

ENGAGING GLOBALLY DISTRIBUTED VIRTUAL TEAMS THROUGH COLLABORATIVE ENVIRONMENTS

Dawn M. Armfield, PhD

English Department, Minnesota State University, Mankato, 230 Armstrong Hall, Mankato, Minnesota, 56001
dawn.armfield@mnsu.edu

Shadow W.J. Armfield, EdD

Educational Specialties, Northern Arizona University, PO Box 5774, Flagstaff, Arizona, 86011
shadow.armfield@nau.edu

Laura Sujo-Montes, PhD

Educational Specialties, Northern Arizona University, PO Box 5774, Flagstaff, Arizona, 86001, 928-523-0892,
Laura.Sujo-Montes@nau.edu

ABSTRACT

In order to understand how globally distributed teams can best work in online collaborative environments, the authors conducted a survey of those who have worked collaboratively in cross-cultural environments. The authors wanted to determine how collaboration was defined and what elements affected positive outcomes in those collaborations in order to produce best practices for online collaborative work in a cross-cultural environment. What was found is that training, time, and patience were essential for positive outcomes in a cross-cultural online collaboration. This paper introduces different ideas for training for this type of work, ways to think about technology, and ways to integrate collaborators and technology. Future implications require that technology be less Western-centric and more globally responsive as well as having multimodal approaches to problem-solving. **Keywords:** cross-cultural communications, technology, collaboration, online collaborative environments

INTRODUCTION

With the ever-increasing exchange of ideas, collaborations, and work products crossing national borders as well as a growing number of people engaging in cultural and linguistics differences, it is imperative to understand the dynamics of these exchanges. Equally important is to know how to implement best practices in online collaborative environments. To assess best practices for globally-distributed online collaborations, the authors surveyed respondents who have worked within educational and business-related globally-distributed cross-cultural / cross-language (referred to as cross-cultural for the rest of the article for brevity) teams to discuss the ways people communicate using technology in those interactions. The researchers reviewed how online connections allow multicultural collaborators to work together in collaborative environments that include traditional and nontraditional communication styles, examining the environments for clear communication and accessibility for globally distributed teams.

In order to fully explore and develop new ways of thinking about communication globally, the authors expanded on previous research to discuss how online collaborative communications have evolved over recent time. Throughout, the authors tried to understand how these environments support what is known about quality engagement in cross-cultural communications. Finally, the researchers proposed best practices for using different types of online collaborative environments within cross-cultural communications.

LITERATURE REVIEW

The literature in cross-cultural communication is vast, as is the literature on collaborations. However, combining the concepts of cross-cultural communication and collaboration with online communications in the context of a community is relatively new given the different communicative structures in use today. In cross-cultural communications, the ways collaboration, communication, and community are defined can be very different than simple Western-centric definitions of each of those terms. In today's work and educational environments, it cannot be assumed that the working group is homogeneous, nor that even if everyone is from the same country that they speak the same language and/or dialect, nor that each participant considers collaboration, communication, and community to be the same as their peers in the collaborative group. That the extent of the heterogeneous groups expands with the introduction of collaborative technologies necessitates the need to define what is meant by collaborative environments, cross-cultural communications, and distributed communities. By necessity, definitions need to be framed in terms of globally distributed collaborations in online environments and the best practices put forward for those collaborations.

Collaborative Environments

In the past, collaboration typically took place in face-to-face settings where ideas could be shared and acted upon

quickly. In discussing the collaborative classroom, Bosley (1993, p. 52) defined collaborative groups as “those in which groups of three or more students create one written document and receive both a group grade for the product and an individual grade for their participation in the process.” In Bosley’s case, she worked with international students in what she defined as predominantly “Euro-North American” (which she uses to denote “white middle-class males whose values and cognitive frames are those that dominate educational paradigms”) face-to-face classroom environments (1993, p. 52). However, collaboration has become a more complex term that requires an understanding of the setting of the collaborations and the participants in order to define it fully.

The technological affordances also require a shift in how collaboration is considered. Paretti, McNair, & Holloway-Attaway (2007) wrote that “collaboration in distributed environments involves more complex dynamics than colocated work” p.329). Paretti, McNair, and Holloway-Attaway also asserted that

students do not only need a list of specific communication tasks or formats to help them succeed in globally distributed teams; they also need metaknowledge to help them understand the dynamics of such teams and the roles of communicative acts in supporting or sustaining such teams productively (p. 330).

In other words, students in globally distributed collaborations needed to understand all elements of the collaboration, including what roles each collaborator assumed and how communication was able to support the collaboration.

With new technologies, collaboration has expanded to include digital collaborations. What was occurring face-to-face began to take place in email, chat, and discussion boards, which then developed along with the technology to include wikis, instant messaging, and dynamic online documents. Today, not only are many of these same tools engaged for collaboration, but the toolbox has expanded to include video chats, augmented and virtual reality, and interactive 3-D videos that have the ability to screenshare, engage written chats, and integrate concept maps within the engagement space, and to include multiple attendees. These environments have created a venue for idea sharing in alphabetic and graphic formats with the ability for users to read social cues, such as facial expressions, to interpret the collaborative intentions more clearly, but this also demands ways of communicating more effectively. O’Brien, Alfano, & Magnusson (2007) argued for three factors that must be included for effective online collaborations: “dedication of focus to task on hand; simulated proximity to the communicators; close transparency of medium” (p. 129). Indeed, the need for attention to the ways collaborators are connecting is the most important step of the collaborative process. For instance, during the writing of this article, the authors used Google Hangouts to focus on the task: the development and writing of the article. The sole objective in those meetings was to engage in collaboration (dedication of focus). While two of the authors worked in Arizona, the third worked in Minnesota, so the video portion of Hangouts simulated proximity. This not only allowed the authors to brainstorm quickly, but to also process information and outline, document, and write from that processing as a group. Finally, the authors understood the limitations and affordances that must be given to the medium (transparency). As each of the authors is experienced in online education and digital processes, they knew with technology comes unforeseen problems (throttled access, for instance), so expectations and workflows were adjusted to accommodate for those issues, even if it meant turning off the video to engage verbally only.

Cross-Cultural Communication

In discussing cross-cultural communication within collaborative settings, defining what is meant by communication is the foundation of the collaborative connection. To that end, it’s also important to understand how culture is defined, and what that means for each of the collaborators within the globally-distributed team.

Culture

While many definitions of culture exist, “general agreement exists that culture is an established set of values and a way of thinking and behaving that is passed from generation to generation” (Bosley, 1993, p. 53). Paretti, McNair, & Holloway-Attaway (2007), Thorne (2003), and Hunsinger (2006) postulated that culture is not a stagnant concept and, as such, needs to be adjusted for consistently as ongoing communication develops. What they call for is a space, “communication zones,” within current online environments with a focus on that collaborative element (Paretti, McNair, & Holloway-Attaway, p. 348). But, is this putting too fine of a point on the ever-changing concept of culture? “It is best, then, to think of culture not as one thing or another, not as a *thing* at all, but rather as a heuristic” (Scollon, Scollon, and Jones, 2011, p. 3). If the term “culture” is used as a heuristic, ways thinking about cross-cultural communication can be developed that change depending on the needs of the collaborators and not on a concrete version of what that communication should mean. In the researchers’ case, Google Hangouts was used as the communication zone, developing communication in face-to-face (via video), chat (within the video window), and documentation (within the Google document) to enhance the collaborators’ communication zones, shifting between each as the situation and collaboration required.

Communication

The term “communication,” is also complex, especially in cross-cultural communications, and is, necessarily, dependent on those defining the term. Scollon, Scollon, and Jones (2011) explained that

The meanings we exchange by speaking and by writing are not given in the words and sentences alone but are also constructed partly out of what our listeners and our readers interpret them to mean (p. 11).

Communication, then, is also a heuristic by which to establish a common ground in which to collaborate, always dependent on the environment within which the collaborators are engaged and the collaborators themselves.

Distributed Community

As has been seen in the areas of collaboration and communication, globally distributed teamwork is dependent upon the development of community and the interactions of those within that environment. Hoegl, Ernst, and Proserpio (2007) found that “team member dispersion increases as teams find it more difficult to perform high-quality teamwork (p. 156). Historically, the development of globally distributed communities has been inhibited by the ways the collaborators connect to one another, yet establish their own place within that community. Paretto, McNair, & Holloway-Attaway (2007) insisted that “identity construction in cyberspace” is imperative in negotiating the communication within globally distributed teams. O’Brien, Alfano, & Magnusson (2007) stated that “users increase their sense of personal accountability through engaging with a real audience” (p. 127). What is required, then, is a sense of personal identity and accountability that engages others within the collaborative environment. In the development of this manuscript, for instance, each of the authors, researchers in their own areas, came to the collaboration with some disciplinary expectations regarding the ways collaboration would occur within each of their communities. The authors had similar expectations because of their shared perspectives as academics who work within the United States. What hadn’t been expected was to find that perspectives shifted as each author explored ideas and the others contributed. Cultural differences contributed to these shifts (One author is an immigrant to the United States and a non-Native English speaker. Her perspectives gave the group new insights into how this article, and the ideas about it, could be approached.). Chen, Caropreso, Hsu, and Yang (2012) confirmed that the ways group participants behave and engage are predicated on perceptions and cultural experiences, noting that participants tend to migrate toward those who are more similar to themselves, and that group identification may be situated within “factors such as ethnicity, occupation, and religion” (p. 27). In the authors’ case, each person identifies as an academic with a focus in online collaborations, which established a set of expectations and identification in the ways collaboration was approached. Wang (2011) suggested that in order to create community, collaborators need to be matched carefully, two non-native to one native speaker, and control group sizes, small group sizes, in order to facilitate better cross-cultural communication (p. 254). These restrictions help develop better communication and understanding.

Engaging the Individual

Collaborative work isn’t only about the environment or projects, but about engaging individuals from different backgrounds with a common goal in the types of communication and work that are necessary for that collaboration. Survey responses for this research and research by Paretto, McNair, and Holloway-Attaway (2007) agree that the ways individuals have been engaged in collaborative work in the past has been focused on some similar themes: common goals, trust, and motivation. By using new technologies in collaborative online environments, new ways of thinking about collaboration must also be engaged. This becomes even more important when engaging in cross-cultural collaborations.

Visual mediums, such as video calling or virtual reality, introduce new ways of engaging the individual in collaborative environments. Individuals working on collaborative works in cross-cultural settings have different needs than those working in homogenous settings and the technology can make the difference in how successful those encounters are for all of those involved, including a “greater sensitivity, understanding, and ethical awareness in order to bring about positive international and social relations” (O’Brien, Alfano, & Magnusson, 2007, p. 128). The technology helps individuals create different types of connections with their fellow collaborators. Individuals using technologies can encourage more positive approaches to cross-cultural barriers. For instance, the authors noticed that on occasion the message was not being understood by one another if they only engaged in listening, but by engaging the video, each of the authors could see how the other person was speaking, what kinds of gestures were used, and when the silences were a pause for thought rather than for interjection. In addition, introducing different ways of sharing information (chat, screenshares, etc.) improved communication between the authors. “Since communication appears to be bound by cultural context, collaboration occurs only if communications were understood within the context and carried out through interactivity” (Chen, Caropreso, Hsu, & Yang, 2012). It is the interactivity of the collaboration that seems to play a key role in the success of the communication.

Cross-cultural Communication

The most important element of determining how globally-distributed groups work in online collaboration is in understanding cross-cultural communications and how those work within teams while reviewing how technology works within the communications. “Communication media used to support collaboration, ... are complicated when distributed work goes global because media are not culturally neutral” (Paretti, McNair, & Holloway-Attaway, 2007, p.333). Because so much of the available technology has been developed in the United States, that technology has culturally-homogenous roots and therefore has cross-cultural implications. Despite the varied modalities, genres, and dialects presented in online environments, the style of online communication developed with a Western-centric tone that requires those communicating in those spaces to adapt to that tone (Anson, 2012, pp. 149-150). There is an implicit expectation that anyone outside of the normed culture has to adapt to communicate within the norm, and to work toward a system of shared values and belief. However, there is a great potential for misinterpretation when those adapting are not native to the language and/or culture, despite their work to integrate successfully (Chen, Hsu, & Caropreso, 2006, p. 18). Each element within the communication, from the cultural expectations to the individuals to the technology, have an influence over the ways the communications take place, and if they are able to be successful.

Working within cross-cultural communities requires a different set of skills than working within a homogenous community. Not only do participants need to begin with the “position that differences exist” (Bosley, 1993, p.51), but participants must recognize that because of these differences, extra steps may need to be taken to communicate fully. According to Chen, Hsu, and Caropreso (2006), “Cross-cultural learning takes more processing time for effective communication, especially given communication context differences” (p. 27). Participants can’t assume that everyone within the community is operating with the same expectations. Bosley (1993) demonstrated this in his example:

In high-context cultures (Asia, for example) speakers use context to convey much of the information. More of the message is left unspoken and is accessed through non-verbal cues and interpretations of what is meant rather than what is said. In low-context cultures (the United States, for example), speakers are more specific and direct. Speakers do not rely so much on context to convey meaning, and listeners do not need to interpret so much. (p.55)

If participants are not using visual modes of communication, much can be lost in translation with significant social cues and non-verbal cues misdirected and/or misinterpreted by other participants. The needs of cross-cultural communication necessitate different approaches to communication, including additional time, cultural sensitivity, openness about differences, patience, and strategic planning to create a safe and productive space (Bosley, 1993; Chen, Hsu, & Caropreso, 2006). However, these affordances can also create a barrier to decision-making. Paretti, McNair, & Holloway-Attaway (2007) argued that while new technologies enhanced attention and motivation, key factors in collaboration, the technologies also decrease abilities to process information because complex concepts are discussed without time to analyze them, as opposed to asynchronous formats, such as written communications, in which participants have more time to think (p. 333). Chen, Hsu, and Caropreso (2006) argued that while written communication is useful when approached with the cultural sensitivity required of cross-cultural communications, the level of communication is not equal to that of face-to-face communications, which newer digital communication modes offer (p. 19). While it’s important for the participants to have that sensitivity, it’s also important to understand and use the technologies that adequately enhance these types of communications.

METHODS

This research addressed how people communicate in cross-cultural/cross-language interactions, using technology for those interactions. The research questioned how both synchronous and asynchronous connections allow collaborative work in non-traditional environments that include traditional and non-traditional communication styles, examining the challenges and successes in these environments for clear communication and cross-cultural accessibility for globally distributed teams. Objectives of the research were: to develop understandings of how communication across cultures worked in practice; and how individuals engaged in the practice viewed its meaningfulness and support of individual and team goals. This research was conducted with IRB approval and with written informed consent from each of the respondents.

Survey Development

Data was collected through an online survey developed in Survey Monkey©. This tool was used because of its availability to the researchers, its wide use, and its accessibility features. Regardless of the respondents location, access was available.

The survey, which collected open ended, qualitative data was developed to expand upon the technology based cross-cultural/cross-language understandings reviewed in the literature. Because terminology can differ by

culture, the survey began by asking participants to interpret the ideas of collaboration, collaborative environments, and cross-cultural collaborations. Respondents were next asked to relate technologies role in cross-cultural collaborations, how it benefits or inhibits collaboration, and what experiences in these environments have taught them about best practices in technology mediated cross-cultural collaborations.

Respondents

In order to garner the largest pool of respondents possible, the researchers identified specific collaborative teams at their institutions. These collaborative teams were emailed information about the intent of the study and a link to participate in the survey. To expand upon the pool and gather as much data as possible, the researchers also identified specific listservs and groups within social media environments whose focus is technology-based global collaborations.

Twenty-nine individuals responded to the survey. Participants were from five countries, Canada, Israel, Sweden, Switzerland, and the United States and spoke eight unique languages, Chinese, English, French, German, Hebrew, Spanish, Swedish, and Swiss German. Respondents were also from a variety of educational and industry settings.

Data Analysis

Because the data for this study was anonymous, open-ended and qualitative, it was analyzed for its content in order to explain and describe technology-based cross-cultural collaboration. Content analysis in the research was used as the method for examining the data for patterns. Since we based the questions on ideas from the literature, we began with categories of collaboration, communication, community, cross-cultural communication, collaborative technology and shifts in collaborative practice. This expanded as we analyzed the data to include positive and negative representations within the categories and a new category of the cultural specificity of the technology in use.

FINDINGS

The survey provided in depth reflections of professional practice in cross-cultural environments with respondents who had been engaged in cross-cultural online collaborations for anywhere from very recent engagement (less than a year) up to twenty years of involvement. This diversity of practice led to some interesting responses for the different questions we posed and reflected contrasting approaches to globally distributed online teams in collaborative environments. This section will explore the themes that emerged through content analysis of the survey.

Collaboration, Communication, and Community

The dominant themes of collaboration, communication, and community were built-in to the questions. The researchers wanted to determine what respondents thought of these concepts, and how the concepts informed their ways of connecting in the online environments. Respondents were asked to reflect on what collaboration meant and to offer ways they engaged in collaboration. Collaboration was most often described as a way “to seek an active role, but to do so with regard to others' ambitions, skills, needs, etc.,” “to see the group dynamic as a tool to solve problems;” to develop a “reciprocity of relationship over time;” and to create “leadership shared equitably among participants.” These responses were typical of those engaging in collaboration for lengthier time periods. However, one respondent, who had only been engaged in collaborations for a short period and was still trying to define what collaboration meant, stated “I understand collaborative environments as those that facilitate communication, so the environment can be a classroom, meeting space, or online.” This demonstrates that the length of time an individual has participated in collaborative environments show an evolution of how the collaboration and/or environments are defined. When asked how one engaged in collaborations, the responses varied. Some respondents gave concrete ways they designed the collaboration to be as effective as possible: “Sometimes I am more explicit in stating the requirements and preparing responses in a way that leaves less confusion.” Others considered the difficulties and benefits of using online collaborations, including the ability to blame miscommunication on the technology rather than the collaborators. In this response, the respondent indicated that the technology hindered progress:

Sometimes it is not worth the effort to write a carefully crafted email to get an answer to a problem so I will continue to work on the issue myself. Sometimes I work with team members who are several time zones apart - and that is problematic.

Finally, some respondents were reflective in their practice: “You can never take for granted that you share the same understanding;” and “I believe even within my own culture there are personality and work differences to which I must attend.” Overall, consideration toward fellow collaborators was a narrative that persisted throughout the answers to the survey.

Communication was, again, a concept that was fraught with ambiguity. Some respondents looked at communication as the different spaces in which information was shared.

I am involved in a forum online with my colleagues, in this forum we help each other with information for our clinic and our patients, and ourselves, when someone writes something we all can respond or just participate in a silent way.

For others, communication was about breaking down barriers that may cause miscommunication and to develop a beneficial interaction. However, as the quote below demonstrates, culture has a prominent role in how communication has taken place amongst different groups and has required a level of reflection to understand differences in cultural and communication patterns.

In my own culture, we have many ways to communicate because we understand more of the norms, and and with less words we can understand each other, which will be difficult with others from other cultures. However, in the same time with people from other languages and culture it is much more interesting and we both learn more from each other. We also can help each other in this shared opportunity.

One respondent added that “I may be less explicit with people from my own culture because we share similar values, and knowledge.” This caused the researchers to question how the respondent defined the cultural norm, and how those who were outside of it were identified. Finally, the respondents to this survey were overwhelmingly reflective and considerate when discussing their practice.

I believe we should always try to at least *imagine* who it is we're communicating with no matter the culture. This means listening/reading carefully, trying to understand perspectives based on what we know of the individuals involved, working to express ourselves in ways that either acknowledge when we are "culturally ignorant" or in ways that convey an awareness of other people's situations and experiences, etc.

This comment reflected the need to understand culture, which was not defined by the survey. It was also indicative of the need to assess the collaborative meeting space in order to connect better.

In the third theme, respondents reflected on how community is defined and how collaborators can connect better within a shared community. Respondents acknowledged that development of community has historically been inhibited “when leadership was not shared, when participants did not share similar commitments, when there was lack of transparency, and when there was lack of organization.” Instead, they asserted, community requires a commitment to “understanding people from other cultures as well as the need to be aware of this aspect and how it impacts conversation and collaborative exchange.” Community-building extended beyond those in the distributed team collaborations, however, and, at least for this respondent, included cross-institutional collaborative community building: “we would like to be able to share resources that are owned by universities across university contexts.” This topic was not addressed by those who were responding from industry roles, however, which may speak to the different types of cultures surrounding education and industry.

Cross-cultural Communication

In discussing cross-cultural communication, the emphasis is placed on cross-language with special attention paid to the ways languages are translated and information is shared through translation.

I've had to think more about how I express myself, to make sure that what I say will make sense when translated. I've had to think more about whether the issues I raise or solutions I suggest are culture-specific, and whether that's appropriate, or whether it needs to be re-thought for the objective we're working toward.

Many respondents suggested that differences must be addressed through “frequent questioning and assessing understanding,” and “better negotiation of every step in a collaborative process,” with “greater sensitivity to difference.” The most salient comment was about listening and giving time: “Listen. Move forward slowly unless there is an urgency to a project. Let other people take the time they need. Some cultural norms value consensus, some discussion, some friendliness and social exchange.” While this respondent was comfortable in adjusting for different needs, this is not always how the respondents reflected on the collaborations.

In some cases, respondents indicated that they were not completely comfortable working within cross-cultural collaborations. “There is a lot of baggage that international students bring in terms of hierarchy and other issues when working with faculty.” Others argued “part of being a good collaborator is being willing to accept difference -- both in practice and outcome.” More often, however, respondents were interested in how to progress and create practical solutions to issues that arose through cross-cultural communication:

We try to write multi-lingual messages when possible and to translate standard texts and videos to the common languages represented in our group (or at least include grammatically correct/typo-free subtitles on our videos so that others can try to use the auto-translate). We try to present examples from different parts of the world when relevant. We make sure to clarify things like what measurement system we're using, what currency we're referring to, and when mentioning or linking to products or other resources we look at how available they are in the relevant parts of the world.

The use of videos, linking, and auto-translate incorporates the ways that collaborative technologies can improve communications in distributed teamwork.

Collaborative Technology

The survey asked about the ways respondents engaged with technology and, if they did, what types of technologies they incorporated into their distributed online cross-cultural collaborations. When asked about collaborative technologies, most respondents were specific about online versus offline, and what was needed by the collaborators. Several respondents commented that technologies increase the "facilitation of access" and "the ability to focus communication." When asked about the specific technologies used in collaborations, one respondent discussed physical space as the prime concern in offline collaborations: "office space, school spaces, community spaces both public and commercial (libraries & cafés, for example), as well as "natural" spaces -- the woods, the local trails, etc." This same respondent commented about online technological spaces, where collaborators could meet synchronously to discuss the collaboration, including "the now defunct ciLabs (community informatics virtual labs--Drupal-based); Moodle spaces; various online forums; various online wiki projects" but also included technologies that are not often considered spaces of congregation, but storage and/or asynchronous tools such as "mailing lists; group email exchanges; shared Dropbox folders." What this shows is that online collaborators emulate face-to-face best practices for collaboration by using tools strategically for their needs.

Respondents were also cognizant of the different restraints placed on online collaborations and how collaborative technologies can facilitate the ability to connect with others.

When participants remain separated by space and time constraints, online spaces allow access to synchronous and asynchronous work. At the same time, such environments offer access to incorporated diverse online tools to enhance our work together. Each of us adds something to the mix, which makes the whole greater than the sum of its parts.

Some only use collaborative technologies to improve traditional face-to-face collaborations. The ways technologies are used in these collaborations is only to improve the communication when collaborators are separated geographically. One respondent commented that tools like Skype or Adobe Connect allow the collaborators access to one another when they cannot meet personally. "For collaborative work within my company face-to-face contact is essential." This speaks to the different ways collaboration takes place and how technologies are considered for those needs.

Cultural Specificity of Technology

Within the technology collaborations, respondents also focused on how technologies are incorporated into their collaborations. As one survey respondent commented,

...software that is made by Americans for Americans, with annoying culturally myopic limitations such as character encoding issues or only allowing imperial measurements or using iconographic imagery that only make sense to particular cultures.

In fact, one respondent suggested that "the ability for participants to write in their own language and be understood via auto-translation tools (however imperfect)" as a top priority in distributed cross-cultural online collaborations. However, if participants use different tools to facilitate the collaboration, what can occur is what another respondent defined as "collaboration fatigue," a condition of group collaborations. Collaboration fatigue was defined as two separate groups using two different environments using different conventions that don't always translate well.

Finally, one respondent suggested that the quality of the collaboration had little to do with the technology and its specificities. "I find that, in general, productive or positive collaborative exchange depends more on the people involved than the technological affordances or constraints." What this means for the collaborations is that clear communication takes on a more significant role in the practice of collaboration.

Shifts in Collaborative Practice

Respondents were clear about the ways their interactions have shifted over time as they engage in more distributed cross-cultural online collaboration. These shifts have not only affected the cross-cultural collaborations, but also how the respondent collaborates in his/her own culture, and what it means to be culturally sensitive. "There is no such thing as "universal" culture, but there are ways to broaden one's courtesy and compassion and knowledge, and I try to find those ways." Beyond courtesy and compassion, respondents shared practical knowledge that has helped them be more effective collaborators. One respondent commented on how appreciation of different people's needs and ways of expressing themselves has changed the way the respondent listens, including slowing down the conversation so the respondent can "understand more about the person." Respondents also commented on how self-reflection enables them to collaborate more effectively.

"I look for what is different from my assumptions -- how am I surprised? I try to understand where and how that surprise originated -- what did I just learn? I try to understand what would be perceived as courteous, what would be perceived as caring, and what would be perceived as too much or inappropriate."

Finally, respondents state that there are specific ways to facilitate collaborations by being "more explicit in stating the requirements and preparing responses in a way that leaves less confusion;" "understanding...what someone else is saying is...informed by what I know about them, whether this is gender, profession, generation, culture, etc.;" and "having expectations for collaboration and its goals clear and defined by consensus." By understanding these practices, a set of best practices for globally-distributed teams in online collaborative environments can be developed.

DISCUSSION

Best Practices

The researchers see choosing technology that works well with the type of collaboration the team will be doing as one of the fundamental issues in approaching globally-distributed teams in online collaborative environments. Postman (2000) and McLuhan (1994) advocated for the ways technology can change the culture and interactivity of the users of that technology. Postman (2000) wrote that the medium chosen "gives form to a culture's politics, social organization, and habitual ways of thinking" (p. 10), and that new media transformed culture completely. McLuhan (1994), in writing about computers (which can be applied to online communications), said they create interconnected communities in which disparate individuals and cultures create new definitions of community. The ways technology can change the approaches to communication encourage critical thinking about why technologies are chosen. When the dominant culture, especially in a global marketplace, becomes myopic, guaranteeing quality communication and/or collaboration becomes nearly impossible, especially given the ways technology influences community building. The problem is not only within software design, but also with those who implement its use "to focus their institutional missions on enhancing students' abilities to communicate effectively, especially through the use of emergent digital technologies in the language that many linguists believe is becoming the world's lingua franca, English" (Anson, 2012, p. 140). While English may be the current lingua franca, it is short-sighted not to encourage thinking about collaborations in different ways using different modes of communication, whether that is a spoken language, alphabetic texts, graphic texts, or visual displays. It is more appropriate to consider who is involved in the collaboration, what language best fits the collaboration, and what technologies will best facilitate the collaboration. Thinking about the modes of collaboration critically is where the implementation should begin, and not at the time of the collaboration itself.

Engaging Collaborators and Technology

The first step to engage collaboration in cross-cultural dialogues is to prepare the participants for the environment. Most of the respondents in this survey wrote that they had never received any training to work within cross-cultural collaborative environments, and had to teach themselves how to navigate them. This usually meant making mistakes before being successful in the collaboration. These days most individuals have some level of cross-cultural exposure, especially if engaged in online social media, but this doesn't mean that users are experts, nor even skilled, in collaborating in a cross-cultural communities.

To introduce cultural training to students with whom the researchers work, students are encouraged to collaborate by first, getting to know one another. This is done in both face-to-face collaborations and online collaborations. This can be as simple as introductions, if the collaborators are familiar with one another, or it can be fairly complex discussions that exist throughout the collaborative process for those getting to know one another. Wang (2011), in teaching collaborative groups of American and Taiwanese students, encouraged his students to create video stories consisting of one minute video including basic personal issues like family, friends, and habits, but also including "something related to their own cultural heritage" (pp. 246-247). Group members were then required to

respond to the videos posted on YouTube to connect with that cultural foundation. This allowed the students, who would be collaborating all semester, to begin with some sense of understanding about their fellow collaborators and encourage productive learning communities. "Participants in such groups can exchange information about the communication styles of their culture, can become sensitive to the behavior and thinking strategies of all members of their collaborative group, and learn strategies to recognize and control problems inherent in such cultural interactions" (Bosley, 1993, p. 62). While this assignment is very limited, it creates a foundation for understanding on which to build for the remainder of the collaboration.

Once collaborators have an idea of the cultural differences, it is helpful to begin communicating directly. Video discussions, which can also incorporate text chat and screensharing for alternative modes of interaction, are most helpful in communicating complex concepts; "face-to-face communication, or something as close to it as possible, can be central to creating the social and professional context that makes distributed collaboration possible" (Paretti, McNair, & Holloway-Attaway, 2007, p.332). Using tools that allow for simulated face-to-face discussions, such as video or the use of avatars, or actual face-to-face communication encourage the participants to engage in verbal and non-verbal communications, thereby alleviating some of the issues that low-context cultures have when communicating with high-context cultures.

As relationships develop and social norms and expectations are created, the purposeful implementation of multiple technologies can be integrated throughout the teamwork. As one respondent commented, collaboration is strengthened through "the ability to combine synchronous and asynchronous exchanges more seamlessly, so that people in various time zones can coordinate more efficiently; the ability to share resources more widely and draw on the strengths of people much farther afield rather than resorting to whoever is locally the most convenient." By considering all of the potential needs of collaborators, including time differences and communication styles (synchronous and asynchronous, alphabetic, graphic, and video), the collaborators are more likely to find ways that work best for each of them in order to be productive.

Future Implications

Current video technologies include real-time closed-captioning and transcripts that can enhance the communication between collaborators. Some future iterations of video collaborative tools include auto-translation that translates in real-time. While these are positive additions, they do not account for cross-cultural issues that may arise. Language is only one barrier to good communication. Understanding the different levels of communication, verbal, non-verbal, alphabetic, and graphic, will help collaborators become more successful in their online collaborations. Furthermore, it is important not to rely solely on brands of technology for effective communication and collaboration. Not only are these apt to go out of date quickly, but as one respondent commented, there are "challenges when relying on proprietary software products in that they can cause long-term sustainability issues when no longer affordable or when group size gets to be too big."

CONCLUSION

The researchers began this study thinking about specific platforms, software, and apps used in collaborative work. However, as the research progressed one key point became clear: the focus shouldn't be on the technology, but on the dynamics of the group using the technology, and how those needs will develop the ways technology is integrated. What individuals must be taught to assess their specific situation, to develop a plan, and to then move forward with the technology side of the equation, making sure that the technology is inclusive for all of the members of the collaboration, and not focused only on the dominant culture or language. It is only at that point will the collaborators feel the technology is assisting rather than hampering their work.

REFERENCES

- Anson, C. M. (2012). World Wide Composition: Virtual Uncertainties. In Daphne Desser and Darin Payne (Eds.), *Teaching Writing in Globalization: Remapping Disciplinary Work* (139-159). Lanham, MD: Lexington.
- Bosley, D. S. (1993). Cross-cultural collaboration: Whose culture is it, anyway?. *Technical Communication Quarterly*, 2(1), 51-62.
- Chen, S. J., Caropreso, E. J., Hsu, C. L., & Yang, J. (2012). Cross-Cultural Collaborative Online Learning: If You Build it, Will They Come?. *Global Partners in Education Journal*, 2(1), 25-41.
- Chen, S. J., Hsu, C.L., & Caropreso, E. J. (2006). Cross-cultural collaborative online learning: When the west meets the east. *International Journal of Technology in Teaching and Learning*, 2(1), 17-35.
- Hoegl, M., Ernst, H., and Proserpio, L. (2007) How Teamwork Matters More as Team Member Dispersion Increases. *Journal of Product Innovation Management*, 24: 156-165.
- Hunsinger, R.P. (2006). Culture and cultural identity intercultural technical communication. *Technical Communication Quarterly*, 15, 31-48.
- McLuhan, M. (1994). *Understanding media: The extensions of man*. MIT press.

- O'Brien, A., Alfano, C. & Magnusson, E. (2007). Improving Cross-Cultural Communication Through Collaborative Technologies. In: De Kort, Y. et al (Eds.). *Persuasive 2007*, LNCS 4744, pp. 125-131.
- Paretti, M. C., McNair, L. D., & Holloway-Attaway, L. (2007). Teaching technical communication in an era of distributed work: A case study of collaboration between US and Swedish students. *Technical Communication Quarterly*, 16(3), 327-352.
- Postman, N. (2000, June). The humanism of media ecology. In *Proceedings of the Media Ecology Association* (Vol. 1, pp. 10-16).
- Scollon, R., Scollon, S. W., & Jones, R. H. (2011). *Intercultural communication: A discourse approach*. John Wiley & Sons.
- Thorne, S.L. (2003). Artifacts and cultures-of-use in intercultural communication. *Language Learning and Technology*, 7, 38-67.
- Valcanis, T. (2011). An iphone in every hand: Media ecology, communication structures, and the global village. *Etc*, 68(1), 33-45.
- Wang, C. M. (2011). Instructional design for cross-cultural online collaboration: Grouping strategies and assignment design. *Australasian Journal of Educational Technology*, 27(2), 243-258. Engaging Globally Distributed Virtual Teams through Collaborative Environments