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Making Room for Zoom in Focus Group Methods: Opportunities and Challenges for Novice Researchers (During and Beyond COVID-19)

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Abstract: As the COVID-19 pandemic swept through the world, it forced many people to adapt to an online-based routine, including qualitative researchers looking for alternative ways to collect meaningful data. While focus groups are traditionally conducted in-person, advances with online videoconferencing applications present a new method to collect data, however, few studies have explored this. In this article we present 12 doctoral students' experiences with conducting focus groups using the videoconferencing application Zoom during a qualitative methods course on interviewing methods. Through this self-study qualitative analysis, participants reflected on the opportunities and challenges experienced as both moderators and participants using Zoom including: preparation, rapport, incorporating other digital tools, and internet connectivity. In conclusion, doing focus groups online using Zoom was a positive experience overall and comparable to in-person focus groups for collecting qualitative data, despite the introduction of technology. More research on participant recruitment, new technology, Zoom's security features, and Zoom's use outside of a pandemic should be further explored.

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1. Background

During the Spring of 2020, the COVID-19 pandemic became an unprecedented and unpredictable situation where many people were forced to adapt to a new method of communicating. Events typically held in-person were either canceled or transitioned entirely to a virtual setting. Notable is the sudden transition educators had to make, particularly moving classes to an online delivery method. Institutions were tasked with providing guidelines and support for online learning, while faculty, staff, and students had to adapt to a new method of teaching and learning at a moment's notice. Also affected were researchers who, before the pandemic, may have had plans on conducting qualitative research in-person but were forced to reschedule interviews and adapt to new data collection methods virtually. Arguably, collecting data virtually for most scholars was new territory, particularly when it might have been more optimal to meet participants in-person to build better rapport or conduct in-person observations to capture details of various events. While virtual methods of qualitative data collection, such as online interviews or online focus groups, have previously been used, it may not have been the primary form of qualitative data collection chosen. Given this sudden change to the class environment and newly emerging method of virtual qualitative research, it was an opportunity to explore an online form of data collection to expand on the methodological research that currently exists. [1]

For this article, the experiences of 12 graduate/doctoral students and one course instructor in an advanced qualitative methods course on interviewing at the beginning of the COVID-19 pandemic in the Spring of 2020 are highlighted. The course was offered through a U.S. higher education institution's College of Education where the students and instructor were from different program areas including STEM (Science, Technology, Engineering, and Math) education, literacy education, higher education policy, and educational psychology. One of the projects for the course was to conduct an in-person focus group session; however, the COVID-19 pandemic caused the project to be suddenly moved online. A year before COVID-19, the institution had purchased a Zoom license for faculty and students' use, but not all faculty and students had used it prior to transitioning online. Michelle, the course instructor, had been using it regularly and thought it had the potential to work well for online focus groups because of its breakout room and recording features. Yet, none of the students, nor the instructor, had ever conducted an online focus group, and the class had varying levels of expertise with using Zoom. Because of the immense growth in the use of Zoom, and a need for creative solutions to research in these unparalleled times, additional research that evaluates the utility of Zoom as a virtual tool for qualitative data collection can help scholars make thoughtful decisions about the suitability of the platform for their use. Additionally, while there is much research

on focus group methodologies, additional research is needed that primarily focuses on online synchronous video-based focus groups. [2]

In this article, we share a self-study qualitative analysis of class perceptions and experiences of using Zoom for conducting focus groups from both participant and moderator perspectives; we believe these perspectives could add to the growing literature around online focus groups from/for both novice and experienced qualitative researchers. We begin with an overview of the existing literature on online focus groups and discuss what is already known about synchronous video usage (Section 2). After that, we introduce the particular Zoom-based focus group methods we employed and how we analyzed our experience through self-study during the start of the COVID-19 crisis (Section 3). We then present our findings in the form of lessons learned, both challenges and successes, from the perspective of both participants and moderators (Section 4-5). Our analysis concludes with a discussion of implications of our experience (Section 6), limitations of this experience (Section 7) and concluding thoughts (Section 8). As the potential for video conferencing software, like Zoom, is assessed, the hope is that this article adds to the growing scholarship around alternative methods for qualitative data collection in an ever-expanding digital world and opportunities for qualitative methods instructors to provide similar opportunities for expanding novice researcher practices with online focus groups. Regardless of whether scholars will need to remain socially distant while conducting research, this article provides practical recommendations for future use. [3]

2. Literature Review

Current literature around online focus groups highlights opportunities and challenges for researchers to collect useful qualitative data. Past studies have utilized online environments to conduct qualitative focus group interviews and highlighted the key comparison points between synchronous and asynchronous—whether the focus group has all participants present concurrently (synchronous) or not (asynchronous)—formats for data collection. Recent methodological studies have specifically focused on the use of technologically advanced, synchronous audiovisual platforms—such as Zoom and Microsoft Teams—as research tools for hosting online focus groups. [4]

2.1 Utilizing an online research environment

Much of the scholarship on online focus groups (OFGs)—a term used for any form of focus group that is not physically in-person—compares traditional, in-person focus groups to a variety of online, virtual, or alternative platforms such as videoconferences, chat rooms, or messenger applications (ABRAMS, WANG, SONG & GALINDO-GONZALEZ, 2015; DEAKIN & WAKEFIELD, 2014; HAY-GIBSON, 2009; JANGHORBAN, ROUDSARI & TAHGIPOUR, 2014; JOWETT, PEEL & SHAW, 2011; KITE & PHONGSAVAN, 2017; LIAMPUTTONG, 2011; LOBE, 2017; STEWART & SHAMDASANI, 2017; UNDERHILL & OMSTEAD, 2003). For instance, researchers' recommendations for OFGs based on how they differ from in-person focus groups suggest maintaining smaller group sizes to

prevent chaos (ABRAMS & GAISER, 2017; FOX, MORRIS & RUMSEY, 2007; LOBE, 2017); conducting trial runs to test fickle technology (FORRESTAL, D'ANGELO & VOGEL, 2015; TUTTAS, 2015); and making deliberate efforts to build rapport with participants beforehand, given the interpersonal limitations in the OFG itself (HAY-GIBSON, 2009; HEWSON, VOGEL & LAURENT, 2016). [5]

Many researchers have presumed several benefits of OFGs over in-person groups, such as: saving costs (DEAKIN & WAKEFIELD, 2014; HALLIDAY, MILL, JOHNSON & LEE, 2021; HAY-GIBSON, 2009; KENNY, 2005; KITE & PHONGSAVAN, 2017; LIAMPUTTONG, 2011; LOBE, 2017; RIVAZ, SHOKROLLAHI & EBADI, 2019), greater participant access (HALLIDAY et al., 2021; HAY-GIBSON, 2009; KENNY, 2005; KITE & PHONGSAVAN, 2017; LIAMPUTTONG, 2011; LIJADI & VAN SCHALKWYK, 2015; RIVAZ et al., 2019), and better engaged participants (LIAMPUTTONG, 2011; REID & REID, 2005). However, it is possible that some of these benefits—notably cost savings—are less pronounced than expected, due to the costs that can be associated with required technology and fees for their management (RUPERT, POEHLMAN, HAYES, RAY & MOULTRIE, 2017). Scholarship before the 2010s pre-dated audiovisual OFGs through platforms like Zoom, and thus researchers assumed that all OFGs must sacrifice data collection on participants' non-verbal cues and body language (HAY-GIBSON, 2009; JOWETT et al., 2011; KITE & PHONGSAVAN, 2017). [6]

However, the advancement of technology in subsequent years has allowed for adequate collection of this data in OFGs. The recency of these technological advances leaves room for new empirical studies about the use of audiovisual platforms for conducting focus group studies. The studies published before 2020 rarely explored the pragmatic methodological concerns of a single platform beyond Skype (ABRAMS et al., 2015; ARCHIBALD, AMBAGTSHEER, CASEY & LAWLESS, 2019; DEAKIN & WAKEFILED, 2014; HAY-GIBSON, 2009; HEWSON et al., 2016; JANGHORBAN et al., 2014; LOBE, 2017). But a new wave of scholarship has specifically focused on Zoom, which rapidly rose in popularity during the COVID-19 pandemic (ARCHIBALD et al., 2019; GRAY, WONG-WYLIE, REMPEL & COOK, 2020; GREENSPAN, GORDON, WHITCOMB & LAUTERBACH, 2021; HALLIDAY et al., 2021; SANTHOSH, ROJAS & LYONS, 2021). Additionally, some researchers focused on supplemental collaborative tools that can be utilized effectively in tandem with audiovisual OFGs, such as online word clouds and Padlet (McNAUGHT & LAM, 2010; SIU & ZHOU, 2017). [7]

2.2 Synchronous vs. asynchronous formats

OFGs fall under one of two classifications: synchronous or asynchronous. Synchronous OFGs are real-time conversations that happen through a virtual platform, whereas asynchronous OFGs are typically communications that occur over days or weeks, through media such as e-mail or online forums (ABRAMS & GAISER, 2017; BROWN, REVETTE, DE FERRANTI, FONTENOT & GOODING, 2021; MUÑOZ, 2007). Most researchers have either explicitly or implicitly focused on asynchronous means of conducting OFGs (IM & CHEE, 2006; KENNY, 2005; KITE & PHONGSAVAN, 2017; McCOYD & KERSON, 2006; MURRAY, 1997; RANIERI, KENNEDY, WALMSLEY, THORBURN & McKAY, 2019; TUTTAS, 2015; WILLIAMS, CLAUSEN, ROBERTSON, PEACOCK & McPHERSON, 2012). In the earlier scholarship on OFGs, authors' use of "synchronous" and "asynchronous" terminology did not exist—asynchronous means were the only ones available—nor could the possibility of synchronous OFGs have been anticipated (MURRAY, 1997). [8]

Even after the distinction between asynchronous and synchronous OFGs were outlined in the literature (BURTON & BRUENING, 2003), the synchronous means of conducting OFGs were for many years often only text-based, such as chat rooms and instant messenger applications (ABRAMS et al., 2015; JOWETT et al., 2011; LIAMPUTTONG, 2011; LIJADI & VAN SCHALWYK, 2015; LYNCH et al., 2017; THRUL, BELOHLAVEK, KAUR & RAMO, 2017). Because of this, authors of studies on synchronous OFGs prior to 2020 either briefly mentioned or did not discuss online video conferencing services that included high-quality video and audio and advanced functions like screen-sharing and breakout rooms (JOWETT et al., 2011; LIAMPUTTONG, 2011; LIJADI & VAN SCHALWYK, 2015; TURNEY & POCKNEE, 2005; WILLIAMS et al., 2012). Since 2020, more studies have been published specifically on advanced audiovisual synchronous OFG platforms, such as Microsoft Teams and the increasingly popular Zoom (GRAY et al., 2020; GREENSPAN et al., 2021; HALLIDAY et al., 2021; MENARY et al., 2021; SANTHOSH et al., 2021). Researchers have outlined key limitations of both synchronous and asynchronous text-based OFGs, including their inability to capture non-verbal cues, tone of voice, facial expressions, participant body language, and even the lack of spontaneity in participant responses, all of which are remedied by using audiovisual OFGs (BROWN et al., 2021; GREENSPAN et al., 2021; JOWETT et al., 2011; KITE & PHONGSAVAN, 2017). [9]

One of the few studies that offered guidance specifically relevant to Zoom prior to 2020 is TUTTAS (2015), where the author included the note that a literature search at the time "yielded no published studies in which synchronous audiovisual-recorded focus groups were carried out in the social space of a web conference" (p.123). Among TUTTAS' practical lessons learned for using web conferencing for focus group studies were the importance of active moderation to account for technological problems like failed video or dropped connections, the need to mute background noise by participants and researchers to improve recording quality, the effectiveness of mock focus group sessions to train moderators on the required technology, and the need to ensure participants have

the required materials and knowledge to participate using the medium, all of which have been reiterated by subsequent scholars (BROWN et al., 2021; GRAY et al., 2020; GREENSPAN et al., 2021; HALLIDAY et al., 2021). More recent authors have offered additional practical Zoom-based recommendations, such as having a researcher designated to provide technical support to participants (ibid.), encouraging participants to keep their cameras on whenever the internet connection allows (MARQUES et al., 2021; HALLIDAY et al., 2021), and the strong recommendation to have multiple scholars act as moderators to keep sessions running smoothly (BROWN et al., 2021; MARQUES et al., 2021; HALLIDAY et al., 2021; MENARY et al., 2021; SANTHOSH et al., 2021). [10]

2.3 Zoom as a research tool

Early researchers have discussed the use of chat rooms (JOWETT et al., 2011; UNDERHILL & OMSTEAD, 2003) and Voice over Internet Protocol (VoIP) (BERTRAND & BOURDEAU, 2010; HAY-GIBSON, 2009) as primary methods of synchronous communication. However, these formats lack methods for seeing participants through video. With the recent rise of videoconferencing software such as Skype (DEAKIN & WAKEFIELD, 2014; JANGHORBAN et al., 2014; LOBE, 2017), Cisco WebEx (LOBE, 2017), and Google Hangouts/Meets (ABRAMS, WANG, SONG & GALINDO-GONZALEZ, 2015; LOBE, 2017), research on the use of synchronous video have added to the existing literature of online interviews and focus groups. [11]

As COVID-19 spread throughout the world, higher educational institutions relied on synchronous online communication to continue class instruction (DILL, FISHER, McMURTIE & SUPIANO, 2020). One software that gained popularity during this time was Zoom. According to KIM (2017), Zoom had been used in "over 6,900 educational institutions, including 90% of the top U.S. universities" (n.p.) even prior to the COVID-19 pandemic. Zoom offered users a flexible tool to conduct online meetings in an environment with security options and provides functions such as "meeting setup, user management, conference recordings, chat transcripts, and voice mail recordings."[1] Zoom also provided two versions of their software. Under the free version, users could conduct online meetings for up to 40 minutes with fewer than 100 people present, create breakout rooms for small group interactions, share screens, and record sessions that can be uploaded to Zoom's cloud storage and accessed later for viewing[2]. The paid version presented these same benefits, but included upgrades to cloud storage, an increased meeting duration, and personal meeting IDs2. While the paid version offered more flexibility with time and storage, the features for both versions, seemingly, created opportunities for collecting qualitative research data. [12]

Zoom's increase in popularity has also presented security challenges with its software and these issues highlight possible ethical concerns and risks to participants when conducting qualitative interviews. Hackers began to log into

1 Zoom security guide, https://zoom.us/docs/doc/Zoom-Security-White-Paper.pdf [Accessed: December 9, 2021].

2 Zoom plans and pricing, https://zoom.us/pricing [Accessed: December 9, 2021].

random meeting rooms and cause disruptions. This phenomenon, known as "Zoombombing," caused interruptions ranging from playful appearances and celebrity drop-ins (KRAGEN, 2020; LEVITSKY, 2020) to offensive occurrences highlighting racism, antisemitism, or other obscene acts (MATHIAS, 2020; REDDEN, 2020); this led to New York City's Department of Education banning Zoom (MUSUMECI, 2020) and the U.S. Department of Homeland Security issuing a report noting Zoom's potential susceptibility to foreign spies and hackers (MARGOLIN, 2020). Proactively, Zoom provided guidelines on password protected rooms and recordings[3] and acquired a security company to increase encryption (CARSON, 2020), which has curtailed most of these earlier issues. For example, SANTHOSH et al. (2021) utilized the waiting room feature and "lock meeting" option to prevent such events from occurring in their own research. It is important to note, however, that these online security concerns are not specific to the Zoom platform (FOX et al., 2007; LOBE, 2017). [13]

While few researchers have assessed Zoom as an online interviewing tool, in one key study, ARCHIBALD et al. (2019) collected data from participants about their Zoom interview experiences. Advantages that participants mentioned were "rapport, convenience, and simplicity and user-friendliness" (p.4), while disadvantages to Zoom centered around connectivity issues and video quality, which support the findings of both past and subsequent researchers' studies (BROWN et al., 2021; FORRESTAL et al., 2015; TUTTAS, 2015). Interestingly, ARCHIBALD et al. (2019, p.3) found that 69% of their participants preferred Zoom as a method of conducting interviews compared to other options, including in-person. This finding supports DEAKIN and WAKEFIELD's (2014) study using Skype, where they suggested that online synchronous videoconferencing should be "considered as a favoured choice in interviewing methodology" (p.604). HALLIDAY et al. (2021) found that 67% of their focus group participants had prior experience with the Zoom platform before participating in their focus group, indicating a growing familiarity with this specific platform for synchronous videoconferencing (p.4). [14]

The intention for this article is to further explore the use of Zoom as a platform for collecting qualitative data, a rising topic in contemporary methodological research. Currently, only a handful of researchers discuss the use of Zoom for OFGs, and they have not specifically focused on soliciting feedback from both participants and facilitators to assess the experience with the platform (ARCHIBALD et al., 2019; HALLIDAY et al., 2021). We present a reflection on the experiences of both participants and facilitators of a Zoom-based OFG during a doctoral qualitative methods course and identify several challenges in the process. [15]

3 Security at Zoom, https://zoom.us/security [Accessed: December 9, 2021].

3. Self-Study Research Methods in Relation to Zoom-Based Techniques for OFGs

For this study, we used self-study research, a tenet of qualitative action research. Self-study research is a methodology used most often for educators and educator development (McNIFF, 2010; PITHOUSE, MITCHELL & WEBER, 2009). Self-study research has been cited as a means to enhance educator [research] self-reflexivity to increase development and challenge traditional notions of research and practice (PITHOUSE et al., 2009). The researchers for this study included 15 PhD (graduate) students and 1 professor, although only 12 of the students decided to co-author this article. As a whole, this research team was especially attentive to any issues of bias in order to avoid compromising the quality and validity of the work. [16]

For this self-study, seven Zoom-based online focus groups took place during a two hour and forty-five-minute class period. We define focus groups, generally, based on KITZINGER and BARBOUR's (1999) definition in which participants are focused on discussing a specific activity or topic and make "explicit use of group interaction to generate data" and "researchers encourage participants to talk to one another; asking questions, exchanging anecdotes, and commenting on each others' experiences and points of view" (p.4). This contrasts to other types of focus groups that are used for marketing, politics, polling, or emancipatory purposes (ROULSTON, 2013). Six of the seven focus groups had two moderators with five to six participants and were given 30 minutes to conduct the focus group session. The seventh focus group had three moderators with the remainder of the class as participants and were given 35 minutes to conduct the session (see Figure 1). Moderator teams were chosen in advance with each team choosing a topic for discussion. The focus group topics included: Coronavirus, religion and politics, opinions of oatmeal raisin cookies, attending academic conferences, graduate advisor/advisee relationships, the application and recruitment process for doctoral programs, and pre-k education.

Rounds (Times)	Topic #1	Topic #2
Round 1 (1:40-2:15)	The Coronavirus *Note:* There were 3 moderators, and the rest of the class (12 students) as participants	
Round 2 (2:20-2:50)	Discussing Religion/Politics w/ Friends *Note:* There were 2 moderators and 5 participants	Oatmeal Raisin Cookies *Note:* There were 2 moderators and 6 participants
(2:50- 3:00)	----Break Time----	
Round 3 (3:05-3:35)	Attending Academic Conferences *Note:* There were 2 moderators and 5 participants	Advisor/Advisee Relationships *Note:* There were 2 moderators and 6 participants
Round 4 (3:40-4:10)	Doctoral Recruitment Process *Note:* There were 2 moderators and 6 participants	Preschool for ALL *Note:* There were 2 moderators and 5 participants

Figure 1: Focus group topics and rounds [17]

3.1 Using a "meta-moderator"

In order for the focus groups to run smoothly, Michelle, the course instructor, took on the role of what is being called a "meta-moderator"—a moderator of the other moderators. This choice was two-fold: 1. it allowed for the moderators and participants to concentrate on their focus group interviews while Michelle took care of any technology and logistical issues, and 2. it allowed for multiple focus groups to occur simultaneously. [18]

As part of the meta-moderator duty, Michelle took on preparation tasks before the OFGs occurred and support tasks during the OFGs. Before the day of the OFGs, the meta-moderator did the following tasks:

- selected Zoom as the videoconferencing app and created a link to join;
- organized the time schedule for the focus groups;
- practiced placing people in breakout rooms prior to logging in with a colleague;
- tested Zoom's settings to ensure security, including making sure the link was encrypted, requiring participants to authenticate their identity by logging in through their university e-mail address, and enabling the waiting room feature of Zoom to monitor participants who entered the room;

- set the default to mute participants automatically upon entry to the Zoom session;
- enabled the chat feature so that participants and moderators could write to each other publicly or privately. [19]

During the Zoom session, the meta-moderator gave moderators the ability to record and share their screens, and she acted as a timekeeper. Additionally, because focus groups were running concurrently, the meta-moderator moved participants into the appropriate breakout rooms and helped individuals return to Zoom or their breakout room if they lost their internet connection. [20]

3.2 Moderator preparation

While Michelle took on a meta-moderator role, the graduate students took on moderator roles with the focus group sessions. Prior to conducting the focus groups, moderator teams were tasked with creating a protocol that included a statement of consent and discussion questions related to their topic (ROULSTON, 2013). In addition, moderators determined what techniques could be useful to establish rapport and facilitate discussions among their online focus group participants. For example, pairs discussed whether they should begin with an icebreaker to create a familiar, relaxed environment, or whether they should utilize the mute and hand raising features on Zoom to facilitate streamlined discussions. With focus groups moving to Zoom, moderators also discussed how they would integrate other forms of technology, such as Padlet or WordCloud, as substitutes for in-person techniques, such as large easel pads and markers, for recording participant thoughts. [21]

Moderator teams also determined what role each person would employ during the focus group session. As each team had at least two moderators, two roles emerged: a facilitator and a scribe. The facilitator guided the discussion and focused on maintaining group dynamics among participants while the scribe was primarily responsible for taking notes and keeping time during the discussion. These roles were either shared, rotated, or separated, depending on individual preference and comfort level. [22]

Because Zoom was not normally used for class sessions prior to COVID-19, one group of moderators felt it was important to become more familiar with the Zoom software to reduce the possibility of user error during the focus group session. They conducted a mock focus group prior to the day of the class and recorded the session to test Zoom's capabilities. Testing technology is an important step in moderator preparation, particularly when using unfamiliar equipment or software (BROWN et al., 2021; FORRESTAL et al., 2015; GRAY et al., 2020; HALLIDAY et al., 2021; SANTHOSH et al., 2021). [23]

3.3 Research reflexivity: Moderator and meta-moderator debriefing experiences

One week after the focus group sessions, the class and instructor held a debrief session of the Zoom-based OFG to share experiences and reflections as both participants and as moderators, specifically to note the drawbacks and advantages of the Zoom platform. As McMAHON and WINCH (2018) discussed, debriefing is a systematic form of data analysis when working on collaborative research. They wrote that debriefings

> "enhance the adaptable, thoughtful and empathetic-yet-questioning nature of qualitative research among data collection teams (thereby improving both the quality of data collected and the capacity of those collecting the data), to correct course in the event of unknowable changes, insights or challenges in a given context, and to quickly share emerging data with stakeholders in programmatic, policy and academic spheres" (p.5). [24]

Self- debriefings, through the form of reflection papers, were also submitted describing the different experiences as moderators and any observations made about the focus group session. These were used and discussed as part of the systematic debriefing process. Combining self-debrief with a group-debrief is optimal (VERKUYL et al., 2019), especially in self-study research. The following sections examine the lessons learned from both perspectives of ourselves as participants and us as moderators. We also outline the themes that emerged from the systematic debriefing around conducting focus groups on Zoom. [25]

4. Lessons Learned from the Participant Perspective

Regardless of focus group topic, much was learned about the process of conducting focus groups from being a participant. This section highlights both the perceived challenges and successes of the focus groups from the participant perspective. The lessons gleaned can help researchers better understand and empathize with participants as they use the Zoom videoconferencing platform as a data collection tool. [26]

4.1 What worked

Several elements were found to be successful which we hope could be recreated in future OFG research studies. These included: building rapport and ensuring a comfortable and respectful environment between facilitators and participants, providing opportunities for all participants to both speak and reflect, and utilizing different engaging tools to further solicit active participation in the OFGs. [27]

4.1.1 Ensuring comfort

Rapport established among participants during in-person class meetings translated to the Zoom-based OFGs. This existing rapport, combined with the informal setting and respectful interactions during the OFGs, contributed to a

communal atmosphere. Being able to attend the focus group from home created an informal environment that worked well in the virtual setting. However, despite knowing one another previously, one OFG began with introductions, which provided participants with a feeling of commonality. This is similar to what GRAY et al. (2020) found with their study, noting that participants felt valued and more comfortable when being able to connect with interviewers face-to-face virtually. [28]

Respectful interactions were also helpful to ensure comfort among participants during the OFG. These included turn-taking, raising hands when sharing, and waiting for others to finish their thoughts before speaking. The moderators' organization contributed towards these kinds of interactions because there were very few interruptions. The hand raising feature was also used effectively because moderators called on participants in the order in which they raised their hands. One classmate summarized her thoughts as a participant by stating that, "it was a very comfortable environment and setting. I felt heard, respected, and we all gave the time (and space) needed for everyone to share." This comfortable environment was created by the moderators beginning with ground rules, providing guidelines and transparency. This reflection was different from a study done by GREENSPAN et al. (2021), where a few of their participants dominated the conversation. This suggests that a more organized layout utilizing tools such as hand raising could help resolve issues of conversation domination or interruptions. [29]

4.1.2 Active participation

Various techniques found to be helpful were used to encourage participation: the selection of relevant topics, providing opportunities to speak and time for reflection, and utilizing multiple user-friendly response modalities to be beneficial. Because participants chose the topic of the OFG, many of the discussions engaged in were relevant to the graduate students' experience. This made it easy for us to participate in each OFG, and supports the conclusions of ROULSTON (2013), who stated "if working with groups who are well-known to each other ... group members are [more] willing to freely discuss topics of interest" (p.39). Even if participants are not known to each other, they can still engage with the OFG, if familiar with the topic. Recruiting experts and those familiar with the topic will help facilitate full participation. [30]

Participants were provided with ample opportunities to speak and participate in the discussion. The use of other online learning tools provided alternative and anonymous methods to contribute to the OFGs. Two groups began with a question that allowed participants to respond on another digital platform, including Padlet and WordCloud, giving everyone a chance to contribute simultaneously. Figures 2 and 3 display responses to prompts from two focus groups, each using a different response modality: WordCloud (Figure 2) and Padlet (Figure 3). YouTube clips, and other shared documents, were also helpful in keeping conversation going and acted as a springboard for other conversations. Much like MENARY et al. (2021) and their experience with using a whiteboard tool on Microsoft Teams, the ability to incorporate these tools into a video conferencing

software may optimize the online focus group experience. Aside from the occasional issue (buffering, broken link, etc.), participants felt the use of these tools, as well as the usability of Zoom itself, gave all of us the opportunity to fully engage.

Figure 2: Word cloud

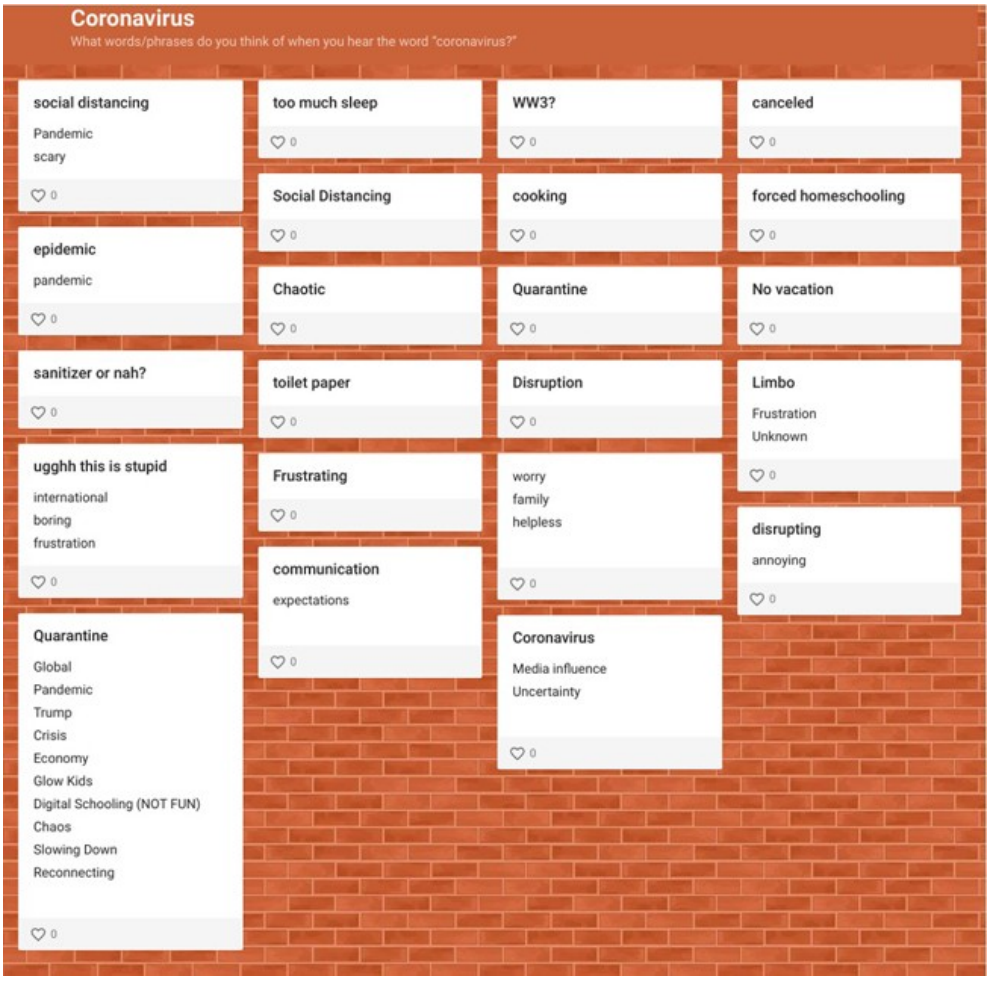

Figure 3: Padlet [31]

4.2 Challenges

Participating in an OFG involves a handful of notable challenges, including the occasional difficulty in sustaining engagement with other participants and maintaining focus during discussion, despite outside distractions. These issues were noted by a number of the focus group participants, along with occasional technical difficulties which causes varying levels of frustration and disruption. [32]

4.2.1 Conversational flow and focus

Four participants expressed challenges in the conversational flow as a function of the online setting. It was difficult to engage in dialogue and emotionally invest in the conversation because the platform, while providing access, also created a barrier. Compared to the natural flow of an in-person focus group, about half of the participants found conversations awkward online. Others had difficulty entering the conversation because they did not want to cut someone off. As previously noted, participants were not always able to stay focused during the Zoom session, in some instances gazing off into their surroundings. One participant stated, "I don't feel my attention was what it would have been if we were in a different space." Some of these observations may be natural consequences of holding the focus group online, but others may be addressed through establishing clearer session expectations. [33]

4.2.2 Technical difficulties

Three participants experienced technical difficulties related to severed connections or slow internet speeds. This is consistent with ARCHIBALD et al. (2019), who found that a majority of participants in their study expressed some technical difficulty with Zoom, related either to unfamiliarity with the platform or hardware incompatibilities. One participant lost the internet connection several times during the OFG sessions, resulting in minor interruptions and, likely, lost data. [34]

5. Lessons Learned from the Moderator Perspective

In addition to serving as participants, the assignment gave the PhD students in the qualitative research interviewing course the first-hand experience of facilitating focus groups as well. As moderators, there were a range of experiences, showcasing both successful strategies and notable challenges for the platform. The lessons learned through our self-study debriefing provide helpful considerations for researchers using videoconferencing tools for a data collection, especially Zoom. [35]

5.1 What worked

There were many positive aspects of facilitating an OFG, which hinged on the preparation moderators made, establishing rapport, the use of a meta-moderator, and the features of Zoom. Preparation for the focus groups included preparing questions, acknowledging foreseen obstacles, and defining moderator roles. Maintaining rapport that had begun in prior class periods was useful in having focused discussions. [36]

5.1.1 Preparing and defining roles

Moderators were well prepared and thought-out potential challenges such as participants interrupting one another, awkward silences, or one participant dominating the conversation. Roles were chosen based on the strengths and preferences of the moderators. When not acting as the facilitator, the co-moderator became the scribe, which allowed the facilitator to be an engaged listener. At the end of four of the focus groups, the scribe took over to ask a few clarifying questions to participants based on the notes kept during the session. One scribe created a matrix with all participants' names and took notes on which questions they responded to. This helped the moderators track who was participating in the discussion and allowed the scribe to note non-verbal cues like nodding and hand gestures. The scribe concluded the focus group session by asking if participants had anything else they would like to add (ROULSTON, 2013, p.45) or if they had any questions about the research study. As noted by MARQUES et al. (2021), the utilization of dual moderators maximizes the capacity each has to solve logistical and technological issues, while still paying attention to the data shared by participants. For this experience, the preparation and division of labor helped many moderators to feel satisfied with the results of their sessions. [37]

5.1.2 Continuing rapport

Similar to the participant perspective, having an established rapport was important to a successful moderating experience. Given that part of the semester had been spent in class together, participants had already established some form of rapport. Although the semester began in person, rapport in an online focus group can be developed by a protocol of using actual names, rather than an e-mail or nickname identifier, and allowing all participants to introduce themselves and speak freely as they would in person. In one focus group, the moderator felt comfortable actively calling on participants whom he knew had different experiences than those who voluntarily shared information (RUBIN & RUBIN, 2012). Moderators also used follow-up questions and probes rooted in specific participant responses. This helped to ensure that everyone contributed to the conversation, making it more well-rounded and inclusive. One moderator used transition statements and made a point of asking if anyone had anything to add before moving on to the next question (ROULSTON, 2013). Moderators were very comfortable with silence, and this wait time gave the participants time to think and reflect between questions before moving on. [38]

Another set of moderators noted that they achieved a relaxed and friendly atmosphere within their OFG session by using an informal tone of voice and the occasional joke. ROULSTON (2013) suggested one way to continue rapport throughout the session is to use continuers, so about half of the moderators would smile, nod and say, "mhm" and "ahh" while the participants were sharing their experiences. To get rapid feedback from the participants, the moderators used techniques such as having participants give a thumbs up or other nonverbal cue. Because of the rapport built within class and continued in the OFG, moderators felt that participants took turns answering each question and played off each other's answers to agree with or refute responses. [39]

5.1.3 Optimizing Zoom's features

There are several features unique to Zoom that aided in the success of the OFG experience. One positive feature of Zoom was the private chat. Within the chat the notetakers were able to message the primary moderators about specific probes they could use without it detracting from the conversation. The raise hand and react features helped moderators record consent, tally votes, and keep participants from talking over each other. Discussions were held in "gallery view," so the feeling of a focus group seated in a circle was recreated. The ability to see each other's facial expressions and hear the tone of voice from others gave the feeling of being together. Additionally, Zoom allows for screen sharing, so moderators were able to share, for example, results of the WordCloud with participants. Finally, the recording feature allowed moderators to individually review the focus group, especially reviewing facial expressions and body language, making it easier for the moderators to reflect on the experience. [40]

5.1.4 Utilizing a meta-moderator

As described previously, Michelle took on several responsibilities as a "meta-moderator" to help set up Zoom's technology and security features in order to ensure a seamless transition to conducting focus groups. Doing so allowed the moderators more time to craft discussion questions and focus on the content of the conversations. This also suggested that having a dedicated individual responsible for logistics and technology could prove helpful for facilitators and scribes who are focused on collecting data and understanding participant experiences to react appropriately in the online focus group (BROWN et al., 2021; MARQUES et al., 2021; SANTHOSH et al., 2021). It is clear that focus groups would not have run as smoothly without this additional support. [41]

5.2 Challenges

Along with the positive lessons learned, there were also challenges moderating focus groups. Upon reflection of the experience, class members reported challenges in the areas of environmental distractions, internet connectivity, using Zoom on a mobile device, and Zoom features. [42]

5.2.1 Environmental distractions

One barrier encountered as moderators was environmental distractions. Traditionally, focus groups meet outside the home in an environment with minimal distractions, but due to COVID-19 and the stay-at-home order in our state (North Carolina, USA), this was not a feasible task. Managing a focus group online where both the moderator and participants are at home poses issues such as interruptions, home privacy issues, and unreliable internet connections. [43]

For example, while serving as the notetaker, one moderator spoke of the challenge of interruptions from her children. Before the session, the children had been settled in another room and the door was closed for privacy. During the focus group, two of the children entered the room, causing the moderator to juggle muting the sound, note taking, and attending to the kids. Another moderator reported a similar interruption, but from the dog. The barking was loud enough to hinder the ability to hear an answer given by a participant. Consistent with a similar issue from GREENSPAN et al. (2021), having these distractions could affect participant responses or moderator reactions, thus impeding the data collection process. [44]

5.2.2 Internet connectivity

Another challenge encountered were issues surrounding internet connection. Internet connectivity problems plagued both moderators and participants during the focus group sessions. During one focus group session, one moderator lost connection while facilitating, and upon reentering the session, the conversation had already shifted to another question. Missing a part of the conversation impacted the moderator's ability to properly track the discussion and ask effective follow-up questions and probes. Every institution has its own protocol for connectivity issues and knowing that internet connections can often experience outages, participants should agree on the protocol prior to, or at the beginning of, the meeting. In our experience, the person losing the connection attempted to reconnect and joined us as soon as possible. The focus group discussion was also recorded so that participants could view any missed content later. [45]

Class members also reported that when there was a conversation lull, it was unclear if the participants were ready to move on or if their connection was lagging or frozen. During one focus group, two participants had connectivity issues while giving consent, which led to a delay in the start of the discussion portion of the session. Connectivity issues also impacted the ability of participants to contribute to the discussion. Two moderators faced the issue of a participant

losing connection in the middle of sharing an opinion. When the participant was able to rejoin, the discussion had moved on, leaving the participant unable to finish sharing. In reflection, the moderators realized that they should have circled back to the participant, giving the participant an opportunity to complete the thought. By moving on, moderators missed the opportunity to gain adequate representation from all participants, particularly in the online environment (FOX et al., 2007). [46]

5.2.3 Zoom's limitations

Although the chat aspect was useful for private communication between co-moderators, three class members reported issues using the feature on mobile devices. When using a smartphone, the user does not have a gallery view of participants or easy access to the chat. As a moderator, this poses an issue as participants could miss incoming messages when focusing on the video conversation. One moderator noted that when planning a focus group, it is important to account for the mobile features. Together as co-moderators, they found that their participants using smartphones had difficulty accessing the link provided in the chat. The time spent on troubleshooting took away from the conversation, which could have been avoided if it had been planned for in advance. [47]

In addition to trouble accessing the chat feature from a mobile device, five moderators noted it was difficult to use the chat in conjunction with other Zoom features simultaneously. One moderator wanted to share a link to an outside website in the chat with participants; however, being in screen share mode made the transition to the chat feature problematic. In order to utilize more than one aspect at a time, the moderator had to be tech savvy and quickly move between windows. This maneuvering can be difficult if your attention is focused on the participants and the conversation. [48]

Furthermore, when moderating a focus group in Zoom, it was essential to be aware of the mute feature available on Zoom. A classmate reported asking a probing question but was unknowingly on mute and thus unheard. Unfortunately, the conversation had shifted before being able to ask the probe again. [49]

6. Implications for Future Practice

The onset of COVID-19 provided us an opportunity for exploring newer research media. As scholars navigate what may be the "new normal" way to virtually engage participants through OFGs, the qualitative research community has an opportunity for innovative and conversely more accessible data collection practices. In reflecting on the challenges and possibilities the class faced doing a Zoom-based OFG, technology, comfort, and accessibility became key aspects for both moderators and participants to interrogate the process. In this section, implications and considerations are highlighted for qualitative researchers who want to use Zoom as a data collection tool. [50]

6.1 Participant implications

For participants, it is important to understand that there are dynamics that can affect people in different ways when it comes to conducting OFGs. Regarding accessibility, not all participants may be able to maintain viable communication using internet services due to their locality and familiarity with online communication (BROWN et al., 2021; DEAKIN & WAKEFIELD, 2014; GREENSPAN et al., 2021). In contrast, for those who are geographically dispersed, using online means to communicate would be helpful as it allows for them to be accessible from a distance (DEAKIN & WAKEFIELD, 2014; HALLIDAY et al., 2021). Moderators can help participants by giving them guidance about how to best prepare for an OFG on Zoom (GREENSPAN et al., 2021; HALLIDAY et al., 2021). This would include discussion of noise levels and eliminating possible distractions and finding a quiet space with strong Internet connection. Additionally, before an online focus group discussion begins, giving participants an opportunity to practice through a tutorial or attend a Q/A about Zoom's features would potentially alleviate some of the anxiety around using a newer technology. [51]

It is also important to note that technology may be a barrier for some participants. Fear of technology could be more of a problem for individuals over age 30 than for individuals who are younger (REZABEK, 2000). In some cases, the qualities of the internet have the potential of changing the dynamics of communication (ibid.) and not always in positive ways. There tends to be less inhibition online and respondents are often more direct in stating their opinions and less likely to edit their thoughts (SWEET, 2001). [52]

6.2 Moderator implications

For moderators, the accessibility of an adequate device and keyboard skills are aspects of Zoom-based OFGs that are the most essential elements for this data collection method. First, one must ensure the moderator's access to high-speed reliable internet and working technology, along with moderately good keyboarding skills for record-keeping. Within this study, the moderator responsibilities of question-asker and note-taker were split among two or three people, so this was not an issue. However, for solo moderators, commissioning an assistant or another researcher (BROWN et al., 2021; MARQUES et al., 2021; SWEET, 2001) to help with notetaking and record-keeping would be optimal. Attempting to do both while also paying attention to the Zoom technology can be challenging to juggle. [53]

With the onset of using technology to conduct research, maintaining engagement with participants is also an important factor for moderators to consider. Even with a virtual medium, researchers want participants to feel comfortable participating. Thus it is suggested that moderators design a protocol with opportunities to build rapport and ensure transparency with participants about the research process (BROWN et al., 2021; MARQUES et al., 2021; REZABEK, 2000) in an online, potentially new, setting. Furthermore, the ability to read body language, facial

expressions, balanced participation and other social cues through synchronous OFGs is a skill the moderator should hone in on (EASTON, EASTON & BELCH, 2003; EDMUNDS, 1999; REZABEK, 2000) before facilitating a focus group discussion virtually. [54]

7. Limitations

The experiences discussed in this article were limited to a particular type of focus group, on a particular type of technology, with a specific group of people, during the unusual time of the COVID-19 pandemic. Therefore, acknowledging a few limitations that were beyond researcher control are particularly important to note. Most focus groups are a combination of diverse participants and collaborating researchers coming together to discuss a predetermined topic. Participants engaged in a Zoom-based OFG as practice for a specific course on interviewing; therefore, the number of participants and schedule for the focus group were predetermined. Thus, for the experience described, it is not possible to comment on recruiting techniques for OFGs, nor how to arrange a common meeting time among OFG participants. Additionally, it is not possible to comment on challenges that might arise due to a greater diversity in participants' identities, access, and familiarity with technology. Within this particular course, all members were fairly adept at using Zoom technology, had known each other, which made rapport-building easier, and had reasonably fast internet connections. [55]

Concurrently, OFGs were conducted during the early part of the COVID-19 pandemic in early April 2020, just as the stay-at-home orders were put in place throughout much of the United States. During that time, participants were logged in remotely from their homes, sometimes with children, pets, and other family members present, so unanticipated interruptions occasionally occurred. Due to these conditions, it is not possible to comment on how different OFGs on Zoom might be outside of a pandemic. For OFGs under other circumstances, participants might instead be logging in from a more appropriate environment, without the same distractions and challenges that occurred during the experience described in this article. [56]

Several questions remain that would be appropriate for further research. First, as technology regularly advances, continued research and testing for the most updated technology or videoconferencing software for OFGs is necessary. Furthermore, research on security protocols to compete with the ongoing threats to Internet usage and ensure private and uninterrupted OFGs is warranted. Since Zoom sessions can be viewed in either speaker or gallery view, it would be interesting to analyze how these screen viewing options affect the participation in, and also the analysis of, synchronous OFGs, and how this affects people's abilities to read social cues, for example. Finally, researchers may want to conduct further study of synchronous OFGs and in-person focus groups to discover how the data collected in these differing focus group types compare, looking particularly at the quality and trustworthiness of the data collected. [57]

8. Conclusion

This article provides a snapshot of a self-study in which we used Zoom for online focus groups from the perspective of one doctoral level qualitative research method class as we transitioned from in-person to online learning during the COVID-19 shutdown. Overall, Zoom worked well for the online focus group purposes, although this experience did not have the opportunity to explore other online videoconferencing software that may have had unique and equally helpful features. Despite not being completely free of connection problems or various idiosyncrasies, all participants had a sufficient level of technical ability to make the Zoom-based OFG participation successful. [58]

Although OFGs are not new, technology keeps rapidly changing and newer software and applications make doing focus groups online and in digital spaces easier. What was possible even ten years ago (namely text-based, mostly asynchronous OFGs) has evolved exponentially to include both video and audio done simultaneously, thus making OFGs comparable to in-person ones. From the class experiences with Zoom, necessitated by COVID-19, participants learned that ensuring comfort and active participation through different online learning tools are key. From the moderator perspective, preparation, rapport building, and utilizing Zoom's features made the OFGs successful. Areas that challenged us in both roles included how to: maintain conversation flow and focus; deal with environmental distractions and technological difficulties such as internet connectivity; and navigate the difference between the mobile and desktop versions of Zoom. [59]

Sometimes, life is given lemons, as was the case in the Spring 2020 semester and beyond. However, what was learned from the experience with COVID-19 is that qualitative researchers need to be flexible (GRUBER, EBERL, LIND & BOOMGAARDEN, 2020). Lemonade may not have been made, but the experience described in this article, ultimately, took a challenging event and turned it into a teaching and learning moment. The hope is that this experience can serve as not only a guide for other qualitative researchers looking to do online focus groups, but also as a model for other qualitative methods instructors to collaborate, problem-solve, and hopefully impact the field through shared inquiry. [60]

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