivated, and coached others to achieve high levels of production
- Successfully resolved numerous agent-related transaction specific disputes and conflict

**Kazoku Japanese Restaurant, Sacramento, & Roseville, CA****Jan 1996–June 1999**

## Owner / Operator / Restaurateur

- Established a successful Japanese restaurant business model and branding
- Led the executive team of the restaurant and managed the 30-person staff
- Incorporated an effective guerilla marketing strategy, increased income 10,000%
- Corporate clients included Costco, SAM's Club, HP, NEC, Intel, Sleep Train Arena, and UC

Davis

## Education | Completed

---

**Abilene Christian University, Abilene, Texas**

**Cumulative GPA: 3.92**

### **Masters of Arts in Conflict Management**

**Relevant Coursework:** Mediation, advanced mediation of marital disputes, negotiation, motivation, ethics, inter/intracultural and identity awareness, conflict and behavior theory, and communication.

## Education | Completed

---

**Abilene Christian University, Abilene, Texas (2018) Alpha Chi\***

**Final GPA: 4.0**

### **Doctor of Education in Organizational Leadership (EdD)**

**Coursework Completed including:** Experimental research, organizational assessment and evaluation, leadership theory, behavioral sciences, qualitative and action research and research methodologies, ethics, technology and financial resource development, leadership in diverse contexts, human resources development, self-assessment in leadership, contemporary issues in organizational leadership, leading organizational change to the successful defense of my dissertation: “Influencing a Swift Trust for Elevating Communications of a Virtual Learning Community.”

\*see honors and awards below

## **Certificates Courses and Licensure**

- 
- Mediation, Advanced Mediation (Marital and Relationship Disputes), Conflict Resolution
  - Securities: Series 7 (previously licensed), and associated licensure and certificate coursework
  - Real estate broker: Graduate of the Real Estate Institute and accredited buyer designations
  - State of California teaching credential: Document number 160193877





### **Honors Achievements & Awards**

---

- Sacramento Resolution, awarded for developing and implementing gang intervention programs
- Royal Navy Diver: Royal Navy Diving academy graduate
- Royal Navy Firefighter: Royal Navy Firefighter academy graduate
- Alpha Chi National Honors Society: Top 10% of doctoral students nationally

### **Publications and Publications in Progress**

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- Edward S. Fitch and Timothy J. Bennett, *Commanding a College-Level Vocabulary*
- Edward S. Fitch, Dissertation: “Influencing a Swift Trust for Elevating Communications of a Virtual Learning Community”

### **Volunteer Experience**

---

- Trained, managed, led an all-volunteer 100-member workforce

### **Memberships**

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- US Navy Diving Association
- Alpha Chi National Honor Society