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Wise Practices and Intercultural Understandings: A Framework for Educator Videoconferencing

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Abstract

Educators utilize videoconferencing services for a variety of purposes in their classrooms, including offering a means to connect and learn with people of different cultures, geographies, and experiences. However, there has been little research into how educators use videoconferencing in their classrooms. Drawing on technological pedagogical content knowledge (TPACK) and intercultural pedagogies, we report and analyze findings from a survey of 117 videoconferencing educators. These educators reported possibilities and challenges for using videoconferencing, particularly for intercultural experiences. We offer a framework for videoconferencing in education drawn from the wisdom of videoconferencing educators and consider implications future teaching and research. (Keywords: citizenship education, educational technology, intercultural competence, global citizenship education, videoconferencing)

A purpose of schools is, and should be, to offer students opportunities to broaden their worlds, seek intercultural understandings, and advocate for more just conditions. School activities can provide opportunities to learn with and about people of different cultures or areas of study, from local community members to citizens from geographically or culturally distant spaces. Teachers and schools often bring community activists, guest speakers, and children's book authors to their campuses to interact with students. Field trips offer another means to offer students a chance to learn beyond the classroom by exploring museums, historical sites, or community centers. However, organizing and paying for such out-of-school activities can prove challenging for many schools. While the use of videoconferencing technologies also presents financial and technological challenges, such experiences offer a potential alternative means for bringing students into transactions with the world beyond their classrooms.

We define videoconferencing (i.e., videotelephony, telecollaboration) as synchronous video and audio communication across geographic sites, which has been in use since at least the 1960s. By the 1990s, technological advances made videoconferencing services better and more affordable, and the technologies increasingly have been used in educational spaces. However, there has been little research conducted that explores the possibilities and

challenges for educators utilizing videoconferencing in schools. In this article, we draw on technological, pedagogical, and content knowledge (TPACK), including literature particular to intercultural experiences, to analyze findings from a mixed-methods survey of 117 educators. We hope our study will offer educators insights into wise practices for videoconferencing appropriate to their contexts and with the aim of worthwhile and justice-oriented approaches to education.

Theoretical lens

Drawing on the work of Lee Shulman (1986) around pedagogical content knowledge (PCK), Mishra and Koehler (2006) contended that technology integration cannot be understood when educators “only look at the technology and not how it is used” (p. 1018). In other words, possessing technological knowledge must be accompanied by an intermixing of content knowledge and pedagogical knowledge for “sound, pragmatic decision making” when integrating technologies (p. 1019). To break down these elements, *technological knowledge* involves an educator understanding how to operate a particular technology in their setting, learn and adapt as emerging technologies change, and generally understand how to troubleshoot problems as they arise. This may, for example, include educators understanding how to ensure their videoconference feed is encrypted by the videoconferencing service to ensure privacy. Teachers with *technological content knowledge* effectively use videoconferencing understand how the technologies may afford particular understandings by collapsing distance and offer telepresence through synchronous audio–video communications. *Technological pedagogical knowledge* concerns educators’ understandings of how technologies may mediate intercultural experiences across geographies and cultural milieus. We believe TPACK an appropriate model as it emerged, “from within the discipline of teacher education” and thus “respects the contours of the domain of practice that constitute teacher education, teacher professional development, and technology integration” (Herring, Koehler, & Mishra, 2016, p. 3). We do not use TPACK with the aim of reducing our focus to discrete analytic categories (Koehler & Mishra, 2009; see <http://www.tpack.org>), but we instead preference parsimony over comprehensiveness (Kimmons, Graham, & West, under review; Graham, 2011).

If an aim of videoconferencing activities is intercultural experiences, educators require a pedagogical knowledge that honors intercultural experiences by rejecting notions of diversity that are shallow, exploitive, and colonial. Understandings about human cultures have long been grounded in “research and theory coming from middle-class communities in Europe and North America,” which often ascribed cultural experiences as universal (Rogoff, 2003, p. 4). Yet educators must heed hooks’s (2012) warning against “eating the other” by fetishizing diversity and otherness as something to be consumed. The hegemonic group cannot seek to commodify, consume, and assimilate others into their privileged normativities during intercultural experiences (Sabzalian, 2019). Paris (2012) advocated for what he calls *culturally sustaining pedagogies*, which reject appropriation, for linguistic, literate, and cultural pluralism as part of teaching toward social transformation and revitalization. Halualani (2011) argued for intercultural communication that reflects upon the power dynamics embedded in daily encounters and relationships. Additionally, Merryfield and Wilson (2005) described the need for substantive cultural learning in intercultural exchanges that include counterparts’ surface and internal cultures and move toward intercultural competence. This recognizes that cultural processes are emergent, complex, and multifaceted (Rogoff, 2003). Learning about, with, and from people of varying cultural practices requires educators to help students reject ethnocentrism while better understanding their own cultural practices of which they may lack consciousness.

TPACK and intercultural pedagogies offer lenses through which educators might guide participation in intercultural videoconferencing experiences across sociocultural contexts. Finally, to avoid having the recommendations of videoconferencing educators be overgeneralized, we utilize Davis's (1997) conception of wise practices that, unlike best practices, are always "situated thoroughly in their context" (p. 2).

Literature review

While videoconferencing has become increasingly possible in many schools, the rates of usage by educators are difficult to determine in most countries, and reports and research tend to center around single events or uses. Videoconferencing activities include virtual field trips (Zaino, 2009), reaching homebound students (Ferriter, n.d.; Raths, 2015), distance learning (Raths, 2015; Richardson, Fox, & Lehman, 2012), overcoming geographic isolation (Mader & Ming, 2015; Raths, 2015), student–teacher engagement outside of class time (Acacio, 2012), online tutoring (Mader & Ming, 2015), teacher candidate observation (Krause, Douglas, Lynch, & Kesselring, 2018), blended graduate courses (Stewart, Harlow, & DeBacco, 2011), remote support teachers (Xiong, Ge, Wang, & Wang, 2017), and global awareness (Maguth, 2014). Sáez-López, Feliz-Murias, and Holgueras-González (2018) with a sample of 37 educators from various countries reported that students improved digital competence, language learning, collaboration skills, and intercultural understandings through classroom uses of videoconferencing. Some U.S. educators have used videoconferencing in preservice teacher methods courses for intranational course collaborations (Karran, Berson, & Mason, 2001; Mason & Berson, 2000). Good and colleagues (Good et al., 2005) experimented with the use of videoconferencing between U.S. social studies methods classes for elementary preservice teachers, and participants "commented that they learned more about content and pedagogy" (n.p.). In particular, 17 of 18 preservice teachers reported learning more about the geography, culture, and history of the place of videoconferencing counterparts. Similarly, Hilburn and Maguth (2012) utilized videoconferencing to create communities of practice that yielded "positive student perceptions of the value of the collaboration, learning new teaching strategies and educational technologies, and learning from multiple social studies instructors' expertise" (p. 316).

Educators and scholars have utilized videoconferencing for a range of intercultural experiences. Numerous scholars have argued for telecollaboration as a means to offer students structured learning experiences where they can practice and grow their language development and both inter- and intracultural learning to develop intercultural communicative competence (Byram, 1997; Guth & Helm, 2010). Uzum, Yazan, Avineri, and Akayoglu's (2019) study of the telecollaboration exchanges between university teacher education courses in the United States and Turkey demonstrated that this technology can mediate critical considerations of social justice issues along with intercultural exchanges.

Two of the authors of this article (Krutka & Carano, 2016b) identified that educators who utilized videoconferencing to increase cross-cultural understandings did so via at least three means: *intercultural experiences* as the primary purpose for connecting, *intercultural projects* with cross-cultural understanding as a by-product, or and *learning about cultures* more directly from an expert or representative. Videoconferencing has been harnessed as a means for discussing global issues, developing international collaboration, and confronting stereotypes through intracultural dialog (Anikina, Sobinova, & Petrova, 2015; Beauchamp, 2011; Journell & Dressman, 2011). Krutka and Carano (2016a) detailed the case of a Palestinian English language university class ($n=16$) and U.S. social studies methods class ($n=16$) utilizing Skype to videoconference synchronously and a Facebook group to communicate asynchronously. We argued that these engagements were aimed at providing students opportunities to learn about each other in ways that promoted "cross-cultural

awareness and new media literacies that could potentially be applied in their future secondary classrooms” (p. 213). The second author’s central goal was to help his teacher candidates grow as global citizens, and they did show growth in humane treatment, via their reductions in misunderstandings, stereotypes, and misinformation. Students seemed to better understand media misrepresentations of their Gaza peers’ homeland and culture, and many even continued to engage in videoconferencing in their classrooms after the semester ended. This work, along with further analysis of the literature, resulted in us proposing a framework to understand the types of experiences possible for educators seeking to encourage global citizenship education (Krutka & Carano, 2016b). In this study, we sought to answer the following research questions:

1. What advice do videoconferencing educators offer other educators about using videoconferencing in their classrooms?
2. What skills and knowledge do videoconferencing educators believe their students gain?
3. What challenges do videoconferencing educators face in setting up or conducting videoconferences?
4. How have intercultural videoconferencing experiences supported students’ growth as global citizens?

Methods

Researchers who draw on dominant research paradigms often produce findings that claim to discover findings, and then these findings are often presented back to educators as best practices that they should implement in their classrooms. In conducting this research, we reject such methods that might deprofessionalize teachers from their intellectual role in quilting together educational experiences with students particular to their contexts. We instead acknowledge the interpretivist nature of our survey whereby we interpreted participants’ responses from our own positionalities as five White educators: two education professors in the United States and three educators on- and offline in Canada. We hope this study offers educators insights and ideas to instigate actions and consider wise practices appropriate to their contexts.

Building on recent survey research in participatory educational technologies (e.g. Carpenter & Krutka, 2014), we constructed a survey to better understand the possibilities and challenges educators face when videoconferencing in their classes. After we constructed our survey we sent it to researchers and educators for feedback and made minor changes. The survey included demographic information on participants and their school settings, queried about their videoconference experiences, and prompted them on intercultural educational experiences (see Appendix A). This latter topic was of interest because the affordances of videoconferencing services include bridging geographic distance and, we believe, hold the potential for intercultural experiences that extend beyond local communities and cultural and geographic boundaries. We systematically recruited participants through various networks and social media spaces to answer multiple-choice quantitative and open-ended qualitative prompts.

Participants

Our research team shared the survey in 45 spaces primarily between May and September 2018. We posted the survey in communities serving educators in K–12, faculties of education, and educational content providers. Some of these communities include, but are not limited to, Digital Human Library, ISTE, Google Educator Groups, Twitter Educator

Networks, Center for Interactive Learning and Collaboration (CILC), Generation Global, International Assembly, Taking It Global, Center for Global Education, WorldVuze, and Connect All Schools. This resulted in an overrepresentation of users from networks or services which shared our survey, namely, the Digital Human Library (39; 33.3%) and also participants from the province of Ontario (50; 42.7%). However, most of our participants reported that they had never utilized the Digital Human Library ($n = 80$; 68.4%). Moreover, like the teaching profession in the United States and Canada, our sample overwhelmingly identifies as female ($n = 81$; 69.2%) and White ($n = 103$; 88%). Almost half of participants ($n = 58$; 49.6%) were between 41 and 50 years old, one-quarter between 31 and 40 ($n = 25$; 21.4%), one-fifth between 51 and 60 ($n = 23$; 19.7%), and only 7.7% between 23 and 30. Most participants had between 10 and 24 years of experience as teachers ($n = 70$; 59.8%) and/or teacher educators ($n = 17$; 14.5%) who associated with traditional subject areas.

The participants included 81 (69.2%) females and 36 (30.8%) males. Of the 117 respondents, 103 (88%) identified as White, 1 (0.9%) person identified each as Black, Hispanic, and Asian/Indian subcontinent, 6 (2.6%) as two or more races, and 8 (6.8%) declined to provide a race or ethnicity identifier. Fifty-eight of the educators surveyed were in the 41–50 years (49.6%) age range, 25 (21.4%) were ages 31–50, 23 (19.7%) were ages 51–60, 9 (7.7%) were 23–30, and 2 (1.7%) were age 62 or above. There was wide variance in educators’ years of experience, as 30 (25.6%) had 15–19 years of experience, 25 (21.4%) had 10–14 years experience, 22 (18.8%) had taught 20–24 years, 17 (14.5%) 4–9 years, 13 (11.1%) 25–29 years, 8 (6.8%) 30 or more years, and only 2 (1.7%) teachers had taught 0–3 years. Nearly three-quarters (86; 74.1%) of respondents were teachers or teacher educators (see Figure 1). As Table 2 shows, survey respondents taught an array of subjects, with many teaching two or more subjects. Of our teacher participants, 46 were social studies (65.7%), 44 math (62.9%), 42 English (60%), and 39 Science (55.7%).

The breadth of 117 educators should offer insights across situations and settings, but the Whiteness and the career experience of our sample of teachers should dissuade educators and scholars from applying findings to educators of color and more novice teachers in particular.

Count of Current position

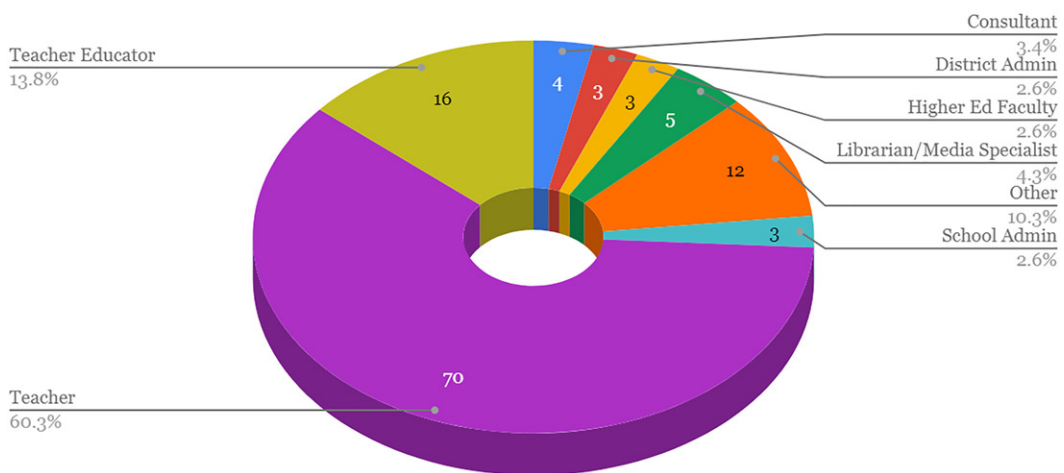


Figure 1. Current positions of participants.

Subject Taught by Teacher

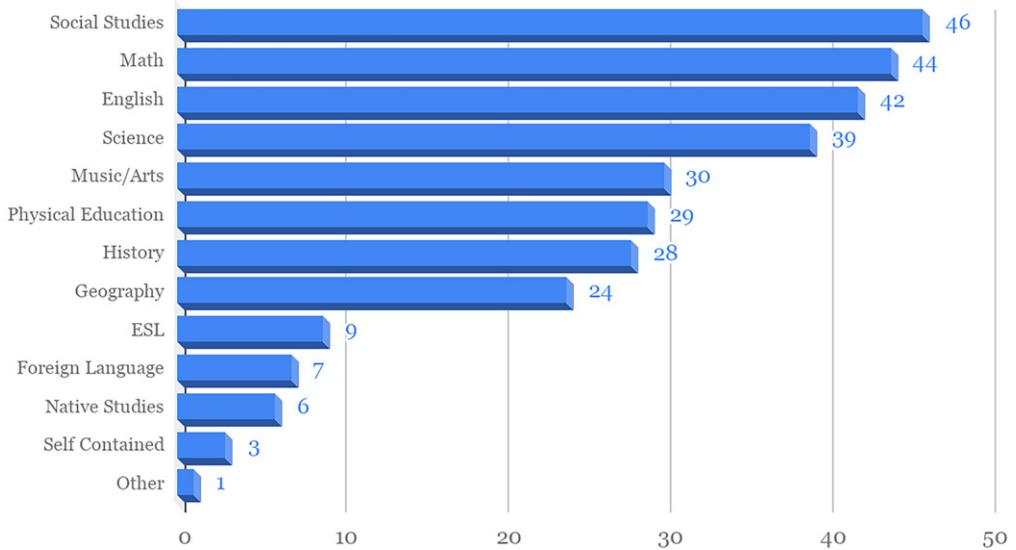


Figure 2. Subject taught by teacher participants.

Analysis

While we present some raw survey data in the beginning of our findings, results primarily consist of our detailing the emergent codes we interpreted from open-ended prompts (Charmaz, 2014). Our coding consisted of attaching “labels to segments of data that depict what each segment is about” so as to distill data, sort it, and give an analytic handle for making comparisons with other segments of data” (p. 4). We iteratively coded responses and refined categories until we reached consensus on codes and themes. This process consisted of our research team labeling initial codes and then comparing them against each other until we were able to differentiate boundaries among codes and themes.

Two researchers coded each question and we then identified the degree of agreement. As expected, our coding comparisons varied because our coding required identifying ideas from sentence fragments. For example, where one researcher identified three codes in a participant response, the other might identify four. In our first round of coding, our researchers coded just under half or reponses identically for question 1 ($N=97$; $n=41$; 42.3%) with at least partial agreement (i.e., one code or more) on most ($n=82$; 84.5%). We coded just under half identically for question 2 ($N=97$; $n=45$; 46.4%) with at least partial agreement on most ($n=84$; 86.6%). We coded almost two-thirds identical for question 3 ($N=105$; $n=67$; 63.8%) with at least partial agreement on most ($n=89$; 84.8%). We coded only one-third identically ($N=45$; $n=11$; 32.4%) for question 4 with two-thirds of responses in at least partial agreement ($n=30$; 66.7%). While we did code answers as “vague,” “did not respond to question,” or “absent,” we do not report these codes in the article as we do not believe they contribute to understanding the phenomenon. Due to the variety and idiosyncrasy of data and codes, we met to discuss coding differences and build consensus around codes through research team members discussing disagreements, as opposed to using an interreliability statistic (Saldaña, 2016). For each question we utilized built codebooks, which included codes, definitions, and example text (see Appendix B for example codebook for question 1). This study is limited in that it is not generalizable with a convenience sample that is White and more experienced than most educators in the United States and Canada. However, we hope our findings offer educators and scholars insights into wise approaches to videoconferencing in their sociocultural contexts.

Findings

Contexts and experiences

For the most part, the respondents to our survey were not newcomers to using videoconferencing services. Most participants had used videoconferencing for personal or professional means for more than 3 years ($n=63$; 53.8%), with less than 10% starting use within the past year ($n=9$; 7.7%). Most teachers specifically reported utilizing videoconferencing for educational purposes within the last year ($n=96$; 82.1%), while a number of teachers had done so within the last week ($n=18$; 15.4%) or month ($n=18$; 15.4%). According to our sample, their districts allowed videoconferencing for teachers and students ($n=64$; 54.7%), with only some districts ($n=33$; 28.2%) limiting students' access. However, 20 respondents (17.1%) either were unsure of district policies, were not currently associated with a district, or shared a particular policy like “tech facilitators in each building are given access.”

Most of our participants in this study reported using videoconferencing with students six or fewer times ($n=60$; 51.3%), but 48 teachers (41.0%) had used it as frequently 10 or more times. Educators selected a variety of rationales for using videoconferencing, namely, to bring in experts ($n=95$; 81.2%), participate in virtual field trips ($n=76$; 65.0%), and increase cultural understanding ($n=74$; 63.2%), among other reasons (see [Figure 3](#)).

On a Likert scale of 1 to 5, most educators shared that they believed the experiences held either a 4 ($n=41$; 35.0%) or 5 ($n=60$; 51.3%) in terms of “high educational value” for students, with only five respondents (4.3%) marking either of the lowest two options. Unsurprisingly, most participants either marked a 4 ($n=90$; 76.9%) or 5 ($n=15$; 12.8%) for their likelihood to use videoconferencing as classroom instruction for students again. Many educators offered a range of responses. For example, in response to question 1, an experienced rural educator shared advice that included:

Always do a test call ahead of time. Share info about your class with your presenter (i.e. special needs, amount of time their attention span lasts, etc.), prepare your students ahead of time with possible questions, building prior knowledge,

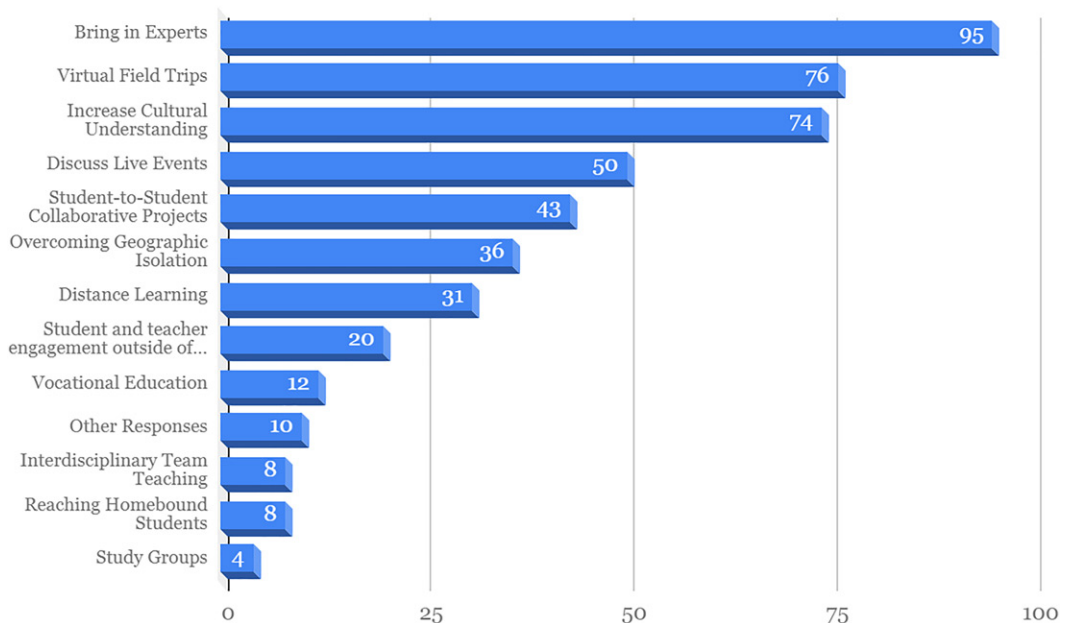


Figure 3. Participants' videoconferencing rationales.

videoconferencing “etiquette,” practicing with another class in your school and/or your principal.

While educators regularly shared wisdom spanning many aspects of videoconferencing, we now detail particular themes and codes.

Technological, pedagogical, and content knowledge

Question 1: What advice would you give to other educators using videoconferencing in their classrooms? As Table 1 illustrates, we identified four themes from our coding of open-ended responses for question 1 with respondents offering advice pertaining to instructional ($n = 69$), technological ($n = 54$), logistical ($n = 43$), and dispositional ($n = 24$) topics. Educators most frequently offered instructional advice concerning establishing student expectations or preparing questions. For example, a veteran Canadian teacher in a rural district stressed the importance of establishing “norms for student interaction (e.g., raise hand to speak),” and another believed teachers should “establish a VC etiquette and practice it.” A relatively young teacher suggested roles for students “to perform during video conference (scribe, question askers, introducers, photographer, etc).” Like many teachers ($n = 16$), an urban public school teacher shared that students should “think about relevant questions/discussion points in advance so that they get as much out of the discussion as possible.” Another respondent mentioned the importance of muting the mic when videoconferencing partners are speaking, while a first-grade teacher mentioned placing out “engaging STEAM activities and mindfulness activities” for students who did not want to participate. Teachers also mentioned the importance of a backup plan in case there are technological problems or delays, including reflection time after the experience, and connecting experiences with students’ prior experiences.

Our respondents also recommended technological advice that ranged from general preparation to ensuring tech support to possible technology backup plans. Participants recommended “a test call prior to the video conference date & time,” and also suggested positioning “your camera beside your SMARTBoard/screen so all students are facing the same direction and looking at the presenter.” Respondents suggested testing with either a district information technology (IT) employee or a peer before the call. A math teacher educator even warned that educators should “be ready to use your own data if your school wifi is weak.” Educators also offered an array of logistical advice, from utilizing supports

Table 1. Question 1 codes.

Code	Count
<i>Instructional advice</i>	69
Establish student expectations	25
General instructional advice	16
Prepare questions	16
Prepare instructional backup plan	8
Include reflection time	3
Integrating students’ prior experiences	1
<i>Technology advice</i>	54
General technology preparation	37
Tech support	9
Prepare technology backup plan	8
<i>Logistical advice</i>	40
Plan with expert	19
Utilize supports	12
General logistical preparation	9
Permissions	3
<i>Dispositional advice</i>	24
Willingness to try new activity	24

Table 2. Question 2 codes.

Code	Count
<i>Skills</i>	118
Networking	39
Questioning/inquiry skills	20
Speaking	14
Technology skills	12
Listening	12
General communication	11
Critical thinking	10
<i>Knowledge</i>	88
Knowledge	35
Curriculum connection	18
Global knowledge	17
Cultural knowledge	14
Career knowledge	4
<i>Dispositions</i>	21
Moral	8
Citizenship	8
Respect for Differences	5

by partnering “with another teacher in your school if it’s your first time and learn together,” to booking early, dealing with loud school environments, or gaining permission from parents/guardians or school administration. Educators regularly mentioned that planning with experts or partners is critical to success. Such advice included sharing questions ahead of time and sharing “info about your class with your presenter (i.e. special needs, amount of time their attention span lasts, etc.)” Finally, educators spoke to the importance of a disposition that embraces novel experiences and problem solving. A North Carolina educator proclaimed, “Do not be afraid of technical problems—those of us that present programs almost expect them and do not get worried if they occur.”

Question 2: What skills and/or knowledge do you believe your students gained? We coded three themes from respondents’ answers to question 2 that suggested students’ gained skills ($n = 118$), knowledge ($n = 88$), and dispositions ($n = 21$) during videoconferencing experiences. We identified seven distinct codes in the skills themes alone (See Table 2). Students developing networking skills ($n = 39$) was the most prominent; for example, an educator noted the positives of students building relationships when stating, “They also learned that there are many experts across the country on various topics and it is worth taking the time to connect with them to gain knowledge and share opinions.” Educators also indicated that students grew their questioning or inquiry skills ($n = 20$), which included descriptions of students developing and refining the types of questions they ask, including “deep questions,” and the “opportunity to ask experts questions.” Respondents indicated students also gained speaking ($n = 14$), listening ($n = 12$), technology ($n = 12$), and critical thinking ($n = 10$) skills, among more general communication skills ($n = 11$).

From the 88 responses that we coded in the theme of students’ knowledge, we produced five codes. Thirty-five educators’ responses concerned students gaining knowledge ($n = 35$). Often this knowledge included learning from experts on a topic. For example, one educator explained how students were able “to hear from the novelist that wrote the book and gain insights into what they were trying to accomplish.” Students also learned through virtual experiences; one respondent explained, “We took virtual field trips of the Ontario Turtle Conservation Centre and Procyon Wildlife Rehab.” Students also made connections between videoconferences and course topics ($n = 18$), gained international knowledge ($n = 17$), acquired cultural knowledge ($n = 14$), and came away with career knowledge ($n = 4$). We also identified three codes for the disposition theme: moral reasoning ($n = 8$), citizenship ($n = 8$), and respect for differences ($n = 5$).

Table 3. Question 3 codes.

Code	Count
<i>Logistical issues</i>	83
Schedule	39
Partners	11
Pedagogy	9
Cost	7
Lack of support	7
Novice	6
Time	4
<i>Tech issues</i>	77
Connectivity	34
Tech vague	27
Low quality	8
Videoconferencing service	8

Question 3: What challenges did you face in setting up or conducting videoconferences? Through our emergent coding, we identified two themes for question 3: logistical ($n=83$) and tech ($n=77$) issues. Of the seven logistical issue codes (see Table 3), schedule ($n=39$) was the most frequent logistical challenge educators identified. For example, a respondent shared a common refrain in saying, “When setting this up with classrooms in other countries often the greatest difficulties have included time differences.” Another respondent named working with partners ($n=11$) who were sometimes not available for multiple classes, were ineffective or unorganized, or even backed out. Educators shared pedagogical issues ($n=9$) like keeping students’ attention or videoconferencing with whole classes as opposed to small groups. Participants also mentioned lack of money, supports, experience (i.e., novice), and time. Our technology problems theme primarily included connectivity issues ($n=34$), general “technology” problems ($n=27$), low-quality sound or video ($n=8$), and problems with the videoconferencing service ($n=8$). For example, one participant shared, “Almost always the main limitation is bandwidth—our school is rural with a line-of-sight WAN connection,” which was a typical concern among educators.

Intercultural experiences

Question 4: How have intercultural videoconferencing experiences supported your students’ growth as global citizens? As Figure 4 shows, when asked specifically, participants conveyed that their classes experienced particularly positive experiences using videoconferencing to support intercultural experiences with other groups and learning about cultures from experts. However, they shared that using videoconferencing to engage in intercultural projects with other groups resulted in more neutral experiences than positive ones. Of the 117 survey respondents, 45 identified videoconferencing that included intercultural experiences. We discerned two themes from respondents in open coding: knowledge ($n=40$) and disposition ($n=28$) (See Table 4). In the knowledge theme, participants often credited videoconferencing experiences with students’ growth as global citizens. Educators explained that their students gained a general knowledge ($n=10$) or awareness of cultures, people, or places of which they might have had little to no knowledge previously. One educator shared, “Students learned that people in other countries around the world have different traditions, celebrations, languages, clothes, food, homes, transportation, recreation, weather, landscape.” We next identified responses where students gained an understanding of intercultural similarities ($n=7$) between them and participants from different sociocultural contexts or places.

Educators also expressed that students grew in their general awareness ($n=5$), understanding of global issues ($n=5$), and connections to their school curriculum ($n=5$), and from participation in group projects or class activities ($n=5$). An educator explained how

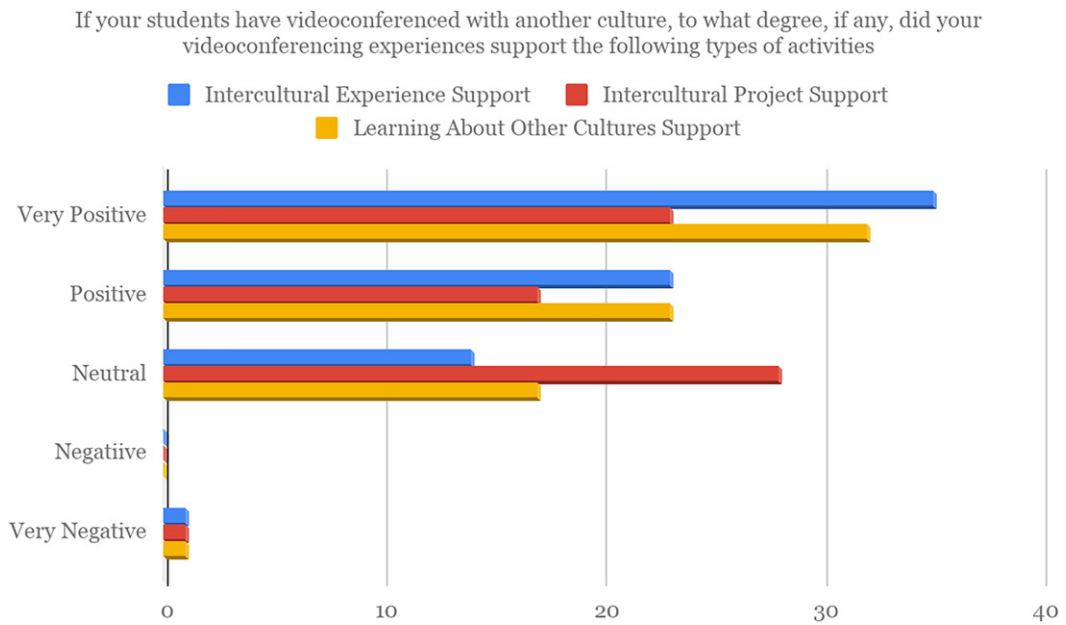


Figure 4. Participants' reports on the types of intercultural videoconferencing experiences.

Table 4. Question 4 codes.

Code	Count
<i>Knowledge</i>	40
General knowledge	10
Intercultural similarities	7
General awareness	5
Global issue	5
Curriculum connection	5
Group project or class activity	5
Videoconference medium	3
<i>Disposition</i>	28
Respecting differences	7
Empathy	5
Reflective	4
Inquiry	4
Action	4
Interest and engage/excite	2
Sympathy	1
Continued relationship	1

the students gained general awareness: “My students didn’t even know other countries existed until we started inquiring about our world.” Students also gained knowledge of specific global issues, as one respondent shared that the strongest “event was for Global Collaboration Day when we hosted a project on Flipgrid.com/oneday and kids around the world posted in universal topics. Our students were so excited to share what they learned and to interact with kids.” Other teachers discussed curriculum connections by pointing out that students were “incorporating experience into class examples.” Participants reported class activities that took curriculum connections a step further as students engaged in more action-oriented global activities. One teacher attested that her students “were able to build solar lanterns and deliver them to several different countries in need.”

Of the eight codes we identified in the dispositions theme, respecting differences ($n = 7$) was the most frequent. An educator shared her students gained “more understanding of the differences between the cultures. Just more understanding for one another.” Participants reported

that students also displayed empathy ($n=5$) when saying that videoconferencing “supported students’ growth by building their compassion and understanding, respecting perspectives without judgment.” Respondents also suggested that students were more reflective ($n=4$), inquiring ($n=4$), and action-oriented ($n=4$) through their videoconferencing participation.

Discussion

Considering technological, pedagogical, and intercultural knowledges can offer a lens through which to consider educators’ videoconferencing experiences. Our participants’ survey responses offered a lens into the pedagogical and context-specific reasons and contexts in which they utilized videoconferencing services. First, respondents to our survey displayed technological knowledges grounded in their experiences using videoconferencing services and associated technological infrastructures in their particular settings. Numerous educators stressed the importance of conducting test calls, procuring support from experienced colleagues or IT who might help troubleshoot problems as they arise, and preparing technology backup plans using other services or even their own data. They also identified challenges with Internet connectivity, low-quality audio or video, and problems with the videoconferencing services. Educators recommended planning beforehand and testing technology, but also not being stressed or deterred by technology problems (e.g., poor connectivity) which are bound to occur at times. In many cases, educators’ technological knowledges were interrelated with pedagogical knowledges, such as planning for how students will be arranged and interact with digital videoconferencing partners whose telepresence falls short of physical presence even with the use of technologies like wide-angle lenses.

Educators also shared their pedagogical knowledges describing an array of practices that likely grew out of educational experiences. Respondents recommended establishing expectations, practicing norms prior to calls, developing and discussing questions, including reflection time, and integrating students’ prior experiences. Our participants, who tended to be more experienced teachers with videoconferencing experience, offered a variety of rationales for utilizing videoconferencing (see [Figure 3](#)). Educators offered rationales that ranged from various intercultural experiences, projects, and expert talks (Krutka & Carano, 2016b), to bridging geographic isolation or connecting with people or groups beyond the school. While not traditional aspects of pedagogy, participants shared that logistical planning was integral to successful experiences. For example, educators recommended planning with experts or partners so as to ensure sessions met instructional aims and were responsive to students’ learning needs.

Educators reported tying videoconferencing experiences with school aims or content-specific learning, which suggests educators tend to videoconference with specific aims in mind. When pedagogies are enacted effectively, teachers reported that students gained an array of skills, knowledges, and dispositions. Respondents mentioned skills including networking, questioning, speaking and listening, practicing technology, communicating, and critical thinking that can benefit students across life experiences. The videoconferences connected to their school curricula, enhanced global knowledges, and advanced cultural and career knowledges. While respondents mentioned connections to school curricula, they did not do so with enough specificity to understand the ways in which particular fields of study might influence videoconferencing pedagogies. Finally, educators claimed students gained dispositions toward moral decision making, citizenship, and respect for differences.

Finally, our participants described ways intercultural videoconferencing enhanced global citizenship, but we see there a need for more explicit intercultural pedagogies. Educators described the general knowledge and awareness students gained, along with intercultural similarities, global issues, and school curriculum connections. They also related how students’ dispositions grew toward respecting differences, developing empathy, and being

reflective. While we do not presume educators videoconferenced in ways that were exploitative or extractive, more explicit articulations of critical and justice-oriented pedagogical approaches are necessary to avoid missteps, particularly by privileged groups.

Implications

Our participants' responses can offer other educators what Shulman (1986) referred to as wisdom of practice, or what Davis (1997) called wise practices, for videoconferencing. We do not believe that educators should abide by the same, or best, practices, but instead use their judgment to determine what is appropriate for their situations. It is in this spirit that we offer a checklist of recommendations from videoconferencing educators, which can serve as a reminder, primer, or source for educators who seek to videoconference in their classrooms (see Figure 5). As Gawande (2010) contended, simple checklists are not reductive,



Figure 5. Recommendations from videoconferencing educators.

but can instead serve as reminders of teachers' deep professional knowledges when engaging in complex tasks. We sought for our list to be clear to educators, compatible with teacher practices, and fruitful for teachers as they integrated videoconferencing to achieve particular and context-specific aims with their students (Kimmons, Graham, & West, under review). In this case, our list is comprehensive in addressing technological, pedagogical, logistical, and curricular considerations of educators, but parsimonious enough to offer reminders of specific items to consider. Because our sample did not offer knowledges that might encourage teachers to avoid exploitive or problematic intercultural pedagogies (Halualani, 2011; hooks, 2012; Paris, 2012; Rogoff, 2003; Sabzalian, 2019), we added to the checklist items that educators might consider. Of course, for educators to enact such intercultural pedagogies, no checklist will suffice, and we encourage educators to continue learning from critical scholars concerned with justice-oriented intercultural experiences. In short, educators should identify wise practices that are affirming, mutually beneficial, and justice oriented when incorporating intercultural videoconferencing into their practices.

Finally, we recommend that scholars draw from this study to continue research that will help educators better understand videoconferencing in general and videoconferencing for intercultural experiences more specifically. Both large-scale and context-specific studies are needed to offer the field more insights into educational experiences with telepresence. In particular, we hope scholars continue to look to critical scholars and scholars of color who have led on such research for years.

Conclusion

Educators have long utilized videoconferencing services for an array of purposes in their classrooms, but there has been little research that learns from their experiences. In this study, we surveyed 117 videoconferencing educators and we share their advice for fellow educators, the skills and knowledge that they believe their students develop from such experiences, the challenges, and the ways students might grow as global citizens through intercultural experiences. Their pedagogical and logistical advice can provide educators with a point of departure for identifying wise practices for their contexts. In particular, we draw from critical scholars to add intercultural considerations that we believe are necessary if educators and students are to confront power dynamics and normativities that require critical and wise pedagogies. For example, how do teachers confront the histories and dynamics embedded in a videoconference between students in countries where one colonized the other (e.g., Britain and India)? What strategies might educators employ to confront that political leaders demean and advocate for physical, cultural, and racial separation from the other (e.g., U.S. and Mexico)? Of course, such power dynamics similarly exist within borders too (e.g., Indigenous and White peoples in Canada). Educators might flounder or miseducate if their work is not grounded in culturally relevant, responsive, or sustaining pedagogies. We do not believe these recommendations should be treated as best practices, but instead as wise practices for which educators might assess the appropriateness for their contexts. Moreover, much more research is needed to better understand educators' perspectives-in-practice, possibilities and challenges in intercultural learning, and the supports needed to make videoconferencing experiences possible.

Videoconferencing may seem like an easy way to connect students with the world, but wise planning, quality pedagogies, and intercultural understandings offer a better path to success. Our respondents shared a wealth of wisdom, from sharing "info about your class with your presenter (i.e., special needs)" to testing Internet speed to gaining support to preparing "deep questions" together. Yet there is much more work to be done if videoconferencing is to prepare students for the structural inequities, bigotries, and slights that

generations have reproduced for centuries. We hope sharing our participants' lessons, advice, and omissions can help your students grow as the global citizens our world needs.

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Appendix A. Survey

- Gender identification
 - Male
 - Female
 - Other
- Race/ethnicity
 - White
 - Black
 - Hispanic
 - Asian/Indian subcontinent
 - Pacific Islander
 - Indigenous
 - Two or more races
 - Prefer not to respond
- Age (years)
 - 18–22
 - 23–30
 - 31–40
 - 41–50
 - 51–60
 - 61 or above
- Years of experience as an educator
 - Preservice: i.e., studying to be an educator
 - 0–3 years of experience
 - 4–9 years
 - 10–14 years
 - 15–19 years
 - 20–24 years
 - 25–29 years
 - 30 or more years
- Current position
 - Teacher
 - Teacher educator
 - School-level administrator
 - District-level administrator
 - Librarian/media specialist
 - Consultant
 - Retired educator
 - Preservice teacher (undergraduate)
 - K–12 student
 - Higher education faculty
 - Other
- In which subject areas do you currently teach? (check as many as are applicable)

- English
- English as a second language/Other language
- Geography
- History
- Math
- Music/arts
- Native studies
- Physical education
- Science
- Social studies
- Special education
- World foreign language
- Please write the state/province/territory, or country (if not in USA or Canada) where you currently live.
- In what setting(s) do you currently work?
 - Urban school/district
 - Rural school/district
 - Suburban school/district
 - Public (secular, non-charter)
 - Public Catholic (Canada)
 - Public religious (non-Catholic; Canada)
 - Private/independent
 - Indigenous
 - Homeschool
 - Not currently working in K–12 school setting
- Where did you find the expert or teacher with whom you connected for a videoconference? (check all that apply)
 - Center for Interactive Learning and Collaboration (CILC)
 - The Center for Global Education (TCGE)
 - Digital Human Library (dHL)
 - ePALS Classroom Exchange
 - Generation Global
 - Global Classroom Project
 - Global Schoolnet
 - International Education and Resource Network (iEARN)
 - Kidlink
 - Personal connections
 - School or District Programs
 - Schools Online
 - Skype in the Classroom (Microsoft in Education—MIE)
 - TakingITGlobal
- How long have you been using videoconferencing (in personal or professional settings)?
 - Less than six months
 - Less than one year
 - Less than 2 years
 - Less than 3 years
 - 3 years or more
- When was your last educational videoconference in your class?
 - Within the last week
 - Within the month
 - Within the last 6 months

- Within the last year
- Over a year
- If you teach in a school district, what is your district policy on videoconferencing?
 - Allowed for teachers
 - Allowed for teachers and students
 - Blocked for everyone
- How many times have you used videoconferencing as an educational tool with students?
 - 1–3 times
 - 4–6 times
 - 7–9 times
 - 10 or more times
- How many times have you used the Digital Human Library (dHL) to arrange for videoconferences for your students?
 - Never
 - 1–3 times
 - 4–6 times
 - 7–9 times
 - 10 or more times
- Which of the below reasons best explain your rationale for using videoconferencing (Check all that apply).
 - Increase cultural understanding
 - Discuss live events
 - Bring in experts
 - Virtual field trips
 - Vocational education
 - Student-to-student collaborative projects
 - Study groups
 - Interdisciplinary team-teaching
 - Reaching homebound students
 - Distance learning
 - Overcoming geographic isolation
 - Student and teacher engagement outside of class time
- How beneficial was the videoconferencing experience for your students? (1 to 5 Likert scale)
- How likely are you to use videoconferencing as classroom instruction for students again? (1 to 5 Likert scale)
- Based on your videoconference experience(s), what advice would you give to other educators using videoconferencing in their classrooms? (Open-ended)
- What skills and/or knowledge do you believe your students gained from your videoconferencing experience(s)? (Open-ended)
- What challenges did you face in setting up or conducting videoconferences? (Open-ended)
- If your students have videoconferences with another culture, to what degree, if any, did your videoconferencing experiences support the following types of activities. (1 to 5 Likert scale)
 - Intercultural experiences (students from different cultures learned about each other)
 - Intercultural projects (students from different cultures worked on projects together)
 - Learning about cultures (students learned about another culture from an expert)
- If your students have videoconferenced with another culture, please describe any evidence you have that intercultural videoconferencing experiences supported your students' growth as global citizens. (Open-ended)

Appendix B. Example codebook

Table B1. Question 1: What advice would you give to other educators using videoconferencing in their classrooms?

Codes	Description	Example
<i>Instructional advice</i>		
Establish student expectations	Educators should prepare students for expectations for their participation, behavior, and protocol during the videoconference.	"Establish norms for student interaction (e.g., raise hand to speak)."
General instructional advice	Educators should identify methods and strategies for ensuring an educational experience.	"Use the 'mute' button when your class isn't speaking so when you need to quiet down your students you are not yelling into the mic and interrupting the person(s) speaking." "As my students were in grade one—I had engaging STEAM activities and mindfulness activities placed out, so that those who needed to be doing while listening were responsible with their noise level and those who did not want to participate did not interrupt the majority of students that did."
Prepare questions	Educator and/or students prepare questions beforehand.	"Prepare possible questions with students."
Prepare instructional backup plan	Educators should prepare backup plan in case experience does not go as planned or in the event of technological problems.	"Have a few backup ideas if your students may freeze up and 'have no questions' in the moment."
Include reflection time	Educator and students should reflect on the instructional experience.	"Rich conversations continue after the videoconference."
Integrating students' prior experiences	Educators include students' prior experiences both in and out of the classroom with the topic.	"The students need opportunities to see how their perspective connects with their learning partner."
<i>Technology advice</i>		
General technology preparation	Educators should prepare and test technologies before the videoconference.	"Do a test call before you're with students."
Tech support	Educators should seek out technical support from IT or experienced colleagues.	"Connect with your IT/Communications team (if applicable) to work out any potential bugs."
Prepare technology backup plan	Educators should prepare technology back-up plan in case there are problems with the videoconference service or connection.	"Have something else ready in case the tech fails at either end."
<i>Logistical advice</i>		
Plan with expert	Educators plan on topics, student questions, logistics, technology, etc. with the person or groups with whom you are connecting prior to the videoconference.	"Ensure that your 'expert' knows what you're looking for in a VC session (if it's a Q & A session, for example, some experts might like to have a list of Q's prior to the session to prepare), as well as the age group. Some experts may be more comfortable speaking to an audience of older students, as an example."
Utilize supports	Educators utilize supports from colleagues, online resources, organizations, and other sources.	"Visit the digitalhumanlibrary.org website for tips, support, and access to hundreds of experts—free!" "It helps to have another adult (like a parent volunteer?)."
General logistical preparation	Educators are prepared to address any logistical issues like loud environments, the need to book early or reschedule, etc.	"Be open to rescheduling."

(Continued)

Table B1. (Continued).

Codes	Description	Example
Permissions	Educator should receive permissions from parents/guardians, administration, or other people from whom it might be needed.	"Be sure to get parent permission and let your district know what you are working on."
<i>Dispositional advice</i>		
Willingness to try new activity	Educators should be prepared to try videoconferencing, even if the technology or experience is new, and be patient and persevere in the face of setbacks.	"Allow time for students for get used to it."