ORIGINAL RESEARCH STUDIES

Reflexivity and Practice in COVID-19: Qualitative Analysis of Student Responses to Improvisation in Their Research Methods Course

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Abstract: The improvisations needed to adapt to COVID-19 teaching and learning conditions affected students and faculty alike. This study uses chaos theory and improvisation to examine an undergraduate communication research methods course that was initially delivered synchronously/face-to-face and then transitioned to asynchronous/online in March 2020. Reflective writings were collected at the end of the semester with the 25 students enrolled in the course and follow-up interviews conducted with six students. Thematic analysis revealed that available and attentive student-participant, student-student, and student-instructor communication complemented learner-centered and person-centered goals, but unavailable or inattentive communication, especially with participants and students in the research team, contributed to negative perceptions of learner-centered goals. Implications explore how communication research methods pedagogy may achieve greater available, attentive, and learner/person-oriented goals through modeling, resourcing, reflexivity, and appreciation in online and offline course delivery to enhance shifts in communication pedagogy, whether voluntarily or involuntarily initiated by faculty.

"I conclude, as a communication educator, offering a reminder of who we are. We are a field of study attentive to interruption, responsive to practices, and ever alert to possible change" (p. 9). Reading the words of Ronald Arnett (2020) in response to COVID-19 to communication pedagogy, we were indeed reminded that recalibrating or improvising may be an impetus for better teaching and learning. Stemming from that aim, we offer the following qualitative study of student responses to improvisation in their research methods course in the Spring 2020 semester, in which they began their learning in a traditional, face-to-face (F2F) classroom and ended the semester in an asynchronous, virtual classroom.

Considering the anxiety, uncertainty, negative attitudes, and poorly perceived utility of research methods to undergraduate students majoring in communication (Gray, 2010, 2014), we introduce this study attuned to both the challenges that teaching an undergraduate research methods class poses for faculty and the unique challenges that teaching such a course in COVID-19 poses for faculty. The dual purpose of this study is (1) to examine the consequences of COVID-19 transitioning from synchronous, F2F pedagogy to asynchronous, online pedagogy in an undergraduate communication research methods course completing qualitative research in teams and (2) explore best practices in undergraduate qualitative methods pedagogy that transcend and/or bridge the (off)online divide. The paper overviews communication pedagogy with specific attention to the undergraduate research methods course, contextualizes the study in chaos theory and improvisation's role in organization, clarifies the qualitative methods used to collect data with students, demonstrates the results of thematic analysis, and specifies best practices for teaching undergraduate communication research methods online and offline. We argue that available, attentive communication complemented positive perceptions of COVID-19 learning conditions, and that modeling, resourcing, reflexive, and appreciative practices may be adapted to both online and offline communication pedagogy to achieve learner and person-centered goals for communication research methods courses.

Communication Pedagogy and the Undergraduate Methods Course

Communication pedagogy scholarship contributes to the ongoing discussion of how to facilitate and mentor undergraduate research through the undergraduate communication research methods course. Teaching the undergraduate communication research methods course is noted to have challenges related to students' pre-instructional beliefs about communication research and their competence (Jackson & Wolski, 2001). Yet, undergraduate research is conceived as a worthwhile, transformative learning experience that is "difficult to achieve in classroom situations" (Rodrick & Dickmeyer, 2002). The integration of undergraduate research methods courses in communication curriculum has been documented as on the rise through the 1980s (Frey & Botan, 1988) and continuing into the present (Parks et al., 2011). Nevertheless, much is yet to learn about undergraduate communication research methods courses and their functionality, sequencing, and pedagogy.

More specifically, of interest to us is the work on teaching undergraduate qualitative research methods. Early research on undergraduate communication research methods courses demonstrated a gap in teaching qualitative methods (Frey & Botan, 1988) and developing relevant experiential activities to enhance qualitative methods teaching and learning (Parks et al., 2011). Early research on qualitative methods research courses reveals that qualitative methods were poorly represented at the undergraduate level (Frey et al., 1998). Over the last 20 years, there has been a good representation of qualitative research methods teaching activities published in *Communication Teacher*, indicating that there are communication faculty teaching qualitative research methods and seeking to improve their qualitative

research methods pedagogy (for recent creative examples see Graham & Schuwerk, 2017, or Scharp & Sanders, 2019).

Given that "how qualitative research methods and methodology are taught is closely linked to the ways qualitative researchers in the social sciences conceptualize themselves and their discipline," additional works, like this one, are needed to better understand undergraduate qualitative research methods pedagogy in the communication discipline (Breuer & Schreier, 2007). Moreover, recent events, notably the global pandemic threat of COVID-19, affect teaching and learning, and as such, scholarship is needed to address COVID-19 and its impact on qualitative research methods in the communication discipline.

Chaos Theory and Improvisation in Teaching During COVID-19

Crises disrupt organizing. In institutions of higher education, the COVID-19 pandemic disrupted organizing of systems (e.g., overall delivery of academic and student services) and subsystems (e.g., individual course delivery and pedagogy). Organizational and communication scholars posit applications of chaos theory to understanding how organizations like universities move in and out of order during crises (Sellnow et al., 2002). With roots in the hard sciences—biology, math, and physics—chaos theory's heuristic value for the social sciences positions it to advance organizational crisis communication research as an interdisciplinary and unifying framework (see Liska et al., 2012; Purworini et al., 2019; Sellnow et al., 2002; Sellnow et al., 2012). Chaos theory is a theoretical framework that helps organizational crisis communication research describe "complex non-linear systems" and their "lack of predictability in system behavior" as they, especially, respond to unstable disruptions termed chaos (Seeger, 2002, p. 329). Seeger points out that chaos theory suggests that disorder may be a prerequisite to systems cyclically establishing new patterns and structures for stability, order, and predictability.

Five applicable characteristics from chaos theory pertain to organizational crisis communication scholarship: (1) initial conditions (also termed butterfly effect), (2) bifurcation or system breakdown, (3) self-organization, (4) fractals, and (5) strange attractors toward stability (Purworini et al., 2019; Seeger, 2002). To begin, the disrupting or disordering event is conceived of as initial conditions with disproportional effects on the system than the initial conditions would suggest. Next, as the disruption affects the system, the related effects of the initial conditions and the increasing uncertainty threaten organizational performance and goals, but in response to the system breakdown, the third characteristic termed self-organization emerges in what Kauffman (1995) describes as "anti-chaos" to re-establish order. The last two characteristics are what Seeger (2002) describes as organizing features of the chaotic system. Fractals are "fragmented and irregular forms" that are inconsistent with logical expectations of observed patterns, yet these patterns are self-repeating (p. 334). Finally, strange attractors are underlying order and points of connection that pull the system toward organizing amidst the chaos. Providing examples of strange attractors, Seeger (2002) lists "[g]eneral social assumptions, relationships and structures, basic needs and values, first principles, conflicting tensions and perspectives, oppositional paradoxes" (p. 334). While these five characteristics could be teased out in application to institutions of higher education, more generally, the following section teases them out in reference to the subsystem of the traditional, face-to-face classroom and the pandemic.

Chaos in the (Virtual) Classroom

The COVID-19 pandemic resulted in the vast majority of institutions of higher education shifting to virtual learning in March 2020. At the outset, the *initial condition* associated with our institution

was a 2-week shift to virtual learning; however, the temporary modification to course delivery quickly evolved into a permanent modification. Admittedly, the *initial condition* disrupted course design in the undergraduate communication research methods course and the student's qualitative research project that was in the data collection stage when virtual learning was mandated. Despite certification as online instructors and 10+ years using various learning management systems to deliver portions of or complete courses, we experienced *bifurcation or system breakdown*. An influx of student questions/concerns flooded our inboxes; late work trickled in; requests for extensions piled up; absentee students increased; students expressed frustrations with their research team in the course. We were not alone in noting the challenges students faced as many of them returned to their homes, assumed responsibilities that competed with their education, lacked access to stable internet, and were isolated from their peers and campus resources.

As 2 weeks morphed into 3, 4, 5, 6, and 7 weeks, we and our students noted our *self-organization*. For example, student research teams reported using the GroupMe application to remind each other of interview and transcription deadlines, which in turn became a formal recommendation to all student research teams in the course to enhance student-student frequency and quality of communication. Additionally, *fractal* patterns were observed as students began disclosing their sense of isolation, concern for mental and social well-being, and their fears related to education, career, and family. These disclosures were unusual due to the concentrated quantity and frequency in one course in a short period of time, thus constituting a *fractal* pattern. Yet, the course calendar, scheduled learning modules, regular announcements on the learning management system, writing templates and videos, individual phone calls and Zoom meetings with the instructor, feedback on research paper sections and drafts, and celebrated student work constituted *strange attractors* drawing the class toward stability.

Improvisational Responses to Chaos

Improvisation is a prominent means to establish order in a new way. "Balancing structure and improvisation is the essence of the art of teaching" (Sawyer, 2011, p. 2). When considering improvisation, the jazz metaphor frequently surfaces as a sensemaking device (Weick, 1998). Just as accomplished jazz musicians' move between improvisation and rehearsed/habitual music playing complementary rhythms and sounds, organizational members, including faculty in higher education, move between new ways of organizing and trained expectations to complement institutional and student performances. Barrett's (1998) article on jazz improvisation implications for organizational learning identifies seven features of jazz improvisation: (1) interrupting habitual patterns deliberately, termed provocative competence, (2) embracing errors as a source of learning, (3) developing shared orientation toward minimal structures that allows for maximum flexibility, (4) negotiating and dialoguing toward dynamic synchronization, termed distributed task, (5) sensemaking retrospectively, (6) practicing together as members of a community, termed hanging out, and (7) taking turns soloing and supporting. While not all seven features of improvisation may concurrently emerge, these features function retrospectively as sensemaking devices as to how improvisations occur and offer proactive prescription for organizations that require rapid improvisation to match organizational performance to the shifting needs of the situation.

In relation to our pedagogical improvisation, the pandemic's disruptive chaos was disordering to instructional communication and pedagogy. Nevertheless, the initial condition of the pandemic to move from the traditional classroom learning environment to an asynchronous virtual learning environment was an impetus for improvisation. We offer the following research questions that combine interest in

undergraduate communication research methods pedagogy and improvisation in response to COVID-19's disruption.

> **RQ 1:** How did COVID-19 impact the experience of students taking a communication research methods course in Spring 2020?

> **RQ 2:** What best practices emerge from students' experiences completing a communication research methods course in COVID-19 that would apply to online and offline delivery of the course?

Methods

Qualitative data were collected during and following a Spring 2020 communication research methods course taught by the lead author. The impetus for this study emerged as students and professors transitioned from synchronous face-to-face instruction to asynchronous online instruction in a 2-day pivot mandated by the university in response to "slowing the spread" of COVID-19. As such, Institutional Review Board approval was sought mid-data collection to include previously collected written work of students and subsequent semi-structured interviews with a sample of students from the course. This section outlines the course, participants, data set, and analytic method employed in the study.

Undergraduate Communication Research Methods Course

At the regional state university where data was collected, the undergraduate research methods course is called COMM 3310 Communication Inquiry and required of all communication studies majors. The course includes a broad overview of research ethics, quantitative and qualitative methods, and report writing. One of the program learning outcomes associated with the application of communication research is assessed in the course through an individually written research paper. In Spring 2020 students enrolled in the course with the first author, which was offered on a twice per week schedule for 1 hour and 15 minutes per class. The textbook adopted was used to set content areas covered within the course: the fourth edition of Treadwell and Davis's (2020) book, *Introducing communication research: Paths of inquiry*. For those that are not familiar with the text, it covers the breadth of communication research methods, including quantitative and qualitative approaches. While the entire text was taught and tested, students completed a qualitative research project using Photovoice (see Wang, 1999) collecting interview and photographic data with undergraduate students about well-being.

For the written research paper, students were divided into research teams that could further specify their research questions and sample undergraduate students. Some research teams did this while others remained general (for example, one group focused on pre-Nursing and current Nursing students and another group focused on female students involved in two or more campus organizations). Research teams functioned as data sharing groups as individual students interviewed three participants in semi-structured interviews, transcribed the interviews, captioned the pictures, and shared data with the rest of their team. Average research teams consisted of five students, meaning that students had an average of 18 participants' interview transcripts and photos to analyze for their individual research report to be written at the end of the semester. The transcript of the first interview was due prior to Spring break, but all other aspects of the qualitative research project were due after Spring break and were affected by the shift to asynchronous, online learning. Additionally, there was a research showcase scheduled with

campus administrators invited to attend, thus allowing groups to present a poster of their collective findings and recommendations to enhance student well-being on campus. Improvising, the research showcase was replaced by another assignment when COVID-19 campus closures were announced that included reflexively examining the course, research project and paper, and personal experience. Thus, the action component of the Photovoice project was undermined by COVID-19, but the students were enabled to voice their perceptions of learning and personal outcomes.

Participants

Participants in this study include the 25 undergraduate students enrolled in a communication research methods course as a required class for the major and an optional class for the minor in communication studies. Only one of the 25 students was a minor with 24 students majoring in communication studies. The breakdown of classification was concentrated in upper-class students with freshmen (1), sophomores (7), juniors (11), and seniors (6). Of the 25 students enrolled, there was a relatively equal split of female (13) and male (12) students. In terms of ethnic diversity, student composition included White (17), African American (6), and Hispanic/Latino (2), and in terms of ability diversity, one student was legally blind with two other students registered with the campus Disability Services office for learning disabilities. Given that 78% of the institution's students are on financial aid and that 40% of the institution's degrees awarded are to first-generation college students, many of the students enrolled in this course had limited familial and financial resources as they worked to complete their Spring 2020 semesters.

All 25 students submitted reflection papers chronicling their experiences and reactions to COVID-19 on the research process and course delivery. In the instructions for the paper, students were told, "If you are willing for your professor to use your answers in a research study on COVID-19 and its impact on mentored undergraduate research, say 'I give my professor permission to use my responses for research.'" All 25 students copied that exact phrase or wrote a version of the phrase at the end of their paper, therefore consenting to their written reflections being included in the study. To protect their privacy, all students were assigned pseudonyms.

Reflective Writing and Interviews

Data was collected in two stages. First, research methods students completed a reflective writing essay due in the final week of the semester to the learning management system. In the spirit of pedagogical improvisation, the essay instructions were adapted to ask students about COVID-19 and its effect on collecting data for the course research project, working with a research team, discussing the topic of well-being with participants, reshaping individual perceptions of the research topic, affecting attitudes toward communication research, and reflecting on the shifts in course delivery. All 25 students submitted reflective essays ranging from two to four pages of content in APA style with the average essay being two complete pages.

Second, after submitting and receiving IRB approval for the study, 23 students, who were still enrolled at the institution, were contacted via their school email requesting follow-up interviews. An information sheet and consent form were attached to the email with an approved announcement requesting their voluntary participation in a Zoom-conducted interview about their COVID-19 experience taking the research methods course. Six students were able to arrange and complete an interview. Interview length ranged from 15–35 minutes with a 20-minute average interview time. Participants were asked a series of semi-structured questions including when they learned about COVID-19, its effect on them and their

Spring 2020 semester, its effect on their data collection and relationship with participants, and its impact on their learning. Interview transcripts were produced via Zoom and edited based on the recordings to more accurately reflect the participants' responses. In total, there were 61 pages of reflection essays and 221 pages of interview transcripts coded using thematic analysis.

Thematic Analysis

Thematic analysis, the iterative analytic method selected for this project, typically includes (1) data immersion, (2) initial coding, (3) thematic coding, (4) theme reviewing, (5) theme defining and labeling, and (6) report writing (Braun & Clarke, 2006, 2012). Following Braun and Clarke's (2006, 2012) six-step model of thematic analysis, we began with immersing ourselves in the data by reading and re-reading the students' reflective essays and the interview transcripts. Next, we individually hand coded the texts segment-by-segment noting when students discussed challenges, emotions, interactions, processes, or practices related to COVID-19-induced research improvisation. Then, we met to discuss categories and how patterns converged and diverged into broader themes. "Reoccurence" was the primary criterion used to transition between initial and thematic coding (Manoliu, 2015). At this point, we reviewed themes, labeled themes, and located exemplary quotes to support themes. Our goal was to ensure saturation of each theme across the data set, match between themes and data, and coherency across themes as represented in reporting (Braun & Clarke, 2012). Unlike Braun and Clarke's six-step model, we noted silences in students' interviews and reflective essays and contrasts between the reflective essays and interview transcripts. Themes centered around communication between students and participants, students and one another in research teams, and students and their instructor.

Findings

This section addresses the first research question: How did COVID-19 impact the experience of students taking a communication research methods course in Spring 2020? To do so, we turned to the three themes that emerged from data analysis: (un)available, (in)attentive, and (un)purposive. Thematic analysis revealed that available and attentive student-participant, student-student, and student-instructor communication complemented learner-centered and person-centered goals, but unavailable or inattentive communication, especially with participants and students in the research team, contributed to negative perceptions of learner-centered goals.

(Un)Available

To begin, the availability of participants, student research team members, and the instructor featured heavily in both written and oral accounts of COVID-19. The (un)availability theme was coded when students referenced the ability to contact and arrange communication with individuals related to the course and their project. Availability was thematically tied to student-participant, student-student, and student-instructor communication. Overall, students explained that the convenience of conducting interviews via Zoom enhanced participant availability, but that the variant use of technology undermined student availability.

Participant Availability. Student-participant communication availability was enhanced by the pandemic conditions. Prior to the campus closing, students complained in class that they were having trouble scheduling in-person interviews with participants. Because each participant was interviewed twice, first without photos and second with photos, participant availability was doubly challenging. In fact,

deadlines were extended for the submission of the first transcript. When COVID-19 closures and distancing measures were implemented following Spring break, students were instructed to conduct the remainder of their interviews virtually. Bearing in mind that many students were home and no longer had to think about issues like organizational meetings or commute time, students discovered that scheduling the remainder of their interviews with participants was much easier. Theo compares and contrasts participant availability and the interview process pre-COVID-19 when interviews were in-person to COVID-19 virtual interviews.

> With the closure of basically everything, it became quite easy to schedule appointments with people, and we did not have to find a private and neutral place to meet. It also allowed me to sit at my computer and record them and take notes digitally and possibly already start a rough transcription. When doing an in-person interview, I am worried that I might not be recording their voice well enough or my own, but in the digital interviews, this is easier.

Similarly, Mandy described in her interview that "Zoom was really convenient" and that all of her participants were "flexible" and easy to schedule after the campus closure. Students were at the mercy of their participants' schedules to interview them each twice, and overall, availability of student-participant communication during COVID-19 enhanced students' completion of their data collection phase of the course research project.

Student Availability. Student-student communication availability was negatively impacted by the pandemic conditions in research teams that did not know each other well prior to the pandemic. While students noted that the all-online format meant that "group information was all online," students also noted that the members of the research team did not communicate frequently or effectively when the class pivoted to an asynchronous format. One student describes how "some of the group members would not answer for days and it delayed my research progress a lot." However, some research teams described having friendships with teammates prior to COVID-19, and these teams experienced student-student availability differently. In her interview, Lockett explained that her group had set up a GroupMe chat prior to COVID-19.

> At the beginning of the semester we made a GroupMe with everybody in it. So if we had any questions, we would immediately ask them, and when we were free, we would answer or look for the answer. Then, when it came time for the transcripts, I was like, "Hey, can I have your email?" And, we just sent everybody's transcripts. We had a pretty easy time of it.

Lockett's student-student communication was perceived as available and, subsequently, effectively facilitated the completion of her research paper. An underlying concern in shifting an F2F research methods course online is the relationships student researchers have with one another prior to the shift and how those relationships will impact communication availability.

Instructor Availability. Surprisingly, students did not frequently comment about the availability of the instructor, possibly because there was no direct question about it or they did not want to engage in face-threatening communication with someone grading their work. In the few instances that student-instructor communication emerged in reflective writing or interviews, students generally commented that they enjoyed or appreciated the F2F opportunities to ask a question and receive an immediate answer pre-COVID. Angel writes, "We just couldn't talk to our professor or group members in a face-to-face

setting anymore, which I did enjoy." Similarly, Maddy described how the convenience of F2F classes did not translate to email or scheduling a phone or Zoom meeting, in part due to her own willingness to initiate.

> When in-person, I don't have issues with asking for help and don't feel as much of a burden for taking up someone's time, in this case the professor's time. Over email I feel very rude and as if everything I say is insincere, making it very difficult for me to get over that barrier I have set up in my head to just ask questions anyway.

Conversely, several students noted how available the instructor was via email or phone alleviating problems associated with data collection, analysis, or writing. Sasha described how the instructor allowed her "to call her at any time with questions," and JJ wrote that the instructor was "always there to help me with any questions I had." Instructor availability to address concerns and questions was likely a taken-for-granted fixture in the F2F pre-COVID-19 course conditions, but in the COVID-19 course conditions students either lamented the lost convenience of instructor availability or they adapted to achieve a modicum of pre-COVID availability.

(In)Attentive

Attentiveness was coded in the data when students discussed the quality of communication with participants, students, and the instructor. Attentive participant-student communication characterized COVID-19 conditions; whereas inattentive student-student communication characterized COVID-19 conditions.

Participant Attentiveness. Attentiveness in participant-student communication was frequently mentioned. Of interest, student researchers appreciated the topic of their project—well-being—as it had a particular relevance for participants and enabled more descriptive answers in interviews during COVID-19. Francis explains,

> Although the interview process was stressful, my participants' perspective towards well-being was different due to the COVID-19 situation. Listening to the different ways my interviewees were being impacted by the situation gave me a better understanding and appreciation of the study we were doing for the class.

Francis's sentiments were echoed in different ways as students described how participants opened up, provided more detailed answers, or gave longer interviews during COVID-19 compared to before the pandemic. Arguably, COVID-19 enriched the novice student interviewers' data as isolated and affected participants increased their quantity and quality of answers.

There were a few attentiveness concerns raised related to the limitations of virtual interviewing. Theo explained that he struggled to focus during virtual interviews,

> I think it was also harder for me to pay attention during interviews, and I imagine this was the same for the interviewees. I work better when in face-to-face communication and found my mind occasionally wandering instead of thinking of how to possibly get more information or better shape the next question.

Also, student researchers expressed a desire to be co-present in the same environment as their interviewees and better attend to their nonverbal cues. Student-participant attentiveness shifted with COVID-19 enabling richer disclosures in interviews yet constraining nonverbal cues.

Student Attentiveness. COVID-19 conditions prevented students from meeting in-person with their research teams, even if they were geographically close. Despite anecdotal complaints we receive for the amount of out-of-class group work required within the communication studies major, students expressed a preference for F2F meetings with their research teams. Students wanted to "meet in the library" or be able to "visit before or after class." Only a few students described how their team actively improvised to replace the function of an F2F research meeting. Maddy writes, "Positively, my team was already in communication with each other and a couple of us from the group set up Zoom meetings to help each other out as best we could." With that said, attentiveness of students to one another was quite limited. Even with using text messaging, email, or GroupMe for availability, most students described the quality of their student-student communication as poor. Allen concluded, "I think that the lack of seeing the other group members made me a little detached from the group overall." It was as if the COVID-19 shift from synchronous, F2F to asynchronous, online classes also represented a shift from team-based research to individual research.

Instructor Attentiveness. Once again, students did not make frequent references to the quality of communication between them and their instructor. Those that did tended to focus on messages of appreciation regarding the instructor's general helpfulness, frequency of communication with the class, and specific helpfulness in feedback on drafts or posting of resources. Honestly, their feedback was encouraging because the pandemic was a direct challenge to professional identity transitioning to teaching, researching, and serving from home with four kids learning from home. Even if the messages from students were requests for extra time or help writing a section of their papers, those requests were lifelines to the professional identity under disruption.

(Un)Purposive

(Un)Purposive theme was coded based on student references to learner-oriented goals (e.g., student learning outcomes, assignment instructions) that were purposively integrated into the course design and references to person-oriented goals (e.g., mental health as a student) that were unpurposively integrated into the course design. Students expressed consistent needs for communication to achieve both learner and person-oriented goals, but they stressed the role of course design, whether purposive or not, in achieving both.

Learner-Oriented Goals. In this study, the original pedagogical design of the communication research methods course focused on purposively developing learner-oriented goals set by the instructor and influenced by the program learning outcomes. From the course syllabus, student learning outcomes were enumerated focusing on typical expectations like write research questions, develop research methods consistent with questions posed, adhere to research ethics like informed consent, collaborate with a research team, collect qualitative data with participants, apply a method to analyze data, write a research paper with sections consistent with a qualitative communication project, and orally present research findings to an audience. These purposive goals, based on their reflective writing and their final written reports, were important learner-oriented goals for both students and the instructor. Improvisations required moving from in-person writing workshops in a computer lab to individual Zoom meetings and written feedback on sections of a rough draft of the final paper. Professionally and personally, it was

satisfying to read students' drafts and final papers as they integrated comments from previous drafts, clarified ethical commitments to their participants, and wrote about how their COVID-19 experiences reflexively impacted their relationship with participants, interview method and data, and interpretation of data.

Person-Oriented Goals. The students' responses to the reflective writing prompt and interviews resulted in unsolicited personal chronicling of how COVID-19 impacted them, their families, and their views on health. In other words, while unpurposive, students adapted the writing assignment to reflect on personal experience and achieve personal goals, not just learning-oriented goals. For example, Alliah discussed her mom's concern for her safety, and Laura disclosed that she had an added complexity preventing her from traveling home—not wanting to accidently expose her grandmother to COVID-19 given her recent diagnosis of uterine cancer. Emotional expressions were also common as students described frustration, sadness, anxiety, and anger. In Wallace's interview, he admitted, "I was angry, angry at the world. I wasn't okay with what was going on." While not the objective of assigning the reflection paper or interviewing the students, students' reflections on the research methods course migrated to their reflections on the topic they were studying, the context in which they were studying it, and how their lives intersected with both.

Given that the communication research methods course study centered on college students' perception of well-being, student researchers learned much about their own perceptions of well-being and how COVID-19 impacted well-being. One student commented that it was "coincidental" that the course research project topic was college student well-being, demonstrating a recognition that the instructor did not strategically plan the topic to enhance COVID-19 learner or person-oriented goal attainment. However, it became a celebrated "coincidence."

Implications for Best Undergraduate Qualitative Methods Pedagogy Practices

The novel coronavirus may have interrupted pedagogical practices long-celebrated by communication and research methods faculty, but its novelty gave way to another type of novelty—improvisation. As Ebner and Greenberg (2020) invoked a Duke Ellington quote as inspiration for their pedagogical shifts in response to COVID-19, we too are inspired by the great jazz musician's words, "A problem is a chance for you to *do your best*" (emphasis added). The pandemic prompted many in the academy to "rethink the way they teach" generating change "under duress" or chaos (Supiano, 2020, para. 6). The improvisations emerging from the pandemic's chaos are not all worthwhile, but in many cases and in our case, improvisation nudged faculty toward a community of teachers to observe others' improvisations, bravely try and practice new pedagogical methods, and systematically reflect on their effectiveness. In the language of jazz, we soloed, supported, practiced, performed, and learned as "highly disciplined practicer[s]" of pedagogy (Weick, 1998, p. 544).

In the spirit of *doing our best,* we consider the implications of this study, its findings, and literature on best practices that enable online and offline research methods learning for the undergraduate. The implications for best practices in undergraduate qualitative methods pedagogy addresses the second research question posed in this study: What best practices emerge from students' experiences completing a communication research methods course in COVID-19 that would apply to online and offline delivery of the course? To answer the second research question, we turned to two blended sources: (1) student responses in the data that expressed appreciation for a particular way the course was designed, delivered,

or improvised, and (2) scholarship on teaching and learning. In sum, we argue that both online and offline research methods courses may benefit from modeling, resourcing, reflexivity, and appreciation practices, which each functioned much like "strange attractors" (Seeger, 2002) moving the undergraduate research course from chaos to emerging structure. Post-pandemic, multimodal instruction will persist with some practices remaining based on their value to perceptions of availability, attentiveness, and goal achievement.

(Off)Online Modeling

When orienting students to the application of a research method, whether quantitative or qualitative, modeling can enhance students' ability to adopt and apply the steps of the method on their own. Harkening Bandura's (1977, 1978) notion of modeling and reinforcement and Kolb's (1984) experiential learning, research methods pedagogy within communication studies appears to value modeling. Instructors may have students read journal articles that model the method, demonstrate the method to the class, or have students perform the method for peers to see prior to sending them into the field to apply the method on their own (Cvancara, 2017). Similarly, instructors may choose to have students perform an exercise that uses the same skill set associated with the method or follows the same steps with a debriefing period for the instructor to facilitate discussion around the process of translating those skills or steps to research method (see Scharp & Sanders, 2019). In Spring 2020, the class in this study began offline in the traditional college classroom, in which semi-structured interviews were conducted in front of the class and in the table groups, thus modeling interviewing methods prior to conducting interviews in the field with participants. The offline course design included class periods scheduled in a computer lab for students to discuss samples, or models, of interview transcripts, thematic coding of texts, and completed research studies using similar methods. Then, after interacting with the models, they would be able to work individually and collectively on their transcription, coding, and writing while their instructor was present to address immediate concerns and questions. At the onset of pivoting from offline to online learning, the method of modeling needed improvising to adjust to the asynchronous learning management system.

Online, asynchronous modeling focused on (1) embedding short videos from YouTube in content modules and (2) the construction of a report template as a word processing document for students to download and begin writing their APA style qualitative report in the document. While only a few students noted the utility of the video modeling, with the exception of the tutorial on APA insertion of figures, almost all students wrote about the utility of the template. Students consistently expressed appreciation for the template. Consistent with Cvancara's (2017) use of templates in research methods courses, students in the study were given access to a document with cover page, abstract page, and paper with section headings and subheadings containing specific instructions in italics on how to complete the section. When applicable, students were also directed to pages in the textbook or journal articles posted in the learning management system. In her interview, Maddy recalled the template stating, "I remember there was a sample paper . . . It said what you need to write here, and it really helped me with formatting to see it. I'm a visual learner, and for me, to just see things is really helpful." Whether on- or offline, modeling of communication research methods and writing assists students to "see" and practice what it is they need to do. What can communication educators do to model research methods across (off)online contexts?

(Off)Online Resourcing

While models may function as resources for students in communication research methods courses, there are many forms of resources to assist them with learning and applying methodology. In the Spring 2020 course, a number of resources were developed by students and the instructor and made available on the learning management system. For example, to ensure students learned APA style for citing sources, they completed two annotated bibliographic entries of studies published in academic sources about college student well-being. Then, the instructor graded the entries, corrected APA errors, compiled all entries in alphabetical order, and published the full set of entries on the learning management system for students to access when writing the rationale and literature review sections of their research papers. In retrospect, this activity could have been student-led in their research teams to strengthen their social bonds and teamwork for greater capacity for available, attentive student-student communication. Additional resources included linked articles on the method being used, linked articles to bolster rationales (which were deemed weak after reading rough drafts), YouTube videos explaining how to write literature reviews, and more. Most resources were provided through the learning management system pre-COVID-19 and during COVID-19, not making a significant difference in the course delivery format. To consider what resources may best assist students' research methods learning, the Spring 2020 semester demonstrated that purposive learner-oriented planning is beneficial, as in the case of the class annotated bibliography, but improvising is necessary as the instructor uses student assessments to gauge learning outcomes, as in the case linking articles to help with revisions of students' rationale section of their papers. What can communication educators do to develop and improvise resources for research methods across (off) online contexts?

(Off)Online Reflexivity

Reflexive practice is widely adopted in education to prompt students to critically think about who they are, what they have learned, how they have learned it, how learning and self mutually influence one another, how learning is applicable, how they might integrate learning into future practice, and how structures or power may influence learning (Nagata, 2004; Rothman, 2014). Differentiating between closely related terms, reflection is more akin to retrospective sensemaking and reflection-in-action is more akin to learning and making sense *in situ* (Kolb, 1984), whereas reflexivity is more akin to self-awareness and critical engagement within the retrospective sensemaking process. Reflexivity was achieved in Spring 2020 through the reflective writing assignment at the culmination of the semester, in which students were primarily asked to reflect on their research methods experiences, learning, and self. The assignment morphed for most students into critical reflexivity about who they were and how COVID-19 and the research methods course intersected with their broader social selves. To that end, students hearkened the social roles that they perform including students, family members, roommates, workers, organizational members, and friends and how the course and COVID-19 collided in expected and unexpected ways. Additionally, the assignment transformed into a personal reflection of well-being and how COVID-19 challenged many of their assumptions about well-being, especially their role in protecting public health and how public health safety measures were affecting their mental health and social relationships. By integrating a reflective writing assignment into the research methods course, communication educators enable specific reflection on learner-oriented goals, but simultaneously, students are able to extend reflections and reflexively consider person-oriented goals related to the critical, social accomplishment of learning. Reflective writing applies across (off)online learning conditions as students interrogate the relationship of social discourses, crises, and other exigencies to learning. What can communication

educators do to develop reflexive praxis as students reflect on their research methods experiences across (off)online contexts?

(Off)Online Appreciation

Appreciative Inquiry (AI) is a communicative spirit and practice exploring and/or celebrating what works well (Barge & Oliver, 2003). Lahman (2012) applies AI to communication education and service learning through group communication that follows the 4-D cycle (Discover what gives life, Dream what might be, Design how it can be, and Destiny shape through what it will be). While AI in Lahman's pedagogical approach and Barge and Oliver's conversational approach in management trend toward offline communication, AI can cross learning contexts and have application in either online or offline communication research methods pedagogy. If the Spring 2020 semester had continued F2F, a facilitated AI debriefing would have followed the scheduled research showcase. As the purposive learner-oriented goals shifted with public health recommendations, offline AI was woven into the reflective writing assignment asking students to consider positive experiences and learning outcomes pre-COVID-19 and during COVID-19. Improvisation shifted AI to an online writing exercise. In the reflective writing exercise, students expressed appreciation for conducting research "from the comfort" of their couches, apartments, and cars. Students expressed appreciation for models and resources that helped them apply learning to their data collection, analysis, and writing. Students even expressed appreciation for instructor compassion and flexibility. Reflecting on her Spring 2020, Maddy stated, "It's really important and helpful. Professors are more willing to listen to their students . . . Just more willing to accommodate." AI holds countless possible enactments in communication research pedagogy, and the question continues to drive us to AI practice, "What can communication educators do to facilitate appreciative dialogue in research methods pedagogy across (off)online contexts?"

Conclusion

This study uniquely applies chaos theory and improvisation research to the context of the higher education classroom amidst the COVID-19 pandemic. The chaotic pedagogical context brought on by COVID-19 initial conditions necessitated improvisational responses by both instructor and student to self-organize for desired learning outcomes. Consistent with the qualitative methods used by students in the course, this study relied on qualitative methods to collect student experiences in written and oral forms to comprise the data. The thematic analysis revealed that students had varied perceptions of student-participant, student-student, and student-instructor communication in the transition from synchronous, in-person to asynchronous, virtual learning. (Un)availability and (in)attentiveness of participants, student research teams, and their instructor impacted how they viewed COVID-19 and its perceived positive or negative impact on their Spring 2020 semester as college students, more broadly, and their learning in the communication research methods courses, more precisely. Perceptions of available, attentive participants, teammates, and instructor manifested in students' expression of appreciation of the COVID-19 learning conditions. Availability and attentiveness minimized negative associations with COVID-19 conditions and facilitated desirable learning and personal outcomes. Whereas perceptions of unavailable or inattentive teammates, particularly, manifested in students' expression of frustration with COVID-19 learning conditions. Modeling, resourcing, reflexive, and appreciative practices were especially helpful in both the instructor and students achieving learner and person-centered goals in the course, thus making these pedagogical tools flexible ways to adapt to online and offline communication research methods pedagogy. Like jazz musicians coordinating their improvisations for a coherent and compelling musical experience (Barrett, 1998), instructor and students are poised to improvise in

chaotic, crisis situations to improve learning experiences and outcomes, self-organize, and recognize the value of strange attractors.

Considering what this study adds to scholarship on undergraduate communication research methods pedagogy, we position this study as filling an expressed gap for qualitative, rich descriptions of student's experiences with qualitative methods pedagogy (Richards, 2011) within the discipline (Breuer & Schreier, 2007). While prevalent at the graduate level, emphasis on qualitative communication research methods at the undergraduate level is less common historically (Frey et al., 1998), and, as such, has received less scholarly attention. We hope that more communication educators will see their undergraduate communication research methods classroom as a place for qualitative methods to be learned and adopted in student research and a place to engage in the merging of teaching and scholarship to collect data furthering work in this area. Furthermore, this study has implications for pedagogy that crosses and/or bridges the (off)online divide. The modeling, resourcing, reflexive, and appreciative practices proposed in response to creating available, attentive, and learner/person-centered pedagogy provide practical ways to approach each practice in (off)online teaching conditions. Finally, this study embodies reflective or reflexive learning theory and praxis. As Brockbank and McGill (2007) state, "learning does not occur in a vacuum. The context in which learning may happen is crucial. Learning is a social process . . . " (p. 4). Asking students to reflect on what they have learned was the initial aim of the reflective writing assignment implemented in this study, but reflexive learning broadened student thinking to examine who they were, how they have been shaped by what they have learned, and how they are shaping what they learn. In that sense of reflexivity, students intuitively extended their reflections to embrace the broader and more critical notion of reflexive praxis, and we argue, rightly so.

Additional research is needed for comparative cases of communication research methods pedagogy during the recent pandemic. Comparative cases and/or different methodologies could enrich the data through added student experiences to analyze and, consequently, widen the breadth of best practices. It would also be fruitful to compare how instructors improvised through synchronous communications technologies. Furthermore, additional research is needed to tease out students' social and mental health during the pandemic and its impact on their learning. This study focused on the undergraduate communication research methods course and the pedagogical improvisation in response to COVID-19, but the study did not focus on students' mental health or coping and the ways that communication faculty across different courses may use communication pedagogy to address such needs. Yet, mental health topically emerged in relation to student research in the course, suggesting that mental health was important to college students during this period of time. To a degree, activities like the reflective writing assignment used in this course invite prosaic response and disclosive storytelling; however, limiting the writing prompt as was done in this course, did not fully encourage students to make more general disclosures about their COVID-19 coping or mental health. We have learned from this retrospectively and would encourage others to learn from our improvisational errors by encouraging broader reflexive praxis in writing, which would empower students to reflect on how the course, learning outcomes, and their experiences impact them holistically. Even in a communication research methods course, it may behoove faculty to further investigate the value of compassionate pedagogy as the need for such intrusive measures is deemed necessary to care for the whole person rather than for the academic performance of the student in one class (Goode et al., 2020) especially in pandemic conditions. Compassionate pedagogy, like what Miller (2002) describes in her autoethnographic response to the Texas A&M bonfire tragedy, has the potential to connect with the person-centered, not just learner-centered, goals of teaching and learning, and subsequently, enable students to reflect on and greater appreciate what they are learning in and out of the communication research methods class.

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