Using Synchronous Videoconferencing to Enhance Instruction and Facilitate Intercultural Exchanges in U.S. Elementary Classrooms

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This study examined the perceived benefits and challenges of using synchronous videoconferencing as a tool to teach academic content and engage United States (U.S.) elementary students in intercultural exchanges with peers in other countries. The study employed a sequential mixed-methods design that consisted of first surveying, then interviewing participants. The findings suggested that synchronous videoconferencing served as an effective tool to simultaneously promote students' learning of existing curricula all while amplifying the students' understanding of diverse cultures throughout the world. Furthermore, participants noted only a few minor challenges, such as scheduling issues and/or technical difficulties. Overall, participants highly recommended the integration of synchronous video interactions as a tool to help enhance lessons, promote long term retention of content, and facilitate intercultural exchanges among students.

Keywords: culture; intercultural communicative competence; videoconferencing, technology and education

In today's global society, connection is key. Connecting with a coworker or friend in your immediate proximity can keep a person informed of the happenings of someone else's daily life. However, connecting with someone outside your immediate circle across the world brings the potential to connect and learn about other things like the customs, traditions, and daily practices that help us understand our place in the world as it relates to others (McGoogan, 2002). Through connection societies can learn from one another, fostering peace and respect, thus growing and prospering collectively.

Many platforms exist to connect individuals (proximate and afar) and were used prior to the COVID pandemic. However, once the COVID pandemic presented itself, using online platforms became the norm. Tasks such as talking to your doctor, attending church, or touching base with your loved ones were now done online. For example, Koonin et al. (2020) reported a 154% increase in telemedicine from 2019 to 2020 alone. The Pew Research Center (2020) reported that during the pandemic 70-73% of people in the United States attended religious services virtually. Specifically, for education the rules of learning also changed as online platforms were embraced to deliver lessons. It is estimated that at least 93% of the school-aged children in the United States had some form of distance learning during the pandemic (McElrath, 2020). While existing studies highlighted the benefits (i.e. enriching lessons, expanding learning) and challenges of videoconferencing (i.e. learning a new program, lower quality of learning) as part of classroom lessons (Journell & Dressman, 2011; Knipe & Lee, 2002, McGoogan, 2002), during the COVID pandemic their use became a necessity, quirks and all.

In essence, videoconferencing served as a lifeline for educators to reach their students and enabled them to continue learning hoping that they would reap benefits rather than encounter some of the challenges previous studies had already noted. In reviewing uses of online learning platforms during the pandemic, it appears that educators across PK-12 systems relied on them heavily, not just in the United States, but globally. The World Economic Forum (2020) reported that 1.2 billion children across 1186 countries may have participated in online learning due to the COVID-19 pandemic causing school closures. With these online learning opportunities came the chance not to just follow the usual curricula, but also to develop in students the intercultural communicative competence that was very much needed during these times through technology enhanced lessons.

Simple connection using technology is a thing of the past. Now, a new scope has presented itself and looks to find ways to facilitate academic learning and develop intercultural communicative competence (ICC) among younger children worldwide (Barron, 2020), thus the ever-expanding uses of online video platforms. As a matter of fact, previous studies have been

conducted that documented positive student responses and increased cultural competence through regular videoconferencing (Angelova & Zhao, 2016; Gerstein, 2000; Gregersen & Youdina, 2009). However, these and other studies have generally focused on individual classes, schools, programs or districts, resulting in findings that are limited to the location(s) where the specific exchanges occurred.

This present study sought to expand on that knowledge and examine the experiences of PK-5 educators in the United States who have used videoconferencing to connect their own students with peers throughout the world, thus casting a much wider net. In examining the perspectives of individuals not affiliated with the same organization or program, the researchers explored the heterogeneous experiences of educators using online videoconferencing as part of their lessons to not just enhance learning, but develop intercultural competence (Byram, 1997) as well. The research questions that guided this study were: (1) What do U.S. K-5 teachers perceive as possible benefits, if any, of using videoconferencing in the classroom for intercultural exchanges? (2) What do U.S. K-5 teachers perceive as possible challenges, if any, of using videoconferencing in the classroom for intercultural exchanges?

REVIEW OF LITERATURE

Intercultural Communicative Competence (ICC) serves as a bridge to connect people by integrating an individual's own cultural awareness and using that information to effectively communicate with others from different cultures (Byram, 1997). ICC involves an individual's attitudes, knowledge, skills of interpreting/relating, plus their cultural and political awareness of global matters (Bryram & Feng, 2004). In addition, ICC provides individuals with the potential to navigate the world by not just understanding themselves, but by being able to understand others as well (Bryram & Feng, 2004). For school-aged children, ICC also provides the opportunity to practice using appropriate, effective language as they interact with others in various situations. Because of its many benefits, Byram (1997) suggests that educators need to create opportunities for students to practice intercultural communicative competence (ICC) through authentic learning collaborations so that it can be developed.

The Benefits of Using Synchronous Videoconferencing and ICC

To further establish the importance of ICC, Alaei & Nosrati (2018) assert that preservice teachers should be trained in intercultural curriculum so that they can easily develop ICC in their future students. When students can understand different cultures, they can facilitate unique experiences which

may serve to develop more complex and advanced knowledge and cross-cultural skills (Akbaba & Başkanb, 2017). According to Sykes (2017), digital technologies have expanded the possibilities for human interactions in ways that were never imaginable, especially for education. In short, using videoconferencing platforms can give students a sense of real-world, face-to-face communication (Tian & Wang, 2010).

Lessons that integrate synchronous videoconferencing help students not only learn the objective of the lesson, but also expand on these lessons through authentic worldviews on the topic (Hopper, 2014; Ockert, 2015). It serves as a tool to develop students' language skills, promote intercultural knowledge about those living in diverse countries, highlight similarities between one's own culture and the culture of others, and embrace a multicultural societal perspective (Andrade, 2016; Nguyen et al., 2020; McGoogan, 2002; Tian &Wang, 2010). Through videoconferencing teachers can inexpensively, and from the comfort of their classrooms, provide their students with access to cultural experiences (i.e., customs, languages, and beliefs) not normally accessible to them (Nguyen, 2019). Furthermore, through lessons enhanced with synchronous videoconferencing, participants can share distinctive attributes of their own culture, thereby promoting robust, meaningful dialogue (Lee & Markey, 2014; Nguyen et al., 2020).

Educating students about concepts and ideas outside of their proverbial "cultural" box and affording them opportunities to expand their cultural wealth and gain priceless global knowledge is a win-win (Lee & Markey, 2014). Not only are lessons more meaningful (Hopper, 2014), they provide students the opportunity to get to know someone else through video and audio conversations, thus aiding in tearing down ill-perceived misconceptions regarding other peoples' cultures and clarify misconceptions that exist about groups of people (Andrade, 2016; Lee & Markey, 2014). Ultimately, the anticipated result of using synchronous videoconferencing for intercultural exchanges are students who will become savvier to proper cultural interaction and better prepared to interact in a global capacity (Ockert, 2015). Being a part of a connected global society allows students to familiarize themselves with who their neighbors are, what they value, their strengths and weaknesses, and likes and dislikes (Richardson, 2012). Lastly, students' interactive experiences with their global counterparts affords them the opportunity to enhance skills necessary in the 21st century, such as communication (Sykes, 2017) and collaborative problem solving (Nguyen, 2019).

The Challenges of Synchronous Videoconferencing

As with any online platform there are glitches that need to be worked out. While using videoconferencing to enhance lessons has its benefits, it also has its challenges. According to Gatlin-Watts et al., (2013), some of the issues that may be associated with using an online platform as part of

instruction may involve an associated learning curve, cultural barriers, time zone changes, different holidays, different beginning and ending dates for semesters, and language differences that could result in miscommunication and misinterpretation. Yet another potential challenge is that the partner class may not have access to the same types of technology (Gerstein, 2000) prohibiting the establishing of clear and concise communication between all parties, ultimately affecting the success of the lesson (Gatlin-Watts et al., 2013).

It is also imperative that rules and regulations observed by both groups of students stay within the parameters of socially acceptable behavior, as determined by each student group's institutional entity and country of origin (Nguyen, 2019). For instance, the discussion of political topics by varying groups is quite sensitive and often a taboo subject due to governmental regulations. Countries who monitor internet content may inflict severe penalties on individuals who make statements not in line with the country's beliefs. Additionally, disrespecting each other through micro-aggressive behavior may also contribute to less than favorable and limited dialogue during a videoconference call (Hsu & Beasley, 2019).

Intercultural Communicative Competence and COVID-19

The COVID-19 pandemic has brought to light just how important developing ICC in children is. Recently the United Nations Educational, Scientific, and Culture Organization (UNESCO) (2021) developed training in collaboration with 5 countries to teach ICC and highlight how tolerance, empathy, critical thinking, and listening for understanding were all very much needed in a world battling a pandemic. UNESCO (2021) argues that children are the agents of change and are the ones to lead social transformation focused on peace and respect.

Studies recently published on the COVID-19 pandemic have reported how online platforms have offered a way to keep learning going for people of all ages. For example, Hu et al., (2022) published a study on the experience of using online learning as part of home-based learning to prepare nursing undergraduate students to meet the need of medical staffing during the pandemic in Singapore. Osmjanski (2022) reported using online learning to give English lessons in Serbia. Yu (2022), noted in her study that online learning provided more opportunities to engage in authentic experiences that provided more direct input for people learning a second language. While these examples serve as instances where online learning was used for a particular area of study with older learners, for children in the PK-12 system learning about math, science, social studies, art, music, and language arts, video conferencing platforms presented their educators with the opportunity to take their lessons beyond the classroom and add to them a new and

global perspective. Yet, in reviewing the literature, limited studies focused specifically on young children and developing ICC are available to review (McGoogan, 2002; Riley et al., 2018).

METHOD

This study employed a sequential mixed-methods design that consisted of first surveying and then interviewing participants. A survey was chosen as the initial means of contact with potential participants because it allowed the researchers to access a wide group of people in a flexible way (Sincero, 2019; Vogt et al., 2012). The interview allowed the researchers to ask questions that helped to answer the research questions, while also allowing participants to share their unique perspectives through storytelling (Cohen & Crabtree, 2006). The sequential mixed-methods design also allowed the opportunity to begin answering the research questions by beginning with a small-scale study before beginning a large-scale study (Hassan, 2022).

Participant Selection

The researchers limited participation to United States (U.S.) K-5 classroom teachers who had used synchronous videoconferencing to connect their students with others in other countries on one or more occasions. The researchers employed a combination of recruitment efforts to obtain enough participants for the small-scale study. Participants were offered a digital kid's camera to complete the survey and a portable USB condenser microphone to participate in the interview.

To begin reaching participants, the researchers utilized an online educator community. Once there, they accessed a database of users seeking other educators with whom they could set up a classroom-to-classroom synchronous videoconference call. From this database, potential participants were filtered by the age of students they taught (i.e., upper elementary students), country/region they lived (U.S.), and language preferred (English). The researchers further narrowed potential participants to include only those who also provided an email address. Initial recruitment using the online educator database resulted in three participants.

As part of the second recruitment effort, researchers went to @SkypeClassroom, an online platform. Once there, the researchers posted an invitation for eligible educators to contact them via Twitter or email to participate in the study. On the @SkypeClassroom page, the researchers looked for individuals who had posted a tweet that explicitly or implicitly stated that they had used synchronous videoconferencing to connect their students with students in other countries within the last year. Those that appeared to meet the sampling criteria and had a valid email address were invited to

participate in the study via email. These efforts resulted in two additional participants. Finally, in an attempt to obtain still more participants, the researchers employed snowball sampling in which they asked the current participants to invite others who may also fit the sampling criteria to take part in the study (Vogt et al., 2012). Through this effort, the researchers were able to gain one additional participant. A total of six participants were recruited for this study through the combined efforts.

Participant demographics

The participants in this study were elementary teachers who had at least three years of teaching experience. Of the six participants, one was male and five were female. Their experience in the classroom ranged from 9-28 years. Four of the five participants reported using synchronous videoconferencing with their students more than 10 times. The other two participants reported using it 2-10 times. To provide the participants anonymity in the presentation of findings, each were assigned a pseudonym (Vogt et al., 2012).

The Instruments

To answer the research questions, the researchers created a survey centered on participants' experiences using synchronous videoconferencing to connect their U.S. students with those living in other countries (Appendix A). To design the survey, the researchers reviewed literature focused on videoconferencing to connect students living in distant locations. The researchers then compiled a list of benefits and challenges found in the literature. They also met to discuss any seemingly important benefits and challenges that had not been mentioned in the literature. The compiled items were then added to the list. The benefits and challenges were organized into categories and used to create Likert-type items inquiring about the ways in which participants felt that synchronous videoconferencing had benefited their students and challenges they had encountered. The second half of the survey consisted of open-ended questions, which allowed the participants to share more detailed information on using videoconferencing in the classroom and their perceived advantages and disadvantages. The final portion of the survey invited participants to provide additional information if they wished to participate in the interview and/or receive the incentives offered. Overall, the survey included three sections: Background Information, Benefits and Challenges (Likert scale items), and Follow-Up Questions (open-ended questions). The survey was piloted prior to its dissemination with a group of graduate students currently working as classroom teachers. Input on the phrasing, presentation of questions, and format was sought (Jones et al., 2013). Their input was used to polish the survey prior to sending it out on the online platforms to potential participants.

All six of the participants that completed the survey opted to partici-
pate in the semi-structured interview and completed it. Semi-structured
interviews were chosen to gather more information to answer the research
question because interviews can provide reliable and comparable qualita-
tive data since each interview follows the same format (Cohen & Crabtree,
2006). While some may argue that more participants can give more data,
Vogt, Gardner, and Haeffele (2012) argue that this is not necessarily true
and that researchers often need to resort to judgment sampling and decide
how many participants are appropriate for the study. While this was a small-
scale study, we were able to gather perspectives of educators from districts
across the U.S. in various parts of the country (Northeast, South, Midwest,
and Central). Consequently, the researchers used their judgment and decid-
ed that the six participants would suffice for this research.

The researchers emailed participants the interview questions in advance
and asked that they write down any notes. Vogt et al. (2012) suggests that
allowing the participants to review the questions beforehand provides them
the opportunity to organize their thoughts, thus resulting in richer stories
and detail. The researchers conducted the six interviews via videoconfer-
encing or phone, whichever the participants preferred. Each interview was
later transcribed. The interviews ranged between 40 minutes to one hour in
length and consisted of six general questions as well as several probe ques-
tions (Appendix B). An interview that does not exceed one hour helps to
keep the interviewee focused on the topic, while still offering plenty of rich
information (Vogt et al., 2012). In answering the questions, the researchers
asked participants to explain the benefits and challenges they experienced
when using synchronous videoconferencing as an instructional tool with
their K-5 students, and how they, in their opinion, developed ICC in their
students. The interviews were recorded, later transcribed, and then coded.

To ensure that the data underwent deep analyses, three rounds of coding
were done, as recommended by Saldaña (2009). Coding allows for data to
be organized in a systematic manner, thus helping in the presentation of the
data's findings. For each round of coding a specific purpose was established
prior to beginning. The first round was done individually by two of the re-
searchers. In the initial round of coding a single word or small phrase was
added to each page of the transcript (Saldaña, 2009). For the second round
of coding, the researchers met, presented their work to each other and began
to look for similarities or differences in their coding. According to Saldaña
(2009), this is an important part of the data analysis process because each
researcher has his/her own lens and can interpret data differently. By meet-
ing to discuss any initial similarities or differences the researchers were able
to ensure they had the same "lens" when proceeding with the rest of the
data analyses. Furthermore, the second round of coding carried the end goal

of developing a smaller, more select list of categories and concepts to work with that would later emerge into themes (Saldaña, 2009). The third, and final round of coding, allowed for the researchers to recode their smaller set of themes and highlight anything significant that emerged so that they could be themed into data (Saldaña, 2009). This process was followed for all six interviews.

While the paper survey and the interview played key roles in gathering data, to further validate the data, the researchers asked the participants to review the themes drawn from the interviews for accuracy (Saldaña, 2009; Vogt et al., 2012). Once this extra input was received, data was prepared and organized for presentation.

FINDINGS

Interview responses and comments written in the open-ended survey questions indicated that participants viewed synchronous videoconferencing as a means for achieving their instructional goals of facilitating content knowledge and intercultural communication. The ways in which they used videoconferencing to achieve such pedagogical purposes were vast, including: (1) as a tool for students to learn and share cultural knowledge, and (2) to work collaboratively on a task (e.g., a poem or poster). Participants also shared examples of how synchronous videoconferencing was used as a medium for games focused on learning, or developing oral language/communication skills by having students replicate a drawing based only on a verbal description from their partner class.

Survey and interview responses indicated that participants believed that their use of videoconferencing in the classroom positively impacted their instructional practices and subsequently produced benefits for the elementary level students they taught. Based on the data, two central categories of benefits related to using synchronous videoconferencing as a tool for intercultural communication emerged. The first category was related to students' growth in knowledge and skills and was divided into three subcategories: (1) authentic learning opportunities, (2) communication skills, and (3) promoting the exploration of similarities and differences. The second category was related to the disadvantages associated with synchronous videoconferencing, which were broken up into two subcategories: (1) scheduling, and (2) technical limitations in the classroom.

Advantages

The Impact of Videoconferencing on Teaching and Learning

Authentic Learning Opportunities. During the interview, and confirmed through the online survey, all six participants (100%) acknowledged that videoconferencing was a useful tool in affording students' opportunities to interact with content in authentic, purposeful ways. For instance, during the interview Martin shared how through his videoconferencing experiences he had provided students with interactions that they would not be able to get from his lectures or using the adopted textbooks. He explained, "obviously, skyping [videoconferencing] with a scientist in Antarctica is much more authentic than just watching a video and reading about different kinds of penguins in a book." He continued to elaborate, retelling his students' experience and highlighting how it not only allowed them to actually see Antarctica, but his students were actually given the opportunity to have a Q&A session with a scientist studying the area, utilizing questions their textbook had raised that even he, as the teacher, did not have the background knowledge or personal experience to answer.

Other participants also spoke about how guest speakers they connected with brought content to life in meaningful ways by sharing their own experiences. Sheila noted that using videoconferencing provided her students the opportunity to get behind the scenes to investigate various professions. She shared:

> One of my students' moms is a doctor at the CDC. The movie "Outbreak." You know how they have those big blow-up suits? That's what she uses to work! So she was in that [the suit] and took us around and showed us the facility. We had firefighter dads who took us behind the scenes of a firehouse. I also had a dad a few weeks ago who works for AT&T [a telephone company]. He was showing the bucket that they go up in to adjust the wiring and it's just cool because kids don't get to see that in a regular lesson.

Chelsea, Candy, and Shelia all explained how using synchronous videoconferencing kept students authentically engaged. Chelsea shared, "we met an author. He was writing his new book and he usually has a group of students read the manuscript and as they are reading it, they give suggestions." She continued to share that this provided her students with an opportunity beyond the objective focused on the process of writing and gave them a unique experience that she could not have given them, even with the most well-planned lesson. Sheila shared how her class was able to meet the

former First Lady Laura Bush and that she was able to share with them the importance of reading. Candy recalled the time her students were able to get a tour of a zoo on the other side of the world and see animals that they did not have in their local zoo. The tour was guided by one of the animal keepers that gave them detailed information on the care of the animals in the zoo and their usual diet.

In addition to helping enhance lessons academically, all six (100%) participants sung praises on the ability videoconferencing had to enhance intercultural exchanges. Katie explained its potential for facilitating authentic, intercultural interactions as she related an exchange between her students and a class in Italy:

> I could sit here all day long and read a story and do an activity about how kids in Italy celebrate [holidays], but how much more amazing is it if we can talk to kids in Italy and go, "So, we have a Christmas tree. Do you have a tree in your house? Do you give presents to each other? What do you call Santa?"

When discussing the opportunities for ICC to be developed through videoconferencing enhanced lessons, Candy shared:

> … these children were able to share something that can be easily overlooked like cultural identity, food, how we speak, how we interact, all those things. It not only built their confidence to know that it is okay to read about other people, but ask about it too.

Sheila shared how her students developed a world view, even at the young age of five. She stated during her phone interview,

> …I could talk about it, but it is better if they see with their own eyes. They're like, "oh they are like me and they're from so far away!" During the holidays they wanted to send gifts to a school...it gets them, even at five years old, to be more globally-minded and to think of others. I think it helps them interact with each other too because they have come to the conclusion, "oh we have differences among us, but we still have a lot in common as well."

Teachers sang praise for the ability that videoconferencing had on raising the caliber of their lessons and providing authentic intercultural exchanges.

Communication Skills. The survey showed that five (83%) participants strongly agreed and one (17%) agreed that the integration of videoconferencing, as a teaching modality, increased their students' knowledge and understanding of the power of these types of interactions as an effective communication tool. Similarly, during the interview, participants Chelsea, Katie, Candy, and Jessica shared ways in which they had promoted effective communication, both in terms of conveying messages and engaging in meaningful conversation. For example, Chelsea described an activity which emphasized effective written communication, a "Monster Challenge," in which her students and the students in the partner class exchanged monster drawings as a Halloween activity:

> The kids drew monsters. Then, they wrote descriptions. Then, we mailed the descriptions to the other class. Using the descriptions, they [the partner class] drew the monsters. And then yesterday, we met with their partners and held them up to see if they looked alike.

Not only did this activity necessitate clear written communication, but it also was purposeful in that it required students to complete a task and anticipate the response (drawing) from the partner class.

Katie, Jessica, and Sheila stated how synchronous videoconferencing created opportunities for students to work on situationally appropriate verbal communication. Katie and Sheila respectively noted how they provided guidance on how students should speak to the partner class using the camera. She stated, "…and when you approach the camera you do it like this" and

> when we come up to the computer, we walk up and say, "good morning my name is." And then they ask their question, they stand there, they wait for a response and once acknowledge [sic] they go sit back down.

Katie also highlighted the importance of attentive listening when engaging in conversation. Through modeling and scaffolding, Katie and Jessica guided students in asking and answering questions with the partner classes following the protocol they had modeled for their students. Jessica noted how she helped her students form open-ended questions. "We talked about how you make an interview question. It's not a yes or no question. I would use sentence starters," she shared. Participants also noted how they worked with students to overcome potential barriers to communication. For example, when Katie's students had trouble understanding a speaker's English, she showed her students how to communicate in other ways, such as having them hold up cards with the words "yes" or "no" written on them, or showing agreement/disagreement by giving a thumbs up or thumbs down.

Sheila shared how through the course of conversations with the partner class her students were able to learn new words. "I really would say vocabulary development is one of the biggest pieces I have seen...they really pick up [vocabulary] from their online friends," she shared. Finally, in having students converse with those in the partner class, participants felt they were able to address communication standards. Katie noted "I felt like another one of their standards is professionalism and oral communication skills. So presenting themselves professionally is a goal." Sheila echoed this sentiment, noting that her students were developing "communication standards all within one little activity."

In reviewing the participants' input on communication skills, the teachers highlighted the benefits like they did for the previous data presented. Whether it was through activities that developed other skills in addition to communication (i.e. writing), or through activities that focused on developing professional and competent oral skills, the teachers all felt that the interaction helped their students develop linguistically.

Exploration of Similarities and Differences. The participants' survey and interview responses provided further clarity on how they perceived videoconferencing as a tool to promote their students' examination of others and themselves. The interview responses of four participants (67%) highlighted how the use of videoconferencing in the classroom was perceived to encourage their students to better understand how the daily routines and customs of those in other countries were similar and different from their own. Katie, for example, noted that students shared their cultural identity, food, and manner of speaking. Through these exchanges, students examined their perceptions of others living in diverse parts of the world. The consensus among the four participants that highlighted this area emphasized how, through discussion, their students explored ways in which they were both the same and different from those in their partner class. For instance, Katie revealed how her students and students in other countries were similar in ways they hadn't expected:

> We [the class] discovered that we have the same likes and the same desires. One group in India, they taught us to Dab and we are like, "we know how to dab!" Another group wanted to sing a Bieber song with us. And it's just like kind of funny because they're [the students] are seeing the cultural connections even though we're globally so far apart.

Sheila echoed how the videoconferencing interactions helped her students to see similarities, while also developing a global perspective. She shared:

> It allows them to be more globally minded and I think it helps
> them interact with each other better too because they see, "oh
> we have differences among us, but we still have a lot in com-
> mon as well."

Four participants (67%) agreed and two participants (33%) were neutral
when responding to the survey question regarding whether videoconferenc-
ing helped to increase their students' awareness of stereotypes. During the
interview, Martin shared an experience that he believed caused his students
to compare their preconceived notions of what they expected a Mexican
school and Mexican students to be like and his students' observations of
what they really were. He explained,

> We [videoconferenced] with this school in Mexico and the
> kids are sort of surprised with the uniforms the students wore.
> They also were surprised that they had a nicer classroom than
> we did. So, there is this stereotype that they develop that the
> entire third world is like the commercials on TV, which I want
> them to not have that.

He continued to share that he was glad he was able to break down that ste-
reotype for his students. This perceived discrepancy served to highlight
that not all Mexican students attended impoverished schools and lived in
third world conditions like many assume because of what they see on the
television or in movies. Rather they were able to see that commodities like
private, well-funded schools exist as options. Similarly, Chelsea recounted
how her students helped their partner class to avoid inaccurate stereotypes
they may have held of students living in the U.S. Chelsea shared that after
her New Jersey students had videoconferenced with their partner class the
teacher sent her what the students were asking: "how come they are not all
white?" Thus, implying that students in the partner country had anticipated
less diversity or less students of color to be present in a United States class-
room.

The participants provided rich examples of how using videoconferenc-
ing provided their students opportunities to expand their horizons. Not only
were they able to make new friends, they were also able to learn from each
other about their daily lives and culture, thus reinforcing the fact that people
often share more similarities than differences. However, in situations where
differences were noted, it was an opportunity not to just learn, but to reflect
and enrich their understanding of the world and people around them.

Disadvantages of Using Synchronous Videoconferencing

Scheduling and Technical Limitations

Scheduling. In the survey, the first issue participants brought up was the scheduling of the videoconferencing calls with their partner classes. The participants mostly cited different time zones and diverse school schedules as an issue that interfered with the execution of their videoconferencing enhanced lessons. When participants were asked if time zones presented scheduling issues, one participant (17%) strongly agreed, two (33%) agreed, two (33%) were neutral, and one (17%) strongly disagreed. When asked if differences in school schedules made it difficult to connect with the partner class, two (33%) agreed, two (33%) were neutral and two (33%) disagreed. This was supported by two (33%) of the participants in the written comments provided on the survey.

During the interview, three participants (Candy, Sheila and Jessica) expressed, in varying degrees of agreement, the challenges mentioned above when calling classes in different time zones. Sheila explained how she was able to overcome this challenge by moving subject area lessons and lunch hours to have the meetings with the other class across the world. Candy shared a similar experience:

> When we were meeting with Stanley (pseudonym), it was the end of the day for them and we had to meet at the very beginning of our day. When we met with Greece...they had to extend their class day, in another situation they flipped it, and meet [sic] in the morning.

Ultimately, the participants' flexibility and problem-solving skills allowed them to communicate with partner classes globally and overcome this common barrier. Regardless of the scheduling difficulties though, the teachers made it a point to state that the benefits outweighed the challenge.

Technical Limitations. On the survey, when asked if there were technical limitations when connected with their partner class during the videoconferencing call (e.g., being able to hear their partner class's audio or having calls dropped), two (33%) agreed, three (50%) were neutral, and one (17%) strongly disagreed. Candy and Sheila spoke of connection issues that occasionally arose during the interview. Candy's interview response reflected this, noting issues of bandwidth and maintaining a connection during the videoconference calls she conducted with her class. Sheila stated that despite issues with sound quality, her students still communicated with their partner class:

> The kids were able to improvise and they were able to then write things down more, like on a whiteboard and hold it up in front of the camera. If we couldn't hear them, they would do something like that. So even if there was an obstacle, we usually tried to problem solve, again, that's part of it [referring to the experience of videoconferencing].

Her statement indicates that part of the process in using videoconferencing to communicate with others globally is problem solving.

All in all, while there were some issues experienced, none of the participants explicitly stated that the troubles outweighed the positive impact the connections had on their students. On the contrary, if anything it helped the teachers and their students become better problem solvers as they worked to find a way to continue the online meeting. Surprisingly enough, while technology was a present issue, three (50%) of the participants noted more difficulty in getting their administration to allow them to even use videoconferencing in their lessons. Jessica, Sheila, and Candy shared similar experiences. Jessica shared, "sometimes the administrators are more of an issue than the technological issues because they don't understand how lessons enhanced with videoconferencing work and the benefits it can give the students." Sheila shared a similar sentiment and stated "he [the campus principal] trusted me but was doubtful that [these type of lessons] would even work." Lastly, Candy stated "when administrators aren't really aware of what we are using it for, or how we are using it-- that becomes a worry for them." Luckily all three teachers reported that after the success they had, all administrators became supportive of their efforts. One participant reported receiving recognition at the campus and district level for her innovative way of teaching.

LIMITATIONS AND FUTURE DIRECTIONS

While this study provided valuable information, the researchers acknowledge that this study included a small sample size. Therefore, the findings, while valuable, cannot be generalized to the population at large. Even within our small group of participants, there was variation in the benefits and challenges experienced. Also, the findings may be different amongst other groups of participants, such as secondary teachers or teachers in other countries. The researchers recommend obtaining a larger sample to better account for potential differences in experiences. Additionally, because the findings are based on teachers' perspectives, rather than

the perspectives of the students or measures of student success, the possibility exists that teachers could over report their successes. As a result, participants' perceived benefits and challenges may be subjective. Despite these limitations, the findings serve to highlight the potential for using videoconferencing as part of lessons to provide intercultural exchanges as a tool to learn about and from people in different parts of the world.

DISCUSSION

It became clear through the participants responses that textbooks, videos, and other curricular resources alone may not present information in a way that is engaging and meaningful to students. Thus, teachers may explore other avenues to deliver rich, meaningful, and cultural experiences. One potential solution, when implemented effectively, may be the use of videoconferencing programs. While previous studies have generally focused on the experiences of teachers within a single class or district, this study attempted to incorporate voices of teachers from across the United States, thereby allowing for more diverse experiences.

The findings, based on participants' survey and interview responses, highlighted the ways in which videoconferencing can be used as a tool to provide meaningful intercultural learning opportunities all while enhancing instruction. The findings suggest that videoconferencing was an efficient mode by which participants' students experienced authentic interactions with students and speakers in other parts of the world bringing to light the intricacies encompassed in the cultures of others (Andrade, 2016; Hopper, 2014; Ockert, 2015). As seen in the participants' responses, videoconferencing enhanced lessons aided students in learning more about the personal attributes exhibited by the students in their partner class (e.g., what they looked like, sounded like, their beliefs, where they went to school, etc.) (Gatlin-Watts, Jara Valls, & Mendoza, 2013).

Authentic collaborations are key in learning about another culture and increasing cultural competency (Byram, 1997). In the present study, participants believed that as students learned from and about those in other countries, they often came to realize that their initial assumptions about the practices of a given country and its people might be inaccurate. A key component of intercultural communicative competence (ICC) is the role of self in relation to others. ICC participants must be hypersensitive to a plethora of visual and audio identifiers when communicating with their counterparts (Byram, 1997). In the present study, students' understanding of their partner class was developed in relation to who they were as they noted similarities and differences.

Intercultural competence emphasizes the role of the teacher as the facilitator. Consequently, the researchers noted that the teacher was vital in coordinating and leading authentic intercultural collaborations by creating opportunities for students to practice intercultural communicative competence (Byram, 1997). In this study, the teacher served as the pivotal point in coordinating and leading such exchanges by creating opportunities for students to integrate aspects of ICC (Byram, 1997) during their videoconferencing calls. The participating teachers noted that their students shared culturally significant information with each other, whether it was by discussing culturally meaningful topics or simply realizing that stereotypes learned from entertainment mediums were not necessarily accurate. Participants also indicated that through lessons enhanced by videoconferencing students became aware of the similarities and differences exhibited and incorporated by their partner class(es).

The researchers discovered that the integration of videoconferencing into the day's lesson was integral to bringing the varying groups of students together. Through their interactions, they were able to effectively dissect and communicate across cultural, geographical, and ideological borders. Students were able to experience the world by taking account of their sensory experiences and those of their global counterparts (Byram, 1997). One participant, Candy, best expressed her overall thoughts on the impact videoconferencing had in her classroom. She mentioned that as students experienced and participated in "world class learning, global communication, collaboration…They also became a part of a wider society broadening their horizons, expanding the four corners of the classroom" to encompass other parts of the world.

For a teacher who lacks experience in using videoconferencing to enhance lessons, the idea can seem overwhelming. Add to that the use of videoconferencing to develop ICC as well and the task can become daunting. As described by the participants in this study, it took skill (i.e., navigating the online platform), creativity (i.e., adjusting schedules to meet with partner classes) and the ability to think on their toes (i.e., dealing with technical difficulties during the lesson). Naturally, these skills were not acquired overnight. However, if one thing can be taken away from the participants' story telling it is the fact that videoconferencing is worth it. It is for this reason that lessons enhanced with videoconferencing should become the norm. Teachers should consider looking for ways to help their students internalize content beyond what is in the textbook and bring the information that is being covered to life. Moreso, teachers need to have open discussions with administrators about the support they need to make this happen (i.e., professional development).

Like the participants in this study shared, their students didn't just read about the person, they met the person. They didn't hear their teacher tell them about animals and their habitats, they learned about it from an expert. They learned to value others and see the beauty in cultural differences by talking to different children across the world. Imagine how much more knowledgeable students would be when they participate in these types of impactful lessons on the daily? How much more exciting would it be if they also got to develop ICC during those lessons as well? When we give students the knowledge they are expected to learn, but also address ICC, then we are helping create citizens of the world.

CONCLUSION

In today's global society, finding ways for students to learn and connect with others is key. We no longer live in a world where adults interact with just the people in their respective communities (i.e., neighbors, work colleagues, classmates). On the contrary, people now interact with individuals on the other side of the world with the click of a few buttons and no plane ticket required. Learning how to connect certainly is one piece, but more importantly knowing how to properly interact is another crucial piece. Enhancing lessons with videoconferencing not only brings information to the fingertips of students, but also teaches them valuable life lessons about people, culture, and customs. In addition, skills like respect and valuing others are also learned. This study serves as a reminder to those who are already using technology and videoconferencing platforms to continue their efforts. For those who are still hesitant, or are having difficulty mastering it, this study can serve as encouragement to reach mastery. In brief, the benefits for students outweigh any challenges teachers may have to work through.

DECLARATIONS

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APPENDIX A: SURVEY
*Adaptation of instrument.
The original survey was dispersed using an online platform.

Acknowledgement:
1. By beginning the survey, you acknowledge that you are at least 18 years old, have read this consent form on the previous page, and have understood the above information. Do you agree to voluntarily participate in this research?
Yes   No

Background Information:
2.Which best describe your current position?
Classroom Teacher   Special Ed. Teacher   Technology Facilitator   Other
3. In what state do you live in? (Write in response)
4. How many times have you used videoconferencing in the classroom to communicate with individuals from another country?
Never   1-5 Times   6-10 Times   More than 10 Times
5. Which best describes the current grade level that you teach? (Write in response)
6. What subject(s) do you teach? (Write in response)
7. Do you base your use of videoconferencing on standards?
Yes, state standards   Yes, common core   No   Other

Likert Scale Items:
8. My students increased knowledge related to student standards.
Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree
9. My students increased cultural knowledge of their partner country.
Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree
10. My students increased their understanding of the value/beliefs of the partner country.
Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree
11.My students increased their understanding of behaviors of the partner country.
Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree
12. My students increased their understandings of other countries around the world.
Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree
13.My students developed friendships with students in the partner country.
Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree
14.My students increased their knowledge of technology in general.
Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree
15. My students increased their knowledge/understanding of the power of videoconferencing as a communication tool.
Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

16. My students gained exposure to authentic, contextualized conversations.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
17. My students increased ownership of learning.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
18. My students increased their understanding of their role within the world.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
19. My students increased ownership of learning.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
20. My students increased awareness of their representation of self to others.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
21. My students increased their awareness of stereotypes.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
22. My student increased self-confidence.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
23. My students increased collaboration while engaged in work with the partner class.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
24. My students increased creativity while engaged in work with the partner class.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
25. My students increased critical thinking skills while engaged in work with the partner class.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
26. My students increased their communication skills while engaged in work with the partner class.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
27. My students' quality of work improved.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
28. My students were familiar with how to use videoconferencing.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
29. Videoconferencing calls were interrupted by problems with the internet connection.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
30. It was difficult to hear the partner class clearly.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
31.Differences in time zones made it difficult to connect with the partner class.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
32. Differences in school schedules made it difficult to connect with the partner class.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
33.It was difficult to integrate videoconferencing into the existing curriculum.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

34.School administrators supported my decision to use videoconferencing in the classroom.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
35. It was difficult to find a partner school.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
36. The partner class and teacher were cooperative.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
37. The students in each class had problems understanding the language spoken by one another.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Open-ended Questions:				
38. What other benefits, if any, did your students experience? (Write in answer)				
39. What challenges, if any, did your students experience? (Write in answer.)				
40. Would you wish to follow up with an interview to further discuss how you have used videoconferencing to connect your students with students in other countries? (Respond with Yes or No).				
41. If you are willing to participate in the interview please provide your name, email address, and phone number. (Write in answer.)				

APPENDIX B: INTERVIEW PROTOCOL

1. How has the use of videoconferencing in the classroom affected your students?
     Probe: Did you find your use of videoconferencing to be beneficial to the students? Whyor why not?
     Probe: What obstacles/challenges, if any, did you experience using videoconferencing in the classroom? Explain.
2. Do you perceive videoconferencing to be an effective educational tool?
If yes, why? If no, why? In what ways, have your teaching practices been influenced as a result of your use of videoconferencing in the classroom?
3. In what ways, have those teaching practices impacted your students?
     Probe: How has your lesson planning been affected from the use of videoconferencing?
     Probe: How has the assessment of student learning been affected from the use of videoconferencing?
4. How have you been using videoconferencing to facilitate intercultural exchanges with your students and other students throughout the world?
     Probe: How can videoconferencing improve the ways in which students are able to collaborate with one another?
     Probe: Has videoconferencing use continued outside of the classroom for ongoing communication?
     Probe: How have you been using videoconferencing to facilitate intercultural exchanges with other teachers throughout the world?
5. In what other ways do you think videoconferencing would benefit student learning?
6. Is there anything else you would like to share with me about videoconferencing?