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Best practices in developing global collaborations in education

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BEST PRACTICES IN DEVELOPING GLOBAL COLLABORATIONS IN EDUCATION

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ABSTRACT

This purpose of this study was to examine the best practices used by facilitators of global collaborations in education. Four research questions were examined to address this purpose, which included: (a) challenges faced by facilitators in developing online international collaborations in education (b) current strategies used by facilitators in developing online international collaborations in education (c) how success is measured and tracked (d) recommendations for future online international collaborations in education.

This qualitative, phenomenological study utilized a purposive sample of 14 participants who were ISTE (International Society for Technology in Education) award recipients or conference presenters between 2014 - 2017 affiliated with global collaboration. Data collection was done through a semi-structured interview protocol comprised of six questions. The recorded interviews were transcribed, coded and analyzed to determine 27 total themes that emerged from the data.

With some themes reinforced by literature and some unique to the study, results led to establishing "dimensions of leading global collaboration." This includes two primary dimensions: (a) the responsibilities dimension, which entails the tasks and logistical aspects needed in global collaboration efforts, such as planning, practices during the collaboration, and logistical considerations (b) the characteristics dimension, which refers to the qualities that characterize a good global collaboration leader and partner, such as empathy, accountability, and willingness to take risks. Additionally, this study highlights the importance of people and developing a peer to peer network in the dynamic among facilitators (who should be seen as leaders) of global collaboration.

Chapter 1: Introduction

Globalization has blurred the geographic boundaries of the world with advancing online technologies (Sycara, Gelfand, & Abbe, 2013). With user-generated content, Web 2.0 enables "a more socially connected Web where everyone can add to and edit the information space" (Anderson, 2012, p. 1). The next wave of Web 3.0 and the Semantic Web smartly tags information to be used in more relevant, connected ways to promote a more collaborative online medium (Miranda, Isaias, & Costa, 2014; Ohler, 2010; Ivanova & Ivanova, 2009). The notion of Web 4.0 gives rise to the symbiotic web and even smarter information processing across the internet (Choudhury, 2014; Aghaei, Nematbakhsh & Farsani, 2012). The growing interconnectedness of a global society through the online environment has allowed for collaboration to occur across borders in a variety of fields, such as education, research, government, and business.

Responding to a growing global society, in 2011, the United States (U.S.) National Research Council put together a Government-University-Industry Research Roundtable that pulled together specialists from different fields and viewpoints to discuss core elements of international research collaboration. In their report on the roundtable, Sloan and Arrison (2011) describe how “as science and technology capabilities grow around the world, U.S.-based organizations are finding that international collaborations and partnerships provide unique opportunities to enhance research and training” (p. 1). Venturing into these endeavors takes resources, efforts, and relationships. The roundtable convened with the intent to engage in:

> dialogue and discussion to facilitate international collaborations among academic, government, and industrial partners by: (1) identifying policies and operations that enhance our ability to collaborate; (2) identifying - barriers to collaboration— policies

> and operations that could be improved; (3) developing a web-based resource or other compendium of successful strategies and methodologies; and (4) suggesting how barriers might be addressed. (Sloan and Arrison, 2011, p. 3)

The U.S. National Research Council's Roundtable (2011) is an example of significant dialogue established to work on ways to raise awareness of relevant issues and improve on international collaborations. Sloan and Arrison (2011) emphasize the importance of regularly revisiting the conversation on international collaborations as technology continues to evolve and the world becomes more linked together. In addition to government and industry sectors, international collaborations are important to enhancing learning and education.

The concept of collaborative learning supports the notion of international collaboration in the field of education. Collaborative learning brings students together to work towards a common goal and maximize learning (Johnson & Johnson, 1996; Serçe et al., 2011). There are several benefits to collaborative learning. Vygotsky (1978) and Wertsch (1991) put forward the idea of learning from a sociocultural perspective, where interaction and conversation with others contribute to cognitive development. Anuradha (1995) also indicates that collaborative learning activities are beneficial to the goal of strengthening skills in critical-thinking and problem solving.

Collaboration allows for group interaction that aims to foster different viewpoints and mutually determine constructive ways to resolve conflicts (Kopp & Mandl, 2011). When working together, the group also develops master goals focused on learning and performance goals related to the achievement of the group (Elliott & McGregor, 2001). There is an opportunity for "reflective interaction" that occurs in a collaborative learning setting, in contrast to lecture-oriented approaches (Harasim, 1989). Johnson and Johnson (1996) identifies ways to

incorporate cooperative learning, which includes positive interdependence, individual accountability, personal responsibility, face to face interaction, positive interdependence and accountability, interpersonal and small group-skills, and group processing.

The progress of the effective collaboration can be seen in the analysis of the group interactions, using Mercer's (2004) sociocultural discourse analysis, which includes three types of discourse: disputational, cumulative, and exploratory. In disputational discourse, there is disagreement which creates competition among group members and circumvents learning. While participants are positively engaged in cumulative discourse, there is no critical thought or feedback to the group exchange. Achieving exploratory discourse is ideal in collaboration, characterized by critical engagement, and interest and ability to exchange different viewpoints constructively.

The Online Setting for Collaboration

The online environment fosters collaboration across international boundaries by providing a way for students to work with one another from different locations. The increased convenience of connecting online allows for engagement beyond physical borders in contrast to an in-person, face to face classroom setting. Bonk and King (1999) indicate that "computer conferencing" can promote collaborative learning in a way the traditional, face to face environment lacks.

Hsu, Ching, and Grabowski (2014) focus on the advantages of Web 2.0 platforms, which refer to web-based applications that generate artifacts with user input and foster more opportunities to work and learn collaboratively. Platforms such as collaborative documents, wikis, and blogs allow for multiple contributors regardless of locations, which support the achievement of collaborative tasks and building a community of practice for learning (Hsu et al.,

2014). The rise of Web 3.0 will allow for information to be harvested in a more relevant ways to better connect knowledge, for smarter collaboration (Miranda et al., 2014; Ohler, 2010; Ivanova & Ivanova, 2009). Taking collaborative learning online to allow international participation adds another layer to students working together, including challenges related to language, cultural differences and remote nature of the collaboration (Daniels, Berglund, & Petre, 1999).

Added Value of International Collaboration

Engaging in international collaborations online in education not only fosters collaborative learning but further enhances learning in a way that traditional classroom experience might not achieve. Students that take part in an international collaboration can experience peers from different cultural environments. Rooted in a collaborative learning environment, international collaborations foster a unique sense of community among student participants (Muniz-Solari & Coats, 2009).

Cross cultural experience. International collaborations provide the opportunity for participants to engage with fellow participants located in countries other than their own. International collaborations allow for cultural exchanges to occur as part of the collaborative experience. The U.S. Department of Education's International Affairs Office (2017) describes that understanding and appreciating the religions, cultures, and points of view from around the world contribute to developing global and cultural competence. Hofstede (1980) explains that as people of different cultures interact together, they develop thoughts on communication that guide their behavior. These cultures can be defined in different contexts, including the context one's nationality, organization, profession or team (Swigger, Alpaslan, Brazile, Harrington, & Peng, 2005). Hofstede (1991) shares that national culture can include characteristics such as language or religion that are usually associated with a country.

Examples of the cross cultural experiences in international collaborations can be seen in experiencing the similarities and differences in communication patterns across different cultures (Swigger et al., 2005). One dimension of intercultural communication is understanding the difference between low-context and high-context communication among certain cultures (Hall, 1976). Low-context communication (common with Western cultures such as the U.S.) has a more explicit approach to expressing an intention or meaning, whereas high-context communication relies on what is not outwardly expressed, such as nonverbal cues and context (Hall, 1976).

Hofstede (1980, 1991) further identifies dimensions of culture that include power distance, collectivism versus individualism, masculinity versus femininity, uncertainty avoidance (on a range from weak to strong), and how a culture approaches time (long term versus short term orientation). Salazar, Shuffler, Bedwell, and Salas (2013) expand on Hofstede's dimensions to create an additional taxonomy of cultural identity by including contextual considerations. This includes the affective and motivational dimensions, which refers to the emotional response and motivations to engage in situations (Salazar et al., 2013). External sources look at the impact of language and politics in one's culture.

Chao and Moon (2005) argue that culture should be seen as a mosaic, comprised of trait tiles that can emerge and combine depending on a situation. These tiles are shaped by the demographics, geography, and associative relationships within one's culture. Collaborative learning in international collaboration provides an opportunity to experience cultural difference that catalyzes cultural awareness. When engaging in collaboration amidst cultural awareness, participants can learn how to navigate the complexity of cultural differences and dimensions and develop cross cultural competence. This cross cultural competence can foster qualities such as

flexibility, openness, cultural self-confidence, humility, interest in people, communication skills, curiosity, and emotional intelligence in individuals (Dolan & Kawamura, 2015).

Building community. McMillan and Chavis (1986) define community to have four elements: membership, which is where members have a sense of belonging; influence, where members feel they matter to each other and the group; reinforcement, which a members needs will be fulfilled through membership in the group; and shared emotional connection, which is understanding that group members will "share history, common places, time together, and similar experiences" (p. 9). Engaging in an international collaboration is assumed to foster community among participants, as the "international experience was not developed to be a competition between teams, but rather was intended to foster a dialogue and to provide a bridge for the students to communicate and discuss relevant issues" (Muniz-Solari & Coats, 2009, p. 11). The collaborative approach results in "higher achievement, more positive relationships, and greater psychological health than do competitive or individualistic efforts" (Johnson & Johnson, 1996, p. 1039). This sense of community provides a unique environment that builds trust among participants, rather than competition within a classroom. As Rovai (2002) indicates, candor comes from trust, which leads to group members feeling "safe and subsequently expose gaps in their learning and feel that other members of the community will respond in supportive ways" (p. 5).

The U.S. Department of Education's Teacher's Guide to International Collaboration on the Internet (2009) identifies over 20 long-standing online-based international collaboration opportunities for U.S. teachers to engage in with other countries. The Department prefaces the list with a statement indicating that it is not an all inclusive one but only possible ones to start with, alluding to the greater number of opportunities available. The acknowledgment of these

online-based international collaborations by the U.S. Department of Education indicates a level of reliability and success in their program. However, a review of the literature indicates a gap on the perspective of those who form and maintain the collaboration, referred to as the facilitators or teachers of the collaboration, and what factors contribute to the successful implementation of international collaborations that take place in an online environment.

Statement of the Problem

With an increasingly global society, there is a need to better work together across borders to mutually benefit each other's talents and knowledge to enhance learning (Sloan & Arrison, 2011). International collaborations in fields such as education that take place in an online environment provide the opportunity to cooperatively learn across borders and the role culture plays in that (Sloan & Alper, 2014). With most scholarly literature focused on the learning impact on students (Kim & Bonk, 2002; Muniz-Solari & Coats, 2009; Serçe et al., 2011), there is limited focus on the facilitators of these international collaborations, and what organizing factors lead to successful and ongoing collaborations.

Purpose Statement

The purpose of this study was to examine international collaborations in education that take place in an online environment and involve partners in the U.S. This was done from the perspective of individuals who facilitate the collaborations. The study included identifying the challenges and best practices in building and maintaining international collaborations, how the collaborations were determined to be successful, and recommendations on building collaborations for the future.

Research Questions

The following research questions (RQ) were addressed in this study.

RQ1 - What are the challenges among facilitators and teachers in developing online international collaborations in education?

RQ2 - What are the best practices among facilitators and teachers in overcoming challenges in developing online international collaborations in education?

RQ3 - How is success measured and tracked among facilitators and teachers in developing online international collaborations in education?

RQ4 - What are recommendations among facilitators and teachers in developing online international collaborations in education?

Significance of the Study

The literature on the topic of online-oriented international collaborations in education focuses mostly on the student experience and the impact outcomes on students. This has validated the formation of such collaborations in enhancing student learning. However, there is less focus on how the facilitators of these collaborations start and manage them. Results from this study will provide additional insight on international collaborations in practice from the perspective of the facilitators and what elements are important in maintaining the collaboration among facilitators in an international, online environment.

Focus on the instructor role in successful collaborations. According to the literature, the instructor plays an important, complex role in optimizing the collaborative experience for participants in online environments (Asterhan & Schwarz, 2010). This role includes establishing the right structure for the collaboration and fostering involvement among participants (Asherhan & Schwarz, 2010; McGhie-Richmond & Winter, 2011; Voyiatzaki & Avouris, 2014). The structure should include the task, teams, time, and tools for the collaboration (Pozzi & Perisco, 2011; Goodyear, Jones & Thompson, 2014). The task identifies what needs to be accomplished,

the teams identify the social structure to accomplish the task, and time puts parameters on the schedule for the task (Pozzi & Perisco, 2011). Tools are the resources that teams will have to carry out the task (Goodyear et al., 2014).

The instructor must prepare the participants to engage in the tools of the online community through a process of orienting, preparing and supporting (Manca & Vanin, 2011). This support includes adequate monitoring and technical assistance as needed (Asterhan & Schwarz, 2010). Engaging in dialogue among participants is key to successful collaboration, but instructors should serve as a model to support and demonstrate the process by being open to feedback and encouraging questions (Voyiatzaki & Avouris, 2014). However, participants also expect their teachers to be consistently present in discussions online, without being too obtrusive (Asterhan & Schwarz, 2010). The online environment allows for discussions to take place either synchronously (in real time) or asynchronously (at different times), further adding to the complexity that instructors have to consider in fostering collaboration (Kopp & Mandl, 2011). While the role of the instructor is complex, the literature identifies ways collaborating online internationally can benefit student learning.

Lacking insight on the experience of the instructor role. The literature points to the important role of the instructor but has limited insight on the instructor role experience. Shedletsky and Aitken (2002) share the benefits and lessons learned from their collaborative experience with other faculty in an online environment. Instructors can exchange insight on shared challenges of the online environment, balancing the level of feedback to participants, and combine instructional resources. The online collaborative process allows for diverse partnerships regardless of physical location that would otherwise not take place (Huber, 2002).

However, with increased instructors, there are more viewpoints to appease and difficulty

in meeting to bring curriculum and strategy into alignment (Huber, 2002). Huber (2002) also identifies the challenge of uneven commitment among different instructors, visible from their effort and contribution to the collaboration. While Huber (2002), Shedletsky and Aitken (2002) provide some understanding of the collaborative experience for the instructors, there is a lack of current comprehensive insight into the successful dynamic of instructor collaboration in online environments.

Assumptions of the Study

- This study assumed that all study participants contribute to the success of the international collaboration they are involved with. This study further assumed that the participants' involvement provided accurate and thorough enough responses for the data collection.
- This study assumed that all study participants desire and intend to support the international collaboration they are involved with to be as successful as possible.
- The data collected from participants is assumed to be honest and reliable, and not embellished or exaggerated in any way.
- Participants in the study are assumed to have an awareness of cross cultural interactions and interactions in an online environment and have the ability to adequately incorporate reflections on these topics in their responses.

Limitations of the Study

- This study only examines international collaborations that involve participation from a partner in the United States. While other international collaborations exist that do not include participation from the United States, those collaborations were not included in this study.

- This study was exclusively conducted in English, thereby excluding participation from anyone who could not understand or communicate in English. Per the contextualized cultural framework offered by Salazar et al. (2013), this may limit the perspective towards the external factor influence of language on the results of the study.
- There are limitations to verbal data, such as interviews (Flick, 2008). The data collected in this study are limited to the thoroughness of the participants and their reflections at the time their interviews were conducted. No first hand observations of experiences were available to corroborate the participants' responses. Also, other external factors that might have influenced responses (i.e.,time restrictions, recollection limitations) are unaccounted for.
- The relationship between the researcher and the participant relies on a conversational partnership, where the interviewer must be able to build a rapport with the individual being interviewed, who then feels they have the freedom to provide honest responses (Rubin & Rubin, 1995). There is no way to accurately account for any impact that a lack or presence of a personal relationship between the researcher and participant may have had on participant responses.
- As described in the methodology section, the participants were purposefully selected to address the needs of this study. Boeije (2010) describes that both purposeful selection and a small sample are commonly associated with qualitative research, but may limit the generalizability of the results.
- In this study, the researcher serves as the research instrument and must acknowledge potential bias in the data collection (Boeije, 2010). The researcher is currently involved

in another research project on an international collaboration in education focused on the student experience and building partnerships among school sites.

Definition of Terms

This section will review relevant terms referenced in this study and provide definitions to provide context to their use in the study.

Collaborative learning. An approach to learning where participant work on tasks together with discourse and mutual decision making (Dillenbourg, 1999). This is distinct from a cooperative approach, where tasks are divided among participants and worked on independently, then brought together.

Computer mediated communication (CMC). A form of interaction through digital media, where participants are engaged in computerized exchange (Spitzberg, 2006). Spitzberg (2006) provides a model for CMC competence that includes factors of how new media affects the formation and development of relationships, which includes the motivation, knowledge and skills, context the outcome of an individual's use of the media.

Computer-supported collaborative learning (CSCL). CSCL refers to a category of learning where computer technology is key in collaboration, and learners rely on computers as the primary means to interact with one another while physically near or apart from each other (Goodyear et al., 2014). Literature provides several suggestions on structuring CSCL programs, such as the inclusion of the tasks, team structure, time duration and tools of the collaboration (Pozzi & Perisco, 2011; Goodyear et al., 2014). Other considerations for structure in CSCL programs micro-scripts and macro-scripts, which respectively refer to the specific dialogue shared with participants and the pedagogical model for group interaction on the overall design of the CSCL program (Dillenbourg & Hong, 2008).

Culture. This describes the inherited and learned mental programming of an individual based on the anticipated responses to situations from the impact of past life experiences (Hofstede, Hofstede, & Minkov, 2010). Culture is separate and distinct from universal human characteristics and the personality of an individual. Culture can be examined on different levels, including a national level (referring to one's country or countries), regional level (ethnic, religious or language affiliation), generation (from children and seniors) and social class (work or education levels).

Cross cultural competence. Refers to the ability to recognize and navigate cultural differences (Dolan & Kawamura, 2015). Cultural competence builds from cultural awareness, which comes from experiencing a cultural difference. Qualities for cross cultural competence include flexibility, openness, cultural self-confidence, humility, interest in people, communication skills, curiosity, and emotional intelligence.

International/global collaboration. A collaboration in the context of interaction between two or more different countries. Within this definition is an assumption of collaboration by Rubin (2009), who defines a collaboration as "a purposeful relationship in which all parties strategically choose to cooperate in order to achieve shared or overlapping objectives" (p. 2). In this study, international collaborations take place for the purpose of education and rely on interactions in an online environment rather than face to face. Communication exchanged between participants takes place either synchronously (in live time) or asynchronously at different points of time (McGhie-Richmond & Winter, 2011).

Online environment. Describes the variety of mediums where interactions use technology connected to the internet, rather than in-person. The environment includes various online communication platforms such as e-mail, forums, messaging, and video conferencing

(Serçe et al., 2011). There is a distinction with Web 2.0 platforms, which refer to web-based applications that host or develop artifacts that participants can work on collaboratively (Hsu et al., 2014).

Partner. Referring to the collective group of individuals at one location or site involved with the international collaboration. They may or may not include the teacher/instructor role that interacts with the students/participants.

Teacher/instructor/facilitator. An individual that is directly involved in facilitating collaboration among the participants. They play a role in determining the structure and provide support for the collaboration (Asterhan & Schwarz, 2010; Pozzi & Perisco, 2011; McGhie-Richmond & Winter, 2011; Voyiatzaki & Avouris, 2014). The terms teacher. instructor and facilitator are used interchangeably in this paper.

Students/participants. The intended audience/individuals involved in the collaboration as facilitated by their teacher/instructor (Asterhan & Schwarz, 2010; Pozzi & Perisco, 2011; McGhie-Richmond & Winter, 2011; Voyiatzaki & Avouris, 2014). The terms students and participants are used interchangeably in this paper.

Web 2.0. This refers to platforms in the online environment that primarily relies on user-generated content that allows for content sharing, or the Social Web (Miranda et al., 2014; Anderson, 2012). This multi-user ability allows for Web 2.0 platforms to foster collaboration across borders (Hsu et al., 2014). Web 2.0 platforms include collaborative documents, wikis, blogs, video conferencing, and social networking, which allow for multiple contributors (Crane, 2012; Hsu et al., 2014).

Web 3.0. This refers to the Semantic Web, a next phase of the internet that utilizes intelligent tagging of information to better connect and develop relevant knowledge in searches

(Miranda et al., 2014; Ohler, 2010; Ivanova & Ivanova, 2009). The assumption is that a smarter web will allow for better synthesization and collaboration among users (Ohler, 2010).

Web 4.0. The symbiotic web, with an even more advanced approach to processing information across the internet (Choudhury, 2014; Aghaei et al., 2012). This acknowledges that the future of online tools and possibilities for collaboration will continue to evolve with the online web.

Chapter Summary

Technology advances have contributed to a more interconnected, global society. The user-generated content online environment, Web 2.0, provides an opportunity for collaboration across borders and mutually benefit each other's talents and knowledge to enhance learning (Anderson, 2012; Sloan & Arrison, 2011). Web 3.0 provides smart tagging of information on the web, allowing it to be searched in a more relevant ways to better connect knowledge, for smarter collaboration (Miranda et al., 2014; Ohler, 2010; Ivanova & Ivanova, 2009). The concept of collaborative learning supports international collaborations in education. Collaborative learning is the notion of organizing students to work with each other towards a common goal (Serçe et al., 2011). The online environment fosters collaborative learning internationally by providing a way for students to work with one another from different locations. International collaborations also add value to the learning experience, such as cross cultural experiences and building community. In interacting with participants in different countries, international collaborations allow participants to engage in cross cultural exchanges. This paves the way for participants to develop cross cultural competence, where participants experience and appreciate different perspectives from one’s own culture and learn to navigate challenges in differences (Dolan & Kawamura, 2015). There is also a unique sense of

community that forms, which allows for greater trust and candor among participants (Rovai, 2002).

This study will examine international collaborations in education that occurs in an online environment, which involve partners in the U.S., and how those partnerships are maintained from the perspective of those who facilitate them. Most literature focuses on the learner participants involved in these endeavors and the resulting qualities around them. However, there is less written about the facilitators of international collaborations, and what leads to successful and ongoing partnerships.

Some assumptions in the study include that all study participants contribute to the success of the international collaboration they are involved with, and data from the study participants are honest, reliable, and based on the participant's current international collaboration. All international collaborations examined for the study involved a partner in the U.S. and exclusively conducted in the English language. As the study utilizes a qualitative approach using interviews, some additional limitations include the thoroughness of self-generated responses, the generalizability of results with the purposeful selection of participants, and researcher bias.

Chapter 2: Literature Review

The objective of this literature review is to provide an overview of the existing literature on the components of international online collaborations in education related to this study. The review will look at each of the three words that form "international online collaborations" in depth. This includes background, strategies and practices surrounding collaboration, learning in online environments, and understanding culture in international interaction.

The organizational structure of this literature review is presented in the following major sections: an overview of collaboration, review of online learning environments, and framework for reviewing culture. The first major section centers on defining collaboration in the context of collaborative learning practice. The second major section examines the online environment in learning, which includes tools, computer mediated communication (CMC), computer supported collaborative learning (CSCL), and components of online collaboration. The third major section focuses on examining the cultural aspect of collaborating internationally, and a framework for cross cultural competency.

The Practice of Collaboration

Collaboration is one component in international online collaboration. Collaboration approaches are common in business literature. Griffin (2017) describes collaboration as an exchange and share of "effort, knowledge, and resources" to achieve something that otherwise can't be done alone, and a dependency exists where those in the collaboration "must control and contribute unique resources" in order to reach the shared goal (p. 114). Kaats and Opheij (2014) echo that collaboration allows for achievements that would otherwise be impossible to do individually. There are five aspects involved: ambition, interests, relations, organization, and process. Shared ambition among the participants supports positive collaboration, as well as

consideration for the interests of the different participants involved. Connecting with one another personally fosters relations among those in the collaboration. Having a structure and organization to approaching the collaboration, as well as agreed on the process, also contribute to successful collaboration.

Katz and Miller (2013) stress the importance of listening as a key to successful collaboration. A person must be willing to listen in the spirit of partnership and offer trust. Listening should be done fully, through the nonverbal communication of body language and verbal words, by summarizing what was said to confirm the correct understanding. Katz and Miller (2013) also share the importance of providing energy to build on what the other said as another behavior that fosters collaboration. The use of "we" should indicate an "all in this together" mentality, to avoid an us versus them mentality.

Kaats and Opheij (2014) explain that the major challenge to successful collaboration is to foster the right conditions for it. Collaboration relies largely on interdependence, as each individual involved relinquishes "part of their autonomy, trusting that in doing so they will gain more in return" (Kaats & Opheij, 2014, p. 14). There is usually an ambiguous center of power since power is distributed among the different parties involved. The group has to manage "different interests and aims and construct a broadly supported view on (and response to) the common concern" (Kaats & Opheij, 2014, p. 15). Participants in a collaboration that are more similar to each other in subject expertise and personality usually increases the competition between them, which can also hinder the dynamic of the collaboration.

Collaborations can also be threatened by ambiguity and misunderstanding. Kaats and Opheij (2014) explain three components to misunderstanding in collaboration, which include:

- The “confrontation of different worlds” due to differences in individual “culture, norms, values and language” (p. 39)
- The varied interests involved
- The “specific contextual factors that act on the partnership, raising or undermining its potential” (p. 39)

With different viewpoints at the table, those in a collaboration must be open to the “perception and definition of an issue, solution, opportunity or form” that is different from their own (Kaats & Opheij, 2014, p. 40). Collaborations must also balance both individual and collective interests from the participants. Individual interest includes all personal motivations and interest with regards to “ideals, career, reputation, fears, saving face and reward” (Kaats & Opheij, 2014, p. 41). Collective interests consider the interests of the larger group, community or stakeholders. Kaats and Opheij (2014) emphasize the importance of recognizing how these implicit and explicit interests influence the collaborative process.

The quality of collaboration can be examined by looking at the connection, group dynamics, trust and leadership within the collaboration. People are key to the collaboration, and connecting on a personal level to be familiar with each others' “interests, experiences, convictions, backgrounds, and motivations” (Kaats & Opheij, 2014, p. 49). The group must work together constructively, using its diversity as a strength rather than an opportunity for division. Participants in a collaboration must be able to trust one another in order to combat uncertainty in the outcome. When building or facilitating collaborations between groups, the leader should also reflect and foster a collaborative leadership style.

Davier, Zhu and Kyllonen (2017) clarify a difference between collaboration in an organization and education. In organizations, collaborations are intentionally put together to

optimize the expertise of group members. Such teams are typically organized within a hierarchy in the organization and about the organization's structure. In contrast, in education, the intent for collaboration is for learning. Matching expertise is not a priority, and more effort is concentrated on the group dynamics of the structure and hierarchy of the group.

Collaborative Learning

The practice of collaborative learning is relevant to how collaboration is used in the educational environment. Collaborative learning incorporates both concepts of collaboration and learning. Rose, Howley, Wen, Yang, and Ferschke (2017) refer to learning the "acquisition of conceptual understanding and knowledge" (p. 83). Learning is influenced by both cognitive processes and noncognitive factors, including motivation and social processes and dispositions.

Collaborative learning brings together learners in working towards a common goal and helps to maximize learning (Johnson & Johnson, 1996; Serçe et al., 2011). Vygotsky (1978) and Wertsch (1991) put forward the idea of learning from a sociocultural perspective, where interaction and conversation with others contribute to cognitive development. Ruben (2009) describes collaboration as a relationship where all participants work together towards achieving a task or objective. Johnson and Johnson (1996) share a model that identifies types of behavior within a collaborative learning environment which involves:

> Giving and receiving help, exchanging resources and information, explaining and elaborating information; sharing existing knowledge with others; giving and receiving feedback; challenging others' contributions; advocating increased effort and perseverance among peers; engaging in small group skills; monitoring each other's efforts and contributions. (Johnson & Johnson, 1996, p. 1026)

Dillenbourg (1999) makes a distinction between cooperative versus collaborative. In a cooperative approach, tasks are divided among participants to be worked on independently then brought together, while in a collaborative approach, the work is done together throughout with discussion and decision making (Dillenbourg, 1999). Johnson and Johnson (2008) also differentiate the collaborative approach from competitive (which is against one another) and individualistic (in which one works alone) approaches to learning. Collaborative learning "emphasizes the interdependence of the learners and the communal nature of the process as knowledge is negotiated and constructed through dialogue, problem solving, and authentic experiences" (Comeaux, 2002, p. xxvii).

Collaboration has many benefits, such as deeper knowledge building, supporting creativity and critical thinking, developing community through shared goals, reflection, transformative learning, and addressing different learning styles and culture (Palloff & Pratt, 2005). Ubell, Hutlin and Mayadas (2011) echo that collaborative learning provides the opportunity to use discussion while also considering different ideas and experiences when working with others. Participants work together towards achieving "intellectual results" that would otherwise be difficult to do individually. Anuradha (1995) also indicates that collaborative learning activities are beneficial to the goal of strengthening skills in both critical thinking and problem solving. Johnson and Johnson (1996) share that a collaborative approach results in higher achievement, better relationships, and healthier psychological well-being. There is an opportunity for "reflective interaction" that occurs in a collaborative learning approach to lecture-based content delivery (Harasim, 1989).

Collaboration builds community. Collaboration fosters a sense of community, which cycles to foster continued collaboration (Palloff & Pratt, 2005). McMillan and Chavis (1986)

define community to have four elements: membership, which provides a sense of belonging; influence, where all feel they matter to each other and the group; reinforcement, when needs get fulfilled through membership in the group; and shared emotional connection, which is understanding that group members will share experiences and build context together.

The community formed by collaboration is a unique environment that builds trust among participants, rather than the competitive nature of a classroom. Rovai (2002) describes how this community builds candor, and with candor comes from trust, which leads to group members feeling safe to vulnerably share in learning, knowing they will have support from other group members. Herring (2004) shares that in forming a community, participants build and share identity with each other and develops continued, sustaining participation. The instructor is key in forming the collaboration and encouraging learners to take ownership in the community that forms (Palloff & Pratt, 2005).

Creating and fostering collaboration in learning environment. The literature offers additional insight and structure on creating and fostering collaboration. Kopp and Mandl (2011) explain the importance of discussion and knowledge exchange among all participants in the collaborative process. Each participant shares all information relevant to the task needed, which creates the discussion for an exchange of ideas and evaluating the information together to better understand the task (Kopp & Mandl, 2011). This working together yields a higher performance than working individually, which is the main advantage to collaborating (Kopp & Mandl, 2011).

Argumentation, sufficiently and constructively sharing different perspectives, is also important to collaboration (Kopp & Mandl, 2011). Collaboration can only benefit from varying viewpoints if the group members can adequately express them. When learners discuss and exchange knowledge with each other, their existing knowledge deepens and helps to advance

different perspectives needed in identifying ideas for achieving the group's goals and tasks (Kopp & Mandl, 2011). In doing this, knowledge is fostered both collaboratively and individually (Kopp & Mandl, 2011).

There are four social and cognitive processes that are involved in group interaction and a precondition for collaboration, including constructive confrontations and conflict regulation, goal orientation and group motivation, social influence processes, and individual involvement and responsibility with the group (Kopp & Mandl, 2011). The group must be able to consider different points of view, address and resolve conflicts to a solution that is mutually agreed on by the group in a constructive manner. The group must have an ability to focus and discuss topics deeply to consider different approaches and solutions. Group goal orientation and motivation are also important. Elliott and McGregor (2001) further break down goals as mastery (or learning) and performance. Mastery goals are related to gaining as much as possible from the learning taking place, while performance goals are related to achievement and results of the group (Elliott & McGregor, 2001).

The social influence processes of group interaction describe how information is searched and obtained by the group and the solutions they determine (Kopp & Mandl, 2011). Such processes indicate the challenge of putting forth a minority opinion, given the social pressure to conform to the majority thinking (Kopp & Mandl, 2011). Kopp and Mandl (2011) lastly point out the importance of involvement and responsibility in virtual collaboration, so all participants are engaged and contribute to the discussion and work. Participants that don't contribute impede the progress of the group. The online environment can be isolating, but collaboration in the environment increases learning outcomes by enriching the learning experience, exchange ideas openly and receive feedback in the community.

Establishing an Online Community

Collaborations that are related to this study take place in an online environment, or online community. Kraut, Resnick, and Kiesler (2011) define an online community as "any virtual space where people come together with others to converse, exchange information or other resources, learn, play, or just be with each other" (p. 1). Such communities utilize various platforms for interaction, including "email lists to forums, blogs, wikis, and networking sites...the common feature is ongoing interactions among people over time, with some of the interactions being technology mediated" (Kraut et al., 2011, p. 1).

Benefits. Online communities can also act similarly to offline communities, offering a means of sharing and social support (Kraut et al., 2011). They can also produce products that are helpful to others outside of their community, such as "open source software, product reviews, and encyclopedia pages" (Kraut et al., 2011, p. 2). Online communities "break the barriers of time, space, and scale that limit offline interactions" (Kraut et al., 2011, p. 2).

Challenges. Kraut et al. (2011) identify several challenges to building successful online communities. One challenge is getting a new community started that has content which brings in enough membership to enrich and continue it. Without enough attractive content, the membership cannot grow into a community that can sustain itself. Bringing in new participants can also be challenging, trying to attract the ideal participants who can best contribute to the community but also trying to filter out less ideal participants.

Another challenge entails the process of bringing in a new member and fostering their commitment to the same level as more established participants. Commitment "represents members' feelings of attachment or connection to the group, organization, or community…[and] underlines members' willingness to stay in the community and contribute to it" (Kraut et al.,

2011, p. 4). As Mathieu and Zajac (1990) identify, this commitment to an organization yields positive experience and satisfaction by the individual, can better to contribute and less likely to depart the organization. Developing this commitment is challenging in online environments because finding alternatives is not geographically limited, making loyalty difficult to maintain (Kraut et al., 2011).

Understanding the Online Environment for Learning

As the international collaborations examined in this study take place in an online community, understanding the online environment is relevant to the study. The online environment fosters collaborative learning internationally by providing a way for learners to work with one another from different locations. The increased convenience of connecting online allows for engagement beyond physical borders of an in-person classroom setting. Bonk and King (1999) indicate that "computer conferencing" can promote collaborative learning in a way the traditional, face to face environment lacks. Taking collaborative learning online to allow international participation adds another layer to learners working together, including challenges related to language, cultural differences and remote nature of the collaboration (Daniels, Berglund, & Petre, 1999).

Dulworth (2008) reviews how connecting with others online has evolved, initially beginning with key internet providers (such as American Online) providing email as a means of text-based exchange. Email evolved into chat rooms and then instant messaging, which provided a route for private conversation among two individuals. Personal blogs served as an online journal for individuals but evolved into ones focused on a specific subject.

Dulworth (2008) further expands on definitions to some online communication mediums. One is the discussion forum, an asynchronous method where people discuss common interests.

A threaded discussion has messages arranged in a hierarchical manner by topic, with a singular topic referred to as a "thread" (Dulworth, 2008). Dulworth (2008) also explains that a wiki is a web page that allows anyone to contribute or edit material. A blog serves as an online journal, where entries are displayed in chronological order, and typically allow for comments from readers. There is a distinction with Web 2.0 platforms, which refer to web-based applications that host or develop artifacts that have furthered the opportunity for collaborative learning (Hsu et al., 2014). While scholars discuss the advent of Web 3.0 and Web 4.0 online technologies, the literature related to global collaboration education mostly discusses the use of Web 2.0 tools, which are read-write oriented (Miranda et al., 2014).

Hsu et al. (2014) found the most common practices of using Web 2.0 to foster collaboration include:

> Publishing and sharing learning progress and achievements; supporting and achieving collaborative tasks; making thinking, collaborative processes and products visible through tangible artifacts; communicating ideas and disseminating artifacts with multimedia capacity; social networking in authentic learning environments; and building communities of practice for learning in authentic and meaningful contexts. (p. 749)

Online tools for collaboration in education. West and West (2010) describe how web 2.0 tools "have been instrumental in shifting the Web to its new identity as a collaborative work space" (p. 21). These developments have given students "the capacity to become collaborative partners in the knowledge building process" (West & West, 2010, p. 21). Crane (2012) brings up a variety of online tools for fostering collaboration in an education setting, such as blogs, wikis, video conferencing, and social networking. These tools support "five C's" in education, including "communication, collaboration, critical thinking, creativity, and content" (Crane, 2012,

p. 107). Sharing artifacts is seen through video sites such as YouTube or microblogging platforms like Twitter (Hsu et al., 2014). Social network platforms such as Facebook can provide a networking environment for learning, while blogs and social bookmarking provide avenues for continuing communities of practice (Hsu et al., 2014). These Web 2.0 applications have added to the complexity of options for communicating and sharing in an online environment.

Wikis, blogs, and threaded discussions. West and West (2010) review three types of asynchronous communication tools associated with Web 2.0, including wikis, blogs and threaded discussions. They describe wikis as an "online collaborative writing tool" (West & West, 2010, p. 23). They allow for participants to collaborate and create content across physical borders, and to easily allow for editing to create an up to date document. Blogs allow for an easy way to create personal websites that are best suited for "reflection, creative expression, and journaling" (West & West, 2010), p. 24). Hsu et al. (2014) also acknowledges that blogs are a way for disseminating progress in learning. However, blogs are organized in a chronological manner, and only allow editing by the individual who created the post. In contrast, wikis are more dynamic in their presentation, where content is live as soon as it is updated. As a result, blogs are more conducive to individual work while wikis are more suited to support group collaboration. Threaded discussions refer to forums, which are a "mainstay" in online communication, where users post messages and others respond to them. This means of communication allows for elaborate discussions on topics from different people, which can be comparable to wikis, however is limited in how it can be edited, similar to blogs. The limitation in editing by multiple individuals in blogs and threaded discussions positions wikis to be more

ideal for group collaboration, and better supportive of "brainstorming, group problem solving, critical evaluation, synthesis, idea refinement, and group consensus" (West & West, 2010, p. 25).

West and West (2010) review three types of wikis, including free, fee-based, and self-hosted. Free wiki services are hosted by the provider and require no installation or technical knowledge. However, since they are hosted at no cost, the provider usually sets limits on the membership that can edit and storage space, which impacts the numbers of entries. Fee-based wikis are similar to free wiki services in that they are hosted, but with fewer restrictions, offering more features and storage space. Self-hosted wikis require installation on a server. While the software to install can be free, it relies on the installer to manage the administrative process, requiring much technical expertise. The selection of wiki type should depend on the needs of the collaboration, and their resources.

Video conferencing. Video conferencing provides a synchronous opportunity to communicate with others regardless of physical location (Crane, 2012). While various video conference tools exist, Skype emerges as a prominent program used in K-12 classrooms (Crane, 2012). Video conferencing allows for classrooms to connect globally through conversations and global field trips. However, all sites involved in the video conferencing must be mindful of the technical responsibilities involved in managing such communication, ensuring both the software, equipment, and internet connection are adequately in place to execute it.

Social media networking. Crane (2012) also acknowledges the strong presence and use of social media networks among youth, including Facebook, Twitter, and YouTube as of 2010. Social networking "brings people together in a central location to [share]... [where] people discuss interests and activities across political, economic, and geographic borders" (Crane, 2012, p. 109). Social networking can be used as a communication tool, support the development of

relationships among teachers and students, personalize learning activities and share work through different media. Crane (2012) cautions on safety and risk on social media sites, due to "online predators, hacking, viewing inappropriate content, cyberbullying, and privacy issues" (p. 111). Because of this, institutions are likely to restrict internet use, or strictly use platforms that are only open to educators and not the general public, such as Edmodo.

Email, instant messaging, text messages. Davis (2009) describes examples of electronic means of communication that students rely on, including e-mail, instant messaging, and text messages. E-mail provides a nonintrusive way to asynchronously communicate regardless of location. The challenge with email is the effort and time put into the communication, and misinterpretation of the tone intended by the sender. While instant messaging and text messaging allow for brief exchanges, they can lead to word shortcuts and misunderstanding. Most students do not prefer to hear from their teachers or institutions to use instant messaging and text message, instead finding appropriateness of communication only through email. The exception to this is emergency alerts, primarily on college campuses (Caruso & Salaway, 2007). Before engaging in electronic communication, the teacher should establish ground rules and policies on the communication. This includes preference of communication, appropriateness of messages, how often to check for messages, message length, and etiquette (Davis, 2009).

Web 3.0 and beyond. The first generation of the web, referred to as Web 1.0, was purely content oriented, with information relying on comprehension by the user (Miranda et al., 2014; Choudhury, 2014). This medium was read-only, static, and relied on one particular user to update and change content (Aghaei et al., 2012). Web 2.0, also referred to as the Social Web, offered a communicative medium that allowed for a read-write ability, where users could more

dynamically edit and create content (Aghaei et al., 2012; Miranda et al., 2014). However, the web persists with inefficient search and data being processed (Miranda et al., 2014).

The advent of Web 3.0 addresses this, introducing more intelligent tagging into coding data in order for information to be more smartly retrieved and generate more effective searches and results (Miranda et al., 2014; Ohler, 2010; Ivanova & Ivanova, 2009). Known as the Semantic Web, Web 3.0 brings in "meaning and relevance" with content, which allows for efficient collaboration to create a "read-write-collaborate" environment (Miranda et al., 2014, p. 100). Ohler (2010) describes how smarter web reduces the focus on "searching and sifting" through data to "spend more time thinking and participating" (p. 16). While exact tools for collaboration in Web 3.0 continue to unfold, some possibilities for the educational contexts lie in 3D technology, such as 3D wikis, 3D virtual worlds, 3D virtual labs and intelligent search engines (Miranda et al., 2014). While the timeline is not clear for the development, the horizon of Web 4.0, or the symbiotic web, aims at "interaction between humans and machines in symbiosis," and the web functioning more as an operating system (Aghaei et al., 2012, p. 8). The evolution of the web is depicted by Murugesan, Rossi, Wilbanks, and Djavanshir (2011) from the center starting with the static information orientation of Web 1.0 and radiating outward to the smarter, agent-centered orientation to Web 4.0. Web 3.0, 4.0 and beyond provide mediums for the future of online tools and possibilities for collaboration that will evolve with the smarter development of the online web.

Computer mediated communication (CMC). Communication in an online environment for educational settings is referred to as computer mediated communication. Spitzberg (2006) defines computer mediated communication (CMC) as text-based interaction through digital media, which involves people to be engaged in computerized exchange.

Spitzberg puts forth a model for CMC competence that is related to the individual, rather than the technology. This model establishes four factors of how new media affects the formation and development of relationships, specifically by examining several factors including:

- The motivation a person has for using the media (such as keeping up with existing friends, to develop a life they don't currently have, or to communicate something specific).
- The knowledge and skills they have in regards to using the media (or even in social skills themselves).
- The context of the media or their interactions with it (such as to post pictures of family or social events that they're actively involved with, or to make friends, or to handle a difficult situation).
- The outcome of their use of the media (such as improved communication or social interaction in a specific way).

Individuals may be more empowered in relationship management in using CMC (McKenna, Green, & Gleason, 2002). There is intimacy formed because CMC has anonymity, removes gating barriers (such as cues for physical attraction), and bringing people with shared interests together. These qualities of CMC increases an individual's willingness to openly express and disclose more.

The method of CMC can be further broken down into one of two types: synchronous vs. asynchronous. Serçe et al. (2011) define asynchronous as "the category of communication tools that allow people to share ideas 'on their own time'... [whereas] synchronous collaborative technologies are communication tools that allow people to collaborate in real time" (p. 491). While synchronous methods allow for more active, immediate social interaction among

participants, there are challenges that prevent use of synchronous methods and tools of communication, such as difficulty in coordinating times to meet, financial resources needed to use a quality platform for synchronous communication, and technical reliability of the platform (Burnett, 2003). While asynchronous methods lack immediate social interactions, it provides the opportunity to consider the problem and determine possible solutions regardless of the time and location (Serçe et al., 2011).

Kopp and Mandl (2011) additionally emphasize that the main technical differentiation in collaborating is the time pattern of communication. McGhie-Richmond and Winter (2011) echo this, and as collaboration requires frequent interaction, any asynchronous form of communication may hinder momentum without immediate response or reaction. However, asynchronous communication allows for more thoughtful and thorough responses (McGhie-Richmond & Winter, 2011).

Synchronous communication happens simultaneously regardless of location and usually involves a shared program on their computer in live time, whether typing through chat or speaking through video conferencing (Kopp & Mandl, 2011). This allows for frequent and immediate interaction. In asynchronous scenarios, interaction is written, happens at different times and is not immediate. Because the interaction is text-based, they can access the information later for refinement. In their study, Holliman and Scanlon (2006) found that CMC allowed for the availability of transcripts of group work for reference, which proved helpful in incorporating passive participants. These components and method of CMC play a role in understanding the context for computer-supported collaborative learning.

Computer-supported collaborative learning (CSCL). While CMC describes the means of communication, CSCL refers to the act of collaborating in an online environment for

education purposes. CSCL stands for computer-supported collaborative learning, where computer technology is key in learning and collaboration (Goodyear et al., 2014). In most CSCL situations, learners rely on computers as the primary means to interact with one another while physically far apart from each other. However, CSCL can also refer to situations where learners are in the same space, but computers are still the main medium for their collaboration efforts (Goodyear et al., 2014). Johnson and Johnson (2008) came to the conclusion that a collaborative approach allowed learners to experience multiple explanations and perspectives from others as they worked, which outperformed competitive and individualistic approaches. The success of collaborative approaches builds off Vygotsky's (1978) sociocultural learning theory in practice, where learners are gaining knowledge and making meaning through social interaction. However, Goodyear et al. (2014) point out that learners won't necessarily be able to naturally navigate collaboration through technology on their own, and rely on an active role of their instructor/facilitator and well-designed project.

Studies around CSCL involve a shared technology medium that has included "mobile devices, virtual worlds, simulation models, interactive whiteboards, or interactive tabletop devices" (Goodyear et al., 2014, p. 441). Data is collected from video screen capturing the learner's work or taking video of the learners working to record physical reactions, audio of interactions, and actions taken on the computers (Thompson, Kennedy-Clark, Markauskaite, & Southavilay, 2011). Most studies examine the different ways to effectively structure CSCL programs and the role of the instructor.

Designing programs for CSCL. Goodyear et al. (2014) describe four components necessary in designing CSCL programs. They add to Pozzi and Perisco's (2011) three components, which include tasks, teams, and time, by adding a fourth component, tools. Tasks

are based on the learning objective and might be strictly or loosely defined for the learner (Pozzi & Perisco, 2011). Teams involve the social makeup of how the tasks will be accomplished (Pozzi & Perisco, 2011). This structure may be dictated by the instructor, facilitator, or freely chosen by the learners. Time refers to the schedule, which may be up to the instructor or learner (Pozzi & Perisco, 2011). Goodyear et al. (2014) add a fourth component, tools, which refers to what resources are necessary.

Structuring the experience for learners is an important but complex consideration for the instructor to determine (Asterhan & Schwarz, 2010; McGhie-Richmond & Winter, 2011; Voyiatzaki & Avouris, 2014; Goodyear et al., 2014). The different sequences of events that take place in the different types of learning models influence the way learning takes place. Some models begin with individual work then move to class or group sessions, then back to individual work. Each of the different learning models provides a different type of sequence.

Dillenbourg and Hong (2008) describe various approaches to fostering an ideal environment for effective collaborative learning which impact group interactions, such as intentional group formation, providing an example or model for interactions, giving feedback on how the group is interacting, and having a script for collaboration. Scripts provide structure to the collaboration in the CSCL environment. Dillenbourg and Hong (2008) further define two ways of scripting, micro-scripts and macro-scripts. Micro-scripts are more dialogue oriented whereas macro-scripts function as a pedagogical model for the collaboration on a larger scale (Dillenbourg and Hong, 2008). The complexity of the area of macro-scripts can be seen in the three types identified by Dillenbourg and Hong (2008) which include: ConceptGrid, ArgueGraph, WiSim.

The ArgueGraph has learners work on their own first (for example, through a questionnaire), then discuss in a class setting, move to small groups or pairs working together on the initial task (such as the individual questionnaire), then share with the class, then back to the individual, summarizing takeaways from the different phases of the activity (Dillenbourg & Hong, 2008). Collaboration is evidenced best in the small group or paired phase since an agreement must be reached by both parties. The ConceptGrid starts with small groups to determine roles for individuals. Then, the individuals work on their roles and repeat with the group and then individuals for concepts, the group comes together with their concept grid and then shared out. In this format, since work happens at an individual level, the group must collaborate in a shared understanding of what was delegated to each individual. The WiSim script approach anticipates the use of mobile devices for interaction. It begins at the class level to introduce the content topic, then to the small groups to first create the group on their mobile device then determine what each will develop, then the individual works on their component, compares it to their fellow learners, then the group comes together to discuss the differences. Because of the different devices involved, collaboration takes place when the group must determine what each will develop.

These three macro- scripts highlight just some of the many varied approaches and challenges to appropriately structuring an online environment for learning. Participants rely on the right structure and implementation in CSCL settings. In turn, the instructor plays a critical role in determining and managing the success of these collaborations in CSCL.

The instructor role in CSCL. Online engagement helps promote learning with more articulateness, exactness in expressing viewpoints (due to missing visual cues) and openness to sharing different and critical viewpoints due to less stigma attached (Asterhan & Schwarz, 2010).

The instructor's role in moderating online CSCL situations is critical in guiding learners to collaborate successfully (Asherhan & Schwarz, 2010; Goodyear et al., 2014). Literature provides insight and viewpoints on how the facilitator or instructor plays a role in the collaboration among learners. Engaging in dialogue is important, but there's no guarantee it will occur as intended (Voyiatzaki & Avouris, 2014). It's important to train learners in how to generate dialogue and discussion, rather than giving them a controlled and explicit way to accomplish the work. Voyiatzaki and Avouris (2014) identify five types of support in online environments: pedagogical, social, interaction, managerial and technical, which respectively focus on learning, motivation among learners, participation and responsiveness with the group, completing the task at hand, and working through technical difficulties.

Structuring the Collaborative Environment

Palloff and Pratt (1999, 2005) identify people, shared purpose, guidelines, technology, collaborative learning, and reflective practice as key components to an online learning community. Palloff and Pratt (2005) also identify specific stages of structuring the collaboration process online. First, the instructor must set the stage, by providing an introductory overview and establishing expectations for the collaboration. Next is to create the environment necessary for the collaboration to take place, introducing the online medium (or media) that will be used and setting communication guidelines for engaging in collaboration (Palloff & Pratt, 2005). It is also important that the instructor models the collaboration process, and is open to feedback from learners to adjust to concerns as needed (Palloff & Pratt, 2005). As the collaboration is in progress, the instructor must continue to guide the process by providing support and demonstrating the continued commitment to their success. Lastly, Palloff and Pratt (2005)

indicate the importance of evaluation, to assess whether learners achieved the objectives of the collaboration, which should include reflection.

Manca and Vanin (2011) echo a similar model on orienting participants into the socialization of an online community, which includes orienting, preparing and supporting. In the orienting phase, general information and guidance are provided about the environment and resources involved. The preparing phase involves the provision of the appropriate skills and insight to participate and become familiar with the technology. After this comes the technological, motivation, and relationship support to participants. This support can focus on the content in developing knowledge, the process of using the technology, or socialization which allows participants to integrate themselves into the community (Manca & Vanin, 2011).

To support collaboration, Palloff and Pratt (2005) also identify a variety of tools to create the community environment for learners. One tool is to have solid explanations for the learners, explicitly sharing the purpose of the activity and connecting it to objectives of the course. Another is establishing guidelines and expectations for participation, which includes the method and frequency of communication. Palloff and Pratt (2005) also state that groups should mutually create an agreement that will set clear expectations among the group members on interaction, group roles, and benchmarks for a project timeline and submission. If an agreement is not used, the instructor should ensure such detail is included on the syllabus, agreed on and understood by the learners in order to maintain buy-in for the collaboration (Palloff & Pratt, 2005).

Fostering collaboration involvement. Instructors can help provoke deeper discussions among learners using prompts, such as repeating one's explanation, comparing their reasoning to another, expanding on their response, challenging their thoughts and prompting questions that specifically direct to further explanation and co-creation of knowledge (Resnick, Michaels &

O'Connor, 2010; McGhie-Richmond & Winter, 2011). Learners need this motivation and socialization support to maintain their participation in the program (Asterhan & Schwarz, 2010). Instructors especially need to strike a balance between having instructors present, while not being overly involved to otherwise discourage participation (Asterhan & Schwarz, 2010). Holliman and Scanlon (2006) also emphasize the importance of instructor engagement in having thorough discussions among learners, by shaping the conversation around collaboration and cooperation and utilizing the structure of group size, time span, resources, and task. Without the instructor's guidance, learners would be unable to construct shared understanding and thoroughly analyze a difficult science subject (Holliman & Scanlon, 2006).

Asterhan and Schwarz (2010) clarify different forms of supporting learner using indirect approaches so the learner can come to their thinking and reasoning. The instructor must foster the supportive social atmosphere, so learners actively participate among each other respectfully and without overlapping what another brings to the discussion. Learners expect facilitators to be actively involved in the discussion, but not heavily obtrusive. The instructor must manage the responsibility of designing the activities, monitoring and providing technical assistance as needed. There's a balance to strike among all these needs, with the conclusion that the instructor role is inherently complex (Asterhan & Schwarz, 2010).

McGhie-Richmond and Winter (2011) also point out the importance of the instructor's role in fostering a community in collaboration, notably through communication and social presence. This primarily involves the instructor being accessible to the learners and help promote an environment where all learners feel supported by providing feedback and validation. To achieve this, McGhie-Richmond and Winter (2011) emphasize the importance of establishing interaction guidelines that include frequency and timing of communication to limit the potential

negative impact of asynchronous communication. Learners should initially get to know one another through introductions and support social presence and community building. Instructors are instrumental in fostering the community that develops, not by leading discussions of the collaboration, but by responding to what learners are saying.

Monitoring is an important role for the instructor in supporting the CSCL environment. In observing the instructors in their study, Voyiatzaki and Avouris (2014) identified four phases of group monitoring: "steady state," "investigation of a disorder," intervention, and feedback (p. 145). In the first phase, an instructor is seeing how the class is doing, the second phase in which something unpredicted occurs and is identified, the third phase involves contact around the situation, and the last phase provides feedback (Voyiatzaki & Avouris, 2014). These phases occurred at different level structures in the classroom, including individuals, groups or the entire class (Voyiatzaki & Avouris, 2014).

Assessing Work in Online Collaborations

Understanding how to assess collaborations in the online environment provide insight into how such collaborations can be successful. Davier et al. (2017) identify a taxonomy of variables involved with assessing collaboration. One variable is the participant background, such as the individual's way of thinking, personality, and experience. Another is the task variable, which includes the content and characteristics of the task. The process variables describe what is taking place during the activity, such as the number of certain behaviors taking place and statements made. The last variable is the outcome, both individual and of the team. These might include strategies on problem-solving, knowledge development, and situational awareness.

Retalis, Petropoulou, and Lazakido (2011) describe two types of assessment for online collaborative learning. One is product assessment, which "focuses on the grading of the actual

learners' deliverables to evaluate whether a skill has been applied or some concept has been learned" (Retalis et al., 2011, p. 246). Performance assessment is more focused on the participant, and their involvement in the collaboration.

Palloff and Pratt (2005) identify examples of these different assessment methods when working with online collaborations. Palloff and Pratt (2005) describe a focus on learner-centered assessment since they are the focus of the collaboration. This assessment should include a performance assessment utilizing reflective practice that considers both their individual participation and group contribution. This provides the teacher with insight on future iterations of the collaboration. Palloff and Pratt (2005) highlight the following examples of self-reflective questions to include:

- "How comfortable did you feel as a member of this group?"
- "How did your group establish roles and leadership"?
- "Do you feel that all group members' voices were heard and accepted?"
- "Did you feel comfortable with that process and feel that you had adequate input?"
- "How well did you work as a team?"
- "Did you encounter any problems as you worked together? How did you overcome or resolve them?" (Palloff & Pratt, 2005, p. 43)

Palloff and Pratt (2005) also suggest portfolios that include both individual contributions and end result as another learner-centered assessment. This gives insight on a number of contributions from the individual student, as well as recognizing their individual work. Portfolios can also incentivize participants in their work, since both their individual work and contributions to the group will be assessed. Rubrics are another form of assessment, which sets

clear expectations and removes the guesswork on what will be evaluated. The rubric evaluations completed by both the participant and the teacher can then be compared.

Lastly, Palloff and Pratt (2005) explain that collaborative activities should likewise be assessed collaboratively. The participants are the best source for assessment on the "workings" of the group. This assessment should be included into expectations for the course and communicated before the collaboration, so students are aware they will be responsible for giving fair and constructive feedback at the end of the collaboration.

Perceptions on assessment. Providing peer and self-assessment generate mixed feelings from participants (Ubell et al., 2011). Those with positive experiences expressed that they benefited from the feedback and appreciated partaking in the process. The assessment process "contributed to deepening learning, increasing involvement in group work, and often, enhancing performance" (Ubell et al., 2011, p. 52). In contrast, participants with negative experiences on assessment "felt they lacked the ability to judge the work of their peers, lacking expert knowledge of the content, and concluded that they did not possess enough experience to be objective" (Ubell et al., 2011, p. 52). Further, other factors such as "personal bias, peer pressure, friendships and relationships with others" impacted their ability to assess impartially (Ubell et al., 2011, p. 52-53).

Ubell et al. (2011) found that feelings towards assessments were impacted by others with different perspectives and backgrounds, the size of the group, and level of engagement in the group. Participants in smaller teams were less likely to openly give feedback that would potentially create discomfort within the group. With a greater sense of community among the group, the more likely participants could be honest with the team. However, some may be

"concerned about how their feedback might affect group members' feelings, team building, and group interaction" (Ubell et al., 2011, p. 56).

Preparing students for feedback and assessment. Student feedback is valuable in assessment, but it is important to prepare the participants to give constructive feedback by setting guidelines early on. One example Palloff and Pratt (2005) provide is for participants to not simply agree with someone, but to give reasons why or why not. Much emphasis should also be placed on having participants thoroughly think about the feedback, to ensure it is properly worded before publishing it.

Ubell et al. (2011) describes the need to create an environment where participants feel comfortable in providing feedback and assessment. This can be fostered by giving an opportunity for the participants to practice peer assessment and have a dialogue on the criteria prior to the actual assessment. This allows for participants to collectively be on the same understanding of expectations.

When using an online tool for assessment feedback, Ubell et al. (2011) suggest initial practice on the tool using a mock scenario, so participants become comfortable with the tool. Participants within a collaboration group should also discuss their evaluation to promote familiarity and confidence with the feedback process.

Benefits of assessment. Ubell et al. (2011) found that most participants benefited from peer assessment as it helped them "understand how other perspectives related to their individual contributions" (p.56). This feedback helped them to see the perception of individual contributions, which provided motivation to work on improving certain areas of both individually and to the group. Peer assessment also provided accountability within the team, and created the trust to provide and get feedback. Overall, peer assessment strengthened the

collaboration "by enhancing relationships, fostering group cohesion, and helping them to work together to support collaborative learning" (Ubell et al., 2011, p. 57).

Alternatives in assessment. While Palloff and Pratt (2005) and Ubell et al. (2011) offer conventional approaches to collaborative assessment, Davier et al. (2017) compile alternative ways assessment has been recently explored. In their effort, Rose et al. (2017) offer an automated assessment approach through an examination of the dialogue exchange within a collaboration. The model is programmed to examine cognitive, social, and motivational process variables. However, the authors acknowledge one of the limitations with this is that the communication is analyzed with assumptions to the target audience. However, communication may be directed towards a certain individual or smaller group within the collaboration, rather than the entire group. Also, the analysis considers behaviors separately, rather being able to connect potential relationships between variables.

Collaborations Among Instructors

Literature reviewed so far focuses on facilitating the student experience in collaboration in online environments. Shedletsky and Aitken (2002) offer insight on the collaborative experience of faculty in managing online environments. In working together, faculty can work through technical difficulties, share challenges experienced in the online classroom to develop solutions, balancing feedback to the learners, and providing greater instructional resources through the combined efforts of the instructors involved. On an interpersonal level, Shedletsky and Aitken (2002) share the importance of mutual trust in each other's abilities, good intentions, freedom and safety to share thoughts and feedback freely, and a willingness to work hard to please one another.

Huber (2002) also provides insight on the online collaborative process with faculty partners across different parts of a state in the United States. This advantage to the online collaborative approach allowed for desired partners to participate regardless of their physical location, as well as diverse participants from different geographic areas. However, Huber (2002) identified various challenges that arose from the effort. There were too many partners involved, creating challenges in differing viewpoints and meeting regularly to be on the same page. Huber (2002) also recognized an uneven commitment from the partners involved, with diminished priority evidenced by their level of effort and contribution to the collaboration. Also, while common goals and objectives are common in working with learners, it was not necessarily clear among the faculty partners. In reflecting on these challenges, Huber (2002) recommends collaborators should identify clear objectives, and have agreement on commitment and regular meetings.

Pursuing a Global Collaboration in Education

This study examines online collaborations in education that take place between different countries, and therefore are considered international or global. Ripp (2016) describes how "authentic global collaboration includes not just a product but also a reciprocal process between collaborators" (p. 8). There are four key features Ripp (2016) identifies to authentic global collaboration in education: the interaction goes "beyond product sharing and offer a give-and-take between collaborating parties," that the artifact is created "with the intention of sharing it with others," the audience for the collaboration is beyond the school or institution involved, and that the collaboration adds "value to the product, thus causing the learning and exploration process to change" (p. 9).

Benefits of global collaboration. Ripp (2016) identifies various benefits to global collaboration. One is a renewed sense of purpose, where what the product produced matters to an audience beyond their classroom and families. Another is a renewed sense of pride by participants from positive feedback from strangers, which validates the feedback from their teachers and families. When working globally, participants also feel a renewed sense of community, as they are "figuring out a place in the world and where they fit" and "define themselves through the reactions of others." Participants begin to understand "their own skills as storytellers" when interacting with others. Because global collaborations heavily rely on technology for communication, participants also feel a renewed understanding of technology tools and resources. Interacting in an online environment also provides an understanding of the "digital footprint" and the effect their artifact or creation might have on other people.

Paths to global collaboration and considerations. Ripp (2016) provides some practical insight to consider before engaging in a global collaboration. Participants need to be ready to work with others, and so the teacher must be mindful that:

> Students of different ages bring various challenges to creating community, yet creating a literacy classroom where students feel empowered to speak up, share their voice, and feel what they have to say matters is paramount to globally collaborative projects' success. (p.22)

With that, Ripp (2016) identifies three approaches to global collaboration:

- Join an existing project
- Develop a project with a partner
- Create a new project without a partner

With an existing project, the work of getting a project started has already been done. The community is already ready to join, making the adjustment and socialization for participants much easier. With creating a new project using a partnership approach, the partners can either make a collaboration together or for one another. Having a partner provides "the distinct benefit of having someone with whom to plan, navigate pitfalls, and evaluate" (Ripp, 2016, p.26).

Should an existing project or creating one in partnership not be ideal, creating one without a partner is an option that provides a lot of control in designing for particular needs. Suggestions for strengthening the project involves inviting people directly, determining a schedule, having reminders, being flexible for adjustments, assist with troubleshooting the technology, stay connected with participants, and encourage individuality (Ripp, 2016). It is very important to maintain the purpose of the project as it progresses.

Ripp (2016) provides ten suggestions on ensuring success with a global collaborative project. One is to keep the project simple, to make it easy for participants and teachers to get involved regardless of their technical skill level. Another is to make sure the idea can translate and be accessible easily outside one's geographical location. Establishing too many rules can inhibit creativity and participation, so flexibility in making determinations to adjust to the project is important. Welcoming insight from others to build on the project idea helps others to be invested in shaping the project. Rather than stay to a consistent way of presenting or collaborating year to year, add or change something to maintain interest.

Technology should be selected on what fits the project purpose, rather than the other way around; the needs of the collaboration should drive what technology tools are best to use (Ripp, 2016). Fostering the community for communication online is also key, ideally through a platform where educators can share ideas and discuss the project without using email or phone.

Whoever is organizing the project must make themselves accessible to participants and teachers helps to alleviate any pressure about the program. Placing trust and value with all participants strengthens the project, as building off each contribution supports a quality experience for all involved. Lastly, Ripp (2016) emphasizes passing on any excitement to participants, so they look forward to the collaboration rather than another required project.

Identifying an authentic audience. Ripp (2016) explains that having an authentic audience for the results and products of the global collaborations supports the participants' interest and investment in the project. Participants don't approach a project as just creating something for the teacher or themselves, which shapes the creation process. Before identifying an authentic audience, a teacher must obtain both parental/guardian and student permission to share work. As those consents are obtained, getting administrative or board support and approval for the project is also legally important, as well as highlights an opportunity for administrators to get involved.

Once the consent and approvals are in place, projects can be shared to that authentic audience. The audience can be small, such as fellow educators. Once the project is shared, the audience should be invited to provide feedback. Careful thought should be given to the best way to receive feedback for the project participants. With this feedback from the audience, it should be given to participants who should also reflect on the experience and assess their own work. After the students complete their reflection and assessment, the teacher should also take time to provide a thoughtful final assessment as it "allows students to understand what they must change in order to improve their learning as well as their process and how it may affect a global audience" (Ripp, 2016, p. 48).

Challenges in Going Global

The evolving state of affairs in society has the potential to impact global collaboration in education. These external factors, such as political regimes, influence the environment for education, including censorship (Manzano, 2017; Harens & Zott, 2014; Deibert, 2008). The personality of individual government leaders can also influence the climate for alliance and collaboration (Nguyen, 2017). The difference in culture also plays a significant role in managing collaboration (Palloff & Pratt, 2005; DuPraw & Axner, 1997).

Influence of political structure. The political structure and leaders of countries can influence education and the climate for collaboration and understanding. Manzano (2017) thoroughly examines the role of political institutions and ideology on the expansion of education. In democratic societies, politicians are accountable to their constituents for continued election into government, and therefore likely to address needs and expansion in education. In contrast, dictators and one-party states are not subject to the same accountability. This would seem to translate into the willingness to form partnerships in education across governments. In contrast, the area of research science is less impacted by varying government structures. Global collaborations in scientific research have been able to overcome political differences, as scientists are supported by their governments in collaborating across country boundaries to promote scientific advancement beneficial to society as a whole (Wagner, Park & Leydesdorff, 2015).

Government structure can also play a role in how situations are understood by the people they govern. In their study, Kou, Kow, Gui, and Cheng (2017) provide an example of the influence of political systems on public discourse by comparing the discussions on the same topic but on two different social media websites: Facebook, prominent in Hong Kong and

Weibo, prominent to mainland China. Though Hong Kong is formally part of the People's Republic of China as of 1997, their laws and system of government as a British colony, which includes high autonomy politically, socially and economically, remains in place for at least 50 years (Kou et al., 2017). Mainland China remains a one-party state, whose government is run by the Chinese Community Party. With this background, Kou et al. (2017) looked at dialogue on the Umbrella Movement, a series of protests that took place in Hong Kong in 2014. What they found was that Hong Kong residents sympathized with the protesters on Facebook, while mainland China residents sympathized with the actions of the police and government on Weibo. The legal freedoms experienced by Hong Kong residents in contrast to the reliance and trust of the government by mainland Chinese residents likely influenced their respective opinions. The results of the study demonstrates how the political system of Hong Kong and mainland China plays a role in how its citizens might comprehend the same situation or circumstance.

The personality of a political leader can trickle down to also influence the climate for collaboration. An example is the U.S., where the head of government can wield global influence. In their study, Nguyen (2017) examines the campaign and post-election rhetoric used by U.S. President Trump towards Asia on social media sites, notably Twitter. Nguyen (2017) identified disparaging language from Trump about China, along with Trump's policy ideas to support a more distanced relationship between the two countries. Nguyen (2017) explains that the ultimate interests of the U.S. as a whole will likely prevent substantial policy change towards China, however the climate of alliance is already impacted. This in turn can trickle down to impact other possible collaborations between the U.S. and China.

Censorship. One particular aspect of government and political influence that impacts collaboration is censorship, which limits the people's ability to access information. National

governments play a key role in such regulation of the internet (Haerens & Zott, 2014; Deibert, 2008). Deibert (2008) further explores this aspect of censorship of how governments around the world approach internet content regulation. Deinbert (2008) provides eight "region" reports: Asia, the Middle East and North Africa (MENA), the Commonwealth of Independent States (CIS), United States/Canada, Europe, Latin America, sub-Saharan Africa, and Australia/New Zealand. The filtering in the United States/Canada, Europe, and Australia/New Zealand are more focused on specific issues, such as obscene content, hate speech, and copyright breaches. Latin America has similar focus issues for filtering, but is still catching up to developing regulation to fully implement them. Sub-Saharan Africa has low restrictions, due to the limited access to internet, though likely to change as access increases. The reports for Asia, MENA and CIS demonstrate a variety of techniques and focus in filtering practices, which notably includes political speech. Haerens and Zott (2014) identify specific countries with heavy internet censorship practices: Bahrain, Belarus, Burma, China, Cuba, Iran, North Korea, Saudi Arabia, Syria, Turkmenistan, Uzbekistan and Vietnam. According to Haerens and Zott (2014), these countries are considered "enemies" of the internet. Such unequal access to internet content can limit communication and common sources of information, creating a barrier to optimizing global collaboration opportunities.

Cultural differences. Palloff and Pratt (2005) share that challenges in collaboration are likely, such as in leadership and decision making, the design of the activity or course, as well as cultural differences. DuPraw and Axner (1997) explain that cultural differences in collaboration will likely manifest in communication style, how to address conflict, task completion, decision-making, disclosure and knowing.

Global differences such as economic disparities and impact on funding, and impact of culture on the school system, creating disagreement on educational approaches notably use of technology (Spector, Merrill, Elen, & Bishop, 2014). Spector et al. (2014) acknowledges four conclusions that create challenges for technology use in education: there is not necessarily a direct relationship between technology integration and learner learning improvement; technology impact will differ in different global locations; technology can advance faster than instructors can stay up to date, limiting good teachers in the field; and dedication from knowledgeable instructors in education technology are necessary to advance the field.

In their study on teamwork across academic disciplines and cultures using online communication, Fruchter and Townsend (2003) identified three "chasms" to overcome: the academic discipline, culture, and distribution across time and location. Participants in their study varied from architecture and engineering backgrounds, different countries and time zones. Though all participants knew the English language, it was not necessarily their first language. The study found that participants for whom English was a second language preferred to communicate through a text-based instant messenger service rather than a video/audio communication form because it was faster to type than speak. There were also observations on different values of time. Participants from East Asia areas were less concerned with deadlines, whereas Dutch participants exhibited greater concern for time (Fruchter & Townsend, 2003). Considerations for cultural differences can be examined with an awareness of the dimensions of culture.

Considering Dimensions of International Culture

In the context of examining international online collaborations for this study, understanding the influence of culture is key to the international component of the collaboration.

Across numerous studies, it is evident that one's culture is shaped by a plethora of social influences, and serves as a lens or frame through which individuals perceive, interpret and respond to external cues in their environment (Hong et al., 2000; LaFromboise, Coleman, & Gerton, 1993). Hofstede, Hofstede, and Minkov (2010) liken culture to mental programming based on the anticipated responses to situations from the impact of past life experiences. One's culture is separated from human nature (or universal characteristics) that is inherited and personality, which are both inherited and learned, but specific to a person and not necessarily shared with other humans.

When reviewing social culture, Hofstede et al. (2010) compare the different manifestations of culture to an onion, with values at the core, followed by rituals, heroes, and symbols at the outermost layer, with practices across the layers. Symbols include objects (words that represent something understood by others in the same culture). Since symbols are replicable and borrowed, they stay on the "superficial" and outermost layer of the onion. The heroes layer refers to real or fictitious individuals who carry ideal characteristics and act as role models within a culture. Rituals are social actions which are respected and expected within a culture, such as ceremonies or appropriate ways of greeting. These three layers are identified by visible practices that illustrate the layers accordingly. At the heart of these layers are values of a culture, which are not outwardly visible and involve the tendencies of one choice over the other. Another natural tendency is to separate by an in-group, who would be included as "we," and an out-group, who would be referred to as "they" (Hofstede et al., 2010).

Hofstede et al. (2010) also share how culture can be examined on different levels within an individual. This includes a national level, referring to one's country or countries; regional, ethnic, religious or language affiliation; generation, differing from children and seniors; social

class, related to work or education; and levels within the work setting; and gender. Culture can also shift with generations and technology, impacting the outer layers of the cultural onion, but core values are slow to change and can remain.

Culture began as an associated anthropological concept rising from inquiries from philosophers on national character in the 18th century during the Age of Enlightenment (Hofstede & McCrae, 2004). Anthropologists and psychologists viewed culture and personality as intertwined (Hofstede & McCrae, 2004). One major contribution to the area of culture, specifically cross-culture, came from a study by Hofstede in the late 1960s and early 1970s. Using IBM, an international corporation, Hofstede collected 117, 000 questionnaires from 71 countries that reflected values and situational decision making of employees (Hofstede & McCrae, 2004). From this data, Hofstede determined four dimensions of national culture, including power distance, uncertainty avoidance, individualism, and masculinity-femininity. Geert added a fifth dimension in the 1980s, of long-term versus short-term orientation.

Hofstede's dimensions of culture. As previously mentioned, Hofstede's study looked at national values through questionnaires completed by employees of the International Business Machines (IBM) corporation, located in over fifty countries. From these results, Hofstede (1980, 1991; Hofstede et al., 2010) identified four dimensions of culture that could be measured in relation to different cultures or countries. This includes:

- Power distance
- Collectivism versus individualism
- Masculinity versus femininity
- Uncertainty avoidance (weak to strong)

In the 1980s, Hofstede (1980) revisited the study with results from the Chinese Value Survey and added long term and short term orientation to the existing four dimensions. Alternatively, Hofstede et al. (2010) explain dimensions can be seen as typologies, or a set of "ideal" types based on countries. However, even this categorization is still problematic since countries could be hybrids of such typologies.

Individualism-collectivism considers the relationship between oneself and others, whether interdependent or independent of the group (Hofstede, 1980, 1991; Sutton, Pierce, Burke, & Salas, 2006; Markus & Kitayama, 2004; Hofstede et al., 2010). The collective approach prioritizes the group before self, and an individualist approach is the opposite (Markus & Kitayama, 2004). Locus of control refers to one's beliefs on who or what is in control of outcomes to situations, usually influenced by affiliations in culture, religion, or past. This frame of thought influences an individual's expectations of outcomes on situations (Salazar, Shuffler, Bedwell, & Salas, 2013).

Power distance considers the understanding of how equal power is distributed between subordinates and superiors (Hofstede, 1980; Salazar et al., 2013). For example, in a low power distance culture, there is less distance in the authority between the subordinates and superiors, so all are equally more likely to say something freely and listen to one another (Hofstede, 1980, 1991). The opposite is true in high power distance cultures, where subordinates do not question and are unlikely to approach those in superior positions (Hofstede, 1980, 1991).

Masculinity versus femininity explores the gender roles within a culture. Hofstede and Hofstede (2005) define a masculine society as one where gender roles are separate, whereas in feminine societies, there is more shared emotional responsibilities among genders. Uncertainty avoidance refers to a culture's level of avoiding situations that concern unknown situations

(Hofstede & Bond, 1984; Hofstede, 1991). Cultures with lower levels of uncertainty avoidance are better able to cope with ambiguity, whereas cultures with high uncertainty avoidance will take actions to avoid unknown situations and reduce anxiety (Salazar et al., 2013). Long-term and short-term orientation examine how a culture approaches time (Hofstede & Bond, 1988; Sutton et al., 2006). Cultures whose values revolve on what happens in the future have long-term orientation, while short-term orientation is more focused on the past and present (Salazar et al., 2013).

Contextualized cultural framework. Salazar et al. (2013) provide another taxonomy for contextualized cultural framework. The framework provides additional contexts of culture that builds off Hofstede's work. This consists of supra-categories including the affective and motivational dimensions, and internal and external sources of culture.

Internal sources. Internal sources are comprised of cultural values that incorporate Hofstede's (1980, 1991; Hofstede et al., 2010) dimensions of culture, which include, individualism-collectivism, locus of control, power distance, masculinity-femininity, and long-term vs. short-term orientation. Cultural values reflect the way one thinks, and how that influences social interactions and beliefs in social situations. This includes thoughts on the following factors of internal sources of culture.

Affective and motivational dimensions. The affective dimensions refer to the influence culture has on one's outward emotional response to situations (Salazar et al., 2013). This manifests as emotional expressivity and control, where there are cultural norms about what emotional expressions are acceptable, and how to hold back particular emotions (Salazar et al., 2013). Motivational dimensions look at the influence of culture on internal and external motivation sources impacting why an individual engages in situations (Salazar et al., 2013).

More interdependent cultures make choices on considering others as opposed to more individual cultures (Salazar et al., 2013). Independent cultures also rely more on personal decisions whereas interdependent cultures are willing to have peers they trust to make the decisions for them (Iyengar & Lepper, 1999). Another factor of the motivation dimension incorporates Hofstede's dimension of uncertainty avoidance.

External sources. External sources include the influences of the external environment, which includes social context, geography, language, and political context. Social context refers to the social structures in place with family, relationships, and religion (Salazar et al., 2013). Social structure impacts how we interact, and not just with family but other contexts such as work (Salazar et al., 2013). Value from religion impacts how people engage with each other and respond to situations (Salazar et al., 2013). The level of engagement in religious practice and tradition determines the amount of influence on a response (Matsumoto & Hee Yoo, 2006). Salazar et al. (2013) point out that certain societies maintain separation between religion and government, while some are intertwined, and impact the degree of response and engagement to situations. Geography is another external source of cultural influence. The physicality of a location such as weather, access to water, and area density (urban or rural), and resources readily available can dictate the type of work for the community and lifestyle (Chao & Moon, 2005). Considering language distance in linguistic culture looks at how language and word use influences the way of thinking and behavior (Salazar et al., 2013). The form of government and politics are also influential on culture. The procedures and method of making decisions (especially if they reflect individual or collective thought) impact the thinking and behavior of individuals.

Salazar et al. (2013) acknowledge this framework still has challenges but takes more context into account in examining culture. Salazar et al. (2013) also recommend careful thought on the units of analysis, such as the individual, community, and nation. For example, maybe differences in environmental influences on an individual level versus larger grouping (community or nation) might have a different degree of influence. Also, consider whether more accurate to focus on differences over similarities, and vice versa.

High and low context cultures. Hall (1981) describes how culture acts as a screening to filter what we pay attention to. It provides a framework for how one can view the world and process information, which Hall (1981) calls a "contexting" process. Hall (1981) provides two types of communication. One is high-context communication, "in which most of the information is either in the physical context or internalized in the person, while very little is in the coded, explicit, transmitted part of the message" (p. 91). On the other hand, low-context communication is the opposite, where "the mass of the information is vested in the explicit code" (p. 91). Hall (1981) compares this to the United States and Japanese justice systems. In high context systems such as with the Japanese system, more information is taken into consideration which allows all the parties involved, including the "accused, the court, the public, and those who are the injured parties on the same side, where, ideally, they can work together to settle things" (Hall, 1981, p. 111). This is in contrast to the low context systems in the United States, which often comes about to a "protagonist-antagonist conflict" in court.

Other differences include the distinction between "insiders and outsiders", where high-context cultures will place greater expectations on individuals than low-context cultures. For example, a high-context culture expects for another to know what an issue is without directly saying it. There is also greater responsibility trusted for those in higher, authority roles in high

context cultures, and responsible for actions of anyone under them. In contrast, with low-context cultures, the "responsibility is diffused throughout the system and difficult to pin down" (Hall, 1981, p. 113). In low-context cultures, people are more able to adapt and be creative with new situations without much information. While high-context cultures can also be creative, they must "move to the bottom of the context scale" with something completely new (Hall, 1981, p. 127).

Chao and Moon's cultural mosaic. Chao and Moon (2005) suggest understanding culture with the term cultural mosaic, offering another taxonomy to further describe the complexity of cultural identity on an individual level. Different aspects of cultural identity are seen as tiles, which comprise the mosaic that acknowledges the variety of influence of one's culture. The cultural tiles of one's identity will emerge depending on the situation and can be a combination of tiles rather than singular or separated. As an example, Chao and Moon (2005) describe how rather than just one's gender or ethnicity influencing a situation, it can be both or more.

Chao and Moon (2005) also identify three categories to one's cultural mosaic: demographic, geographic, and associative. The demographic tiles relate to the physical or inherited aspects of one's identity, such as age, ethnicity, and race. The geographic tiles result from the influence of the region's physical features, such as the urban-rural environment, temperature, and proximity to water. An example of this is the influence of an agrarian environment, and the influence of that societal structure on one's identity, as opposed to an urban environment. The associative tiles come from the groups one formally or informally has relationships with, including family, career, religion, and organizations.

Considering Culture in Collaboration

Burke, Feitosa, Salas and Gelfand (2017) share that cultural differences can have a synergistic effect on work in in a team, however it can also result in "process loss as members attempt to navigate differences in attitudes, beliefs, and values that often remain hidden under the surface and impact team interaction" (p. 186). However, when such teams are able to navigate the differences, they can achieve more in the long run than teams that are homogenous. Navigating these differences include identifying what are potential trigger points of conflict and assess the team around this to reach a compromise in team culture to be productive.

Hofstede et al. (2010) offer insight on potential challenges in intercultural exchange in education. This includes differences in language and processing abilities, institutional differences in societies with regard to the roles and expectations of instructors and learners, and foreign teachers bringing irrelevant lessons with them (such as lessons specific to the UK's business organization structure being taught in rural schools in China). Hofstede et al. (2010) offers an approach to competency in intercultural communication, which can be learned. The first step is awareness of one's own culture being different than building knowledge on the differing cultures, and from there developing the skills to navigate that difference. Hofstede et al. (2010) suggest it is important to understand one's own culture before examining the other.

The Need to Develop Cross Cultural Competence

As Burke et al. (2017) and Hofstede et al. (2010) touch on, considering culture is important in collaborating internationally. Dolan and Kawamura (2015) touch on the growing cultural complexity of the world "prompted by globalization, the evolution of technology, and migration," and the growing need to create an environment that includes "culturally diverse people to fully contribute information, creativity, passion, and commitment to achieve innovation

and competitive success" (p. 2). Dolan and Kawamura (2015) further share how "globalization has driven companies to use global and international strategies to compete and cooperate in order to increase profits, market share, and share price" (p. 64). Growing diversity should be optimized to utilize the strengths of diversity and minimize its challenges. However, many individuals lack the skillset to manage cultural difference, unaware of the "degree of cultural bias or prejudice that pervades their perceptions and judgements" (Dolan & Kawamura, 2015, p. 2).

In turn, individuals simply use what has "worked" in the past in response to "new, culturally complex situations," which Dolan and Kawamura (2015) describe as unconscious incompetence, or undesired responses due to lacking awareness (p. 2). This lack of competence "reduces creativity, impedes communication and problem solving, and ultimately creates a drag on productivity and performance that can be detrimental" (Dolan & Kawamura, 2015, p. 2). Those who do have cross cultural competency must always be mindful as additional cultural differences emerge that "raise new opportunities for prejudice, bias, and self-awareness" (Dolan & Kawamura, 2015, p. 3). However, Dolan and Kawamura (2015) express that cross cultural competency is not developed overnight and is an ongoing process that also evolves with further interaction with different cultures.

A model for cross cultural competence. Dolan and Kawamura (2015) explain that "true cross cultural competence arises from gaining cross cultural experience while holding the intention to learn, grow, and change and the desire to meaningfully connect with others who are different" (p.41). In response to this, Dolan and Kawamura (2015) put forth a model that focuses on "developing four areas of learning and practice: awareness, values, skills, and practices**"** (p.41). The first component of this model describes developing "cultural awareness, which plays a role in how we perceive, react to, and interact with other people," and is

"interactive, selective, and co-creative through dialogue" and requires self-reflection and self-awareness of existing biases (Dolan & Kawamura, 2015, p. 42).

The next component is to build cross cultural skills, which are "attributes and behaviors that can be learned, practiced, and assessed" (Dolan & Kawamura, 2015, p. 43). Within this component, there are three areas of skills to learn: mentally adjusting to maintain in the environment, ability develop new relationships, and the cognitive skills to intake and perceive different cultures correctly. Examples of these skills include "being flexible and able to function in a state of ambiguity, keeping an open mind, developing emotional intelligence, a having a healthy degree of cultural self-confidence, humility, and humor" (Dolan & Kawamura, 2015, p. 43). The third component of the model is to develop cultural values, which are defined and prioritized at "national, organizational, and personal levels" (Dolan & Kawamura, 2015, p. 44). The last component is to develop cultural practices that cross awareness, skills, and values. This can be done through actively developing relationships with different people, travel to culturally different environments, and intentionally reflecting on one's own culture and place.

Awareness. Cultural awareness is a building block towards competence, and is "defined as the ability to be conscious, observant, appreciative, and even accepting of similarities and differences among and between other cultures" (Dolan & Kawamura, 2015, p. 73). This awareness also encourages people to be mindful of how their own organizational and national cultures impact their values, beliefs, biases, judgments, and especially, behavior (Dolan & Kawamura, 2015, p. 74). Cultural differences can be in values, norms and beliefs not just between cultures, but within cultures (McIlwain, C. D., Miller-Idriss, C., Collins, S., Borisoff, D., & Odyssey, 2005).

As a step towards cultural awareness, individuals may experience a type of culture shock, described as ethnocentricism, which is when “people view their own group as superior and/or the norm and others as different or deviating” (Dolan & Kawamura, 2015, p. 82). This immediate shock can take the form of outward emotions such as frustration or stress. An individual will compare one’s own culture and see the other ad wrong. However, the shock should be seen as an opportunity to reflect on one’s own beliefs, values, and behaviors.

Dolan and Kawamura (2015) identify both visible and invisible factors associated with culture. Factors that can be visibly seen on the surface include "the ways people look, dress, walk, talk, eat, relate to others, and behave in public, "while more hidden factors "are the ways they think, understand, believe, feel about justice, teach children, relate to power, relate to time, relate to the group, and express through the arts" (p. 75). Culture also impacts how people speak, and the implied meanings that are connected to certain words used. Dolan and Kawamura (2015) suggest an examination of popular sayings in a culture can provide insight on the culture’s values and beliefs. One example they point out is the variety of sayings that express Murphy’s Law that “anything that can go wrong, will go wrong.” In Spanish, this is “the best cloth is always the one that gets a spot on it”; in Japanese, “darkness lies one inch ahead”; and in British, “the bread never lands but on its buttered side” (Dolan & Kawamura, 2015, p.79).

While differences in culture help identify awareness, experiencing cultural similarities creates another opportunity to relate with each other. Schwartz (2012) found three “universal” needs for human beings: the biological needs of a person, the survival needs, and coordinated ways to interact socially. While these needs are universal, people are motivated by emotion instead of objective ideas, and thus can be drawn to achieve goals by a different level of value.

Dolan and Kawamura (2015) express that values close to each other "share underlying motivations" whereas values that are far apart will disagree on motivation (p. 100).

As part of identifying one's own cultural awareness, Dolan and Kawamura (2015) discuss how one's "cultural genogram" provides a snapshot of the influences on one's cultural background, which in turn helps see this in others. Insights are also important to integrate into developing cultural competence (Dolan & Kawamura, 2015). In discussing personal cross cultural experiences, individuals can recognize perceptions of culture that arise. Developing cross cultural competence requires a dedication to changing some aspect of their thinking, "whether it be their attitudes or beliefs, the way they spend their time, or even their ability to observe" (Dolan & Kawamura, 2015, p. 49). Declaring commitment to this change openly within a group can help hold accountability for those involved.

Skills. A step to building skills in developing cultural awareness is to examine the cultural parts to communication, decision making, and habits (Dolan & Kawamura, 2015). Communication is regarding not just the words spoken out, but also "listening, negotiating, resolving conflicts" and also reading into silence (Dolan & Kawamura, 2015, p. 94). Decisions can be made in a variety of settings, and are assumed to be determined out of logic, but often are determined by cultural patterns of past decisions. Habits are formed around the normal pattern of life, including in work, home and other routines. Fostering different habits "can help… develop a cross cultural mindset" and same vice versa, as a cross cultural mindset will help new habits develop (Dolan & Kawamura, 2015, p. 95).

Communication. Communication is crucial to cross cultural competence, which Dolan and Kawamura (2015) break down an examination of the language of context, time, space, things, agreements, and friendship concerning cultural competency. Language important in

understanding conceptual differences for communication, as it conveys meaning (McIlwain et al., 2005). Context is defined by Dolan and Kawamura (2015) as "the information that surrounds a communication and helps it to be conveyed, including the framework, background, and surrounding circumstances in which communication or an event takes place" (p. 116).

Per Hall (1981), the two categories of context include high-context and low-context cultures. High-context cultures consider the context that is unsaid. Most background information is already with the individual, and little is explicitly in the transmitted message (McIlwain et al., 2005). When not much is being said, a low-context individual might feel left out of the conversation. Low-context cultures are more verbally direct (Hall, 1981; McIlwain et al., 2005; Dolan & Kawamura, 2015). As a result, a low-context person may cause others to feel demeaned because of too much information (McIlwain et al., 2005).

Hall (1981) identifies time as a situational framework for culture, notably in the United States, Switzerland and Germany. In these countries, time is a "dominant organizing principle" tied to maintaining "rhythms associated with daily, monthly, and annual cycles" (Hall, 1981, p. 136). Time has two cultures, monochronic or polychronic time culture (Dolan & Kawamura, 2015). In monochronic time cultures, time is linear, highly respected, and something to strictly adhere to, such as in the United States or Switzerland (Dolan & Kawamura, 2015; McIlwain et al., 2005). With polychronic time cultures, relationships are more valued than keeping to a set schedule or being on time to make an appointment (Dolan & Kawamura, 2015; McIlwain et al., 2005). So in monochronic time cultures, coming late to or missing a meeting is considered very disrespectful, whereas in Latin America, the situation is less of a concern, notably if it is for the sake of building a relationship.

Space is also viewed differently across cultures. For example, more space for an office in a work setting conveys more power in the United States, but in France, an office layout is more practical to the function, rather than to convey a sense of power (Dolan & Kawamura, 2015). Personal space is also different, as people in the United States are mindful of maintaining personal space around them, whereas in the Middle East and Latin America, such space is smaller. Physical possessions in the United States are culturally used to convey status, notably with "houses, clothing brands, cars, handbags, and office furnishings," but such things are less important in Middle Eastern cultures which value more the "friendship, connection, and family" (Dolan & Kawamura, 2015, p. 119). Japanese culture adds a different take on this, not overvaluing materialism but appreciating very select, high-end items.

How agreements are handled and finalized can also vary. In the United States, agreements are formalized in writing and signed after all negotiations are completed (Dolan & Kawamura, 2015). For Japan, the opposite is expected, where agreements are first signed to start the negotiation. In the Middle East, one's word is more binding than a written document. The approach to friendships is also different between cultures. For example, in the United States, friendships are gained and lost quickly, and it's acceptable for friendships to not interfere with business purposes. With other cultures, more time is invested into developing certain friendships, with an expectation for reciprocity with business intentions (Dolan & Kawamura, 2015).

Decision making. Decision making is another consideration in building cross-cultural competence. In Western cultures, the process for decision making usually involves logical thinking, which examines the situation, identifies the problem, looks at all the information together, considers alternatives, does an assessment of the benefits and negatives, and from these

components, find the best solution to the situation (Dolan & Kawamura, 2015). With decisions, culture impacts "what a person perceives as desirable and how they determine the appropriate way to achieve their goal" (Dolan & Kawamura, 2015, p. 132). Depending on the situation or circumstances, cultural dimensions can influence on what is acceptable to determine the realistic decision.

Values. The third part of the cross cultural competence model that Dolan and Kawamura (2015) put forth centers on understanding values. Values are defined as "the choices and decisions we make in our lives and in our work" (Dolan & Kawamura, 2015, p. 145). Some values are associated with high and low context communication styles. High context cultures, such as in Japan, China, Korea, tend to rely on complexity of the event to convey most of the meaning, such as considering who is involved, what their social status is, what the situation is and how past experience or cultural rules dictate behavior (McIlwain et al., 2005). This demonstrates values rooted in the past, have strong tradition, but slow to change. Such cultures also value strong orientation towards group belongingness, and want to minimize conflict.

In contract, in low-context cultures such as Western society, rely on language to explicitly say what one means. This culture reflects values that advocate for individualism and support for searching and expressing individuality (McIlwain et al., 2005). Low-context cultures also do not like ambiguity, but embrace change readily (such in the way institutions are structured, and the utilizing technological advancements whenever possible).

How power is recognized and acknowledged also speaks to cultural values (McIlwain et al., 2005). Authority and status can also be valued in different ways. For example, in the United States, since independence is valued, so is access to individuals with authority. This gives an understanding that everyone is ultimately equal. In contrast, other countries adhere to

hierarchies and the need to validate those in a higher status, typically deferring to the expertise of the senior person (McIlwain et al., 2005). Countries that value higher status are likely to practice face saving, communicating deference by allowing someone not to have to admit they are wrong or express any other thing that would cause embarrassment (McIlwain et al., 2005).

How cultures respect and value one another can also be different. Some cultures don't appreciate being called out an individual, which is in contrast to the United States, which advocates for identifying and recognizing individual contribution and who might be the best (McIlwain et al., 2005). Other cultures find being individually recognized as humiliating and embarrassing, especially as a culture may value the group, working in teams and not singling out for praise or criticism (McIlwain et al., 2005).

There is complexity and layering to values, in which Dolan and Kawamura (2015) call out three levels: national, organizational, and personal; however, all can be interconnected in influence. The national level influences values and behavior for individuals within geographic borders or environments. The structure and functioning of a nation can reflect national values, such as in the structure of the government or what is included in a nation's governing document. National values can be explicitly identified in a constitution, such as in the United States, the Russian Federation, and China. The opening statements describe the guiding philosophy for the rest of the document.

Organizational values are associated with the work environment and draw from the organization's culture. This culture can refer to "ways in which the organization regards its symbols, heroes, and rituals" (Dolan & Kawamura, 2015, p. 165). Such values are the "social principles, goals, and standards that cultural members believe have intrinsic worth" (Dolan & Kawamura, 2015, p. 175-176). Organizational values can create energy from members'

emotional states and connection. Individual values are personal and are influenced by early life experiences.

Challenges to Cross Cultural Competency: Stereotypes and Prejudices

When developing cross cultural competence, one must be aware of their perceptions on the topic, as stereotypes and prejudice are barriers to cross cultural understanding (McIlwain et al., 2005; Dolan & Kawamura, 2015). Stereotypes are ways people are expected to act or be in certain situations (McIlwain et al., 2005). Prejudice is a negative prejudgement about a person who belongs to a certain group, regardless if that person is personally know or not (McIlwain et al., 2005). Prejudices arise when one sees cultures adhere to different forms of logic, or lack thereof, and prevents learning about people who are different by not wanting to consider new information (McIlwain et al., 2005).

Dolan and Kawamura (2015) discuss the challenge of combatting existing prejudices, as our thoughts and emotions become habitual, therefore making changes to our mindset challenging. Such prejudices "get in the way of our ability to truly understand or even see a situation, a person, or a whole other culture for what it really is" (p. 47). This habitual thinking on differences can lead to "falling into patterns of duality (either/or) or 'oppositionality' (right/wrong) instead of using more complex, multifaceted views" when thinking about the difference (Dolan & Kawamura, 2015, p. 47). Dolan and Kawamura (2015) and Cox (1994) also identify a connection between diversity and prejudice, where prejudice can arise from "interpersonal attitudes such as perceived physical attractiveness (where being perceived as more attractive is favored) and proficiency in communication" (Dolan & Kawamura, 2015, p. 39).

To overcome these stereotypes and prejudices, McIlwain et al. (2005) explain how it is important to recognize that just because people identify with a certain group, it does not mean

they will necessarily operate in the expected ways. One must treat every new encounter with every new individual differently, and be open to understanding what that person is doing, how they think and how they behave. One way to foster this increased level of understanding is through education, such as reading a book, traveling abroad, which expose individuals to different people provides opportunity in those situations to help build cross cultural understanding (McIlwain et al., 2005).

Summary

This literature review provided a review of the different components of international online collaborations in education. This included individual insight on each of the three words that form "international online collaborations" to provide contextual information related to this study. This included strategies and practices surrounding collaboration, learning in the online environment, understanding culture and building on cultural competence.

First, collaboration was explored. An overview of collaboration and collaborative learning provided context for collaboration in education. Since collaborations examined in this study take place online, a review of online learning environments followed. This included the different components of the online environment for education purposes, such as an overview of computer mediated communication (CMC), computer-supported collaborative learning (CSCL), teaching approaches in such environments, and how collaboration can take place online. The third section touched on the international aspect of international online collaborations. The global nature associated with collaborations in this study involve interaction across cultures. To understand culture in the context of international collaborations, various frameworks for analyzing culture and approaching cross cultural competence were reviewed. All sections to the

literature review aimed to provide insight on the combination of international online collaborations in the context of education.

Chapter 3: Research Design and Methodology

Introduction

The purpose of this study is to examine international collaborations that take place online in educational settings. This chapter will review the research design and methodology of the study. The first section will review the nature of the study and its qualitative design. This is followed by identifying the methodology, explaining the approach of phenomenology. Next is the research design section, which includes a description of the analysis unit, population, sample size, participation selection, sampling frame, and criteria for inclusion and exclusion of participants. The approach to the protection of human subjects will also be addressed, outlining the steps taken to consider the rights of the participants and Institutional Review Board (IRB) review and approval. The section that follows after will describe the data collection through interviews, including the interview techniques and protocol involved with the study. The last parts of this chapter will address the researcher's bias, plans for data analysis, and the reliability and validity of the data collected.

Re-Statement of Research Questions

This chapter describes the research methods that were applied to achieve the objectives of this study, which is to answer these four research questions:

RQ1: What are the challenges among facilitators and teachers in developing online international collaborations in education?

RQ2: What are the best practices among facilitators and teachers in overcoming challenges in developing online international collaborations in education?

RQ3: How is success measured and tracked among facilitators and teachers in developing online international collaborations in education?

RQ4: What are recommendations among facilitators and teachers in developing online international collaborations in education?

Nature of the Study

This study utilizes a qualitative approach, which explores a phenomena taking place in its natural setting (Flick, 2008; Creswell, 2013). The purpose of qualitative research is to describe and understand social phenomena and the meaning people bring to them (Merriam & Tisdell, 2009; Boeije, 2010; Denzin & Lincoln, 2011). Qualitative methods involve an emergent design, used to explore the concept of a phenomenon, is perspective oriented, and more inductive than quantitative approaches, building towards theory rather than testing it (Creswell, 2013). The results of qualitative research are descriptive rather than predictive (Boejie, 2010).

Theory is used as a broad explanation for behaviors and attitudes, offering a theoretical perspective to the study. However, theory is usually the end point, built from the data of the study and thus not explicitly used in the same way as in quantitative methods (Creswell, 2013). As previously mentioned, qualitative research is conducted in the natural setting. The researcher is a key instrument in collecting data (Flick, 2008; Boeije, 2010; Creswell, 2013). Another characteristic of qualitative research is reflexivity, which examines the relationships of cause and effect (Creswell, 2013). Data takes the form of words, rather than numbers (Merriam & Tisdell, 2009). There are multiple sources of data, which can take the form of in-depth interviews with individuals, group discussions with two or more people, first hand contextual observations from field notes, written reflections such as journal entries and reflective exercises (Merriam & Tisdell, 2009; Boeije, 2010). There are various qualitative method approaches, which include: narrative, phenomenology, ethnography, case study, grounded theory (Boeije, 2010; Creswell, 2013).

Strengths. Qualitative approaches have several strengths. This approach uses a human instrument for data collection, the researcher, allowing for a responsive and adaptive approach to collecting the data (Merriam & Tisdell, 2009). Data collected can provide rich, descriptive research data that would not otherwise be collected with quantitative studies (Merriam & Tisdell, 2009; Boeije, 2010). There is a depth of detail that can provide more narrative for the results and implications (Merriam & Tisdell, 2009).

Weaknesses. Just as the human instrument can provide flexibility in data collection, there is also the presence of bias and other possible shortcomings (Merriam & Tisdell, 2009). The researcher must be aware of and consider their subjectivity and account for it in the research. The researcher's ability might also be limited, and impact the data collected (Harper & Kuh, 2008; Merriam & Tisdell, 2009). Time is another potential disadvantage, in the length of time to collect and analyze the data (Merriam & Tisdell, 2009).

Methodology

This study employs a phenomenological design for its qualitative method. Phenomenology is considered when little is known about a phenomenon (Boeije, 2010). A phenomenological approach uses thick description and close analysis of lived experiences of those being studied, and how meaning is created through their perceptions (Starks & Trinidad, 2007). There is not a hypothesis or theory to begin with and test. Instead, the theory emerges and is reflective and data driven, constructed to guide knowledge development within the discipline (Boeije, 2010). The aim is of phenomenology is to capture the essence or basic structure of the experiences of the participants (Merriam & Tisdell, 2009). Since phenomenology involves getting to the authenticity of specific situations, shared experiences from different people are needed (Boeije, 2010). This study seeks to examine the lived

experiences of those who are involved in facilitating international online collaborations in education.

Structured process of phenomenology. Merriam and Tisdell (2009) outline the steps involved when utilizing phenomenology. Since this approach involves human experiences, the researcher must consider their own prior beliefs about the phenomenon being studied and bracket them or temporarily put them aside (Moustakas, 1994; Merriam & Tisdell, 2009). This is so the phenomenon can be examined more clearly. Data in phenomenological approaches are typically collected through interviews conducted by the researcher (Moustakas, 1994; Merriam & Tisdell, 2009; Boeije, 2010).

In addition to bracketing, Merriam and Tisdell (2009) identify additional strategies used in phenomenology, such as phenomenological reduction, horizontalization, and imaginative variation. Phenomenological reduction is "the process of continually returning to the essence of the experience to derive the inner structure or meaning in and of itself" (Merriam & Tisdell, 2009, p.111). This allows for the phenomenon to be closely examined to better understand the essence at hand. Horizontalization is "the process of laying out all the data for examination and treating the data as having equal weight" at the point of analysis (Merriam & Tisdell, 2009, p.111). This allows for recognizing qualities across the different experiences and enriching the description of the phenomenon (Moustakas, 1994). Imaginative variation involves looking at the data from different viewpoints, to discover different things from various angles (Merriam & Tisdell, 2009).

Appropriateness of phenomenology methodology. This study utilized a phenomenological approach, examining the practices and challenges existing among facilitators of international collaborations in education taking place in an online environment. In addition,

this study also sought to identify means of measuring and tracking the success of such collaborations, and recommendations for future implementation. The intent of this study seeks to identify the lived experiences of those who facilitate international collaborations in education, which is best addressed by a phenomenological approach. This is because the heart of phenomenology looks at the lived experiences of the subjects of the study (Moustakas, 1994; Merriam & Tisdell, 2009; Boeije, 2010).

Strengths of phenomenology. A phenomenological approach provides a way for the researcher to pursue a study on a topic they have a personal interest in exploring, especially for dissertations (Maxwell, 2013). Since phenomenology is an emergent approach, there is a flexibility to the data collection that lends itself to getting rich responses (Creswell, 2013). Since interviews will be utilized in the study to employ this approach, the richness of the data will provide descriptions that thoroughly address the research questions.

Weaknesses of phenomenology. One of the weaknesses of this approach is the bias of the researcher (Moustakas, 1994; Merriam & Tisdell, 2009; Boeije, 2010). Though this should be addressed through bracketeering, this might be difficult to separate assumptions (Merriam & Tisdell, 2009; Creswell, 2013). Another weakness is utilizing the human perspective for data. Participants must be carefully selected, to ensure that their perspectives and experiences are directly relevant to the study (Creswell, 2013).

Research Design

In order to address the research questions, the parameters for the context of the study should be defined. The research design for this study involves consideration of the different levels of analysis including the unit of analysis, population, and sample size. These are

individually addressed in the following respective sections.

Analysis unit. The unit of analysis is the specific participant included in the study (Merriam & Tisdell, 2009). The participant will possess certain qualities or experiences that qualifies them for consideration (Merriam & Tisdell, 2009; Creswell, 2013). In this study, the unit of analysis is a professional who support or facilitate international collaborations in education in an online environment. This includes the teachers and support staff that actively engaged in interacting with other partners in the collaboration. The collaborations did not have to be subject specific, so long as the collaboration included student participants in the United States and at least one other country, in the K-12 grade level. The student participants were not involved in the study.

Population. The population refers to the larger group of interest for the study where the sample will be drawn from (Merriam & Tisdell, 2009; Boeije, 2010). The population for this study are teachers and educators who are members of the International Society for Technology in Education (ISTE) and engage their students in international collaborations using technology and online environments. The aims of ISTE are to prepare students for the digital landscape by providing standards for learning which include being an empowered learner, digital citizen, knowledge constructor, innovative designer, computational thinker, creative communicator and global collaborator (ISTE, 2017). For the educators, ISTE's standards include being a learner, leader, citizen, collaborator, designer, facilitator and analyst (ISTE, 2017).

Sample and sample size. From the population, a sample of participants were invited to participate in interviews. The exact size of the sample varies on the study and what number works best to address the research questions with a variation of participants (Flick, 2008; Patton, 2002). There is a point of saturation with the results that is important to achieve, where no

additional insights are coming forth from the analysis (Merriam & Tisdell, 2009). Guthrie (2010) explains that a sample size of 30 will generally yield results that are close to a normal distribution. According to Creswell (2013), the sample size for a phenomenological research study can vary from three or four to 10 to 15. For this study, a sample size of 15 participants was determined through purposive sampling with maximum variation.

Purposive sampling. To optimize the phenomenological approach, this study utilized purposive sampling. According to Merriam and Tisdell (2009), purposive sampling is "based on the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which most can be learned" (p. 280). To do this, criteria for selection into the study is determined in order to choose the participants to be included (Merriam & Tisdell, 2009; Boeije, 2010). The criteria for selection should reflect the average characteristics for the phenomenon being investigated, and should not be extreme or unusual (Merriam & Tisdell, 2009). However, a wide variation of maximum variation is ideal for this study, which involves identifying participants that would "represent the widest possible range of the characteristics of interest for the study" (Merriam & Tisdell, 2009, p.284).

Participation selection: Sampling frame to create the master list. The selection of participants for the study involved three levels of funneling in order to develop a final list. First, a master list, known as the sampling frame, was identified for the study. Next, the sampling frame was reviewed against the criteria for inclusion and exclusion to further filter the potential participants. Next, a criterion for maximum variation was determined in order to develop the final list of participants for the study. Determining the participants for the study first began by identifying a master list of potential participants, known as a sampling frame. This was done by:

1. Visiting the International Society for Technology in Education (ISTE) organization website and compiling a list of recognized ISTE award recipients and ISTE conference presenters from 2014 - 2017 affiliated with global collaboration, and compiling respective contact information publicly available on the ISTE website, affiliated institutional website, or public search.
2. If the size of the list exceeded 15 names, the following criteria for inclusion and exclusion were implemented.
3. As necessary, maximum variation were implemented.

Criteria of inclusion. The criteria for inclusion for participation in the study included the following:

- affiliated with or recognized by ISTE for their professional involvement or achievements
- involved in facilitating one or more international online collaborations in education
- involved in interacting with international partners in the collaboration
- the collaboration they are involved with includes the United States as an international partner
- be available for a 1 hour interview, whether in person or in a video conference, or if necessary, by phone
- speak and understand English, due to the researcher's language abilities
- agree that the interview be audio recorded
- sign and acknowledge an informed consent document approved by the Institutional Review Board

- respond and express interest in participating in the study
- referred to the researcher by other experts in online international collaborations in education

Participants were identified to meet this criteria by the descriptive information made available in the ISTE website and in some instances, the participant's publicly accessible institutional or personal website or social media accounts. Meeting criteria was also confirmed by participants when responding to the recruitment script.

Criteria of exclusion. If the potential participant from the sampling frame did not meet the criteria above, they were excluded from participation in the study. Exclusion criteria included the following:

- not available during time frame for data collection (January/February 2018)
- non-English speaker
- not directly involved in facilitating one or more international online collaborations in education
- collaboration is geared towards students outside of the K-12 U.S. grade levels
- does not respond to confirm an interview time
- unable to determine a mutually agreeable interview time
- unable or unwilling to attempt using online video conferencing platform for interview
- does not agree to informed consent document

***Purposive sampling maximum variation*.** Maximum variation in purposive sampling would identify participants who would best reflect the widest possible range or variation of the characteristics of interest in investigating the phenomenon (Merriam & Tisdell, 2009). In order

to achieve this, participants were not restricted to being involved with a specific subject matter, such as english or math, for the international online collaboration for K-12 students. The study was not restrictive on gender or ethnicity.

Preference for inclusion was given to:

- individuals associated with international collaborations that involve a greater number or variety of countries actively engaged in the collaboration
- individuals that have been involved in more than one collaboration, or for multiple years in one collaboration

This criteria for maximum variation was used to narrow down the sampling frame to the 15 participants included in this study.

Protection of Human Subjects

As the study involves human subjects, the researcher adhered to appropriate protocol and approval with the Institutional Review Board (IRB) at Pepperdine University. This was necessary in order to implement protection of human subjects to make sure that the rights, welfare and safety would be considered for all research participants throughout the study. Consideration for human subjects in research studies originating in the United States is outlined in the National Research Act of 1974 and with the development of the Belmont Report, with the intent to incorporate ethical principles and protect the rights of participants in any research study.

Prior to submitting the study for review by IRB, the researcher was required to obtain a training certificate through the Collaborative Institutional Training Initiative (CITI) Program, which included a thorough review of the historical and ethical approaches outlined in the Belmont Report accompanying the National Research Act of 1974 for the protection of human subjects. There are three principles emphasized as critical to the protection of human subjects

including respect for individuals, beneficence, and justice (U.S. Department of Health & Human Services, 2017). The first principle, respect for the individual, is to ensure that the participant is able to consent to the study of their own free will and not under duress. The second principle, beneficence, ensures participants are treated in an ethical manner during the study, where their decisions are respected, protected from harm and well-being secured. This is achieved by adhering to the concepts of "do not harm" and to "maximize possible benefits and minimize possible harms" (U.S. Department of Health & Human Services, 2017). The third principle, justice, ensures the equal distribution of burden and benefits.

The study was submitted for IRB review and approval prior to recruiting study participants. Since the study involves interviews with the participants, the study presented minimal risk, and an exempt application was sent for consideration to the IRB at Pepperdine University's Graduate School of Education and Psychology. The application included the informed consent form (see Appendix B), recruitment script (see Appendix D) and interview questions (see Appendix F). Once approval was obtained, recruitment for study participants commenced.

Participants were informed of the purpose and nature of the study using the recruitment script approved by IRB, and provided with a copy of the approved participant consent form and copy of the interview questions. The participants were then given an opportunity to accept or decline participation by choosing whether or not to sign the informed consent form with the option to physically sign, scan and email the consent form or verbally agree to sign in person. By signing the consent form, the participant also agreed to being recorded, with the understanding that the recordings would be saved under a pseudonym and then transferred as a mp3 file to a USB flash drive and a secure cloud server. The USB flash drive would then be

stored in a secure location for three years, then destroyed. The file on the secure cloud server would also be deleted after three years.

Anonymity and confidentiality. To maintain anonymity and confidentiality, given names, affiliated places of work, and other identifying pieces of data were not referenced in the study. Instead, each participant was assigned a pseudonym to reference when addressed in the study and interview recordings. Interview recordings were transcribed and coded by the researcher to prevent any improper use by a third party. The interview transcript files were kept on a password protected electronic device and secure cloud server until the study was completely finished. After the study was finished, the transcript files on the password protected electronic device were put onto the same USB flash drive with the mp3 interview recordings. Similar to the mp3 recordings, the interview transcripts would also be deleted/destroyed after three years.

Data Collection

Once the study received IRB approval, the final list of 15 participants was finalized and data collection for the study could begin. The first step was to set up interview times through email or phone call, based on the best contact information for each participant. The recruitment script approved by IRB was used when contacting each participant. The recruitment script provided a standard approach to reach out to possible participants, which would explain the purpose of the research study, that participation in the study involves a 60 minute interview, and then determine the participant's willingness to be included.

Once a participant agreed for inclusion in the study, an interview time was mutually determined between the participant and researcher. A follow-up note was sent confirming the interview time, consent forms for signature, and copy of the interview questions. The informed consent form (see Appendix B) included important information for participation in the study,

such as

- indication that the study is voluntary
- notification that the participant is able to withdraw without repercussions
- that confidentiality would be maintained by assigning a pseudonym for purposes of the interview and study
- that the interview would be recorded and the related electronic mp3 files would be kept securely, then deleted and destroyed after three years

Participants were asked to confirm their agreement to participate in the study by submission of their signed consent form, along with confirmation of the interview logistics, including date, time and location or connection information if using video conferencing, and contact number in the event of an unexpected circumstance. For interviews conducted in person, a physical copy of the consent form was brought in case it had not yet been signed by the participant. In the event that something came up with the participant which would prevent the interview from taking place within the designated time frame needed for data collection, a back-up list of potential participants was referenced. The back-up list of participants was contacted in an order based on the criteria for inclusion and achieving maximum variation for the study. This process of recruiting the participants was repeated until the 15 desired participants for the study was achieved.

Participants were interviewed at a mutually agreed time either in person at an agreed on location or using a video conference software most comfortable to the participant, either Skype or Zoom. In the event of technical difficulties with the video conference software, the researcher conducted the interview over the phone, using the phone number provided by the participant. All participants had their interviews audio recorded on a portable recording device, specifically

using the Voice Memo program on a password protected electronic mobile device. This included all interviews done on video conferencing software, where only audio was recorded with no video. Participants who were not comfortable with an audio recorded interview were not included in the study. The researcher also took handwritten notes on responses during the interview.

Interview Techniques

Data for the study was collected through interviews with each of the participants. Interviews take place between the researcher and participant in addressing questions related to the research study (Merriam & Tisdell, 2009). Interviews can either take place one on one, or in a group or collectively. Interviews allow for data to be collected when the researcher "cannot observe behavior, feelings, or how people interpret the world around them" (Merriam & Tisdell, 2009, p.315).

There are three ways that interviews can be conducted depending on the structure, including highly structured, semi-structured, and unstructured or conversational approaches (Merriam & Tisdell, 2009). In a highly structured interview, the exact wording and order of questions is predetermined, which is more akin to a verbal version of a written survey. While very structured interviews are straightforward, the rigidity of the format becomes a reaction to the researcher's assumptions and limits the interpretive perspective offered by the participant. On the opposite end of the structure spectrum, an unstructured and informal interview has no predetermined questions and relies on the researcher to gather information from the situation to develop questions for other interviews. This technique is used when the researcher is unfamiliar with the phenomenon and unsure of what relevant questions would be. The challenge to the researcher is the technique requires a lot of skill with flexibility to obtain the adequate insights in

understanding the phenomenon. The researcher's inability to navigate the lack of structure adequately could result in disconnected data. Semi-structured interviews are a mix between the highly structured and unstructured approaches. While some questions are predetermined, questions are worded with more flexibility, and additional questions might be explored without having predetermined wording. This "allows the researcher to respond to the situation at hand, to the emerging worldview of the respondent, and to new ideas on the topic" (Merriam & Tisdell, 2009, p.321).

This study employed one on one interviews with each participant. Interviews were semi-structured to limit the researcher's influence on participant responses, as the more open and flexible the interview is, the more freedom the participant has in determining the content and flow (Boeije, 2010). Predetermined interview questions were developed to best address the research questions of the study. Each interview question was peer-reviewed against the research questions, and feedback from the review was incorporated to revise predetermined interview questions accordingly.

Semi-structured interviews lasting approximately 1 hour were conducted individually by the researcher with participants. In the interview process, the researcher served as the instrument of data collection (Boeije, 2010). Some predetermined questions were asked to initiate the interview, but the flexible wording of the remaining questions allowed the participant to openly express their experiences in relation to the research questions. Follow-up questions were asked accordingly to enhance the richness of response. Interviews took place in person, through an online-based video conference software such as Skype or Zoom, or if necessary, by phone. Each interview was recorded on a portable password protected electronic mobile device per consent by the participant in signing the consent form.

Interview Protocol

This study utilized an interview protocol to maintain consistency in interacting with each of the study participants. This consisted of a set of interview questions developed to best address the research questions for the study. The researcher had a physical copy of the interview questions to take handwritten notes for each interview.

Interview questions. Prior to the formal interview questions, participants were informally asked to introduce themselves by describing their career background. This was meant as an icebreaker prior to the formal interview questions. The following interview questions were utilized to address the research questions for this study (also listed in Appendix F):

IQ 1: What are challenges and difficulties you encounter with [particular online international collaboration]?

Follow-up:

- What challenges do you have with building collaborations?
- What challenges do you have with maintaining collaborations?
- What past experience, education or personal characteristics best prepared you to address these challenges?
- Can you share an example of a particularly challenging scenario?

IQ 2: What key practices or strategies you use to develop collaboration?

Follow-up:

- What practices do you use to build collaboration?
- What practices do you use to maintain collaboration?
- What are types of tools you use?

- Are you aware of successful strategies employed by others in online international collaborations?

IQ 3: In your view, what makes your collaboration effort successful?

IQ 4: How do you measure and track each element?

IQ 5: Would you do anything differently if you were to build another international collaboration?

IQ 6: What advice or recommendations would you give to those working with international collaborations in education?

Follow-up:

- What advice would you offer for building collaboration?
- What advice would you offer for maintaining collaboration?

Relationship between research and interview questions. Knowledge obtained from the review of literature and guidance of the dissertation committee led to creating interview questions that addressed each research questions. A total of seven interview questions were developed to address the four research questions (see Table 1). The wording of each interview question were open ended in order to encourage the participant to express their lived experience in the best way (Merriam & Tisdell, 2009). Questions that were not determined directly relevant to the research questions were removed.

Table 1

Research Questions and Corresponding Interview Questions.

Research Questions	**Corresponding Interview Questions**
RQ1: What are the best practices among facilitators and teachers in building and maintaining online international collaborations in education?	IQ 1: What are key strategies or practices are utilized to build and maintain the collaboration you are involved in?

(continued)

Research Questions	Corresponding Interview Questions
	Follow-up: ● What are types of tools do you use? IQ 2: Are you aware of successful strategies employed by others in online international collaborations?
RQ 2: What are the challenges among facilitators and teachers in building and maintaining online international collaborations in education?	IQ 3: What are challenges and difficulties you encounter with online international collaborations? Follow-up: ● What past experience, education or personal characteristics best prepared you to address these challenges? ● Can you give any examples of nightmare scenarios you've experienced?
RQ3: How is success measured and tracked among facilitators and teachers in building and maintaining online international collaborations in education?	IQ 4: In your view, what are the elements of a successful implementation of an online international collaboration? IQ 5: How do you measure and track each element?
RQ4: What are recommendations among facilitators and teachers in building and maintaining online international collaborations in education?	IQ 6: Is there anything you would do differently in working with international collaborations? IQ 7: What advice or recommendations would you give to those working with international collaborations in education?

Note. The table identifies four research questions and corresponding interview questions. Interview questions were then reviewed by a panel of two peer-reviewers and expert reviewers.

Validity of the study. Merriam and Tisdell (2009) express the importance of conducting research studies rigorously, as "the applied nature of most social science inquiry" makes it critical that researchers can have confidence in how the study was conducted and its results (p. 650). Attention is paid to "the way in which the data are collected, analyzed, and interpreted,

and the way in which the findings are presented" (Merriam & Tisdell, 2009, p.651). The researcher should employ strategies to ensure trustworthiness in the study (Merriam & Tisdell, 2009). The validity of the study was established using a three step process. This included prima-facie validity, peer review validity, and expert review of the interview questions.

Prima-facie and content validity. The first step in reviewing the validity of the interview questions was to utilize a prima-facie evaluation, or face validity. Birks and Mills (2014) express the importance of conducting this type of evaluation in qualitative methods, to determine the clear connection of the interview questions to the research aims. To conduct this, a table was created with a list of the research questions and corresponding interview questions. This allowed for the researcher to see how much each interview question directly and appropriately addressed the research question, and in relationship to the other interview questions (see Table 1).

Peer review validity. Peer review validity refers to involving peer researchers in the validity review of the interview questions with respect to the research questions. This process included two doctoral students in the organizational leadership program at the Graduate School of Education and Psychology at Pepperdine University to review the questions. The peer reviewers were sent an email with directions on how to complete the review, as well as a copy of the table used in the prima-facie process, which lists the research questions and the interview questions developed accordingly. Each interview question was reviewed for its clear relevance to the research question and determined whether the interview question should be kept as stated, deleted, or modifications as suggested. Should a modification be suggested, the peer reviewer had to offer suggested wording for the question (See Appendix E). The following is a summary of the revised interview questions based on the peer-review exercise (see Table 2).

Table 2

Research Questions and Corresponding Interview Questions (Revised).

Research Questions	**Corresponding Interview Questions (Revised)**
RQ1: What are the best practices among facilitators and teachers in building and maintaining online international collaborations in education?	IQ 1: What key practices or strategies you use to build and maintain collaboration? Follow-up: ● What are types of tools you use? IQ 2: Are you aware of successful strategies employed by others in online international collaborations?
RQ 2: What are the challenges among facilitators and teachers in building and maintaining online international collaborations in education?	IQ 3: What are challenges and difficulties you encounter with online international collaborations? Follow-up: ● What past experience, education or personal characteristics best prepared you to address these challenges? ● Can you share an example of a particularly challenging scenario?
RQ3: How is success measured and tracked among facilitators and teachers in building and maintaining online international collaborations in education?	IQ 4: In your view, what are the elements of a successful implementation of an online international collaboration? IQ 5: How do you measure and track each element?
RQ4: What are recommendations among facilitators and teachers in building and maintaining online international collaborations in education?	IQ 6: Would you do anything differently when partnering in an international collaboration? IQ 7: What advice or recommendations would you give to those working with international collaborations in education?

***Expert review validity*.** The third step to the validity process was expert review validity, for conditions when a consensus is not reached. Furthermore, the final review by experts advised

to determining the validity of the instrument. After the prima-facie and peer review validity processes, the interview questions were modified to incorporate this feedback. The latest modified interview questions and their corresponding research questions in a table format were presented to the dissertation committee, who provided final recommendations on what to change. This included modifications to the wording and order of research questions, which also modified and changed the order of corresponding interview questions. While the research questions were slightly revised, the dissertation committee indicated the change helped to refine the study and did not bear a significant difference to the intent of the original research questions. Results for the final interview questions can be seen in Table 3.

Table 3

Research Questions and Corresponding Interview Questions (Final).

Research Questions	**Corresponding Interview Questions (Final)**
RQ1: What are the challenges among facilitators and teachers in developing online international collaborations in education?	IQ 1: What are challenges and difficulties you encounter with [particular online international collaboration]? Follow-up: ● What challenges do you have with building collaborations? ● What challenges do you have with maintaining collaborations? ● What past experience, education or personal characteristics best prepared you to address these challenges? ● Can you share an example of a particularly challenging scenario?
RQ2: What are the best practices among facilitators and teachers in overcoming challenges in developing online international collaborations in education?	IQ 2: What key practices or strategies you use to overcome challenges in developing collaboration?

(continued)

Research Questions	Corresponding Interview Questions (Final)
	Follow-up ● What practices do you use to build collaboration? ● What practices do you use to maintain collaboration? ● What are types of tools you use? ● Are you aware of successful strategies employed by others in online international collaborations?
RQ3: How is success measured and tracked among facilitators and teachers in developing online international collaborations in education?	IQ 3: In your view, what makes your collaboration effort successful? IQ 4: How do you measure and track each element?
RQ4: What are recommendations among facilitators and teachers in developing online international collaborations in education?	IQ 5: Would you do anything differently if you were to build another international collaboration? IQ 6: What advice or recommendations would you give to those working with international collaborations in education? Follow-up: ● What advice would you offer for building collaboration? ● What advice would you offer for maintaining collaboration?

Reliability of the study. Reliability is "the extent to which research findings can be replicated" (Merriam & Tisdell, 2009, p.660). Should the study be repeated multiple times, the same results should arise. To address reliability, the questions went through a pilot session with a participant of the study to address the clarity and wording of interview questions. Language appropriate and most relevant to the industry should be used. For example, with education technology professionals, it might be more appropriate to use the word assessment instead of

evaluation. The participant should be able to provide suggested revisions on the wording of questions to enhance clarity or appropriateness to industry professionals. The session will also be timed to ensure the interview does not exceed the 60 minute time frame, or if questions should be added. Answers were reviewed to determine whether the interview questions were clear and understood, and the responses reflect answers that address the research questions. Appropriate changes were made to the interview questions to incorporate this feedback from the participant.

Statement of Personal Bias

As part of the phenomenological approach, Merriam and Tisdell (2009) describe the need for the researcher to reflect on their own experiences associated with the study, "in part to examine dimensions of the experiences and in part to become aware of personal prejudices, viewpoints, and assumptions" (p.111). These biases inherent with the researcher should be shared so the reader is aware of the perspectives of how the data was analyzed and interpreted.

Bracketing and epoche. In qualitative research, where the researcher serves as the data collection instrument, it is important to account for biases by incorporating bracketing and epoche techniques (Merriam & Tisdell, 2009). Moustakas (1994) refers to epoche as "a Greek word meaning to refrain from judgement… the everyday understandings, judgements, and knowings are set aside, and the phenomena are revisited" (p.33). Once the prejudices are identified, they should be "bracketed or temporarily set aside… [to] examine consciousness itself" during the study (Merriam & Tisdell, 2009, p. 111). This was done by initially identifying biases related to the study, and also writing biases that arose during the research study into a journal and addressing them in the results (Creswell, 2013).

The researcher acknowledges the study was pursued as a result of their current involvement in an international collaboration in education taking place in an online environment

among K-12 age students. This involvement motivated the researcher to identify successful practices among other international collaborations. Identifying and documenting awareness of these biases and accounting for them in interpretation of results are steps of bracketing and epoche for this study.

Data Analysis

Once all the interviews were completed, the researcher individually transcribed each recorded interview into a word processing document. Once completed, the transcriptions were reviewed against the original audio recordings to ensure the accuracy of the transcriptions. Any thoughts or memos as a result of reflecting on the data during the transcription process were noted on the transcripts, as part of the initial evolving theories and patterns in the data. The transcriptions were then analyzed and coded by the researcher for themes and sub themes to emerge from the data. These themes were then reviewed in constructing the narrative for the results and discussion. This is in line with the phenomenological approach, allowing theories to form around the results.

Interrater reliability and validity. This study utilized a three step process to establish interrater reliability to ensure validity of the data analysis. First, interview responses were transcribed the researcher. The research then coded three interviews. Second, two doctoral students in the organizational leadership program at the Graduate School of Education and Psychology at Pepperdine University with training in qualitative research and coding examined the initial coding results of the first three interviews. These doctoral students, along with the researcher, engaged in dialogue to discuss suggestions and disagreements in the coding process of the three interviews, to either agree on the validity of the coding protocol and not modify coding results, or identify a stronger coding protocol. If a consensus was not reached amongst

the group on whether or not to validate or change the coding protocol, the dissertation committee made the final decision. The final coding protocol was then used with the remaining interview transcripts. Themes emerged from thorough review of the established codes identified from the data.

Chapter 3 Summary

This chapter provided a review of the methodology for the study, which employed a qualitative method, relying on words for data rather than numbers. Of the options of qualitative study, phenomenology was selected as the most appropriate approach to examine the phenomena among facilitators of online international collaborations in education. The research questions were restated, and a description for the research design was provided, including the unit of analysis, population, sample size, and purposive sampling. This led to a review of the participation selection, and the three step process for funneling and filtering 15 participants from a master list, or sampling frame. From the sampling frame, the criteria for inclusion and exclusion, followed by the characteristics that result in purposive sampling to yield maximum variation. The chapter reviews the protocol for the protection of human subjects, which includes review and approval by the IRB before data collection can commence. The process for data collection was reviewed, including interview techniques and protocol used when conducting the study. Interview protocol included the interview questions that were asked in the study, and the three part validity process to ensure the interview questions adequately supported the research questions. The biases of the researcher are reviewed and addressed, especially through using epoche and bracketing techniques throughout the study. The chapter closes out with approaches to the data analysis process and addresses the validity and reliability of this analysis.

Chapter 4: Results

Introduction

This study aimed to examine the best practices used by facilitators of global collaborations in education that take place in an online environment. To address this purpose, the following four research questions were identified to guide the study:

1. What are the challenges among facilitators and teachers in developing online international collaborations in education?
2. What are the best practices among facilitators and teachers in overcoming challenges in developing online international collaborations in education?
3. How is success measured and tracked among facilitators and teachers in developing online international collaborations in education?
4. What are recommendations among facilitators and teachers in developing online international collaborations in education?

In order to examine the stated research questions, an interview protocol comprised of six questions and accompanied by follow-up questions was developed around each research question. The questions went through a three step validity review that included prima-facie validity, peer review validity, and expert review. The finalized interview questions used for the study were as follows:

1. What are challenges and difficulties you encounter with [particular online international collaboration]?

   Follow-up:

   - What challenges do you have with building collaborations?
   - What challenges do you have with maintaining collaborations?

- What past experience, education or personal characteristics best prepared you to address these challenges?
- Can you share an example of a particularly challenging scenario?

2. What key practices or strategies you use to overcome challenges in developing collaboration?

Follow-up:

- What practices do you use to build collaboration?
- What practices do you use to maintain collaboration?
- What are types of tools you use?
- Are you aware of successful strategies employed by others in online international collaborations?

3. In your view, what makes your collaboration effort successful?

4. How do you measure and track each element?

5. Would you do anything differently if you were to build another international collaboration?

6. What advice or recommendations would you give to those working with international collaborations in education?

Follow-up:

- What advice would you offer for building collaboration?
- What advice would you offer for maintaining collaboration?

Participants in the study responded to the six interview questions as they felt comfortable. Their answers provided insight to address the research questions and offer an understanding of the best practices in global collaboration in education. This chapter will describe the final participants for the study, review the data collection and data analysis processes, and inter rater

review to validate the data analysis. The chapter concludes with reviewing the results of each interview question in depth.

Participants

This study utilized purposeful sampling and invited specific individuals who were ISTE (International Society for Technology in Education) award recipients or ISTE conference presenters between 2014 - 2017 affiliated with global collaboration. A total of 25 individuals meeting these criteria was invited to participate. While the study initially aimed for 15 responses, the study reached saturation with 14 interviews as responses were reinforcing similar sentiments that did not further add to the collected data (Saunders et al., 2017; Merriam & Tisdell, 2009). As a result, data collection ceased with 14 participants. Participants in the study were either based in the United States, Australia, or Norway. All interviews were conducted through video conference applications. A summary of the 14 participants can be seen in Table 4.

Table 4

Participant Interview Dates, Interview Method, Length of Recorded Interview

Participant	**Interview Dates**	**Interview Method**	**Country**	**Length of Recorded Interview**
P1	January 27, 2018	Skype	USA	42:03
P2	January 27, 2018	Skype	USA	33:18
P3	January 28, 2018	Skype	Australia	51:18
P4	January 30, 2018	Skype	USA	37:20
P5	February 2, 2018	Zoom	USA	1:18:08
P6	February 5, 2018	Skype	USA	1:23:15
P7	February 5, 2018	Skype	USA	21:58
P8	February 6, 2018	Zoom	USA	30:52
P9	February 6, 2018	Skype	Australia	39:49
P10	February 11, 2018	Skype	Norway	18:00
P11	February 13, 2018	Skype	USA	27:11
P12	February 16, 2018	Skype	USA	35:34
P13	February 23, 2018	Zoom	USA	37:21
P14	March 8, 2018	Google Hangout	USA	30:15

Data Collection

Data collection for the study began by compiling a master list of recognized ISTE (International Society for Technology in Education) award recipients and ISTE conference presenters from 2014 - 2017 affiliated with global collaboration listed on the organization's website. The list was reviewed to ensure the potential participants met the criteria for inclusion by visiting their biographies, affiliated websites and Twitter pages that were publicly available on the ISTE website. Contact information for the potential participants was compiled from what was publicly available on the ISTE website, affiliated institutional or personal websites, or public search. This resulted in a list of 25 possible participants. Participants were recruited solely through email using an IRB approved recruitment script. Criteria for maximum variation was used to select the initial batch of 15 emails with the recruitment script in January 2018. After

two weeks and eight responses, emails with the recruitment script were sent to the remaining 10 from the list of possible participants. After 14 participants, the study had reached saturation with responses and data collection ceased.

Participants who agreed to participate in the study were asked to finalize an interview time and sent a copy of the informed consent form and interview protocol. A copy of the signed informed consent form was submitted by the participant prior to each interview, which indicated their agreement to an audio recording of their responses. As none of the participants were local to the researcher, each interview was conducted through video conference applications, primarily Skype or Zoom. The length of interviews ranged from 18 minutes to 83 minutes. All interviews were audio recorded for later transcription and analysis.

One key change that emerged as interviews progressed was the term "global collaboration" instead of "international collaboration." Global collaboration was determined to be a better term in its community of practice within ISTE. Since international collaboration was the original term used as Chapters 1 - 3 was developed and went through IRB review, that term remains unchanged within those chapters. Moving forward with Chapters 4 and 5 and with the study title, the term global collaboration will be used, with the exception of whenever the interview questions are stated (since those were developed during Chapters 1 - 3).

Data Analysis

Audio recordings of the interviews and notes taken during the interview were used in the data analysis process. Once all interviews were completed, the researcher reviewed previously documented personal biases related to the study and reflected and added potential biases to set aside while moving forward with analyzing the data. This was in adherence to the bracketing technique identified in the study's methodology since the researcher serves as the data collection

instrument and a significant step in the phenomenological approach (Creswell, 2013; Merriam & Tisdell, 2009).

All audio recorded interviews were transcribed by the researcher into a word processing document and verified alongside the audio recordings in order to ensure the accuracy of the transcriptions. Each participant interview transcript and recording was reviewed for keywords and phrases for each question. These keywords and phrases were placed into a spreadsheet workbook categorized by responses to each interview question. The codes were reviewed and grouped into common themes for each interview question.

Inter-rater review process. Two doctoral students in the organizational leadership program at the Graduate School of Education and Psychology at Pepperdine University with training in qualitative research and coding examined the initial coding results of the first three interviews. These doctoral students and the researcher engaged in dialogue to discuss feedback on the coding process of the three interviews. Consensus was reached on the coding protocol, which was used for the remaining interviews. Once all interviews were reviewed using the established coding protocol, the results were again reviewed with the two doctoral students and researcher and agreement on the coding reached. Two changes included certain codes that would count towards two themes, such as in interview question one: language barriers would fall under both the cultural differences theme and the communication theme. In interview question two, social media network would be considered a technology tool or consideration. From this process, themes that emerged from the data were solidified.

Data Display

Data is presented and organized by research question, then the corresponding interview question(s). Keywords and phrases were grouped into common themes for the interview

question. Charts indicating response frequencies within themes were used to summarize and visually express the data. The identified themes had at least three separate participants communicate a response to the question within that theme. A description for each theme is presented along with some key phrases or quotes from the transcribed data. These key phrases or quotes come directly from responses and may be presented in incomplete sentences, and every effort made to ensure the original intent of the participant was not misrepresented. Quotes or references to particular participants are indicated by P and their assigned participant number. For example, P1 refers to Participant 1, P2 refers to Participant 2, etc.

Research Question 1

The first research question of this study states: "What are the challenges among facilitators and teachers in developing online international collaborations in education?" One interview question was developed to address this, which states:

1. What are challenges and difficulties you encounter with [particular online international collaboration]?

The responses from all interview participants to this interview question were analyzed for common themes to address the corresponding research question.

Interview question 1. The question states: "What are challenges and difficulties you encounter with [particular online international collaboration]?" Participants were very thorough in responses to this particular question. Their responses were grouped into seven themes that were difficult to further reduce down without losing the integrity of the original response. These themes included (a) Unequal expectations and commitment; (b) Time zones; (c) Timeline; (d) Technology barriers/infrastructure; (e) Cultural differences; (f) Communication; and (g) Administrative support. A summary of this is illustrated in Figure 1.

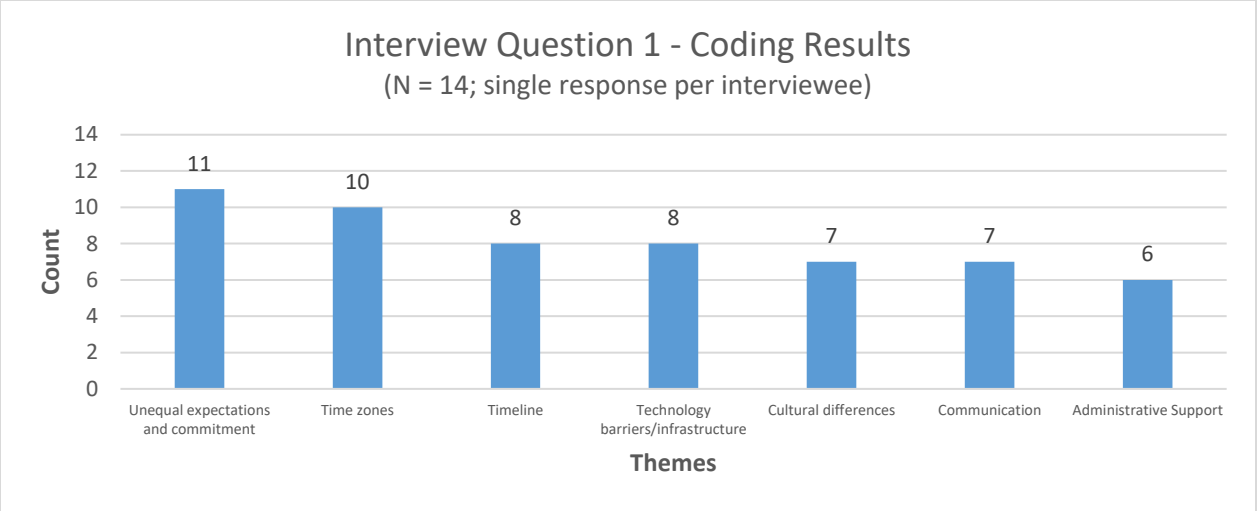

Figure 1. Challenges in global collaboration. Themes that emerged from responses to Interview Question (IQ) 1: What are challenges and difficulties you encounter with [your particular online international collaboration]?

Unequal expectations and commitment. This was the most cited challenge to global collaboration, mentioned by 11 (79%) of the participants. This theme summarizes sentiments related to the different levels or lack of commitment and expectations experienced by both teachers and students, such as "out of sight, out of mind" by P5 and people losing interest. In their response, P6 expresses the challenge of having a "teacher not willing to put in the effort into collaboration content" as a base for the collaboration. As a result, P6 continues, "if you don't have teachers invested, [the global collaboration] will fizzle out."

Time zones. This was stated by 10 (71%) participants as another major challenge to global collaboration. This referred to the geographic location that impacted layers of communication and scheduling, but was stated as a very distinct issue. Participants stated time zone, then provided an explanation as to why that presented a challenge to them. This included how time zones complicated the context for scheduling reference, influenced who they could realistically work with, and whether or not synchronous communication could work and to what

degree they would need to rely on asynchronous communication methods. For example, P9, who is based out of Australia, states:

> For me time zone is a huge issue because when we start school you can see that your schools will be finishing. So it's very difficult to connect with English speaking countries and Europe is always late now... so we've got to connect with Asia if we wanted to do it in direct time. (P9)

Timeline. There were eight (57%) participants that expressed issues related to timeline as a challenge to global collaboration. This was mostly described by either complications associated with the different school calendars and time allocated for project itself. This is illustrated by P14 who explains "…these different holidays and different events that are happening... there were times when we were in school and they weren't school and all of that...even the most on top of it teachers have trouble keeping up with these projects." Also, P10 based in Norway expresses challenge:

> …to find time to schedule it properly so that you can you can finish each project. It's easy to just start stuff... Sometimes it's difficult to follow the threads from… beginning to end so that… the kids are on task and learn something from it. (P10)

Technology barriers/infrastructure. Similar to timeline, eight (57%) participants indicated challenges associated with the technology. These were commonly stated as the technology blocked or was unreliable. In the cases where technology was blocked, the source was either indicated as blocked by the country or school district, and out of the teacher's control. P3 describes this challenge as "really frustrating because you can't collaborate using just a learning management system or a Google Classroom... because it's still a walled garden" and also that its "very difficult to do anything with Google and China because China blocks Google."

In addition to being blocked, technology failure was also described by participants, such as P2 who states “we had to postpone meetings because somebody's Wi-Fi was glitchy...they weren't able to find a good signal.”

Cultural differences. Different instances of cultural differences as a challenge to global collaboration was described by seven (50%) participants. This was commonly stated as cultural differences, more thoroughly described as having a different understanding of norms in relation to other countries, particularly in demeanor and appropriateness. P9 described a situation where a student did not realize they were inappropriately dressed, and changed their attire at the request of their partners in the Middle East to observe their respect for modesty: “we did that because we learnt that that was their way of doing it. We didn't want to offend or cause any sort of problems with the project.”

Communication. Challenges related to communication was also described by seven (50%) participants. Keywords associated around this theme described the challenge of students knowing how to and being comfortable with communicating virtually, but also layered in with language challenges that complicated the ability to communicate. P3 states how the challenge of “communication is a big one. You know some people sort of step back, they wait and see what the other is going to do first. It's really difficult in a virtual situation when that happens.” A response included by P1 further describes one of the challenges associated with language:

> Our Taiwanese student had a very difficult time keeping up with our conversations because there are some people who are in our group who spoke very quickly and I could tell she was getting upset. And so we ended up communicating on Facebook messenger because they have the automatic translation. (P1)

When participants specifically stated language barriers as an issue, this was considered both a cultural difference and communication challenge.

Administrative support. This was described by six (43%) of the participants as another challenge. The theme primarily refers to the lack of support and understanding from teachers, administrators and parents on the importance of engaging in global collaboration efforts in the classroom. The response by P11 further illustrates the challenge of support for global collaboration which occurs in the school:

> [Its] with administrators even possibly with parents. Typically when the students get involved with it they love it. So it's not usually the students that are kind of questioning what we're doing and it's more of getting the adults on board. (P11)

Summary of research question 1. The first research question of this study states: "What are the challenges among facilitators and teachers in developing online international collaborations in education?" After participant responses were coded, analyzed and grouped into themes, a total of seven themes were identified for the interview question. These responses were grouped into seven themes that were difficult to further reduce down without losing the integrity of the original response. The seven themes include: unequal expectations and commitment, time zones, timeline, technology barriers/infrastructure, cultural differences, communication, and administrative support.

Research Question 2

The second research question of this study states: "What are the best practices among facilitators and teachers in overcoming challenges in developing online international collaborations in education?" One interview question was developed to address this, which states:

1. What key practices or strategies you use to overcome challenges in developing collaboration?

The responses from all interview participants to this interview question were analyzed for common themes to address the corresponding research question.

Interview question 2. The question states: "What are challenges and difficulties you encounter with [particular online international collaboration]?" Participant responses were coded into keywords which were analyzed and grouped into five themes. These themes included (a) Technology tools & considerations; (b) Advance preparation and expectations; (c) Ongoing follow-up; (d) Empathy (awareness and compromise); and (e) Sharing collaboration efforts. A summary of this information is illustrated in Figure 2.

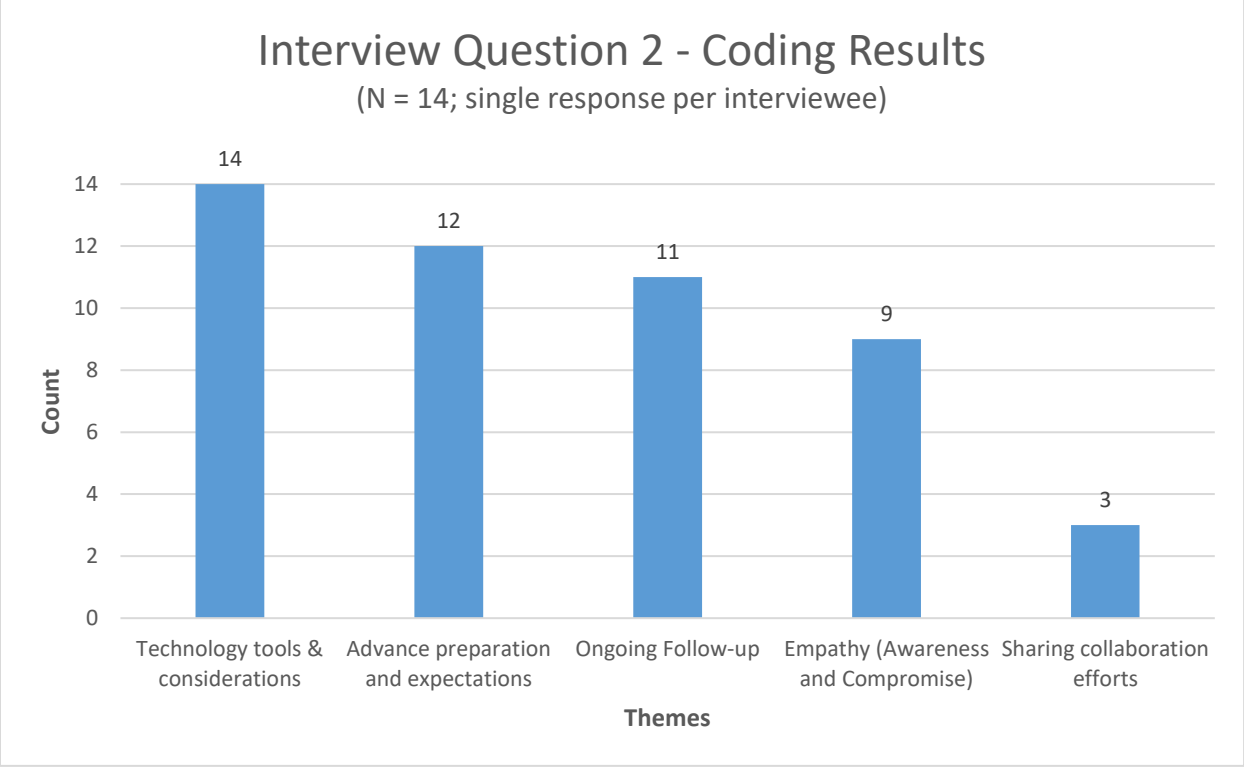

Figure 2. Strategies to overcome challenges in global collaboration. Themes that emerged from responses to Interview Question (IQ) 2: What key practices or strategies you use to overcome challenges in developing collaboration?

Technology tools & considerations. Responses related to this theme was described by all 14 (100%) participants. Participant responses focused on how to consider technology tools to enhance the collaboration experience. As P6 illustrates in their response:

> There's different platforms that help you work... I always think too that we almost have to introduce that to the students and introduce that to the teachers or some kind of platform that makes it easier for you to be able to co work or co learn. (P6)

All participants mentioned at least one specific technology tool they have used or heard used in global collaboration practice. Some tools that were more frequently mentioned (but not limited to) included: video conference platforms (Skype, Zoom, Google Hangouts), online scheduling tools (Doodle, Google Calendar), social media (Twitter, SnapChat), content management systems (Edmodo, Basecamp), communication (Slack, Voxer) and other various collaborative tools (FlipGrid, Padlet, VoiceThread, Google Docs, Wikis, Blogs). Features of the Google platform in particular were frequently mentioned and referenced (Docs, Calendar, Translate, Hangouts, Forms).

Advance preparation and expectations. There were 12 (86%) participants who had responses related to this theme. The responses associated with this theme mainly emphasize the need to establish expectations for the collaboration at the beginning, and be made as clear as possible. P5 illustrates an example of setting expectations in their response, to "make sure you're very definite about how much commitment is going to be shared by both groups." Other keywords involved with this theme of preparing in advance include identifying the goals and vision for the project, establishing the timeline, getting to know your partners, setting a timeline, preparing the students before collaboration, identifying tools and resources, and establishing structure.

Ongoing follow-up. Responses associated with this theme came from 11 (79%) participants. This related to strategies to take place while the collaboration would be in progress, and involved some indication of accountability among the teachers and students. This included responses discussing regular activities such as teacher meetings, check-in with the students and monitoring their progress. For example, P7 talks about the need for teachers to remain in close communication: "You have to keep in touch with teachers... once you're in a project with somebody you need to be able to...talk about where we're going here, what are we doing. That kind of thing." In addition, P10 describes the teacher's importance of tracking and giving feedback to students and to "monitor everything that is going on closely, giving feedback on what's happening, good or bad."

Empathy (awareness and compromise). There were nine (64%) participants that described strategies related to the theme of empathy. Generally, such keywords associated with this theme included a level of awareness, willingness to compromise, and flexibility with all aspects of the collaboration, whether with other project partners (other teachers, students) or the technology. P13 provides a descriptive response related to this theme as follows:

> Just having that understanding and empathy really to know that you know it's OK. It's not like someone else is doing this on purpose. And that just because it fell flat this one time doesn't mean it's always going to be like that. And you learn from each one. (P13)

Sharing collaboration efforts. There were three (21%) participants that mentioned the importance of sharing collaboration efforts. This was described by the participants as a way to garner support among the administrators, other teachers and parents who were otherwise not willingly supportive of global collaboration projects in the classroom. In describing how they were able to get administrators, other teachers and parents to support global collaboration, P11

described how making the efforts known was very important: “But we made it very publicized of what we were trying to do with global collaboration, and the three years I was there I had almost every classroom...doing some kind of global connection.”

Summary of research question 2. The second research question of this study states: “What are the best practices among facilitators and teachers in overcoming challenges in developing online international collaborations in education?” After participant responses were coded, analyzed and grouped into themes, a total of five themes were identified for the interview question. The five themes include: unequal expectations and commitment, advance preparation and expectations, ongoing follow-up, empathy (awareness and compromise), and sharing collaboration efforts.

Research Question 3

The third research question of this study states: “How is success measured and tracked among facilitators and teachers in developing online international collaborations in education?” Two interview questions were developed to address this, which state:

1. In your view, what makes your collaboration effort successful?
2. How do you measure and track each element?

The responses from all interview participants to these interview questions were analyzed for common themes to address the corresponding research question.

Interview question 3. The question states: “In your view, what makes your collaboration effort successful?” Participant responses were coded into keywords which were analyzed and grouped into three themes. These themes included (a) Behavior change; (b) Knowledge; and (c) Global awareness. A summary of this information is illustrated in Figure 3.

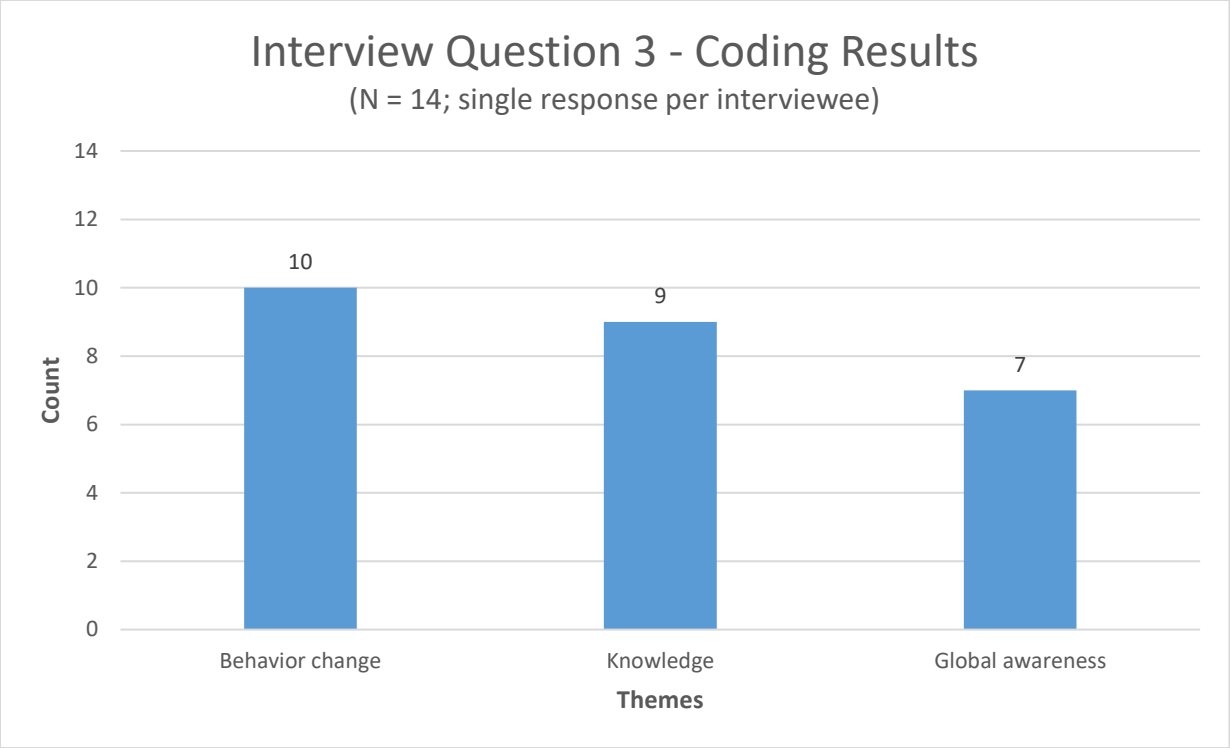

Figure 3. Defining success in global collaboration. Themes that emerged from responses to Interview Question (IQ) 3: In your view, what makes your collaboration effort successful?

Behavior change. There were 10 (71%) participants whose response to the interview question related to the theme of behavior change as a definition of success in global collaboration. This refers to the observations teachers make about the students' change in their behavior and interactions demonstrated in the classroom from making and building connections. For example, P1 describes how "mainly there is a willingness to complete the task." P13 describes that "what I look for is a change in the students...I look at where they were before" which is "more of a holistic view of how to measure success and looking at how the students have progressed in terms of how they act, how they interact, [and] collaboration skills…"

Knowledge. There were nine (64%) participants whose responses to defining success in global collaboration as related to the theme of knowledge. This refers to keywords that describe the students gaining insight on or learning something they didn't know previously as a result of

global collaboration experiences, such as geography improving, how to work with others, and using media to communicate. An example response is illustrated by P9, who shares on their context in Australia: "You know we live near Asia and they're our trading partners. Students don't know a lot of the countries in Asia so the geography is improving." Also, P13 discusses how students have "spent time working on developing skills, developing knowledge, really thinking about like what's important to them in their community and then taking it outside to collaboration."

Global awareness. There were seven (50%) participants had a response related to global awareness in response to the interview question about defining success in global collaboration. The keywords associated with this theme refer to the students gaining a more global perspective and understanding of their own context. For example, P11 describes how students have "interest of the global world and not just… our close life of our little town we live in." P9 further describes how this global awareness "builds understanding and therefore reduces the racism… they understand where others are coming from."

Interview question 4. The question states: "How do you measure and track each element?" Participant responses were coded into keywords which were analyzed and grouped into four themes. These themes included (a) Informal observations; (b) Reflections; (c) Other evaluative tools; and (d) Difficult to evaluate. A summary of this information is illustrated in Figure 4.

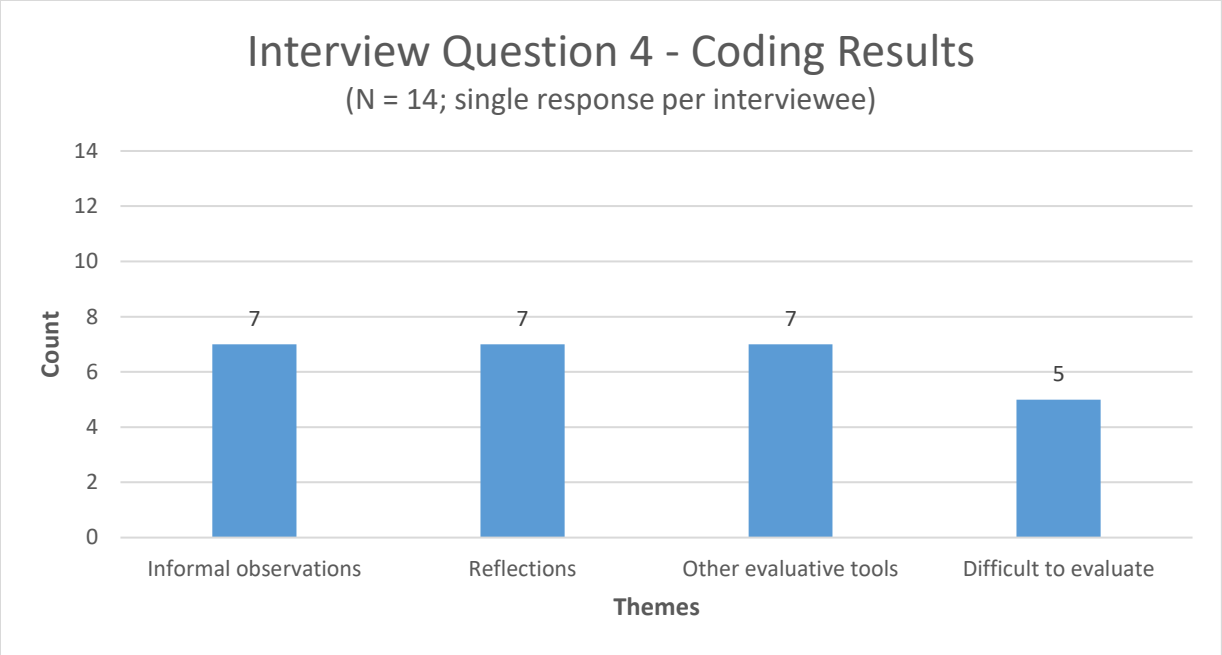

Figure 4. Measuring success in global collaboration. Themes that emerged from responses to Interview Question (IQ) 4: How do you measure and track each element?

Informal observations. There were seven (50%) participants who indicated responses related to informal observations as a way to track success in global collaboration. The keywords associated with this theme revolve around what the teachers see and observe more generally about their students, rather than utilizing a formal strategy. For example, P8 describes how you can "see [students] become more and more sophisticated with doing virtual communication as they do these projects...you know being able to have empathy for a different culture, being able to communicate correctly with someone from a different culture." P3 also describes how they believe "success is measured by the fact that everyone's still in the project, moving forward, understands where they should be, is always trying to be at the point where we say they should be and is responding."

Reflections. There were seven (50%) participants who identified reflections as another way to track success in global collaboration. The responses around this theme identify reflections, whether written or engage students to have realizations about themselves, as a way to

examine how well the success is being achieved. For example, P10 describes evaluating on a written form of reflection: "I just see from the reflections of kids have when they write on their blogs of the experience, that's kind of the success for me." For P11, they actively engage their students in conversation at the end, by asking questions:

> What kind of new technologies did you learn about...what kind of new ideas did you learn about, and kind of prefaced it with that to really get them to think....at the end [they] realize how much they had actually learned from the course of the project. (P11)

Other evaluative tools. For seven (50%) participants, they identified other tangible, evaluative tools to measure success in global collaboration. Some of these responses ranged from the use of digital tools, grading based on their work, and formal assessments techniques. However, the identification of specific evaluative tools was very spread among the participants. For example, P6 described a recently developed a PISA Global Competence Assessment, while P13 describes the idea of using rubrics, but with student input: "I think if you do that, having students input on those rubrics is really important."

Difficult to evaluate. There were five (36%) participants who indicated that tracking and measuring success is difficult to evaluate. These responses either expressed that success in global collaboration is hard to track and measure, and is not necessarily something actively being done. P13 describes the challenge of wanting to evaluate, but unsure how best to approach: "I think we all know that it's important and we see progress. But then how to show that progress. Has been tricky because... like how do you measure empathy?... still in progress." P14 echoes this sentiment: "That's been one of the challenges is how do you have the track that... I just know when I've reached kids or when kids have been affected by something I've done...but I don't know how to measure that."

Summary of research question 3. The third research question of this study states: "How is success measured and tracked among facilitators and teachers in developing online international collaborations in education?" After participant responses were coded, analyzed and grouped into themes, a combined total of seven themes were identified for the two interview questions. The seven themes include: behavior change, knowledge, global awareness, informal observations, reflections, other evaluative tools, and difficult to evaluate.

Research Question 4

The fourth research question of this study states: "What are recommendations among facilitators and teachers in developing online international collaborations in education?" Two interview questions were developed to address this, which state:

1. Would you do anything differently if you were to build another international collaboration?
2. What advice or recommendations would you give to those working with international collaborations in education?

The responses from all interview participants to these interview questions were analyzed for common themes to address the corresponding research question.

Interview question 5. The question states: "Would you do anything differently if you were to build another international collaboration?" Participant responses were coded into keywords which were analyzed and grouped into three themes. These themes included (a) Logistics and considerations; (b) Collaborative planning approach; and (c) No change. A summary of this information is illustrated in Figure 5.

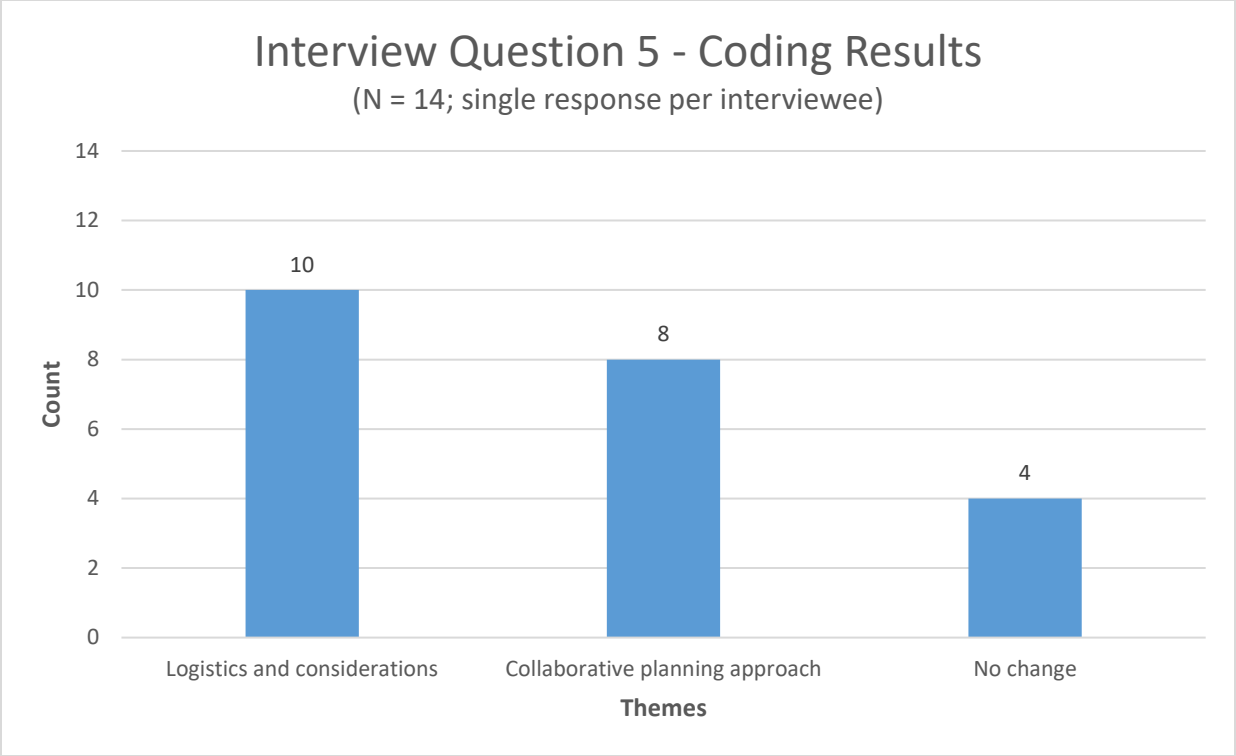

Figure 5. Lessons learned in global collaboration. Themes that emerged from responses to Interview Question (IQ) 5: Would you do anything differently if you were to build another international collaboration?

Logistics and considerations. There were 10 (71%) participants who indicated various logistics and other considerations they would do in another global collaboration. This theme grouped together responses which identified very specific actions they would do differently, such as redesigning the project (timeline, rigor, resources), considering the technology, and inclusion of the United Nations' Sustainable Development Goals (SDGs). As P1 expresses, "I would have definitely started earlier... giving it enough time. And as I said before because these are things that I'm learning as I go making sure I'm as clear as possible from the very beginning." P11 also describes how they are "trying to do more with the environmental stuff and the U.N. sustainability goals. I feel like that is a worldwide problem and I really respect all of the U.N. goals, but especially the ones with the environment."

Collaborative planning approach. There were eight (57%) participants who indicated a collaborative planning approach in their response. This theme brought together responses from participants that identified ways to collaborate with others when building another global collaboration effort. This included finding the right partners (such as teachers, schools) and the right projects to match with. As P6 describes:

> You need to find a school that's going to be reliable and a teacher that's going to be flexible to work with you. Not saying that you have to have the best technology, but you have to have a reliable technology and a person that's going to get back to you. (P6)

In considering future projects, P7 describes a shift in thinking, to see "it's more of fit with what I'm doing, is it something worthwhile to do. "

No change. There were four (29%) participants who indicated no change in response to what they would do differently. No change did not necessarily mean that everything went well the first time, but that everything experienced had purpose as part of the learning. For example, P13 describes how "nice thing about [the global collaboration effort] was that it was very organic, and that people just were very passionate about what they were doing... it was all new to us so we were just... trying to see what works." Furthermore, P4 briefly mentions "I think like it happened the way that it was supposed to."

Interview question 6. The question states: "What advice or recommendations would you give to those working with international collaborations in education?" Participant responses were coded into keywords which were analyzed and grouped into five themes. These themes included (a) Planning; (b) Taking risk; (c) Commitment/consistency; (d) Empathy and flexibility; and (e) Build partnerships. A summary of this information is illustrated in Figure 6.

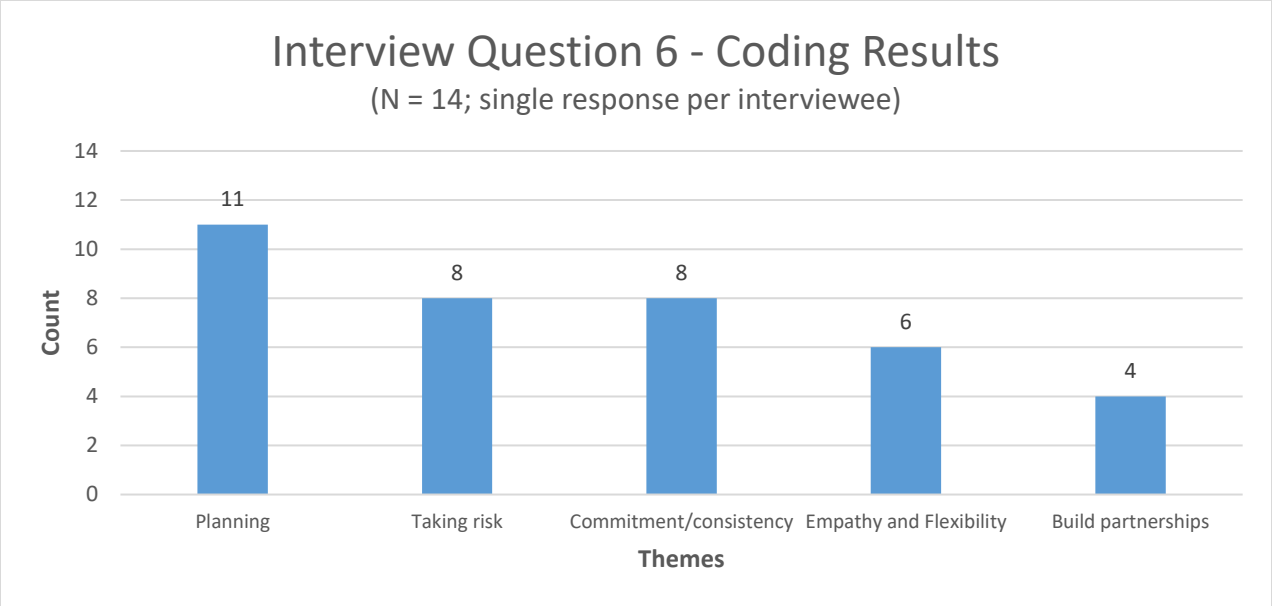

Figure 6. Recommendations for global collaboration. Themes that emerged from responses to Interview Question (IQ) 6: What advice or recommendations would you give to those working with international collaborations in education?

Planning. There were 11 (79%) participants who indicated advice on global collaboration as it relates to planning. The responses related to this theme discussed topics to consider in the planning, such as the project design, setting clear expectations and goals, considering tools and resources, keeping things simple, and preparing your class beforehand. For example, as P6 describes: "... leverage standards and learning outcomes, global competencies for students, relate design thinking and backward design to your planning and then correlate global activities and projects to future practice." Also, as P7 further states to:

> Know your partner ahead of time. Don't just throw it out there saying who wants to join in and take anyone... it's really a matter of finding serious people and getting in touch with them and saying look, this is the deal. This is what I'm expecting of you. Can you do this? (P7)

Taking risk. There were eight (57%) participants who recommended to take risk in global collaboration. This came from responses that conveyed the sentiment that teachers should

seize the opportunity for being involved. These phrases included: "jump in" (P4, P11, P12), "put yourself out there" (P7), "just do it" (P8), "give it a try" (P13) and “take the risk” (P10, P12, P13). As P13 further describes, “each time you do it, you learn a little bit more and you figure things out a little bit... The only way you can really figure it out is if you dive in and just give it a go.”

Commitment/consistency. There were eight (57%) participants who identified items related to commitment and consistency. Responses around this theme indicated the importance of clarifying commitment and consistency in global collaboration efforts. These responses included making sure everyone is clear on expectations, and there is a commitment to consistent communication. For example, P10 advises to “Keep in touch with the people who are collaborating and follow up on everything they come with as well.” In a similar fashion, P14 states:

> Make sure that the teachers that you're working with are in it for the long haul and they understand what they're into and... have a plan on both ends to hold your kids accountable. And that you're going to be accountable to each other. (P14)

Empathy and flexibility. There were six (43%) participants who made recommendations along the theme of empathy and flexibility in global collaboration. Responses around this theme include suggestions such as to not get frustrated with the technology, to be flexible with timing, and have empathy for those involved in the collaboration. In their response, P1 describes the importance of empathy for differences in particular:

> Knowing all that that I just told you about my own background, I'm able to use that as I speak to people across the world with our work and our collaboration. So with that, it's very important for teachers to remember that not everyone was raised like us. (P1)

Build partnerships. There were four (29%) participants who recommended building partnerships in global collaboration efforts. These responses were mainly centered on encouraging teachers to build support outside their classroom for global collaboration efforts. This included use of social media to find education communities, developing one's network, and building partnership with collaborators not just for one project, but for the next ones. As P8 emphasizes:

> Your professional network is really, really important. I guess that's the fundamental piece to global collaboration: is finding good partners and keeping in touch with them. Sharing the glory with them...you can't take all the credit a project. You've got a partner that was doing it too. (P8)

Summary of research question 4. The fourth research question of this study states: "What are recommendations among facilitators and teachers in developing online international collaborations in education?" After participant responses were coded, analyzed and grouped into themes, a combined total of eight themes were identified for the two interview questions. The eight themes include: logistics and considerations, collaborative planning approach, no change. planning, taking risk, commitment/consistency, empathy and flexibility, and build partnerships.

Chapter 4 Summary

This purpose of this study was to examine the best practices used by facilitators of global collaborations in education that take place in an online environment. A total of 14 participants, identified as global collaboration practitioners and experts through their affiliation with ISTE, were interviewed. Participants were asked six semi-structured interview questions developed to address the following four research questions:

1. What are the challenges among facilitators and teachers in developing online

international collaborations in education?

2. What are the best practices among facilitators and teachers in overcoming challenges in developing online international collaborations in education?
3. How is success measured and tracked among facilitators and teachers in developing online international collaborations in education?
4. What are recommendations among facilitators and teachers in developing online international collaborations in education?

The participants' responses to interview questions served as source of data for the study. The interviews were transcribed then coded by the researcher, and the results validated through an interrater review process with two doctoral candidates at Pepperdine University. The codes were grouped into themes, with a total of 27 themes identified across all interview question responses. Table 5 below outlines a summary of themes that arose from the data analysis. Chapter 5 presents a discussion of themes, implications, recommendations, and conclusions of the study.

Table 5

Summary of Themes from Four Research Questions on Global Collaboration

RQ1. Challenges	**RQ2. Best Practices**	**RQ3. Measurements of Success**	**RQ4. Recommendations**
Unequal expectations and commitment	Technology tools & considerations	Behavior change	Logistics and considerations
Time zones	Advance preparation and expectations	Knowledge	Collaborative planning approach
Timeline	Ongoing Follow-up	Global awareness	No change
Technology barriers/infrastructure	Empathy (Awareness and Compromise)	Informal observations	Planning
Cultural differences	Sharing collaboration efforts	Reflections	Taking risk
Communication		Other evaluative tools	Commitment/consistency
		Difficult to evaluate	

(continued)

RQ1. Challenges	RQ2. Best Practices	RQ3. Measurements of Success	RQ4. Recommendations
Administrative support			Empathy and flexibility Build partnerships

Note. This table provides a summary of all 27 themes that arose from the data analysis process.

Chapter 5: Discussion

Introduction

The current state of globalization is characterized by the ability and empowerment of individuals to collaborate on a global scale more than any era in history (Friedman, 2007). Technology has driven this era of globalization and provides online tools that blur geographic boundaries (Sycara, Gelfand, & Abbe, 2013). In interacting on a global scale, it becomes more and more important to be aware of the world beyond our known physical boundaries. The lack of cross-cultural awareness and competence influences creativity, communication, and problem solving in a way that negatively impacts productivity and performance (Dolan and Kawamura, 2015). Global awareness becomes an important skill to

Teachers are valiantly making efforts to break the boundaries of their classroom by connecting with students in places beyond their own. In learning and working together, students are not only developing content knowledge but learning more about each other and how to better engage (Kopp & Mandl, 2011). This is the essence behind the pursuit of global collaboration efforts in education. A collaborative learning approach on a global scale. Global collaboration in education usually involves a project that students work on together. This is beyond a one-time connection, as the students engage in an ongoing effort over time to arrive at their end result.

The literature on global collaboration and topics related to it generally focus on the learning experience of the students. However, there is not a lot of literature focused on the dynamic among the adults that help facilitate and oversee these global collaborations. By focusing on the lived experiences of several professionals who have engaged facilitating and overseeing global collaboration, this study aims to add that perspective to the growing body of study around global collaborations in education.

The objective of chapter 5 is to discuss and provide context for the results of the study. The chapter includes a summary of the study, providing a brief overview highlighting key components that were done. What follows after is a discussion of the results by research question, implications, and final thoughts.

Summary of the Study

The purpose of this study was to examine the best practices used by facilitators of global collaborations in education that take place in an online environment. The following four research questions were identified to address this purpose:

RQ1 - What are the challenges among facilitators and teachers in developing online international collaborations in education?

RQ2 - What are the best practices among facilitators and teachers in overcoming challenges in developing online international collaborations in education?

RQ3 - How is success measured and tracked among facilitators and teachers in developing online international collaborations in education?

RQ4 - What are recommendations among facilitators and teachers in developing online international collaborations in education?

To examine the stated research questions, a qualitative methodology was employed utilizing a phenomenological approach. Phenomenology was chosen for this study as there is a flexibility to the data collection that lends itself to getting rich responses, allowing for the results to emerge from the lived experiences of a concept (Creswell, 2013).

This study utilized purposeful sampling and invited specific individuals who were ISTE award recipients or ISTE conference presenters between 2014 - 2017 affiliated with global collaboration. Maximum variation was utilized to identify participants who would best reflect

the widest possible range and variation of the characteristics of interest in investigating the phenomenon (Merriam & Tisdell, 2009). Preference for inclusion was given to those with multiple global collaboration experiences, or multiple years in one collaboration. Of the 25 invited to participate, a total of 14 participants agreed to be included in the study.

Data collection was done through a semi-structured interview protocol comprised of six questions and accompanied by follow-up questions developed around each research question. The questions went through a three-step validity review that included prima-facie validity, peer review validity, and expert review. Participants completed a consent form giving their permission for their responses to be audio recorded. The recorded interviews were transcribed by the researcher, then analyzed and coded to determine themes that emerged from the data. The data analysis was validated through an interrater review procedure. Findings of the study were summarized, which included bar chart figures illustrating the frequency of the theme mentioned by participants.

Discussion of Key Findings

The results of this study are meant to inform the best practices used by facilitators of global collaborations in education that take place over an online environment. The following section provides a more in-depth review of the findings and themes that emerged from the completed interviews. The results are evaluated to existing literature to determine whether or not they support what exists on the topic. A summary is indicated in Table 6 below.

Table 6

Summary of Themes Supported in Literature and Unique to Study.

RQ1. Challenges	**RQ2. Best Practices**	**RQ3. Measurements of Success**	**RQ4. Recommendations**
Themes Supported in Literature:	Themes Supported in Literature:	Themes Supported in Literature:	Themes Supported in Literature:

(continued)

RQ1. Challenges	RQ2. Best Practices	RQ3. Measurements of Success	RQ4. Recommendations
- Unequal expectations and commitment - Communication - Cultural differences Themes Unique to Study: - Time zones - Timeline - Technology barriers/infrastructure - Administrative support	- Advance preparation and expectations - Ongoing Follow-up Themes Unique to Study: - Specific technology tools & considerations - Empathy (Awareness and Compromise) - Sharing collaboration efforts	- Behavior change - Knowledge - Global awareness - Reflections Themes Unique to Study: - Informal observations - Other evaluative tools - Difficult to evaluate	- Logistics and considerations - Collaborative planning approach - Planning - Commitment/ consistency - Build partnerships Themes Unique to Study: - Taking risk - Empathy and flexibility - No change

Research question one examined the challenges in global collaboration and resulted in seven themes: unequal expectations and commitment, time zones, timeline, technology barriers and infrastructure, cultural differences, communication, and administrative support. The themes of commitment, communication, and cultural differences are supported by the literature, while the other themes (time zones, timeline, technology barriers/infrastructure, administrative support) are unique to this study. Research question two examines best practices in overcoming these challenges, which resulted in five themes: technology tools and considerations, advance preparation and expectations, ongoing follow-up, empathy such as awareness and compromise, and sharing collaboration efforts. The themes of advance preparation and expectations and ongoing follow-up support what is in the literature, and the themes of technology considerations, empathy and sharing collaboration efforts are unique findings for this study.

Research question three looks at defining and measuring success in global collaboration, which identified seven themes: behavior change, knowledge, global awareness, informal

observations, reflections, other evaluative tools, and difficult to evaluate. Behavior change, knowledge, global awareness, and reflection for evaluation are themes supported by literature, while the other approaches to measuring success such as informal observations, other evaluative tools, difficult to evaluate, are unique practicalities to this study. Research question four looks at advice and recommendations for future global collaboration efforts, which had eight themes: logistics and considerations, collaborative planning approach, no change, planning, taking risk, commitment/consistency, empathy and flexibility, and build partnerships. The themes of logistics and considerations, planning and collaborative planning approach, build partnerships, and commitment/consistency have support in the literature, while the other themes on empathy and taking risk are unique results of this study.

Discussion of results for research question one. Research question one states, "What are the challenges among facilitators and teachers in developing online international collaborations in education?" From an analysis of the interview responses, seven themes addressing this research question emerged: unequal expectations and commitment, time zones, timeline, technology barriers/infrastructure, cultural differences, communication, and administrative support. These challenges are many to consider and are layered and complex, while can also overlap and interact with one another. The themes around commitment, communication, and cultural differences are evidenced and addressed by the literature, while the more logistical themes such as time zones, timeline, technology barriers/infrastructure, and administrative support, identify practical observations that are unique to this study.

Commitment is critical to the successful outcome of collaborations as defined in the literature. Kopp and Mandl (2011) describe how important the students' involvement and responsibility is with virtual collaboration, so all participants are engaged and contribute to the

discussion and work. Students that don't contribute impede the progress of the group. But as this study shows, this dynamic is true both for the students and the adults managing the collaboration effort. If a teacher on one side of the collaboration does not demonstrate commitment through contribution, then the collaboration does not progress.

Kopp and Mandl (2011) also emphasize that the pattern of communication is another challenge. While asynchronous communication does allow for more thoughtful and thorough responses, the consistency is important (McGhie-Richmond & Winter, 2011). McGhie-Richmond and Winter (2011) reinforce that collaboration requires frequent interaction, and any asynchronous form of communication may hinder momentum without immediate response or reaction. Therefore, responding back asynchronously in a timely manner is critical to moving the collaboration forward, but ties into the commitment level of the students and to an extent, the teacher to monitor them.

DuPraw and Axner (1997) share that cultural differences in collaboration are likely to occur in communication style, how to address conflict, task completion, decision-making, disclosure and knowing. While cultural difference was noticed by study participants as something to overcome, the response was usually combined with how the situation was used as a learning opportunity. This highlights how cultural differences encountered in global collaboration fosters a positive approach to differences, focused more on recognizing the unifying similarities while also celebrating each other's differences. In this way, cultural differences are embraced to move the collaboration forward, rather allowing them to hinder progress.

Some of the remaining themes (time zones, timeline, technology barriers/infrastructure) are less encountered in the literature and identify the more tangible, logistical challenges not

associated with the performance of people involved in the collaboration. The challenge of time zones and technology barriers or infrastructure are particularly difficult, since they are not within the control of the collaborators, and are individual situations to the collaboration that require flexibility and creative problem solving to work through. Both timeline, such as the expected duration of a project, and technology challenges are unpredictable, but with more global collaboration experience anticipating these types of challenges becomes more familiar to account for.

Some study participants also expressed the challenges of having support from their school community, which includes other fellow teachers, school administrators, and parents. This comes from a lack of understanding of what the global collaboration entails and the benefits to the students. This is a challenge not to be dismissed or understated, as a lack of support can demotivate and derail future global collaboration efforts.

Discussion of results for research question two. Research question two states, "What are the best practices among facilitators and teachers in overcoming challenges in developing online international collaborations in education?" The responses by study participants related to this research question came to five themes: technology tools and considerations, advance preparation and expectations, ongoing follow-up, empathy (awareness and compromise), and sharing collaboration efforts. The emphasis on advance preparation and expectations and ongoing follow-up supports what is in the literature, while the other themes on technology considerations, empathy and sharing collaboration efforts point out dynamics that are unique to this study.

One major component that global collaboration depends on is the technology. Without this, the collaboration simply would not be possible to achieve. With the success of the effort

resting on the performance and use of technology, it makes sense that consideration for technology and tools was touched on by every participant in the study as important in overcoming challenges. There are a variety of specific tools that were mentioned, but the more important consideration is the tool's ability to meet the need of accomplishing a purpose, rather than using a tool for the sake of it.

The emphasis on planning, preparation, and ongoing follow-up reinforces what is said in the literature about the importance of the role of the instructor or facilitator. Goodyear et al. (2014) describe how students can't be expected to naturally navigate use of technology for collaboration on their own, and rely on the active role of their instructor/facilitator and well-designed project. Having the right structure in place is important in achieving the collaboration effort and fostering involvement among participants (Asherhan & Schwarz, 2010; McGhie-Richmond & Winter, 2011; Voyiatzaki & Avouris, 2014). The instructor/facilitator plays an important role fostering a community in collaboration through communication and social presence (McGhie-Richmond & Winter, 2011). They need to be accessible and promote an environment where all students feel supported through feedback and validation. Their guidance is also key to helping the students' conversation about collaboration and cooperation and utilizing the structure of group size, time span, resources, and task (Holliman & Scanlon, 2006). Students need the guidance of their instructor or facilitator to help construct shared understanding and thoroughly analyze a difficult subject.

A dynamic not readily captured in the literature but discussed by the study participants is the notion of empathy for the people they are collaborating with. This is more the case when the people facilitating the collaboration between their classrooms have less experience working together. They need to have flexibility and understanding with the unexpected that may occur,

for the sake of both moving the collaboration forward and modeling this behavior for the students. This is especially important when the technology fails, or when maneuvering through cultural differences within the collaboration.

The other component to continuing global collaboration is to have support for it to take place in the classroom by key stakeholders. This is suggested to be done primarily through social media efforts. Sharing the collaboration efforts with stakeholders, such as school administrators and parents, helps to include them in celebrating the success and become more invested in providing support to future endeavors.

Discussion of results for research question three. Research question three states, "How is success measured and tracked among facilitators and teachers in developing online international collaborations in education?" The responses by study participants related to this research question came to a total of seven themes: behavior change, knowledge, global awareness, informal observations, reflections, other evaluative tools, and difficult to evaluate. The definitions of success (behavior change, knowledge, and global awareness) and using reflection to measure success supports what is in the literature, while the other approaches to measuring success (informal observations, other evaluative tools, difficult to evaluate) point out practicalities that are unique to this study.

The definitions of success described by the study participants (behavior change, knowledge, and global awareness) are noted in the literature as the benefits of collaboration. Kopp and Mandl (2011) describe how in the process of discussing and exchanging knowledge with each other, their existing knowledge deepens and helps to advance different perspectives needed in identifying ideas for achieving the goals and tasks for the group. Thus, knowledge is both fostered collaboratively and individually. Such interaction also allows for participants to

develop cross cultural competence, as participants experience and appreciate different perspectives from their own culture and learn to navigate challenges in differences (Dolan & Kawamura, 2015).

This study finds that measuring this success is varied, though the use of reflections is a key approach that is reinforced in the literature. Since the students are the focus of the collaboration, Palloff and Pratt (2005) describe learner-centered assessment utilizing reflective practice that considers both their individual participation and group contribution. Reflection also promotes cross cultural competency, as self-reflection helps to bring self-awareness of existing biases (Dolan & Kawamura, 2015).

The remaining approaches to measuring success found in this study (informal observations, other evaluative tools, difficult to evaluate) are less covered in literature. Informal observations are highly subjective, and therefore different in the eyes of the instructor or facilitator from one classroom in comparison to the other. There is no tangible evidence that concretely define the change or success other than anecdotal references, which are arguably important when providing a fuller picture of the global collaboration experience. Other evaluative tools offer even more individualized approaches that are more concrete than informal observations, however too varied across the study participants to further define. These are particular assessments or digital tools that are uniquely related to the particular collaboration. Study participants also acknowledged that measuring success is a challenge in itself. While some participants outright verbalized this, the sentiment was shared by even more participants from the pause or sighs the researcher observed that indicated a need to think of a response that did not come as naturally than with the other interview questions. Assessing outcomes in global collaboration is difficult. While instructors and facilitators no doubt acknowledge that

measuring success is important, with all the other considerations and challenges to overcome, it has not universally found practical footing in global collaboration planning.

Discussion of results for research question four. Research question four states, "What are recommendations among facilitators and teachers in developing online international collaborations in education?" The responses by study participants related to this research question came to a total of eight themes: logistics and considerations, collaborative planning approach, no change, planning, taking risk, commitment/consistency, empathy and flexibility, and build partnerships. Logistics and considerations, planning, collaborative planning approach, build partnerships, and commitment/consistency find support in the literature, while the other themes on empathy and taking risk are unique findings to this study.

The theme of logistics and considerations align with planning, which is reinforced in the literature. The instructor or facilitator of the global collaboration is key in identifying the structure of the collaboration, which should include the task, teams, time, and tools (Pozzi & Perisco, 2011; Goodyear et al., 2014). The task is what needs to be accomplished, the teams clarify the social structure for accomplishing the task, and time refers to the timeline for the task (Pozzi & Perisco, 2011). The tools identify resources that teams have to carry out the task (Goodyear et al., 2014). Palloff and Pratt (2005) emphasize the need to mutually create an agreement that will set clear expectations among the group members on interaction, group roles, and benchmarks for a project timeline and submission. While these aspects are geared toward how to organize and structure the students, the same could be applied to how the adults should organize themselves in overseeing the collaboration.

Commitment and consistency, which was reviewed in research question one, collaborative planning and building partnerships relate to each other. As previously mentioned,

if a teacher on one side of the collaboration does not demonstrate commitment through contribution, then the collaboration does not progress. Thus commitment and consistency mutually reinforce collaborative planning among the facilitators of the global collaboration. Collaboration on the planning level fosters community, which cycles to continued collaboration (Palloff & Pratt, 2005; Herring, 2004). Building partnerships are part of fostering that community in continued collaboration efforts with not just the partner instructor/facilitators, but also the other teachers in the associated school(s), administrators and parents. Including these parties as part of the collaborative planning approach helps to build these partnerships and sense of community for collaboration.

Two themes not readily focused on in the literature are empathy and risk-taking. Empathy was identified in the discussion of results for research question two, referring to the need for partnering instructors and facilitators of the collaboration for have empathy for each other as the unplanned occurs, such as technology difficulties or encountering cultural differences. The advice to take risk is a unique and practical takeaway from the study, encouraging educators not to allow overthinking to discourage the opportunity to engage in global collaboration. There are many things to consider when embarking on a global collaboration effort, but choosing to engage should always be the option to pursue.

Implications of the Study

The purpose of this study was to examine the best practices used by facilitators of global collaborations in education. Existing literature is focused on the impact and development of global collaboration for the student, but not much written about the dynamic among the facilitators overseeing the collaboration effort. These individuals are usually in education roles or have education experience, but not necessarily classroom teachers at the time of the

collaboration, hence the "facilitator" is a more inclusive term for the role than "teacher." In pursuit of the purpose, this study sought to provide insight and focus on the facilitator role in successful global collaborations and offer additional insight on the experience.

The results of the study revealed two practical takeaways for developing global collaboration. First, is a global collaboration "toolkit" of most commonly recommended tech tools of the moment. While technology constantly evolves, this provides a snapshot of what tools are currently in practice as of 2018. Second, is establishing the dimensions of leading global collaboration. While some themes in the study results were reinforced by existing literature, some were unique to the study due to their lack of mention or presence in the literature. This revealed importance to the characteristics to demonstrate in leading collaboration, alongside consideration for the responsibilities it entails.

Global collaboration "toolkit." In responding to interview question two, which asked the participant to identify ways to overcome challenges in global collaboration, participants discussed specific technology tools that were used in their global collaboration work. These were categorized into types of technology tools by purpose. Categories included tools for video conferencing, scheduling, social media, content management, communication, and collaborative work. A summary of these tools by type is indicated in Figure 7.

Figure 7. Global collaboration "toolkit." Relevant technology tools for global collaboration referenced in 2018.

While the technology is likely to evolve after this study, the specific tools identified in this study provide a reference point of what technology tools were relevant and in current use as of 2018. In the short term, this list can provide practical recommendations for what technology tools may fit the needs of global collaboration. However, the long-term importance of this toolkit is to provide a reference point as further technology develops and technology tools improve as Web 2.0 and 3.0 evolve into Web 4.0 and the symbiotic web (Choudhury, 2014; Aghaei et al., 2012). A comparison of this 2018 toolkit to technology in future years can provide insight on what tools remain relevant, what tools lose functionality, and what future technology tools have built from.

Dimensions of leading global collaboration. While many themes from the data were anticipated and supported by the literature, some themes arose that were unique to the study. The latter shed light into a distinct layer of considerations involved in developing global collaboration, which served to compliment what was highlighted in the literature. From this, two

"dimensions" of leading global collaboration emerged: 1) the responsibilities dimension and 2) the characteristics dimension. A summary of these dimensions is provided in Figure 8.

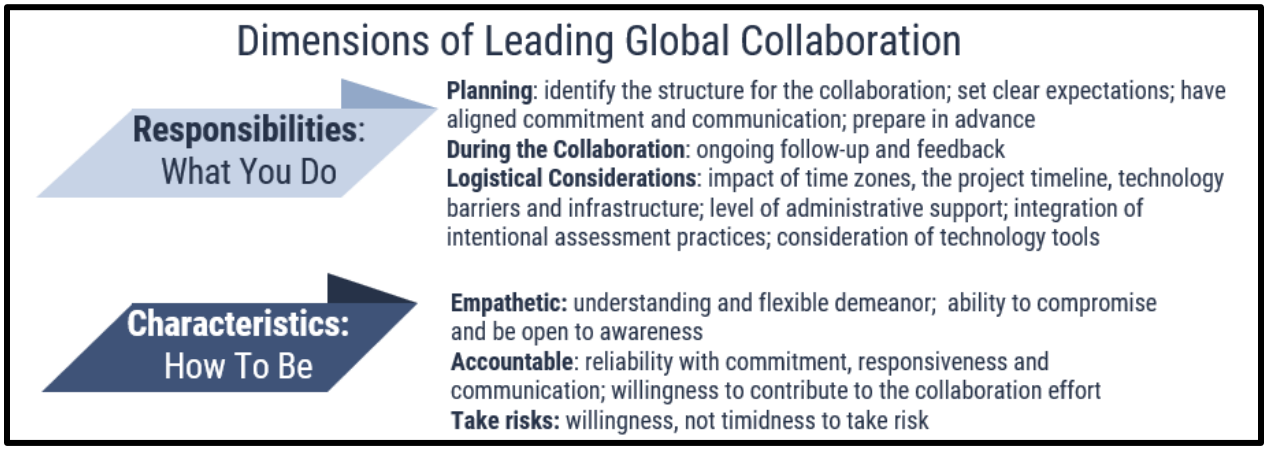

Figure 8. Dimensions of leading global collaboration.

Responsibilities dimension: What to do. The responsibilities dimension entails the tasks and logistical aspects facilitators need to do in global collaboration efforts. Items in this dimension are largely reinforced by the literature, such as planning out the collaboration thoroughly by identifying the structure for the collaboration, setting clear expectations, having aligned commitment and communication, and preparing in advance as much as possible. While the collaboration is in progress, there should be ongoing follow-up and feedback. As the literature emphasizes these organizing aspects with the students, this should be mirrored in what the facilitators do to organize themselves. The dynamic desired with the students should be achieved with the facilitators involved.

Logistical considerations include the impact of time zones, the project timeline, technology barriers and infrastructure, level of administrative support, the integration of intentional assessment practices, consideration of technology tools. The project timeline needs to account for the school calendars of each site involved and be flexible to the possibility of needing more time. This is because projects are likely to run longer than planned due to

unexpected developments. Assessment is also not readily practiced, aside from reflections and informal observations. This should be actively considered in the planning of the collaboration and mutually determined and agreed on by the facilitators involved in the collaboration. If reflection is used, the facilitators should all be using the same reflection structure with the students across all sites. When looking at the technology associated with the collaboration, it is important to let the needs of the collaboration effort choose the best technology tool(s), rather than selecting a particular tool(s) and building the project around it.

The responsibilities dimension brings awareness to logistical aspects for the facilitator to closely consider, but the study results identified one particular challenge. Assessment is usually not readily integrated into the planning because of the effort requires to be implemented adequately. If there was a way to simplify integrating assessment that wouldn't require much effort, the more likely it would be normative practice with global collaboration efforts. With assessments, reflections are cited as the most utilized approach. However, the structure of reflections could benefit to having an accepted set of questions to guide reflections specific to global collaboration.

Characteristics dimension: How to be. The characteristics dimension refers to the qualities that characterize a good global collaboration leader and partner. These aspects were not readily referenced in literature specific to global collaboration, but evident from the participant responses in the study. These characteristics include empathy, accountability, and willingness to take risks.

Empathy is a highly valued characteristic, especially when identifying a strategy to overcome challenges and making recommendations for global collaboration. Empathy is something the students involved in the collaboration should develop. However, it starts with the

adult facilitating the collaboration to model this. This characteristic is best demonstrated in how the facilitator responds to unexpected situations that occur in the collaboration, such as technology failure or cultural difference. An understanding and flexible demeanor helps to convey empathy to both the collaborator and the students. This flexibility includes an ability to compromise and be open to awareness, all of which contribute to the facilitator's approachability and ability to connect with others.

While empathy is important, being accountable is just as key. Accountability can be observed in one's reliability with commitment, responsiveness and communication, and willingness to contribute to the collaboration effort. For example, advance planning is a critical piece of executing a successful collaboration. If a facilitator or partner does not seem to have time to plan, this is likely indicative of their ability to be accountable in the future. Those new to facilitating global collaboration should start with a small effort and build from there with more experience. Having too many partners involved without prior experience reduces the ability to keep up with accountability. By building up from small efforts, this helps establish strong reliability among partners, who can help with holding others accountable once the effort expands.

One of the most resounding qualities that came up in the study results was a willingness to take risks. Study participants urged others to give global collaboration a try and simply "go for it." Often, teachers are swamped with curriculum and unsure if global collaboration is worth the effort, but the study participants, who all possess global collaboration experiences on an expert level, express it is always worth doing. This risk-taking quality should come with willingness, not timidness. If one chooses to engage, they should commit to it to get the most of the experience, for both the students and themselves.

Recommendations

The intention behind this study was to fill in the gap in the literature about the dynamic of those who facilitate and lead global collaborations. Existing literature focuses on how to best work with students participating in the global collaboration, but not on how the facilitators should best work with their collaborators. In addition to identifying the dimensions of leading global collaboration, there are two major highlights to this study.

One of the main takeaways is the importance of the people involved in facilitating the global collaboration. These individuals are not simply facilitators that are managing a project, but should be considered leaders that influence the experience and perspective on what it means to work together across physical and geographical boundaries. While technology and logistical factors play a role in how the collaboration works, people are what make the difference in whether the collaboration succeeds or fails. Should the technology fail, how the leader responds to the situation determines how the collaboration moves forward. Having empathy and understanding for the situation combined with a willingness to keep trying and to take risks provides the encouragement to continue on. But becoming easily discouraged from a technology setback could easily derail a collaboration from successfully continuing. The demonstrated characteristics in leading global collaboration are key in overcoming whatever logistical challenges may arise. While the responsibilities dimension is important, the characteristics dimension is even more critical.

Coinciding with the importance of people, developing a peer to peer network is key to sustaining successful global collaboration efforts. As people work together more frequently, they can better anticipate the successful demonstration of responsibilities and more importantly, the characteristics for leading global collaboration efforts. With less uncertainty about the

characteristics of one's commitment and willingness, further trust and reliability are established to allow more focus on strengthening the logistical aspects of the collaboration. To put it simply, having a peer network of collaborators makes it easier to focus on developing even deeper and stronger collaborative efforts. Both these highlights, the importance of people and developing a peer to peer network, provide much needed insight into the dynamic among facilitators and leaders of global collaboration.

For Future Research

Following the findings of this study on best practices in global collaborations in education, there are various recommendations for future research. There continues to be a gap in the literature for the facilitator's role in global collaboration. In particular, it would be beneficial to identify if there is a difference between best practices for students in comparison to the organizers of the collaboration. Another focus could be centered specifically on the dynamic among the facilitators in global collaboration, and how that dynamic may impact the success of the global collaboration effort and experience among the students. This could be done through an activity system analysis, such as Cultural Historical Activity Theory (CHAT), which looks at how different aspects of a system impact the outcome (Yamagata-Lynch, 2007; Engeström, 1987)

As this study has identified dimensions of leading global collaboration, these conclusions warrant continued study on the specific qualities included in each dimension. For example, further study focused on the characteristic of empathy in global collaboration, and its impact on the success and experiences encountered with the collaboration. Further insight and expansion of these dimensions of leading global collaboration could provide the groundwork to the

development of an instrument that measures the competencies of these dimensions, strengthen leadership in global collaboration and in turn, the quality of the collaboration itself.

Another need identified from this study is more concrete assessment practices to integrate into global collaboration efforts. More work and study should be done on identifying the best approaches to assessment in global collaboration, and in turn provide accurate models for assessment specific to global collaboration. Such models should then be tested in practice to help develop functional assessment tools that can be easily used by practitioners.

As global collaboration is focused on practice, literature on the topic is dominated by practitioners. While this is valuable for the successful implementation of global collaboration efforts, there is a lack of scholarly research to support it. There is a general need for more formal research studies to support practitioner literature and bring global collaboration the scholarly attention that more closely matches the amount of global collaboration efforts that are in practice.

Final Thoughts

The data collection process for this study was so rich, it was difficult to exclude the many experiences and anecdotes that were shared so willingly. I found that the expert community for global collaboration is a close one, particularly those associated with the ISTE Global Collaboration PLN (Professional Learning Network). Most participants in this study were eager to offer resources and recommendations for other people to include, who I had also either contacted or interviewed. It was a pleasant surprise to tap into various smaller networks within the larger ones and see how their philosophies on global collaboration were generally similar. The expert community of the ISTE Global Collaboration PLN is a close-knit circle, with an eagerness to invite others in and spread the practice of global collaboration.

All participants in the study were very eager to share their specific resources and websites. The information on their platforms, whether a blog or formal website, was incredibly valuable and eye-opening. However, the value of their individual resource(s) was not fully understood until the opportunity to learn about it from the interview. Such rich resources are decentralized and depend on word of mouth to gain awareness. Many of these resources are websites geared towards partner matching and setting up global collaborations. I'm not sure what the best step would be to centralize these resources. As a start, a public page on the ISTE website listing some of these resources might help and could even be done in a way to encourage membership into their organization. The U.S. Department of Education also has a global collaboration page that could benefit from this information, however, as of this writing, has not been updated since 2009. The Department of Education has the potential for such influence if only the page could remain current.

Several individuals mentioned the United Nations' Sustainable Development Goals, more commonly referred to as SDGs. These refer to 17 goals identified by the U.N. to transform the world and range from no poverty to climate action. The most commonly referred to goal by study participants was goal four, aimed at quality education for all. While the expert community has individuals leading the awareness effort of the SDGs, the integration of these goals will be a likely trend for most global collaboration efforts in the future.

Personally, this study has provided valuable insights on how global collaborations successfully work in the classroom setting. As of this writing, I am also involved in an ongoing study that utilizes global collaboration in an informal learning setting, and I see the similarities and contrasts in how the learning environment influences how global collaboration works. I've also been able to utilize some of the recommendations in this study, such as using SDGs as a

focus for collaborative projects and using the FlipGrid tool for having participants respond to each other's projects asynchronously.

More broadly, I cannot emphasize the importance of global collaboration enough. Global collaboration in education is worth the effort and needs to be intentionally integrated into education practice, at any and every level and location. It has the potential to change our world for the better, as global collaboration can develop skills and awareness in youth as they grow into the adults that will inherit the world. If students can learn how to collaborate across boundaries now, they can be equipped to effectively and innovatively work together on the greater challenges that face our world in the future.

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APPENDIX A

IRB Approval Notice

PEPPERDINE

Pepperdine University
24255 Pacific Coast Highway
Malibu, CA 90263
TEL: 310-506-4000

NOTICE OF APPROVAL FOR HUMAN RESEARCH

Date: January 19, 2018

Protocol Investigator Name: Danielle Espino

Protocol #: 17-12-689

Project Title: Best practices in developing online international collaborations in education

School: Graduate School of Education and Psychology

Dear Danielle Espino:

Thank you for submitting your application for exempt review to Pepperdine University's Institutional Review Board (IRB). We appreciate the work you have done on your proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. Upon review, the IRB has determined that the above entitled project meets the requirements for exemption under the federal regulations 45 CFR 46.101 that govern the protections of human subjects.

Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit an amendment to the IRB. Since your study falls under exemption, there is no requirement for continuing IRB review of your project. Please be aware that changes to your protocol may prevent the research from qualifying for exemption from 45 CFR 46.101 and require submission of a new IRB application or other materials to the IRB.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite the best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the IRB as soon as possible. We will ask for a complete written explanation of the event and your written response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the IRB and documenting the adverse event can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* at community.pepperdine.edu/irb.

Please refer to the protocol number denoted above in all communication or correspondence related to your application and this approval. Should you have additional questions or require clarification of the contents of this letter, please contact the IRB Office. On behalf of the IRB, I wish you success in this scholarly pursuit.

Sincerely,

Judy Ho, Ph.D., IRB Chair

APPENDIX B

Informed Consent Form

PEPPERDINE UNIVERSITY

(Graduate School of Education and Psychology)

INFORMED CONSENT FOR PARTICIPATION IN RESEARCH ACTIVITIES

BEST PRACTICES IN DEVELOPING ONLINE INTERNATIONAL COLLABORATIONS IN EDUCATION

You are invited to participate in a research study conducted by Danielle Espino, M.A. and Farzin Madjidi, Ed.D. at Pepperdine University, because you are involved in facilitating an online international collaboration in education. Your participation is voluntary. You should read the information below, and ask questions about anything that you do not understand, before deciding whether to participate. Please take as much time as you need to read the consent form. You may also decide to discuss participation with your family or friends. If you decide to participate, you will be asked to sign this form. You will also be given a copy of this form for you records.

PURPOSE OF THE STUDY

The purpose of this study is to examine international collaborations in education that take place in an online environment and involve partners in the U.S., from the perspective of individuals who facilitate the collaborations. The study includes identifying the challenges and best practices in building and maintaining international collaborations, how the collaborations were determined to be successful, and recommendations on building collaborations for the future.

STUDY PROCEDURES

If you volunteer to participate in this study, you will be asked to participate in a semi-structured interview that will last for approximately 60 minutes. The semi-structured interview includes the use of 7 to 10 open-ended questions that are designed in advance, with follow-up that are either planned or unplanned to clarify your responses. The types of questions will elicit valuable information on the practices, leadership styles, and strategies used by current facilitators of online international collaborations in education. During this interview your answers will be recorded. If you choose not to have your answers recorded, you will not be eligible to participate in this study.

POTENTIAL RISKS AND DISCOMFORTS

The potential and foreseeable risks associated with participation in this study include feeling discomfort with questions, concerns or issues with self-esteem, boredom, and fatigue from sitting for a long period for the interview.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

While there are no direct benefits to the study participants, there are several anticipated benefits to society which include:
1. The compilation of results of the study will be beneficial to the learning and practitioner communities at large.
2. Findings of the study will shed light and inform scholars and practitioners on best practices for developing international collaborations in education that use the online environment.

CONFIDENTIALITY

I will keep your records for this study *confidential* far as permitted by law. However, if I am required to do so by law, I may be required to disclose information collected about you. Examples of the types of issues that would require me to break confidentiality are if you tell me about instances of child abuse and elder abuse. Pepperdine's University's Human Subjects Protection Program (HSPP) may also access the data collected. The HSPP occasionally reviews and monitors research studies to protect the rights and welfare of research subjects.

To protect the identity of your responses, the recordings will be saved under a pseudonym and transferred to a USB flash drive, which will be kept in a safe, locked drawer within the researcher's residence for three years, after which it will be destroyed. A backup copy of the recording saved under a pseudonym will also be stored on a secured, password-protected cloud server and then permanently deleted and destroyed after three years. The researcher will be transcribing and coding the interviews herself. The documents containing the transcribed interviews and coding analysis will also be transferred to the same USB flash drive and maintained in the same locked drawer at the researcher's residence, which will be destroyed after three years. Your name, affiliated organization, or any personal identifiable information will not be reported. Instead a pseudonym with a generic organization name will be used to protect your confidentiality.

PARTICIPATION AND WITHDRAWAL

Your participation is voluntary. Your refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study.

ALTERNATIVES TO FULL PARTICIPATION

The alternative to participation in the study is not participating or completing only the items which you feel comfortable. Your relationship with your organization or employer will not be affected whether you participate or not in this study.

EMERGENCY CARE AND COMPENSATION FOR INJURY

If you are injured as a direct result of research procedures you will receive medical treatment; however, you or your insurance will be responsible for the cost. Pepperdine University does not provide any monetary compensation for injury

INVESTIGATOR'S CONTACT INFORMATION

I understand that the investigator is willing to answer any inquiries I may have concerning the research herein described. I understand that I may contact Danielle Espino at dpespino@pepperdine.edu or Dr. Farzin Madjidi at fmadjidi@pepperdine.edu if I have any other questions or concerns about this research.

RIGHTS OF RESEARCH PARTICIPANT – IRB CONTACT INFORMATION

If you have questions, concerns or complaints about your rights as a research participant or research in general please contact Dr. Judy Ho, Chairperson of the Graduate & Professional Schools Institutional Review Board at Pepperdine University 6100 Center Drive Suite 500 Los Angeles, CA 90045, 310-568-5753 or gpsirb@pepperdine.edu.

SIGNATURE OF RESEARCH PARTICIPANT

I have read the information provided above. I have been given a chance to ask questions. My questions have been answered to my satisfaction and I agree to participate in this study. I have been given a copy of this form.

AUDIO/VIDEO/PHOTOGRAPHS ***(If this is not applicable to your study and/or if participants do not have a choice of being audio/video-recorded or photographed, delete this section.)***

□ ***I agree to be audio/video-recorded /photographed (remove the media not being used)***

□ ***I do not want to be audio/video-recorded /photographed (remove the media not being used)***

Name of Participant

Signature of Participant **Date**

SIGNATURE OF INVESTIGATOR

I have explained the research to the participants and answered all of his/her questions. In my judgment the participants are knowingly, willingly and intelligently agreeing to participate in this study. They have the legal capacity to give informed consent to participate in this research study and all of the various components. They also have been informed participation is voluntarily and that they may discontinue their participation in the study at any time, for any reason.

Name of Person Obtaining Consent

Signature of Person Obtaining Consent **Date**

APPENDIX C

Recruitment Script

Dear [Name],

Hello! My name is Danielle Espino, a student in the Organizational Leadership doctoral program at Pepperdine University's Graduate School of Education and Psychology. For my dissertation, I am working a study on the best practices of developing online international collaborations in education. My aim is to interview people who can share on their experience and direct involvements in developing such online global collaborations. I came across your name on the International Society for Technology in Education (ISTE) website [as an award recipient for or conference presenter on the topic of] global collaboration, and wanted to see if you would be interested and available to provide your insight to this study.

Your participation is completely voluntary, and would entail an interview (either in person or video conference) that should last no longer than 60 minutes, discussing the collaborations you work with. The interview questions and informed consent form will be sent to you in advance of the interview, and confidentiality and anonymity are maintained throughout the study.

Your participation in this study will be extremely valuable to those involved in developing global collaborations, both scholars and practitioners alike.

If you would be willing to be interviewed as part of this study, let me know what your availability might be during the week(s) of ____.

Thank you for your consideration, and I look forward to hearing from you.

Danielle Espino
Doctoral Student, Graduate School of Education and Psychology
Pepperdine University
danielle.espino@pepperdine.edu

Dr. Farzin Madjidi
Dissertation Chair
Associate Dean, Graduate School of Education and Psychology
Pepperdine University
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APPENDIX D

Peer Reviewer Form

Dear reviewer:

Thank you for agreeing to participate in my research study. The table below is designed to ensure that may research questions for the study are properly addressed with corresponding interview questions

In the table below, please review each research question and the corresponding interview questions. For each interview question, consider how well the interview question addresses the research question. If the interview question is directly relevant to the research question, please mark "Keep as stated." If the interview question is irrelevant to the research question, please mark "Delete it." Finally, if the interview question can be modified to best fit with the research question, please suggest your modifications in the space provided. You may also recommend additional interview questions you deem necessary.

Once you have completed your analysis, please return the completed form to me via email to danielle.espino@pepperdine.edu. Thank you again for your participation.

Research Question	Corresponding Interview Question
RQ 1: What are the best practices among facilitators and teachers in building and maintaining online international collaborations in education?	IQ 1: What are key strategies or practices are utilized to build and maintain the collaboration you are involved in? Follow-up: ● What are types of tools do you use? a. The question is directly relevant to Research question - **Keep as stated** b. The question is irrelevant to research question – **Delete it** c. The question should be **modified as suggested**: _____ _____ I recommend adding the following interview questions: _____ _____ _____

	IQ 2: Are you aware of successful strategies employed by others in online international collaborations? a. The question is directly relevant to Research question - **Keep as stated** b. The question is irrelevant to research question – **Delete it** c. The question should be **modified as suggested**: _____ _____ I recommend adding the following interview questions: _____ _____ _____
RQ 2: What are the challenges among facilitators and teachers in building and maintaining online international collaborations in education?	IQ 3: What are challenges and difficulties you encounter with online international collaborations? Follow-up: ● What past experience, education or personal characteristics best prepared you to address these challenges? ● Can you give any examples of nightmare scenarios you've experienced? a. The question is directly relevant to Research question - **Keep as stated** b. The question is irrelevant to research question – **Delete it** c. The question should be **modified as suggested**: _____ _____ I recommend adding the following interview questions: _____ _____ _____
RQ 3: How is success measured and tracked among	IQ 4: In your view, what are the elements of a the successful implementation of an online international collaboration?

facilitators and teachers in building and maintaining online international collaborations in education?	a. The question is directly relevant to Research question - **Keep as stated** b. The question is irrelevant to research question – **Delete it** c. The question should be **modified as suggested**: _____ _____ I recommend adding the following interview questions: _____ _____ _____
	IQ 5: How do you measure and track each element? a. The question is directly relevant to Research question - **Keep as stated** b. The question is irrelevant to research question – **Delete it** c. The question should be **modified as suggested**: _____ _____ I recommend adding the following interview questions: _____ _____ _____
RQ 4: What are recommendations among facilitators and teachers in building and maintaining online international collaborations in education?	IQ 6: Is there anything you would do differently in working and international collaborations? a. The question is directly relevant to Research question - **Keep as stated** b. The question is irrelevant to research question – **Delete it** c. The question should be **modified as suggested**: _____ _____ I recommend adding the following interview questions: _____ _____

	_____
	IQ 7: What advice or recommendations would you give to those working with international collaborations in education? a. The question is directly relevant to Research question - **Keep as stated** b. The question is irrelevant to research question – **Delete it** c. The question should be **modified as suggested**: _____ _____ I recommend adding the following interview questions: _____ _____ _____

APPENDIX E

Interview Questions

IQ 1: What are challenges and difficulties you encounter with [particular online international collaboration]?

Follow-up:

- What challenges do you have with building collaborations?
- What challenges do you have with maintaining collaborations?
- What past experience, education or personal characteristics best prepared you to address these challenges?
- Can you share an example of a particularly challenging scenario?

IQ 2: What key practices or strategies you use to overcome challenges in developing collaboration?

Follow-up:

- What practices do you use to build collaboration?
- What practices do you use to maintain collaboration?
- What are types of tools you use?
- Are you aware of successful strategies employed by others in online international collaborations?

IQ 3: In your view, what makes your collaboration effort successful?

IQ 4: How do you measure and track each element?

IQ 5: Would you do anything differently if you were to build another international collaboration?

IQ 6: What advice or recommendations would you give to those working with international collaborations in education?

Follow-up:

- What advice would you offer for building collaboration?
- What advice would you offer for maintaining collaboration?