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A Toolbox of Adaptations for Online Delivery of SEL Programming

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The COVID-19 pandemic exposed students to increased social-emotional stressors and instigated an emergency pivot to online teaching and learning. In doing so, it highlighted the need for effective social-emotional learning (SEL) programming in online learning environments. In response, this study explored how to adapt a widely used, traditional, school-based SEL program for online delivery. This small study describes a partnership between SEL researchers and educators that identified lesson components that were problematic for online delivery, designed potential online adaptations, and tested the feasibility of those online adaptations in an online learning context. Lesson review data, observational data from lesson rehearsals, as well as interview data were collected from teachers and counselors who teach SEL in schools across the US. Descriptive and thematic coding of the qualitative data indicated teacher-reported online delivery issues fell into six major categories: 1) partner work; 2) small-group work; 3) whole-class discussions; 4) role-playing; 5) physical movement; and 6) student handouts. For each of these six

categories, at least five adaptation options were generated, allowing teachers choice and variety as well as developmental attunement when adapting instructional practices for online delivery. Taken together, the results of this study culminated in the creation of a toolbox of online adaptations that teachers can use when converting common instructional practices from face-to-face teaching to online, distance teaching. This study contributes to the underdeveloped research literature on online SEL teaching and learning by providing recommendations that are teacher-generated and tested, applicable to other SEL and academic programs, and practical for educators to implement.

Keywords: Online Learning, Social-Emotional Learning, Adaptations, Educators

The global pandemic, and its accompanying disruptions and losses, is negatively impacting elementary students' academic achievement, mental health, and social-emotional development (Calvano et al., 2021; Kuhfield & Tarasawa, 2020; Patrick et al., 2020; Rogers et al., 2021). Now, more than ever, children need additional support from their schools and teachers to help them develop the tools, skills, and mindsets to cope effectively and remain resilient in the face of these intensifying challenges. Many education experts and practitioners are increasingly turning to traditional school-based social-emotional learning (SEL) programs to support students due to their ability to increase students' academic success and their social-emotional competencies (Durlak et al., 2011; Mahoney et al., 2018; Taylor et al., 2017). Although school-based SEL programs are widely available (CASEL, 2022; Jones et al., 2021), the emergency pivot of K-12 schooling to online learning environments has exposed the need for resources to help educators adapt these SEL programs— designed for in-person delivery— to be suitable for online learning contexts.

Unfortunately, the research literature on online learning is lagging behind (Martin et al., 2021; Rice, 2006), with research on younger students and non-traditional subjects, like SEL, still underdeveloped (Hamilton & Gross, 2021; Martin et al., 2021). This study examined how Committee for Children (CFC), creators of a widely used school-based social-emotional learning program called Second Step, developed online learning adaptations for their teacher-led, digitally delivered curriculum for elementary school students. Although these SEL lessons are digital and accessed via an online platform, they were designed to be delivered in-person to students in a tradi-

tional classroom setting. This small study was done in collaboration with a team of elementary school teachers that identified current SEL lesson components that would not effectively translate to online learning environments, prototyped potential online adaptations, and then tested these adaptations by delivering them online via videoconferencing applications to evaluate their feasibility and effectiveness. This study contributes to the underdeveloped research literature on online teaching and learning of social-emotional skills by providing a toolbox of online instructional adaptations that are teacher-generated and tested, generalizable to other SEL and academic programs, and practical for educators.

LITERATURE REVIEW

Impact of the Pandemic on Children

The COVID-19 crisis has exposed children to new stressors that threaten the mental and physical well-being of their families. Negative impacts stemming from the pandemic, including increased parental stress, job loss, food insecurity, and social isolation are well-known risk factors for child maltreatment and the emergence of child mental health problems (Bryant et al., 2020; Henderson et al., 2020; M. Lawson et al., 2020). A national survey found 27% of parents reported worsening mental health, and 14% reported worsening behavioral health for their children shortly after school closures in 2020 (Patrick et al., 2020). Current research suggests 40% of K-12 students have experienced negative impacts on their mental and social-emotional health during the pandemic (Hamilton & Gross, 2021).

Unfortunately, the negative effects may be even more pronounced for students who experienced remote learning for long periods of time and for historically marginalized students (Hamilton & Gross, 2021). Some educators are especially worried about younger students who may have experienced missed or disrupted critical early learning experiences, such as the transition to kindergarten, as well as focused literacy support and structured peer interactions in the early elementary grades (Hamilton & Gross, 2021; Mader, 2021). Taken together, the pandemic's maladaptive impact on children's well-being has intensified the need for access to effective online programming to bolster students' development and use of social-emotional skills in their everyday lives.

School-Based SEL Programs

Due to their effectiveness at supporting students' well-being, many schools and districts have increasingly turned to school-based, universal SEL programs to promote student success inside and outside the classroom. Decades of research have demonstrated the positive short- and long-term effects of participation in school-based SEL programs including improved attitudes about self, others, and school, prosocial classroom behavior, and an 11 percentile-point gain in overall academic achievement (Durlak et al., 2011; Payton et al., 2008). Young students with poor social-emotional skills have more difficulty forming and maintaining friendships; more behavior problems; and lower levels of academic achievement, student engagement, graduation rates, and post-secondary enrollment (Alexander et al., 1993; Elias et al., 2014; McClelland et al., 2000). Well-designed, well-implemented SEL interventions are effective in teaching children the skills that support positive academic outcomes, help students make and keep friends, increase school engagement, and improve academic performance substantially (Durlak et al., 2010, 2011). These positive SEL outcomes for students have given rise to an increase in research, programs, and publicity around SEL, elevating it as an important concept in the field of education, psychology, and youth mental health (CASEL, 2021).

Unsurprisingly, the pandemic seems to have only reinforced interest in supporting students' social-emotional development. In a survey by the Collaborative for Academic, Social, and Emotional Learning (CASEL), 84% of respondents across 37 states reported that SEL was a higher priority since COVID-19, and 79% reported an increase in district requests for SEL content and programming (Yoder et al., 2020). In fact, thought leaders from education, psychology, and pediatrics are actively calling for SEL to be included in K-12 support services to ensure schools are prepared to create constructive, positive school climates and help their students to thrive (Messano et al., 2020; Walker, 2020). Parents seem to agree. A recent report found that 81% of parents surveyed believe SEL has become even more important since the pandemic began, especially for elementary school students (McGraw Hill, 2021). This additional, pandemic-instigated increase in the demand for SEL programming further exemplifies the need for effective online SEL programming for students now and in the future.

Online Social-Emotional Learning

The vast majority of student-facing SEL programs currently in US schools are intended for in-person delivery (CASEL, 2022; Durlak et al., 2011). Thus, online delivery of such SEL curricula could create threats to implementation fidelity that subsequently hinder program effectiveness (Durlak et al., 2011). In order to take advantage of the positive impacts SEL programs can have on participating students, program creators need to determine what tools to provide educators to ensure their programs are effective in online learning settings.

Although the research literature on online learning has continued to grow in the past two decades, the unprecedented, emergency shift to online learning by pandemic-instigated school closures has inevitably highlighted gaps in our understanding (Molnar, 2021). Findings on the effectiveness of online learning are sometimes contradictory, with some research suggesting equal effectiveness while other research indicates that the wide variability in quality and implementation of online learning makes drawing conclusions about effectiveness imprecise (Bernard et al., 2004; Cavanaugh et al., 2004; Kennedy & Ferdig, 2018; Rice, 2006; Roblyer et al., 2008). The incipient nature of this body of research leaves practitioners with limited guidance on how to effectively design, deliver, and support online learning (Arnesen et al., 2019; M. G. Moore & Diehl, 2019). This seems especially true for online learning with younger elementary-aged students and for non-traditional subjects, such as SEL (Hamilton & Gross, 2021; Martin et al., 2021).

The majority of online learning research has studied adolescents and adults; we know less about what elementary students need in order to be successful online learners. In their extensive meta-analysis on K-12 online learning over the last 20 years, Martin et al. (2021) found that only 8.5% of studies looked at elementary school students. Findings suggest students who are typically successful in online learning environments have more independent orientations towards learning, are intrinsically motivated, and have strong skills for learning, such as time management, literacy, and technology skills—elementary school students may need more scaffolding and different learning approaches than their older peers in order to be successful in online learning environments (Cavanaugh et al., 2004; Rice, 2006). A recent study found that, compared to middle and high school students, elementary school students were half as likely to attend remote learning sessions, and their parents were significantly less comfortable navigating their online learning instructions (Tan et al., 2021). These findings illustrate that we have more to learn about supporting elementary students' success in online learning environments.

Additionally, the bulk of online learning research is focused on traditional academic subjects, often leaving SEL and mental health programs to application developers as opposed to educators (Martin et al., 2021). Although emergent research suggests that digital programs can directly deliver SEL content online, using technology to teach social-emotional skills is still an under-researched area and mainly dominated by individual, self-directed learning as opposed to synchronous, online learning with teachers and peers (DeRosier, 2014; Slovák et al., 2015). A 2021 review of online programs aimed at supporting elementary students' well-being and social-emotional skills found that none of them were facilitated by students' classroom teachers, suggesting educators' roles in online SEL programs are still unexamined (Boldt et al., 2021). Taken together, the lack of online learning research on elementary school students and educator-led online SEL programs represent a gap in our understanding of how to format and adapt K-5 classroom-based SEL programming for successful online facilitation. Working with educators to explore effective formats and delivery mechanisms for online SEL instruction is valuable not only for current pandemic conditions but for the bourgeoning online learning and teaching research literature.

Emergency Shift to Online Teaching and Learning

Although neither SEL nor online learning is novel, the emergency shift to online learning during the pandemic has been unprecedented. It bears noting that, for the vast majority of educators and students, this switch from in-person education was not voluntary, planned, or well-supported. Most schools did not have intentionally designed online learning environments or evidence-based distance learning programs (Diliberti et al., 2020). Thus, the online teaching that teachers were forced to engage in may have hindered their ability to deliver content in the manner in which most of them were primarily trained. With data suggesting fewer than 5% of the nation's teacher-training programs offer hands-on experience in online learning environments, it is likely that many teachers may not have received the skills and knowledge needed to create, deliver, and manage effective online learning environments (Zweig & Stafford, 2016). Research on best practices in K-5 education suggests teachers need to develop new instructional skills that are unique to facilitating online learning environments (Dipietro et al., 2008). Even educators who are experienced online teachers or knowledgeable SEL instructors will most likely require support to successfully adapt and execute effective SEL education in online learning contexts (Brown, 2021).

Thus, for teachers to successfully facilitate SEL lessons in online learning environments, without compromising facilitation quality or implementation fidelity, more research into effective adaptation practices is required.

Although there are many types of non-traditional learning environments, this study focused on online distance learning because it is optimally conducive to SEL content and instructional practices (Moore et al., 2011). Specifically, SEL lessons often rely on instructional practices that require collaboration and active rehearsal (e.g., role-playing, modeling, think-aloud, real-time problem-solving) that cannot be efficiently replicated in asynchronous or independent online learning environments (Lawson et al., 2019). Indeed, research suggests that SEL programs using active forms of learning are generally more effective at improving student outcomes (CASEL, 2021). Thus, to position SEL learning as effectively as possible in non-traditional contexts, this study examined SEL instruction in a specific type of online learning environment in which all students participate in real-time (as opposed to recorded) teacher-facilitated lessons that students access online and engage with live via videoconferencing with their teacher and classmates. Building on the definitions proposed by Benson (2002) and Conrad (2002), this study uses the phrase "online learning" to refer to a specific type of distance learning in which all learners access and engage in synchronous learning online.

METHODS

In this study, we collaborated with current educators to identify and test online adaptations that would allow educators to facilitate an in-person SEL program effectively in an online environment. Using lesson reviews, observations of lesson rehearsals, and interviews, we worked with educators to identify aspects of an SEL program that could not be delivered effectively in an online environment, explored educator-generated potential online adaptations to address those problems, and then assessed the feasibility of those adaptations within an online learning environment. We sought to create a toolbox of effective online practices that educators could use when adapting their delivery of SEL programs to online learning contexts.

Second Step® Elementary Digital Program

This semi-structured qualitative study aimed to assess online learning adaptations for the classroom-based, universal (intended to be adminis-

tered to all students) SEL curriculum, the Second Step program. The Second Step program is designed to help students acquire the skills, knowledge, and mindsets needed to persevere through challenges, set and achieve goals, handle strong emotions, better understand and connect with others, and resolve interpersonal conflicts (Committee for Children, 2021a). The most recent revision, the Second Step Elementary digital program, is a teacher-led, digitally delivered curriculum for elementary school students (Committee for Children, 2021b). Teachers access the lessons on a digital platform and lead students through the lesson slides. For each elementary school grade, there are four units of content, each containing five lessons for a total of 20 SEL lessons per grade. Although the content is accessed digitally, the program was designed to be facilitated face-to-face in the classroom, and thus, some of the teaching practices, instructional strategies, and lesson activities could be inappropriate, less effective, or difficult to facilitate when delivered in an online learning environment.

Participants

CFC, the maker of the Second Step program, is fortunate to benefit from research-practitioner partnerships with districts, schools, and educators. CFC is dedicated to involving educators in development, testing, and continuous improvement efforts for all its programs. One type of educator collaboration, Teacher Advisory Groups, represents a formal partnership with teachers and counselors currently working in schools across the United States who generously provide guidance and real-world expertise to CFC researchers. Lab School Partnerships involve working with a specific school to test SEL content with their teaching staff across all elementary grades.

Due to the stress and workload increases educators were experiencing as a result of the pandemic, the researchers chose to capitalize on these pre-existing partnerships to recruit participants for the current study. It is important to disclose that because of their pre-existing relationship with the authors' organization, all of the study participants had consultant contracts with Committee for Children. Their participation in this small study was entirely voluntary and did not affect or influence their contracts or other work for the organization.

For phase 1, in which educators reviewed current SEL lessons for required online adaptations, we recruited a total of 24 kindergarten-fifth grade teachers and counselors from existing Teacher Advisory Groups and Lab School Partnerships. Participants were selected to maximize the diversity

of their experiences. Specifically, CFC researchers selected participants with different levels of experience, who work in varied types of communities (rural, suburban, and urban), locations (East Coast, Midwest, South, and West Coast), and schools (charter, private, and public schools), and who serve children from different socioeconomic and racial/ethnic backgrounds (see Table 1). At the time of participant recruitment, some educators were teaching in person, some were using a hybrid teaching model where they were teaching small groups of students in person and also utilizing distance learning, and some educators were teaching in fully online environments. However, all had prior experience with online facilitation before participating in this study. All 24 participants in phase 1 (lesson reviews) were invited to participate in phase 2 of the study (lesson rehearsals in an online environment). A subset of 11 of the original 24 educators participated in phase 2 research activities based on their willingness and availability. In order to offset the time commitment for study participation during such a stressful and demanding time for educators, participants were compensated $50 an hour for their involvement in both phases of the study. The average time required for each participant was 10 hours.

Table 1

Study Population Characteristics

Demographic Variables	N (%), Total=24
Grade Levels	
Kindergarten	4 (17%)
1st Grade	4 (17%)
2nd Grade	3 (13%)
3rd Grade	5 (21%)
4th Grade	3 (13%)
5th Grade	5 (21%)
Communities	
Rural	4 (17%)
Suburban	17 (71%)
Urban	3 (13%)
Locations	
East Coast	1 (4%)
Midwest	16 (67%)
South	3 (13%)

West Coast	4 (17%)
Schools	
Charter	1 (4%)
Private	1 (4%)
Public	22 (92%)
Teaching Environment	
In Person	2 (8%)
Hybrid	4 (17%)
Online	18 (75%)

Data Collection

Phase 1

Participants (N=24) were asked to apply their knowledge and experience with online teaching to the process of reviewing all 20 Second Step lessons for their corresponding grade levels to identify adaptations that facilitators would need to make to a given lesson in order for it to be easily and effectively delivered in an online learning environment. Lessons were reviewed one unit at a time (four units total with five lessons per unit), with an average of six weeks between requests to review. Participants were asked to review each part of the lessons (including the student-facing digital lessons, teacher-facing lesson plans, and student handouts when applicable) and then respond to the following question: "If you were to deliver this lesson online via a videoconferencing application, please describe the adjustments and/or adaptations you would need to make to ensure students could still meet the lesson's learning objective." Participants provided this feedback via SurveyMonkey for each lesson they reviewed.

Phase 2

Based on the participants' availability, a subset of the educators who reviewed lessons (11/24) also facilitated Second Step lessons via an online videoconferencing application (referred to as "lesson rehearsals") for CFC staff in order to test out the online adaptations generated in phase 1. Specifically, online lesson rehearsals entailed participants teaching SEL lessons online via the Zoom videoconferencing application to a handful of CFC em-

ployees acting as students while additional employees observed the lessons and provided observational data via a lesson rehearsal observation rubric. We chose to utilize lesson rehearsals, as research suggests teachers perceive lesson rehearsals as beneficial, especially for building confidence in new content areas and learning environments (Javeed, 2019). We also wanted to assess the functioning of the proposed adaptations in a live, online learning environment that was as realistic as possible.

The lesson rehearsal observation rubric contained open-ended questions and quantitative questions (i.e., open-ended, dichotomous, rubric; see Appendix A for a reproduction of the rubric). Participants rehearsed 13 lessons in total, chosen by CFC staff because these lessons included substantial elements previously identified by teachers in phase 1 as posing a problem(s) for online delivery. Ten CFC employees, who work either as researchers, instructional designers, media designers, or product managers, provided observational data by filling out the lesson rehearsal observation rubrics across the 13 lessons rehearsed by participants.

After each completed lesson rehearsal, the researchers conducted a semi-structured interview with the educator and observers to debrief the online lesson rehearsal, discuss the online learning adaptations, and engage in some informal member checking to ensure researchers were accurately reflecting the participants' experiences (see Appendix B for the interview protocol). The debrief interviews were video and audio recorded and then transcribed by the researchers for further analysis.

Data Analysis

In phase 1, teachers' open-ended feedback from their reviews of each SEL lesson was collected via SurveyMonkey. Qualitative data analysis methods were used to sort through the data and identify similar phrases, themes, and features for further examination (Miles & Huberman, 1994). Because this was an exploratory knowledge-gathering analysis, we used descriptive as well as thematic coding methods to aggregate insights into distinct patterns and determine themes in the data (Lochmiller, 2021). The categories or types of online SEL adaptations identified in phase 1 were further examined during the subsequent live, online lesson rehearsals in phase 2.

Data in phase 2 resulted from two sources, the lesson rehearsal observation rubric data (see Appendix A for rubric) and the post-lesson rehearsal debrief protocol (see Appendix B for protocol). Quantitative and dichotomous data from the lesson rehearsal observation rubric was tabulated first. We then conducted qualitative analyses on the open-ended survey respons-

es. We transcribed the debrief interviews and used an Excel spreadsheet for content analysis. Our coding was developed deductively based on the open-ended survey questions and debrief interview protocol and inductively from recurring and emergent themes in the data (Creswell & Creswell, 2018). Two raters coded all the open-ended survey responses and the debrief interviews. Each rater coded independently and then, for any disagreements, the coders discussed differences in coding until a consensus was reached.

Limitations

The current study was constrained by multiple limitations related to its small and limited sample. Due to the impact of the COVID-19 crisis and the additional stressors it leveed on teachers, participant recruitment was difficult, which resulted in a small sample size. Only 11 teachers participated in the lesson rehearsals, limited the generalizability of findings. It will be important to replicate this study with a larger group of educators to validate findings in the future.

The pandemic also further constrained the variation and diversity of the study sample. The difficulty the authors' experienced recruiting teachers during the pandemic required this study to rely on a convenience sample of educators who had previously partnered with CFC in some capacity. Specifically, the educators who participated in this study had past or existing consultant contracts with CFC in which they could choose to provide feedback on a host of CFC programs for compensation. Although their participation in this study was voluntary and did not influence any existing consultant work they were engaged in, having a study sample composed entirely of teachers able and willing to do consultant work outside the scope of their jobs could have resulted in findings that are not applicable to the average US elementary teacher. Taken together, the small, limited study sample may have limited the generalizability of the findings. We hope this small study will help guide future work that will utilize larger, more inclusive samples.

RESULTS

Results from educator reviews of the SEL lessons indicated seven initial themes in online learning adaptations: turn-and-talk adaptations, collaborative work adaptations, student response adaptations, movement activities adaptations, student handout adaptations, recording lessons, and general

remote adaptations (discussed below). These initial categories were further refined, based on data from the lesson rehearsals, into six final categories of instructional practices: partner work, small-group work, whole-class discussions, role-playing, physical movement, and student handouts (See Table 2).

Turn-and-Talk Adaptations

Teachers identified that the common instructional strategy of asking students to turn and discuss a prompt with a partner required substantial adaptations for online facilitation. Their most frequent adaptation suggestions were to use breakout rooms, to have students talk to a stuffed animal and/or family member instead of a peer, to have students role-play instead, or to skip the turn and talks entirely. As one teacher described, "For partner sharing, students could write responses on whiteboards and share them on the screen for peers to view and read." There were also multiple nominations from teachers to turn the peer discussions into whole-class discussions.

Collaborative Work Adaptations

For the second theme, collaborative work adaptations, the majority of teacher responses suggested changing the collaborative work to more independent or teacher-led work or simply removing the collaborative activity from the lesson. These suggestions seem to be more aligned with traditional, top-down, educator-centered ways of teaching, which are generally not as conducive to learning social-emotional skills as they afford fewer opportunities for sharing and learning about varied perspectives. Teachers whose suggestions aimed to preserve the collaborative aspects of the SEL lesson as written suggested using online collaboration tools, such as Google Docs, Google Slides, Seesaw, Padlet, Glogster, or Animoto. It is worth noting that some of the teachers described a situation in which they were actually the ones using the collaborative tool (vs. students), such that they asked their students to volunteer answers, which the teacher then recorded for visibility in the tool.

Student Response Adaptations

The third category of adaptations that emerged from phase 1 concerned how to assess students' responses to questions and prompts when lessons are taught in a synchronous, online environment. One teacher stated:

> I liked the idea of putting students in groups to come up with ideas, but there isn't an easy way to have students do that on Google Meet and still put the questions up one by one. We posted the answers in chat and then discussed the ones that stood out to us.

Additionally, teacher adaptations included having students share responses via the chat function in online videoconferences, write or draw in a journal, use a whiteboard (or an online equivalent), or use nonverbal hand-signals. As one teacher described it, "I would allow the students think time and the opportunity to raise their hand and show a thumbs up or down or use the kindness sign we learned during the lesson (for students to show) if they agree." Teachers of older elementary students (i.e. 4th and 5th graders) also suggested using online polling tools and having students take videos of themselves doing an activity for later review. One teacher related:

> The partner activity would be difficult because students would not have their own place to do the partner activity unless the teacher had a platform with breakout rooms. That activity could be done as a whole group where the teacher does the acting and the students do the questioning.

Movement Activities Adaptations

Although there were over 15 mentions from individual teachers about the need to adapt SEL lesson activities that involved physical movement, only one specific adaptation was proposed (other than simply skipping the movement activity), namely, doing the movement while sitting down. Due to the lack of suggested online adaptations for movement activities, the researchers chose lessons for phase 2 that required physical movement to further explore how participants would address this challenge during live, online delivery.

Student Handout Adaptations

Teachers' suggestions for adapting student handouts for online learning can be grouped into four main strategies. First, some participants recommended converting handouts to online formats (writable PDF, Google Doc). Others suggested having students respond to questions in the handout via another mechanism, such as writing them on a physical or online whiteboard, using online forms, or using Google Slides. A few teachers mentioned Padlet specifically as a way to share their completed handouts. The remaining teacher responses either suggested turning the handout into a whole-group discussion or simply skipping the handouts altogether.

Recording Lessons

A small subset of teachers (N=5) proposed adaptations related to pre-recording lessons. However, because evidence-based practices for social-emotional skill development rely so heavily on active forms of rehearsal and collaboration, such as role-playing, pre-recording lessons would be unlikely to be effective for student learning and thus these adaptations were not assessed during lesson rehearsals.

General Online Adaptations

Finally, the remaining lesson adaptations submitted by educators fall into the category of general adaptations. These include a focus on prepping and being familiar with technology tools and shortening activities whenever possible. Many teacher responses (N=11) mentioned having "online behavior norms" and/or "breakout room etiquette" so students know and understand their teacher's expectations for their behavior in these online learning environments. Most of the teachers recommended using breakout rooms and/or the chat function in videoconferencing applications only for older elementary students (grades 4 and 5 and sometimes grade 3 if students are mature).

After analyzing results from the online lesson rehearsals and interviews in phase 2, the seven categories from phase 1 were further refined into six final categories of online adaptations. Specifically, the six categories that emerged were partner work, small-group work, whole-class discussions, role-playing, physical movement, and student handouts (see Table 2).

Table 2
Recommended Online Learning Adaptations

Category of instructional practice	Purpose of instructional practice	Adaptations
Partner work (including turn and talk)	To encourage active participation from each student; to allow students to verbally recall or process new information and learn from each other.	☐ For younger grades, have students turn and talk with a stuffed animal, doll, or action figure, or with a family member. ☐ For older grades, use breakout rooms. ☐ Make it a whole-class discussion. Give think-time, then call on volunteers. ☐ For older grades, use the chat window with the whole class. Call on a volunteer to type a response or allow all students to respond. ☐ For older grades, use online discussion boards or other collaborative tools. ☐ Have students write or draw on paper. If desired, have them share their responses by holding them up to the camera.
Small-group work	To encourage teamwork, collaboration, and active participation from each student, especially kids who hesitate to participate in larger groups.	☐ For older grades, use breakout rooms. ☐ Make it a whole-class discussion. Give think-time, then call on volunteers. ☐ For older grades, use the chat window with the whole class. Call on a volunteer to type a response or allow all students to respond. ☐ Use online boards or other collaborative tools that allow students to chat, write, and draw in a shared space. ☐ Have students write or draw on paper. If desired, have them share their responses by holding them up to the camera.
Whole-class discussions	To allow students to verbalize new information, share personal experiences, and learn from one another.	☐ Establish guidelines for muting and unmuting microphones and for indicating when someone wants to speak. ☐ Consider having students use nonverbal response methods, such as hand signals or sticky notes, to show when they agree with the speaker or have a different response. ☐ Encourage students to add on to or make connections with their classmates' ideas. ☐ For older grades, use online discussion boards or other collaborative tools. ☐ Have students write or draw on paper. If desired, have them share their responses by holding them up to the camera.
Role-playing	To give all students practice and feedback on newly acquired social-emotional skills.	☐ Give all students time to think about the scenario. Have one set of volunteers act it out on camera while the rest of the class observes. Afterwards, have a whole-class discussion to reflect on what students observed. ☐ Have students write about or draw a picture of what they would do in a scenario. ☐ Have students record themselves acting out all or part of the scenario.

Physical movement	Varies by activity.	☐ Some lesson activities include hand motions or movements while standing in place. If students have room, these can be done remotely without modification. ☐ Some lessons ask students to move around the classroom, for example, to find a partner to work with or to work in groups on a hands-on activity. Consider the purpose of the activity when deciding how to adapt.
Student handouts	Varies by activity. Handouts are often used as a way for students to demonstrate what they've learned. In older grades, they are sometimes used as a scaffold for organizing or recording information.	☐ Print handouts and include them in a packet with other worksheets and materials to be sent to or picked up by your students' families. ☐ For older grades, use a discussion board or other collaborative tool. Either have students post pictures of their completed handouts, or post the prompt on the board and have students write or draw their responses. ☐ Verbally give students the prompt from the handout and have them post responses in the chat window. ☐ Verbally give students the prompt from the handout and have them write or draw on their own paper. ☐ Handouts have been created so that text fields can be filled in online. If your remote-delivery platform allows you to distribute PDFs and have students submit completed work, consult your platform's user guidelines. For handouts that include drawing tasks, either have students draw on paper, or use the drawing function included with some electronic document programs.

The full list of online adaptations is reported above in Table 2 along with the corresponding categories of instructional practices that they support. Some specific adaptations were used successfully by teachers across multiple categories of instructional practices (e.g. using breakout rooms was an adaptation used for both partner work and small-group work). Certain practices that were generated in phase 1 failed to show promise in phase 2 and were thus eliminated, most often because they scored poorly on their ability to support students in meeting the lesson's learning objective. For example, pre-recording lessons, skipping learning activities, or requiring the use of multiple technology tools were eliminated from the final recommended list of adaptations. Additionally, teachers demonstrated new adaptations that had not surfaced in phase 1 findings. For example, after a student shares an experience, the teacher asks the rest of the class to indicate whether they've had the same experience as a way to discuss without having to hear everyone's individual example. Another teacher demonstrated a guideline for students to mute and unmute their microphone by using hand signals, or using an embedded hand raised emoji, as a way for students to indicate their desire to speak.

DISCUSSION

As schools continue to develop online learning environments and increasingly turn to SEL programs to support their students, it is important for educators to have access to resources that help them adapt their SEL teaching to online environments. This study sought to help elementary educators better meet their students' SEL needs in online environments by providing them with effective adaptations to support the online delivery of SEL lessons. Specifically, the researchers worked with educators to identify components in an elementary SEL program that would be difficult to replicate in an online learning environment and generated potential adaptations that were then tested in a mock online classroom environment to access feasibility. Results indicated teacher-reported online delivery issues fell into six major categories: 1) partner work; 2) small-group work; 3) whole-class discussions; 4) role-playing; 5) physical movement; and 6) student handouts (see Table 2). For each of these six categories, at least two adaptation options were generated, allowing teachers choice and variety as well as developmental attunement when adapting these learning activities. Taken together, the results of this study culminated in the creation of a toolbox of online adaptations that teachers can use when adapting common instructional practices from face-to-face teaching to online, distance teaching.

It is worth noting that although teachers reviewed all aspects of the digital, student-facing lessons and the teacher-facing lesson plans, all six categories of online-facilitation issues can be categorized as instructional practices as opposed to SEL-specific content or topics. This is not surprising given that research on effective online learning generally finds that the type of instructional practices used are often key factors in determining online learning programs' effectiveness (Cavanaugh, 2008; Dipietro et al., 2008). Our findings, which highlight the importance of instructional practices, align with prior online learning research that shows educators and students both agree that providing a variety of quality instructional practices is essential for successful online learning (Gaytan & McEwen, 2007). This study's results may have implications for the development of online teacher training programs in that such programs may be more valuable and generalizable if they focus on instructional practices vs. content-specific training.

Due to the social nature of SEL, it was unsurprising that four of the six categories identified by teachers as requiring online accommodations were related to collaborative and interactive group learning. Prior research has already established the importance of active, cooperative skill practice to effective SEL programming (CASEL, 2021; Swan et al., 2006). Unfortu-

nately, our results indicated that partner work, group work, whole-class discussions, and role-play—as well as being important to SEL program effectiveness—were also some of the most difficult aspects of the SEL lessons to replicate in online environments. Our results align with prior research that shows dynamic, interpersonal connections and group work are vital parts to making any online learning environment enjoyable and effective (Cavanaugh, 2008; Gaytan & McEwen, 2007). Thus, providing learners opportunities to share and connect with each other is important for any online learning environment but perhaps especially important for SEL online learning due to its inherently social and applied nature.

Although all six categories of instructional practices were present across all elementary grades, some of the corresponding proposed adaptations did show age-level differences. Some of the adaptation options for the categories of partner work, small-group work, and student handouts were recommended specifically for younger or older elementary students. For example, using breakout rooms (in which students videoconference in small groups) was recommended only for older grades as participants indicated students needed to possess well-developed self-regulation and independent learning skills for this adaptation to effectively support learning. Similarly, adaptations that require literacy and typing skills, such as using online discussion forums and typing in the chat function in videoconferencing applications, were also only recommended for older students. These findings align with research that indicates the skills that predict student success in online environments are generally better developed in older students, such as self-control, independent approaches to learning, and personal responsibility (Cavanaugh et al., 2004; Rice, 2006). However, considering the dearth of online learning studies that examine elementary-aged students (Hamilton & Gross, 2021; Martin et al., 2021), further research is needed to better examine the impact of student age on the effectiveness of specific online learning adaptations like those identified above.

Contributions and Future Research

This study contributes to the underdeveloped research literature on online SEL teaching and learning by providing recommendations that are teacher-generated and tested, generalizable to other SEL and academic programs, and practical for educators. These findings add to the sparse research literature on adapting SEL programs for online delivery and represent a jumping-off point for further research on how to effectively teach SEL to elementary students in online environments.

A key contribution of this study stems from the research-practitioner partnerships at the core of its development and exploration. The researchers of this study relied on educators' expertise and lived experience in both the identification of issues hindering online delivery of an SEL program and the generation and testing of alternative online instructional practices to support effective online delivery. Having practicing educators test the online learning adaptations under realistic conditions in an online environment allowed the proposed adaptations to be further vetted and contextualized, thus providing additional confidence in the quality and effectiveness of the resulting adaptations. The findings of this study reflect the contributions of our educator partners and, consequently, increase the potential value and validity of these findings. Implementing suggestions from educators ensured our online adaptations accounted for the existing realities of elementary teaching during the pandemic. As researchers continue to clarify and uncover components of effective online teaching and learning, it is vital not to undervalue the grounded, real-life knowledge that educators working in the current education system can provide.

Because all of the lesson components identified by teachers as requiring adaptations can be categorized as instructional practices, and consequently are not SEL-specific, the current study's findings are applicable not only to other SEL programs but to academic subjects as well. Although this study examined a specific SEL program, the findings suggest that the most effective types of online adaptations are intricately tied to common instructional practices and their intended learning purposes, as opposed to any SEL-specific skill. Thus, this study's toolkit of online adaptations is broader than originally anticipated and can be applied to any curriculum that utilizes partner work, small-group work, whole-class discussions, role-playing, physical movement, and student handouts.

The results of this applied study are also highly practical for elementary educators. These online adaptations are valuable because they are actionable, easy to implement, and applicable to educators' current experiences with pandemic-instigated online teaching. To further support educators' development of online teaching skills, CFC shared the adaptations developed in this study with all of its clients. By posting the results in Table 2 to its program platform, tens of thousands of educators that currently teach the Second Step program (which is estimated to be implemented in 41% of US schools) have access to these educator-endorsed online adaptations. The practicality of these online adaptations combined with their generalizability across subjects will hopefully provide targeted support for educators seeking to improve their online teaching.

References

Alexander, K. L., Entwisle, D. R., & Dauber, S. L. (1993). First-grade classroom behavior: Its short- and long-term consequences for school performance. *Child Development*, *64*(3), 801–814.

Arnesen, K. T., Hveem, J., Short, C. R., West, R. E., & Barbour, M. K. (2019). K-12 online learning journal articles: Trends from two decades of scholarship. *Distance Education*, *40*(1), 32–53. https://doi.org/10.1080/01587919.2018.1553566

Benson, A. D. (2002). Using online learning to meet workforce demand: A case study of stakeholder influence. *Quarterly Review of Distance Education*, *3*(4), 443–452.

Bernard, R. M., Abrami, P. C., Lou, Y., Borokhovski, E., Wade, A., Wozney, L., Wallet, P. A., Fiset, M., & Huang, B. (2004). How does distance education compare with classroom instruction? A meta-analysis of the empirical literature. *Review of Educational Research*, *74*(3), 379–439. https://doi.org/10.3102/00346543074003379

Boldt, K., Coenen, M., Movsisyan, A., Voss, S., Rehfuess, E., Kunzler, A. M., Lieb, K., & Jung-Sievers, C. (2021). Interventions to ameliorate the psychosocial effects of the COVID-19 pandemic on children—A systematic review. *International Journal of Environmental Research and Public Health*, *18*(5), 2361. https://doi.org/10.3390/ijerph18052361

Brown, J. (2021, February 23). Closing the professional development gap for K–12 teachers. *EDTech: Focus On K-12, Management*. https://edtechmagazine.com/k12/article/2021/02/closing-professional-development-gap-k-12-teachers

Bryant, D. J., Oo, M., & Damian, A. J. (2020). The rise of adverse childhood experiences during the COVID-19 pandemic. *Psychological Trauma: Theory, Research, Practice, and Policy*, *12*(S1), S193–S194. https://doi.org/10.1037/tra0000711

Calvano, C., Engelke, L., Di Bella, J., Kindermann, J., Renneberg, B., & Winter, S. M. (2021). Families in the COVID-19 pandemic: Parental stress, parent mental health and the occurrence of adverse childhood experiences-results of a representative survey in Germany. *European Child & Adolescent Psychiatry*. https://doi.org/10.1007/s00787-021-01739-0

CASEL. (2021). *Fundamentals of SEL*. Collaborative for Academic, Social, and Emotional Learning (CASEL). https://casel.org/fundamentals-of-sel/

CASEL. (2022). *CASEL Program Guide*. Collaborative for Academic, Social, and Emotional Learning (CASEL). https://pg.casel.org/review-programs/

Cavanaugh, C. (2008). Real learning happens in virtual schools. *A Cable in the Classroom Publication, Fall 2008*, 10–14.

Cavanaugh, C., Gillan, K. J., Kromrey, J., Hess, M., & Blomeyer, R. (2004). The effects of distance education on K-12 student outcomes: A meta-analysis. *Learning Point Associates / North Central Regional Educational Laboratory*. https://eric.ed.gov/?id=ED489533

Committee for Children. (2021a). *Second Step® Elementary Digital Program: Research Summary*. Second Step. https://cfccdn.blob.core.windows.net/static/pdf/research-summary/second-step-digital-k5-research-summary.pdf

Committee for Children. (2021b). *Second Step Elementary School Curriculum Digital Program*. Second Step. https://www.secondstep.org/elementary-school-curriculum/digital-program

Conrad, D. (2002). Deep in the hearts of learners: Insights into the nature of online community. *Journal of Distance Education*, *17*(1), 1–19.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed). SAGE Publications, Inc. https://us.sagepub.com/en-us/nam/research-design/book255675

DeRosier, M. E. (2014). Scaffolded social tutoring. In J. M. Thomas, *Social skills assessment through games: The new best practice* (1st ed., p. 320). Interchange Press.

Diliberti, M. K., Schwartz, H. L., Hamilton, L. S., & Kaufman, J. H. (2020). Prepared for a Pandemic? How schools' preparedness related to their remote instruction during COVID-19. *RAND Corporation*. https://doi.org/10.7249/RRA168-3

Dipietro, M., Ferdig, R., Black, E. W., & Preston, M. (2008). Best practices in teaching K-12 online: Lessons learned from Michigan virtual school teachers. *Journal of Interactive Online Learning*, *7*(1). https://iols.gmu.edu/assets/761/Article2e.pdf

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, *82*(1), 405–432. https://doi.org/10.1111/j.1467-8624.2010.01564.x

Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents. *American Journal of Community Psychology*, *45*(3–4), 294–309. https://doi.org/10.1007/s10464-010-9300-6

Elias, M. J., White, G., & Stepney, C. (2014). Surmounting the challenges of improving academic performance: Closing the achievement gap through social-emotional and character development. *Journal of Urban Learning, Teaching, and Research*, *10*, 14–24.

Gaytan, J., & McEwen, B. C. (2007). Effective online instructional and assessment strategies. *American Journal of Distance Education*, *21*(3), 117–132. https://doi.org/10.1080/08923640701341653

Hamilton, L., & Gross, B. (2021). *How has the pandemic affected students' social- emotional well-being? A review of the evidence to date* (p. 16). Center on Reinventing Public Education. https://www.crpe.org/sites/default/files/sel_report_2021_final_8_10.pdf

Henderson, M. D., Schmus, C. J., McDonald, C. C., & Irving, S. Y. (2020). The COVID-19 pandemic and the impact on child mental health: A socio-ecological perspective. *Pediatric Nursing*, *46*(6), 267–290.

Javeed, L. (2019). Supporting clinical practice through rehearsals. *Northwest Journal of Teacher Education*, *14*(1). https://doi.org/10.15760/nwjte.2019.14.1.2

Jones, S. M., Brush, K. E., Ramirez, T., Mao, Z. X., Marenus, M., Wettje, S., Finney, K., Raisch, N., Kahn, J., Barnes, S., Stickle, L., Brion, G., McIntyre, J., Cuartas, J., & Bailey, R. (2021). *Navigating SEL from the inside out* (p. 581) [A practical resource for schools and OST providers]. The EASEL Lab @ Harvard Graduate School of Education. https://www.wallacefoundation.org/knowledge-center/Documents/navigating-social-and-emotional-learning-from-the-inside-out-2ed.pdf

Kennedy, K., & Ferdig, R. E. (Eds.). (2018). *Handbook of research on K-12 online and blended learning (Second Edition)*. Carnegie Mellon University: ETC Press.

Kuhfield, M., & Tarasawa, B. (2020). The COVID-19 slide: What summer learning loss can tell us about the potential impact of school closures on student academic achievement. Brief. In *NWEA* (p. 7) [Research Brief]. NWEA. https://eric.ed.gov/?id=ED609141

Lawson, G. M., McKenzie, M. E., Becker, K. D., Selby, L., & Hoover, S. A. (2019). The core components of evidence-based social emotional learning programs. *Prevention Science*, *20*(4), 457–467. https://doi.org/10.1007/s11121-018-0953-y

Lawson, M., Piel, M. H., & Simon, M. (2020). Child maltreatment during the COVID-19 pandemic: Consequences of parental job loss on psychological and physical abuse towards children. *Child Abuse & Neglect*, *110*(Pt 2), 104709. https://doi.org/10.1016/j.chiabu.2020.104709

Lochmiller, C. R. (2021). Conducting thematic analysis with qualitative data. *The Qualitative Report*, *26*(6), 2029–2044. https://doi.org/10.46743/2160-3715/2021.5008

Mader, J. (2021, February 4). Five strategies schools are using to address learning loss. *The Hechinger Report*. http://hechingerreport.org/5-ways-schools-hope-to-fight-covid-19-learning-loss/

Mahoney, J. L., Durlak, J. A., & Weissberg, R. P. (2018). An update on social and emotional learning outcome research. *Phi Delta Kappan*, *100*(4), 18–23. https://doi.org/10.1177/0031721718815668

Martin, F., Bacak, J., Polly, D., & Dymes, L. (2021). A systematic review of research on K12 online teaching and learning: Comparison of research from two decades 2000 to 2019. *Journal of Research on Technology in Education*, 1–20. https://doi.org/10.1080/15391523.2021.1940396

McClelland, M. M., Morrison, F. J., & Holmes, D. L. (2000). Children at risk for early academic problems: The role of learning-related social skills. *Early Childhood Research Quarterly*, *15*(3), 307–329. https://doi.org/10.1016/S0885-2006(00)00069-7

McGraw Hill. (2021). *2021 Social and emotional learning report* (p. 4). McGraw Hill. https://s3.amazonaws.com/ecommerce-prod.mheducation.com/unitas/school/explore/sel-report-2021.pdf

Messano, F., Childress, S., & Atwood, J. (2020). *How to meet students' social-emotional and academic needs when schools reopen* (No. 4; Insight Briefs, p. 14). NewSchools Venture Fund. https://bit.ly/EDSS-3

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed, pp. xiv, 338). Sage Publications, Inc.

Molnar, A. (2021). *Virtual Schools in the U.S. 2021* (p. 119). National Education Policy Center. https://iols.gmu.edu/assets/761/Article2e.pdf

Moore, J. L., Dickson-Deane, C., & Galyen, K. (2011). e-Learning, online learning, and distance learning environments: Are they the same? *The Internet and Higher Education*, *14*(2), 129–135. https://doi.org/10.1016/j.iheduc.2010.10.001

Moore, M. G., & Diehl, W. C. (Eds.). (2019). The landscape of K-12 online learning: Examining what is known. In M. Barbour, *Handbook of distance education* (4th ed., pp. 521–542). Routledge.

Patrick, S. W., Henkhaus, L. E., Zickafoose, J. S., Lovell, K., Halvorson, A., Loch, S., Letterie, M., & Davis, M. M. (2020). Well-being of parents and children during the COVID-19 pandemic: A national survey. *Pediatrics*, *146*(4), e2020016824. https://doi.org/10.1542/peds.2020-016824

Payton, J., Weissberg, R. P., Durlak, J. A., Dymnicki, A. B., Taylor, R. D., Schellinger, K. B., & Pachan, M. (2008). *The positive impact of social and emotional learning for kindergarten to eighth-grade students*. CASEL. https://casel.s3.us-east-2.amazonaws.com/the-positive-impact-of-social-and-emotional-learning-for-kindergarten-to-eighth-grade-students.pdf

Rice, K. L. (2006). A comprehensive look at distance education in the K-12 context. *Journal of Research on Technology in Education*, *38*(4), 425–448.

Roblyer, M. D., Davis, L., Mills, S. C., Marshall, J., & Pape, L. (2008). Toward practical procedures for predicting and promoting success in virtual school students. *American Journal of Distance Education*, *22*(2), 90–109.

Rogers, A. A., Ha, T., & Ockey, S. (2021). Adolescents' perceived socio-emotional impact of COVID-19 and implications for mental health: Results from a U.S.-based mixed-methods study. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, *68*(1), 43–52. https://doi.org/10.1016/j.jadohealth.2020.09.039

Slovák, P., Gilad-Bachrach, R., & Fitzpatrick, G. (2015). Designing social and emotional skills training: The challenges and opportunities for technology support. *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*, 2797–2800. https://doi.org/10.1145/2702123.2702385

Swan, K., Shen, J., & Hiltz, S. (2006). Assessment and collaboration in online learning. *Journal of Asynchronous Learning Network*, *10*(1), 45–62. https://doi.org/10.24059/olj.v10i1.1770

Tan, K., Wegmann, K., Patino, R., Hand, B., Mitchell, J., & Moser, K. (2021). Social and emotional learning group work during the COVID-19 pandemic, the reopening, and the mobilization for racial justice. *Children & Schools*, *43*(2), 118–122. https://doi.org/10.1093/cs/cdab002

Taylor, R. D., Oberle, E., Durlak, J. A., & Weissberg, R. P. (2017). Promoting positive youth development through school-based social and emotional learning interventions: A meta-analysis of follow-up effects. *Child Development*, *88*(4), 1156–1171. https://doi.org/10.1111/cdev.12864

Walker, T. (2020, April 15). *Social-emotional learning should be priority during COVID-19 crisis*. National Education Association. https://www.nea.org/advocating-for-change/new-from-nea/social-emotional-learning-should-be-priority-during-covid-19

Yoder, N., Posamentier, J., Godek, D., Seibel, K., & Dusenbury, L. (2020). From response to reopening: State efforts to elevate social and emotional learning during the pandemic. In *Collaborative for Academic, Social, and Emotional Learning*. CASEL. https://eric.ed.gov/?id=ED610659

Zweig, J. S., & Stafford, E. T. (2016). Training for online teachers to support student success: Themes from a survey administered to teachers in four online learning programs. *Journal of Online Learning Research*, *2*(4), 399–418.

APPENDIX A

Lesson Rehearsal Observation Rubric Questions

Background Information	Yes	No	Answer Format
1. Your Name			Comment box
2. What grade level are you reviewing?			Multiple Choice (Grade K, Grade 1, Grade 2, Grade 3, Grade 4, Grade 5)
3. What lesson number are you reviewing?			Multiple Choice (Unit 3: Lesson 11, Unit 3: Lesson 12, Unit 3: Lesson 13, Unit 3: Lesson 14, Unit 3: Lesson 15)
Lesson Plan	**Yes**	**No**	**Notes/Answer Format**
4. The teacher understood what to do at each point in the lesson.			Comment box, "If NO, please provide notes/feedback suggestions."
5. The teacher understood what students should be doing at each point in the lesson.			Comment box, "If NO, please provide notes/feedback suggestions."
6. Scripting in the guide sounded natural when the teacher said it out loud.			Comment box, "If NO, please provide notes/feedback suggestions."
7. It was clear how each part of the lesson supported the learning objective.			Comment box, "If NO, please provide notes/feedback suggestions."
8. The teacher was able to successfully adapt the lesson for online delivery.			Comment box, "If NO, please provide notes/feedback suggestions."

9. Instructor Delivery			Multiple Choice **1 =** Teacher often appears confused and uncomfortable. Lesson flow is choppy. Delivery includes multiple starts and stops, misspeaks and corrections. **2 =** Teacher appears somewhat uncomfortable and a bit unsure at times during delivery. Lesson flow has a few starts and stops. **3 =** Teacher appears at ease and in control while facilitating. Lesson flow is smooth, unhurried, and fluid.
10. Ease of Online Facilitation			Multiple Choice **1 =** Teacher forgets to progress slides, skips slides, and/or cannot anticipate what slide will appear next (clicking confusion). Teacher has trouble starting or pausing media and interacting with other aspects of digital interface. **2 =** Teacher experiences some difficulty progressing through slides. Moderate clicking confusion and some difficulty starting and/or pausing media. **3 =** Teacher understands when and how to progress slides and does so with minimal or no mistakes.
Media, Visuals & PDFs	**Yes**	**No**	**Notes**
11. Did the slides in the presentation support the lesson objective?			Comment box, "If NO, please provide notes/feedback suggestions."
12. If there were videos included in the slides, did the video(s) support the lesson objective?			*Include N/A option (since not all slides include videos) Comment box, "If NO, please provide notes/feedback suggestions."
13. Were there any issues with the slides and/or the design?			Comment box, "If YES, please provide notes/feedback suggestions."
14. Were there any issues with the media?			Comment box, "If YES, please provide notes/feedback suggestions.
15. Were there any issues with the platform?			Comment box, "If YES, please provide notes/feedback suggestions.
Student Handout	**Yes**	**No**	**Notes**
16. If this lesson had a student handout, did it help students meet the learning objective?			*Include N/A option (since not all lessons include a handout) Comment box, "If NO, please provide notes/feedback suggestions."
Student Experience	**Yes**	**No**	**Notes**
17. I believe that students in this grade would be able to recognize the purpose of this lesson.			Comment box, "If NO, please provide notes/feedback suggestions."

18. I believe that students in this grade would be capable of successfully completing the lesson objective.			Comment box, "If NO, please provide notes/feedback suggestions."
Adaptations	**Yes**	**No**	
19. Please select the answer that best represents the amount of adaptations made to this lesson.			Multiple Choice **Almost none:** The teacher taught the lesson as printed on the Lesson Plan PDF and lesson slides. **A little bit:** The teacher ad-libbed a little, tweaked some discussion questions and/or activities, and added a bit to the lesson. **A fair amount:** The teacher put their own spin on the lesson; they changed the scripting, altered the scenarios, changed some discussion questions, and adjusted the activities to work for them and their students. **A lot:** The teacher used very little of the scripting/questions/activities but ad-libbed a lesson on the same objective (or topic).
20. Describe any online adaptations, additions, and/or changes that the teacher made to the lesson. (Adaptations are anything the teacher did that was different from what is printed on the Lesson Plan, such as changing a scenario to fit students' interests or changing a partner activity into a whole-class activity.)			Answer format: Comment box
21. Any other valuable observations?			Answer format: Comment box

APPENDIX B

Post-Lesson Rehearsal Debrief Interview Protocol

Scripted instructions:

Thank you all for participating in the lesson rehearsal. We're now going to take a quick, 5 minute break – During this time:

- (insert teacher name)_____feel free to take a breather and/or write down any notes on what you'd like to share with us about the lesson rehearsal.

- Folks posing as “students”, you can hop off the call now. Thank you again or your participation. If you have any questions or concerns, please reach out via Slack messenger or email me.
- Observers, please complete and submit the Lesson Rehearsal Observation Rubric on SurveyMonkey. In addition, please use Slack to send me any questions or topics you’d like to discuss, time permitting, in the proceeding debrief.

Let’s put 5 min on the clock

Debrief Interview:

Scripted instructions:

Welcome back! Thank you all. I appreciate everyone sticking around so we can have time to reflect and discuss our experiences and perceptions of the online lesson rehearsal.

I do want to give a quick reminder of our goals and norms for engagement.

Goals: Although I’m sure we will naturally want to nit pick and tweak all sorts of things that could make the lesson a little bit better, I’m going to focus our discussion on critical or essential aspects of the lesson we MUST alter in order for these lessons to be successfully delivered online via video conferencing. Because of the immediate needs of teachers and students pivoting to online teaching and learning, we will spend our limited time together narrowing in on any serious problems that could hinder teachers’ ability to easily and successfully teach the lesson and/or students’ abilities to interact with and learn this content.
To that end.... I’m going to start with asking (teacher name)_____ about their experience and what stood out to them so we can see if we can identify any areas that would benefit from improvement. I’ll also try to ask as many questions from our observers as we can get to into our brief time together.

Standard debrief questions:

1. From your perspective, how did the lesson go? What worked? What didn’t?
2. I see you made some adaptations when translating this lesson to online delivery. Could you please tell us about the adaptations you made to the lesson?

3. Could you tell us why you chose those specific adaptations? Have you used similar adaptations before in online teaching contexts?
4. After having rehearsed the lesson, is there anything you would change about how you adapted and delivered it? Please describe.
5. Do you think this lesson would be successful with your students? Why or why not?
6. Is there anything else you think we should know about this lesson?

Additional lesson-specific questions:

- Questions based on facilitator's notes from the lesson rehearsal:
- Lesson-specific questions based on observers' notes to facilitator during break: