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Best Practices for Conducting Virtual Focus Groups

Rosanne Brown, Ed.D.

Abstract

This paper briefly traces focus groups from its origins, through its development from in-person to virtual platforms, which are more commonplace today. The terms *online* and *virtual* are used interchangeably in the research literature. In this paper, the term *virtual* is used to describe focus groups that are face-to-face using technology that incorporate audiovisual features. This paper begins with a description of the origins and purpose of focus groups, the purpose, and how they have evolved to include synchronous, and asynchronous online text-based, and virtual face-to-face focus groups. Next, the paper outlines the role of the facilitator. Comparisons of best practices for in-person and virtual focus groups, including facilitator cues and facilitation best practices, techniques, and strategies; best practices and challenges of conducting virtual focus groups; and video-conferencing tools are also explored. A brief discussion regarding collecting and analyzing the data is also included.

Introduction

Although researchers have been adopting internet-based options since the late 1990s, empirical evaluations and published examples of focus groups conducted using audiovisual technology are sparse (Daniels, Gillen, Casson & Wilson, 2019; Tuttas, 2015). There have been a limited number of studies conducted in the medical field comparing virtual to in-person focus groups (Archibald, Ambagtsheer, Casey & Lawless, 2019; Jiang & Cohen, 2020; Rupert, Poehlman, Hayes, Ray & Moultrie, 2017). Due to the COVID-19 pandemic, more publications are emerging on this topic. However, in the education and social science fields, comparatively little literature exists on using virtual focus groups, particularly webinar-type synchronous focus groups (Nobrega, El Ghaziri, Giacobbe, Rice, Punnett, & Edwards, 2021).

The Origins and Progression of Focus Groups

Originally, focus groups were called *focused interviews*. They were first used by Robert K. Merton and Paul Lazarsfeld during World War II in the field of mass communication research (Jeřábek, 2011). Focused interviews were used to examine and assess social and psychological reactions to and influences of war propaganda, the media, and personal communication on soldiers and civilians (Jeřábek, 2011; Stewart, Shamdasani & Mook, 2011). The term *focus group* is generally attributed to Ernest Dichter, a psychologist who specialized in marketing (Ames, 1998).

The collaboration between Merton and Lazarsfeld on empirical communication research combined the use of a measuring device and a group discussion. “Paul Lazarsfeld and Frank Stanton invented an instrument for evaluating radio programmes called the programme analyser,

an instrument to gather participants' responses, while Merton developed a new type of method called the focused interview" (Jeřábek, 2011, p. 1196). In 1946, Merton and Patricia Kendall wrote an article about this method titled 'The Focused Interview,' which was published in *Public Opinion Quarterly*. A decade later, in 1956, Merton, Kendall and Marjorie Fiske wrote a handbook entitled *The Focused Interview - A Manual of Problems and Procedures* (Jeřábek, 2011; Liamputtong, 2011; Patton 2002).

Merton and his two colleagues give a step-by-step description of the method and explain its main features, the necessary moderator skills, and the need to focus the listeners' attention on individual segments of a programme and to identify the positive and negative emotions tied to different segments of the programme and the reasons for the evaluations. Although it was Merton who developed the focused interview, he himself regarded it as the very first fruit of his collaboration with Lazarsfeld (Jeřábek, 2011, p. 1198).

Merton (1987) stated that focused interviews and focus groups differed in methodology. He claimed that by combining the rigour of controlled experiments, through the use of the programme analyser to provide quantitative measures, along with the phenomenological aspects of life experiences in focused interviews to provide qualitative outcomes, focused interviews provided an advantage over the focus group methodology. Focus groups rarely used quantitative measures, including measurement or experimental data (Jeřábek, 2011; Liamputtong, 2011; Merton, 1987; Stewart et al., 2011). Merton (1987) asserted that "both kinds of data were required for sound conclusions" (p. 557).

In the 1950s and 1960s, sociologists and other academics rarely used focused interviews or focus group methodology in their research. However during this time, this technique gained popularity in the commercial industry, as a marketing tool. Numerous companies used the focus group methodology as a market research strategy to evaluate consumer perceptions and reactions to products, services, concepts, and campaigns (Liamputtong, 2011; Patton, 2002). It was not until the 1990s when focus groups became more commonly used in the fields of education and social sciences as a method to obtain qualitative data.

What are Focus Groups?

The purpose of focus groups is to achieve a better understanding of how people think about an issue, idea or experience (Morgan, 1997). They can be used as the primary means of collecting qualitative data; a supplementary source of data, in addition to the primary method or a multimethod of data which uses multiple sources of data for triangulation (Morgan, 1997). The focus group method is an adaptable research methodology because it can be utilized to obtain information on any topic, from diverse groups of people and in various settings (Liamputtong, 2011; Stewart et al. 2011).

Focus group findings have been used to advise decision making. For example, prior to implementing a program they are used for exploratory data collection, a needs assessment, asset analysis, preliminary studies, and/or pilot testing. During a program evaluation or assessment, data from focus groups are used as part of formative evaluations, process evaluations and/or ongoing feedback. They can enhance the planning and design of new programs. And, after a program has been implemented, program data findings are used in summative evaluations, outcome evaluations and/or feedback (Krueger & Casey, 2015; Stalmeijer, McNaughton & Van Mook, 2014).

This methodology is particularly effective when there is a perceived difference in understanding or experiences between groups or when more information is necessary to augment existing data. In other words, they are useful in gaining a greater insight into and better understanding why people hold certain opinions, feelings or thoughts about an issue. Accordingly, a more detailed, descriptive, richer understanding of their perspectives on ideas, programs, and experiences is further required for clarification. The aim of focus groups in social science research is to understand the participants' meanings and interpretations (Liamputtong, 2011).

Focus groups were “designed to obtain perceptions on a defined area of interest in a nonthreatening environment” (Krueger & Casey, 2000, p. 5). Freeman (2006) asserts that focus groups encompass a wide range of perspectives on both realist (knowledge is pre-existent and awaiting discovery) and constructionist (knowledge is created in situated encounters) approaches or epistemologies. In essence, the focus group methodology is a research tool that gives a ‘voice’ to the research participant by providing them an opportunity to define what is relevant and important to understanding their experience (Liamputtong, 2011).

Many definitions of focus groups exist, and different concepts are used simultaneously or interchangeably. For example, the terms *focus group*, *focus group discussion*, *focus group interview*, *focused interview*, and *group interview* are all used to describe *focus groups*. Several theorists have outlined characteristics that are distinct to focus groups. Patton (2002) makes the distinction that a focus group is “first and foremost, an interview. It is not a problem-solving session. It is not a decision-making group. It is not primarily a discussion, though direct interactions among participants often occur” (pp. 385-6). Although in focus groups, participants' responses do ‘piggyback’ off each other's comments, reaching consensus is not the goal. The object is “to get high-quality data in a social context where people can consider their own views in the context of the views of others” (Patton, 2002, p. 386).

Krueger and Casey (2015) state that focus groups are exemplified by five characteristics. These include (1) they involve a small group of people and several are conducted subsequently, in a series to the point of saturation; (2) the makeup of the group is reasonably homogenous, participants are selected because they have certain characteristics in common that relate to the

topic; (3) participants are generally unfamiliar with each other; (4) focus groups are a procedure for collecting qualitative data; and (5) they comprise a focussed discussion, and help to understand the topic of interest. Some researchers claim that it is best if the participants are not previously acquainted, although others argue that this does not affect the quality of information gathered (Forrest, n.d.). Similar to Krueger and Casey (2015), Liamputtong (2011) lists the following three features that are essential for focus groups:

First, it enables in-depth discussions and involves a relatively small number of people, second, it is focused on a specific area of interest that allows participants to discuss the topic in greater detail, and third, interaction is based on the idea that group processes assist people to explore and clarify their points of view and permits the participants to develop their own questions and frameworks as well as to seek their own needs and concerns in their own words and on their own terms (pp. 4-5).

Parker and Tritter (2006) argue that the important distinction between the focus group and the group interview is the role of the researcher (facilitator) and their relationship to the research (participants). They explain that “[i]n group interviews the researcher adopts an ‘investigative’ role: asking questions, controlling the dynamics of group discussion, engaging dialogue with specific participants. This is premised on the mechanics of a one-to-one, qualitative, in-depth interview being replicated in a broader (collective) scale” (pp. 25-26). In a focus group, the researcher takes on a peripheral role, acting as a moderator or facilitator, guiding the discussion rather than directing it; that is, facilitating the group discussion between participants, not between the facilitator or moderator and the participants. Parker and Tritter (2006) note, “It is the inter-relational dynamics of the participants that are important, not the relationship between the researcher and the researched” (p. 26).

David Morgan (1997) believes that “it is not possible to draw a line between formal and informal group interviews in a way that defines some as focus groups and others as something else” (p. 6). He contends that focus groups are structured on a continuum, moving from a highly structured to less structured approach. Structured approaches are typically used in market research, whereas a less rigid or less structured or semi-structured approach has emerged from focus group research in the social sciences. In market research, the facilitator moderates focus groups to seek specific answers for the clients. More interaction is likely to occur between the moderators and the participants and discussions between the participants may be minimal, since participants are more likely to answer the prearranged questions posed by the moderators (Gaiser, 2011; Liamputtong, 2011; Stewart et al., 2011). Social science researchers, on the other hand, have a different research purpose, as they seek to explore different kinds of research data compared to market researchers, therefore requiring different research skills for moderating focus groups.

In the less structured approach to focus groups, the participants are encouraged to build on each other’s comments and discuss between themselves, instead of directly answering the facilitator’s

questions. The discussion between participants provides the opportunity to raise and develop ideas that otherwise might not emerge. It is these interactions and how the participants respond to each other, that is one of the aims of using this type of methodology. Participants are encouraged to agree, disagree, or ask questions of each other that relate to the topics being discussed. Multiple views are encouraged, since this interaction enriches the discussion (Reid & Reid, 2005; Sweet, 2001). Focus groups are intended for group interaction and it is expected that the group discussions will produce a synergy between the participants, with ideas emerging from the group which are needed to guide the research (Krueger & Casey, 2015; Patton, 2002; Morgan, 1997).

At the individual level, participants are influenced by the discussions. Over the course of a focus group session, some participants may shift their position on certain subjects, change their minds, and/or express altered views, differing from their stance prior to engaging in the session. At the collective level, what often emerges from a focus group discussion is a number of positions or views that capture the majority of the participants' points of view (Parker & Tritter, 2007). Focus groups are conducted at one point in time, consequently, opinions and beliefs of the participants can shift over time.

Sproull and Kiesler (1986) expound that "social context cues influence information exchange through perception, cognitive interpretation, and communication behaviour" (p. 1495). Cues can be both static (e.g., appearances, artifacts in background) and dynamic (e.g., nonverbal behaviour). Additionally, paraverbal communication which includes pitch (high or low), speed or cadence (slow or fast), and tone (which conveys meaning) can create or prompt cognitive interpretations and associated emotional states (Sproull and Kiesler, 1986). For in-person focus groups, the nonverbal, paraverbal, visual, emotional, and context cues can be easily observed, documented, and/or recorded. In comparison, for virtual focus groups, the emotional and context cues, as well as the nonverbal communication are limited and are not easily observed or documented (Lobe, 2017). Moreover, due to the nature of focus groups, wherein participants respond to each other, it is difficult in an online environment for both the facilitator and the other participants to receive and decode the nonverbal cues from each other (Nobrega et al., 2021).

Asynchronous and Synchronous Online Text-Based Focus Groups

Originally, online focus groups were text or chat-based and conducted one of two ways; synchronously or asynchronously (Abrams & Gaiser, 2017; Hughes & Lang, 2004; Kite, & Phongsavan, 2017; Stewart & Williams, 2008; Tuttas, 2015). Asynchronous sessions typically use email, a listserv or mailing lists and do not have a visual component. Participants are usually anonymous, given a pseudonym, and answer moderator-posed questions or respond to other people's comments. Information gathered is in the respondents' own words. They can reply at any time, not necessarily when anyone else is participating. In these sessions, no one has to wait for a turn to speak or forget what they want to say while they are waiting for their turn. This

allows participants to discuss a topic over time; asynchronous groups can last for a few days or for a few weeks. Participants can ‘drop-in’ anytime in order to reply to previous comments. This allows for constant deliberations among participants and creates a dynamic debate, although some participants may be influenced by external factors (e.g., friends, media). Consequently, since voice connotations, expressions, and body language can not be heard or seen, some text may be interpreted in a way that it is not intended (Collard & Van Teijlingen, 2016).

Software tools, such as *slack*¹ allow for asynchronous communication. However, Liimatainen (2022) cautions that the limitations of these communication tools are that they “lack features for facilitating conversations and making decisions. Conversations tend to get lost in endless threads, and it can be impossible to organize all the materials and discussions through these types of tools” (para. 15).

Synchronous chat-based or text-based sessions refer to sessions that are live. In other words, the participants take part at the same time as everyone else. They use chat rooms or online conferencing tools (Forrestal D’Angelo & Vogel, 2015; Rezabek, 2000). The format of these groups is similar to in-person groups, whereas participants can respond to others’ comments and the facilitator probes further or asks follow-up questions. The participants take time to read the questions, reflect on their answers and then type a response. Since typing is slower than conversing, the respondents in these groups generally take longer to reply and provide shorter, less in-depth answers (Namey, 2020). Moreover, as Lobe (2017) mentions, “one can only reply as fast as one can type, which can give dominance over the discussion to those participants able to type faster” (p. 241).

In a synchronous study by Fox, Morris and Rumsey (2007), they found challenges deciding whether the moderator should move the discussion forward or wait for participants to further respond to the question that had been posed. Moreover, simultaneous responses caused “participants to overlook the moderator’s comment, question, or probe in favor of responding to another thread of conversation” (p. 543). Whereas in other text-based focus groups, some participants may be more apt to respond to the topic and question rather than to each other. This could be due to lack of participant engagement or fewer opportunities for probing in text-based groups.

Using asynchronous or synchronous text-based platforms, the nature of focus groups changes, with the major criticism being that spontaneity in participant responses are lost. In addition, visual and aural cues; body language, posture, gestures, nods, smiles, gaps, silence; tone; facial expressions, and other nonverbal communication, which can also be influential in guiding

¹ *Slack* offers Internet Relay Chat (IRC) features, including chat rooms (channels) organized by topic, private groups, and direct messaging.

participant interactions, are nonexistent (Mittleman, Briggs & Nunamaker, 2000; Namey, 2020; Nyumba, Wilson, Derrick & Mukherjee, 2018). Another criticism is that chat-based focus groups provide inadequate data quality as participants and moderators take short-cuts to speed up writing (Kite & Phongsavan, 2017). In other words, the data are not as rich and descriptive compared to in-person focus groups where aural and visual cues are observed. It was also noted in studies regarding asynchronous and synchronous text-based sessions, that due to anonymity, some participants feel that they can provide negative or controversial ideas without fear of reprisals (Mittleman et al., 2000).

Conversely, some researchers found that online, nonvisual focus groups provide an opportunity for some participants who may not be willing or are unable to take part in focus groups. In a study conducted by Fox, Morris and Rumsey (2007), they found that “the online environment might also be a facilitative one for individuals who have other appearance-related concerns or restricted mobility, or who lack the social confidence to participate in face-to-face research methods” (p.545). Reid and Reid (2005) found that “the visual anonymity and psychological distance of the internet could stimulate group participation and encourage self-disclosure, particularly for individuals who might otherwise hesitate to participate in a face-to-face group meeting” (p.132).

The Emergence of Virtual Face-to-Face Focus Groups

Abrams et al. (2014) found that although text-based focus groups provided less depth because participants do not write lengthy comments, virtual face-to-face focus groups, alternatively, offer similar data richness to in-person focus groups. In a study conducted by Kite and Phongsavan (2017), they found that the interaction between participants and the moderator during virtual focus groups was dynamic and similar to that experienced in the in-person groups (for example, participants were able to respond to visual and aural cues). Reid and Reid (2005) explain that “if both public and private self-awareness increase or decrease, then it is unlikely that self-disclosure will differ between the media” (p.156). Abrams, Wang, Song and Galidno-Gonzalez (2014) highlight that “only since 2011 has the prevalence of online audiovisual communication and its usage increased due to the integration of webcams into desktops, laptops, and other devices (e.g., smart phones, tablets) and the advent of low-cost or free technology to use it (e.g., Google Hangout/Video, Skype)” (p. 2).

One of the major advantages of in-person focus groups is the relationship building. There are likely to be social interaction processes and influences that affect how people behave when they are in a group situation. In virtual focus groups, there are limited opportunities for interaction, relationship building, one-to-one communication and potentially less opportunities to build on other participants’ thoughts and perspectives. Alternatively, a major advantage of virtual focus groups is that there is potential to reach a broader geographical scope of participants; anyone can

participate as long as they have access to a computer with internet access (Forrest, n.d.; Rezabek, 2000).

Costs for in-person focus groups are generally higher when compared to virtual focus groups. These can include room bookings, refreshments, and travel expenses, among others. Additionally, weather, traffic, and transportation have an impact on attendance rates to in-person focus groups. Travel time is not an issue for virtual groups; however, time is required for sourcing the appropriate video-conferencing tools, learning the features of the platform, testing the technology, and ensuring that participants are able to login successfully (Liimatainen, 2022).

The Role of the Facilitator

A focus group generally comprises of participants a facilitator, and a notetaker (or co-facilitator). Stalmeijer, McNaughton & Van Mook, (2014) state that “paradigmatically speaking, qualitative research acknowledges the influence that the researcher has on the research process” (p. 14). Sweet (2001) further contends that “results from online groups depend on the expertise and qualifications of the professional who is conducting them” (p. 135). In other words, data obtained from focus groups are directly related to the facilitator’s ability to question, probe, and draw upon the experiences of the participants. It is the facilitator’s skillset and expertise which has, to some degree, an impact on the data.

When the intention is to gain knowledge of participants’ perspectives, the facilitator should be careful not to ask leading questions and clear about limiting bias by infusing too much of their personal information on a topic (Gaiser, 2011; Morgan, 1997). Although there are some additional skills and techniques that a facilitator needs to have or uses in an online environment, as outlined below, the overall role of the facilitator is similar regardless if the focus group is in-person or virtual.

Overall, the facilitator:

- a) develops a rapport with the participants and creates a safe environment;
- b) sets the tone in order for participants to feel positive about their contributions to the session;
- c) facilitates interaction between group members and engages all participants;
- d) ensures every participant is heard;
- e) deals tactfully with outspoken members;
- f) makes sure everyone has a chance to share;
- g) keeps the discussion on track by moving things forward when the conversation is drifting or has reached a minor conclusion;
- h) probes for details by drawing out participant’s difference or by encouraging a diverse range of meanings on discussion topics;

- i) remains non-judgemental, impartial, and neutral by maintaining verbal and nonverbal objectivity (e.g., limit head nodding, avoid using words that imply positive qualitative judgement);
- j) ensures that there is not a “groupthink” mentality which allows participants to think similarly or conform in order to maintain group cohesion; and,
- k) monitors the time closely (Blank, n.d.; Gibbs, 1997; Nyumba et al., 2018).

It is also important that a facilitator be upfront with the group and express that they are interested in hearing from each of the participants; if some are talking a lot, they may be asked to give others a chance; if some are not saying much, they may be called upon (but can choose not to answer) or if they need more time to reflect on their answer, they can pass. A facilitator’s role is to ask questions. They should explain that they may use different formats to ask questions, for example, open-ended questions or round robin questions. In focus groups, there are no right and wrong answers and there is an expectation that participants will have differing points of view. Everyone is encouraged to share their points of view even if it differs from what others have said and/or follow up on someone else’s comments. All comments should be supported, both positive and negative. When participants ask questions, some may be answered by the facilitator, some should be asked back to the participants or to the group, and some should be postponed until the end. It is the facilitator’s responsibility to make sure that all the questions are asked and that everyone has a chance to talk (Krueger & Casey, 2000). The goal is to make sure that all participants are heard since they each have had different experiences.

At the beginning of the focus group, the facilitator should:

- a) welcome each participant individually to ensure they feel at ease;
- b) ensure that informed consent has been obtained;
- c) welcome the entire group;
- d) thank participants for attending;
- e) thank participants for their input and reiterate how much their feedback is appreciated;
- f) introduce themselves and their role;
- g) introduce the co-facilitator or notetaker;
- h) introduce the participants; in an online environment it is more difficult as the order of each participant is different on others’ screens, so it is suggested that the facilitator make the introductions;
- i) explain what a focus group is and how it will flow;
- j) describe the purpose and background information of the topic or project;
- k) provide the context and explain the participants’ roles (e.g., to gather data on [the topic], to gather information on participants’ experiences and opinions about [the topic]);
- l) explain the online features (e.g., chat function, muting, showing of hands);
- m) instruct participants on procedures of what to do if their internet connection is lost or if they have technological issues;

- n) set the ground rules;
- o) give an overview of the session;
- p) explain what will be done with the information from the session, and any other logistical information;
- q) inquire if anyone has questions prior to asking the first question (Dick, 1998; Namey, 2020; Nyumba et al., 2018).

Krueger and Casey (2000) state that “in the first three to five minutes the facilitator must give enough information, so people feel comfortable with the topic, create an accommodating, non-judgemental and open-minded environment, provide the ground rules, and set the tone of the discussion” (p. 107). They further caution that “if participants have questions prior to the focus group beginning, facilitators should give answers, but not too much or anything that may be leading. If someone has a question about the process, clarify, but if they have other questions decide if it should be answered or postponed until later” (p. 114).

Facilitators should possess good: interpersonal skills, communication skills, active listening skills, observation skills; should pay attention to participants’ body language or demeanour and recognise group dynamics. Reading facial expressions, interpreting body language, making eye contact, and other nonverbal communication is an essential part of conducting a focus group. Facilitators should also be aware of silence in the focus group. Silence could indicate several things, it could suggest that there is consensus about a certain topic, or it could imply unfamiliarity with an issue (Fox et al., 2007; Stalmeijer et al., 2014).

During an in-person focus group, the facilitator can make eye contact to identify the next speaker. Virtually, it is harder for someone to read the visual cues to identify the next speaker (Namey, 2020). In virtual focus groups, there are more opportunities for disruptions to the natural flow of conversation, therefore the discussion can become more monitored and artificial. This can be even more pronounced when some participants have their cameras turned off and therefore no eye contact is made. Facilitators must rely on the raise-hand or chat features to moderate the discussions.

It is important that facilitators remain non-judgemental and neutral by limiting head nodding. However, slow continuous nods often signal encouragement and lets the speaker know that they are listening and to continue on that point. Fast head nods often signal agreement and tend to elicit additional comments of the same type. Krueger and Casey (2015; 2000) state that moderators should avoid using “that’s good” or “that’s excellent” or “correct”, because they imply judgements about the quality of the comments. Rather, they suggest that facilitators should use “okay”, “yes” and “uh huh”. Nyumba et al. (2018) suggest that facilitators should have the ability to remain impartial, while maintaining verbal and non-verbal objectivity.

The role of the facilitator is to moderate an open discussion. They should be knowledgeable about the topic of discussion including knowing some basic information of the subject. This enables a facilitator to probe for different answers or to encourage participants to elaborate on their responses. As a result, a more in-depth discussion will be generated. They should be flexible, modify to participants’ requests during the group, adapt to the flow of the discussion, be open to changes from the prearranged list of questions (or discussion guide), and be able to adjust physical behaviours and activity around the room (or on the screen) (Gibbs, 1997; Nyumba et al., 2018).

Thistlethwaite (n.d.) affirms, “[t]his is best achieved by embracing the unpredictability of a focus group and going with the flow – responding to comments and ideas as they emerge and allowing the conversation to move in unforeseen directions” (para. 19). It is cautioned that if a facilitator sticks too close to the prescribed questions, this can inhibit the flow of the discussion and significant information may be missed. Conversely, if there are topics that need to be covered, the facilitator must decide whether they need to redirect the group. Additionally, if a participant jumps to another question while the group is still discussing the current question, the facilitator needs to decide whether to let the conversation move to that question or whether they should finish discussing the current question. The facilitator should know if altering the flow matters.

It is also very important that the facilitator assures that all comments remain confidential and private, that there is respect towards other group members, and that no names will be used in reports or any other materials. Participants should be asked that they do not discuss, disclose or share anything said within the context of the discussion with anyone else (i.e., outside of this [physical or virtual] room or forum).

In addition to the above-mentioned skills, facilitators should not be concerned by technological challenges. They should be familiar with the technology in case any participants are experiencing technical trouble (e.g., audio difficulties) (UXalliance, 2020).

Comparisons of Best Practices for In-Person and Virtual Face-to-Face Focus Groups

Some of the features to conduct successful focus groups are similar between in-person and virtual face-to-face groups, yet some do differ. Comparisons between in-person and virtual focus group logistics, including recruitment, size and length of groups, number of groups, as well as types of questions, data collection, and analysis are presented in Table 1.

Table 1. Best Practice Comparisons Between In-person and Virtual Face-to-Face Focus Groups

Logistics	In-Person	Virtual Face-to-Face
Recruitment	<ul style="list-style-type: none"> • theoretical sampling • purposeful sampling 	<ul style="list-style-type: none"> • recruit more participants due to a higher attrition rate

Logistics	In-Person	Virtual Face-to-Face
Confidentiality Agreement	<ul style="list-style-type: none"> • recommended to send consent form information and expectations prior • collect signed consent forms in-person at the focus group before it commences 	<ul style="list-style-type: none"> • secure link sent prior to the focus group with consent form information and expectations • participants can send back form via email • can verbally obtain informed consent and record the answers at the beginning of the focus group
Size	<ul style="list-style-type: none"> • 6 to 8 • 10 if the topic is not too sensitive 	<ul style="list-style-type: none"> • 4 to 6 • possibly 6 to 8
Length	<ul style="list-style-type: none"> • 90 minutes to 2 hours 	<ul style="list-style-type: none"> • 60 to 90 minutes
Room Set-up	<ul style="list-style-type: none"> • around a table (u-shaped, oval, rectangular) 	<ul style="list-style-type: none"> • video-conferencing tools
Number of Groups	<ul style="list-style-type: none"> • 4 (minimum) • a certain number of focus groups can be predetermined, but this number can be modified. • if it is decided that new information is being collected, then it may be necessary to conduct additional focus groups. • enough focus groups have been conducted when the point of saturation (where the range of ideas have been attained and no new information is being presented) has been reached. • can run a second focus group with the same participants in order to gather deeper understanding about a shared phenomenon and gather further information. 	
Types of Questions	<ul style="list-style-type: none"> • <i>Opening Question</i> (quick round robin type question) • <i>Introductory Question</i> – to introduce the topic and open the discussion • <i>Key Questions</i> – two to five – goes into greater depth (the order is important to maintain flow of the discussion) • <i>Concluding Question</i> – brings closure to the discussion • Any other comments 	
Data Collection and Analysis	<ul style="list-style-type: none"> • the data collection and analysis occur simultaneously. • the analysis enriches the data collected from the subsequent focus groups. • data are then analyzed for themes across the focus groups. 	

Source: Adapted from Krueger & Casey (2015; 2000); Murukutla & Puri (2020); UXalliance, (2020). Retrieved July 28, 2022

For focus groups in general, the two most common approaches to recruit participants are referred to as theoretical sampling and purposeful sampling. Theoretical sampling is a grounded theory “process of data collection for generating theory whereby the analyst jointly collects, codes and analyses the data making decisions about what data to collect next and where in order to develop theory as it emerges” (Glaser & Strauss, 1999, p. 45). Purposeful sampling selects people who will achieve the purpose that is set out in the goals and objectives of the research and exclude those who do not suit that purpose. This can be achieved by a questionnaire to determine which participants fit the criteria in order to ensure that the research outcomes can be attained by the selected participants. For virtual focus groups, it is recommended to invite 25-50% more participants due to a larger attrition rate (Tuttas, 2015).

It is imperative that participants sign a confidentiality agreement prior to the commencement of the focus group. For in-person focus groups, participants sign the agreement when they arrive for the session, in front of the facilitator. For virtual groups, a confidentiality agreement can be sent to each participant and signed ahead of time or obtained online by using a secure tool or with an electronic signature. Alternatively, the facilitator can read the agreement before they start the session and ask each participant to agree by voicing in the affirmative and then record their answer.

The informed consent form should include details regarding technology (e.g., use of video camera) and how the use of video may impact anonymity and expectations. The form should also specify that participants’ surroundings will be noticeable to others (Lobe, 2017). Issues of privacy and confidentiality should also be reiterated. For example, it should be made clear that no other persons should be in the vicinity as to overhear the focus group (Daniels et al., 2019). Similarly, to in-person focus groups, participants should be reminded that they are not to record the focus group for any purpose (Abrams & Gaiser, 2017; Lobe, 2017). The informed consent form should also specify that when using a web-based conferencing tool, there is a potential that the data, to some degree, may be shared with the platform or service provider (Lobe, 2017). Indeed, this is commonplace with any internet activity.

It is recommended that groups should be small enough for participants to share views, but large enough to allow for a diversity of opinions and perspectives as well as building on other participants’ ideas. The suggested size of focus groups differ for in-person and virtual focus groups. For in-person focus groups, six to eight participants are ideal; if the topic is not too sensitive then the number can increase to ten. In virtual groups, it is recommended to have more groups and that the groups be smaller to ensure there is opportunity for all participants to have their say and remain engaged (Abrams & Gaiser, 2017; Kite, & Phongsavan, 2017; UXalliance, 2020). Moreover, Lobe, Morgan and Hoffman (2020) state when participants are using mobile devices it is “difficult to see the windows with the other participants” (p. 2). Therefore, with a larger group, it becomes more challenging for them to facilitate idea elaboration or react to each

other’s comments. Typically, in-person focus groups are one and a half to two hours. It is suggested that virtual focus groups should be less than two hours because it may be harder for people to stay focused and there are more distractions (e.g., working at home) (Acro Lab, 2020).

In virtual environments, choosing the right online platform or tools is essential. Since the participants, the facilitator (or co-facilitator), and the notetaker (or recorder) are not in the same room, the technology should allow face-to-face interaction with the participants, video recording and streaming. Ideally participants should be able to access the session by clicking on a link without needing to install any software. The software should be straightforward and simple for the facilitator to set up (and for the participants to join) the focus group (see video-conferencing tools).

Regardless if the focus group is in-person or virtual face-to-face, the format of the questions asked are similar. Introductory or engagement questions are questions asked at the beginning to introduce participants to each other in order to make them feel comfortable and to familiarize them with the topic to be discussed. Key or exploration questions are asked once the participants have begun to open up in the group. These are deeper, probing questions about the topic. Key questions include asking about opinions, feelings, attitudes, and beliefs about a specific experience; reasons for those opinions, feelings, attitudes, and beliefs, and the intensity one has for that experience. Concluding or exit questions are used to wrap-up the discussion.

The data collection and analysis for both in-person and virtual focus groups occur simultaneously. If no new information is being collected, then the point of saturation has been reached and enough focus groups have been conducted. However, if new information is being collected, then subsequent focus groups would need to be conducted. Data are then analyzed for themes across the focus groups.

Facilitator Cues and Facilitation Techniques, Best Practices, and Strategies

For both in-person and virtual face-to-face focus groups, there are common techniques that a moderator can use as they facilitate the group. Some of these best practices, techniques, and strategies to use are listed in Table 2.

Table 2. Facilitation Techniques, Best Practices and Strategies

Technique	Best Practices and Strategies
The Pause	<ul style="list-style-type: none"> • A five-second pause is often used after a participant comment. • This short pause often prompts additional points of view or agreement with the previously mentioned position.
The Probe	<p>Examples of questions to request additional information:</p> <ul style="list-style-type: none"> • Would/could you explain further? • Would/could you give me an example of what you mean?

Technique	Best Practices and Strategies
	<ul style="list-style-type: none"> • Could you expand on that? • Could you tell us more? • Is there anything else? • Could you please describe what you mean? • I don't understand, please elaborate.
Excessive Probing	<ul style="list-style-type: none"> • Only use this occasionally, otherwise this can be time-consuming, annoying, and unnecessary
The Echo	<p>If there is a sense of echoing, ask:</p> <ul style="list-style-type: none"> • Does anyone see it differently? • Has anyone had a different experience? • Are there any other points of views? • Did everyone have a voice?
Reflective Listening	<p>Summarize for understanding and to verify and ensure accuracy:</p> <ul style="list-style-type: none"> • I think I am hearing... Is that correct? • It sounds like...Is that correct? • This is also beneficial for the recorder to make sure they are noting the correct information, including nonverbal cues.
Diverting Back to the Topic	<ul style="list-style-type: none"> • I am cognizant of the time... • Your time is valuable, and you are busy so... • You raised a good point; however, the main purpose of this group is.... • If there is time at the end, we can address that issue. • We can speak after the group is over. • I saw _____ had a comment first and I will get back to you.

Source: Adapted from Krueger & Casey, 2000; 2015; Nyumba et al., 2018, and author's experience.

In addition to utilizing the best practices, strategies, and techniques to conduct focus groups, in general, facilitators will need alternative techniques when contending with different personality types. For virtual focus groups, some of the techniques may not be applicable. For example, if a participant does not have the camera on, then a facilitator would not be able to make or avert eye contact. It is also more difficult to look at participants on a screen as opposed to in a room. Therefore Table 3 outlines the various personality types that may be encountered in focus groups. Characteristics of that type, and techniques for facilitators to manage that personality type, are presented.

Table 3. Different Personality Types

Personality Type	Characteristics	Techniques for Managing the Personality Type
The Expert	<p>They:</p> <ul style="list-style-type: none"> • have considerable experience with the topic, are better informed, have more influence, among others. • can inhibit others. • often defer to others who are perceived to have more experience or are better informed on a topic. 	<ul style="list-style-type: none"> • Underscore the fact that everyone is an expert, and all participants have important perceptions that need to be expressed.
Dominant Talkers	<ul style="list-style-type: none"> • consider themselves experts but are often unaware of how they are perceived by others. 	<ul style="list-style-type: none"> • Shift attention by saying thank you (their name). • Avoid eye contact (if camera in on) – be tactful and kind. <p>Say:</p> <ul style="list-style-type: none"> • We have a limited amount of time and I want to be able to hear from everyone. • Are there others who wish to comment on the question? • That’s one point of view. Does anyone have another point of view?
Rambling Respondents	<p>They:</p> <ul style="list-style-type: none"> • use a lot of words and take forever to get to the point if they have a point. • are usually off track a fair amount; take up discussion time. 	<ul style="list-style-type: none"> • Repeat the question to get them back on track. • Discontinue eye contact after about twenty to thirty seconds (if camera is on). • Look at other participants. • Look and/or turn away from them. • At a pause, the facilitator should interrupt and move the discussion.
Shy Participants	<p>They:</p> <ul style="list-style-type: none"> • think carefully and then speak. 	<ul style="list-style-type: none"> • Make eye contact which often provides sufficient encouragement to speak.

Personality Type	Characteristics	Techniques for Managing the Personality Type
and Reflective Thinkers	<ul style="list-style-type: none"> • take extra effort to elaborate their views. 	<ul style="list-style-type: none"> • Call them by name. • Turn to them and say, “I don’t want to leave you out of the conversation. What do you think?”

Source: Adapted from Krueger & Casey, 2000; 2015.

It should be noted that a skilled facilitator must be sensitive to the cultural and special needs of the participants. For example, in some cultures, direct eye contact is seen as a gesture of disrespect. Therefore, a facilitator should modify their strategies and techniques in order to accommodate their participants.

A skilled facilitator will be able to manage various personality types by utilizing these techniques and strategies. Similarly, experienced facilitators will be able to incorporate pauses, probes, echoing, reflective listening, and other best practices throughout the focus group.

Best Practices for Virtual Face-to-Face Focus Groups

Virtual or online face-to-face focus groups are more similar to in-person focus groups than synchronous and asynchronous online chat-based or text-based focus groups. Nevertheless, there are still some variances when conducting focus groups virtually as opposed to in-person. In addition to the best practices for in-person focus groups previously mentioned, the following factors need to be considered for virtual focus groups. Box1 outlines best practices from a methodological perspective to utilize prior to the session, at the beginning of the session, during the session, and after the session, in addition to technological considerations. Factors to consider for the facilitator and notetaker, as well as work with international participants are also presented in Box 1.

Box 1: Best Practices for Virtual Face-to-Face Focus Groups

Prior to the Session
<ul style="list-style-type: none"> • Correspond in advance with each participant personally to confirm their participation in the focus group, as well as their personal goals for attending the group. Participants are more likely to show up for a virtual meeting if they have a vested interest (Acro Lab, 2020; Mittleman et al., 2000). • Send a test link to the participants prior to the focus group. Request that they try the link in advance of the focus group session on the device and at the location that they will be using, in order to make sure that the technology is compatible and there are no issues (e.g., firewalls) (UXalliance, 2020).

- Troubleshoot any complications or questions prior to the focus group. Contact technical support in advance to resolve them (Sweet, 2001). See section on Technological Considerations for more information.
- Send the actual link an hour prior to the session.
- Ask the participants to sign in five to ten minutes before the session. This will help to ensure that there is time to individually welcome each participant, allow participants to ask questions, and to ensure cameras, mics, and other technology features are all working properly.
- Remind the participants in advance to use a location with a neutral background or if feasible, choose a virtual background or blur their background (if the software has this feature). If it is not possible, then inform participants that parts of their immediate surroundings will be visible in the virtual face-to-face focus group (Lobe, 2017).
- Share any information necessary information prior to the session.
- Decide if the participants will have pseudonyms.

At the Beginning of the Session

- Obtain informed consent (if it was not acquired prior to the session). Have a plan in place to deal with latecomers who arrive during or after the consent process (Forrestal et al., 2015).
- Set ground rules (e.g., avoid use of email and checking phone), similar to in-person focus groups.
- Ask participants to have a notepad with them so they can write down comments or questions that they may have during the session.
- Ask participants to mute their own microphone instead of doing it centrally; it is a gesture that is conducive to the sharing atmosphere (Acro Lab, 2020).
- Decide if participants should use the “raise-hand” feature (if software has this feature) to indicate that they would like to speak or physically put up hand.
- Devise a strategy for addressing a situation when it becomes evident that a participant is in an environment which contravenes ethical procedures; both at the beginning of the group and during the group (Daniels et al., 2019).
- Address technology concerns (see section on Technological Considerations).

During the Session

- Use the polling feature of the video-conferencing tool (if applicable) to poll participants (similar to a visual “show of hands” or “nod of heads” in an in-person group) (Haaglund, 2009).
- Have screen sharing options (including slides) for both the participants and the facilitator.
- Be knowledgeable about the online collaboration tools (e.g., Padlet) (UXalliance, 2020).
- Determine if some off-topic issues should be discussed “off-line” in the chat feature at the end of the session.

- As indicated on the consent form, give the participants the option if they want to share their webcam or not; just because video is an option, that does not mean it must be on all the time (Turner, 2020; Tuttas, 2015).
- Use an independent audio recorder in case the video-conferencing system recorder fails (Tuttas, 2015).

Technological Considerations

- In the introduction, instruct participants on procedures of what to do if their connection is lost.
- Give out a phone number in case participants get disconnected and are having difficulty logging back into the session.
- Have on-call technical support so that the participants and/or facilitator can contact technical support during the group for online support. The facilitator should know who is going to provide technical support and how to immediately reach that person (people).
- Participants could be encouraged to wear a headset with a microphone (Kite & Phongsavan, 2017); however, this equipment may not be available.

Facilitator and Notetaker

- The facilitator should log on on at least 10-20 minutes prior to the group to establish connection, test the sound quality, observe the waiting room, and confirm that the software is fully functioning.
- Always have a notetaker (or co-facilitator) to ensure the facilitator can focus on the group and keep eyes on the monitor. It is more difficult to follow the discussion if the facilitator is not watching the participants all the time.
- A notetaker (or co-facilitator) can monitor the chat feature as it can be difficult for the facilitator to monitor the discussion, hand-raising, and chat simultaneously (Halliday, Mill, Johnson, & Lee, 2021).
- A notetaker (or co-facilitator) can act as a moderator if the facilitator has technological difficulties and/or loses the internet connection.
- The notetaker (or co-facilitator) can monitor the wait room (if feasible) and also document participant logistics, such as late arrivals, no-shows, cancellations, and early departures in addition to noting non-verbal communication (e.g., eye roll) (Namey, 2020; Stalmeijer et al., 2014).
- The notetaker (or co-facilitator) can monitor the chat function and can also watch for raising of hands, and polling.
- Prepare cards for each participant with the participants' names and if applicable, key facts; it will help keep the facilitator on track and direct appropriate questions.
- Order the cards, if possible, to mirror the arrangement on the screen (some platforms rearrange depending on who is talking).
- Use names to address participants unless it was decided beforehand to use pseudonyms.

- Ensure that the facilitator is able to view all the faces of the participants (if they choose to keep their cameras on) so that they are able to maintain eye contact and observe some body language.
- Facilitators and notetakers should be aware (as are the participants) that their background is visible in the video. It is part of the context that they will be creating for the discussion. Therefore, if feasible, a non-distinct or professional looking location should be chosen (Turner, 2020). Or if the software has virtual backgrounds or the ability to blur backgrounds, the facilitator and notetakers could choose those options.

For International Participants

- Take into consideration the difference in time zones when including participants from national and international regions.
- Be mindful when using an interpreter; there might be a slight delay before the interpreter starts interpreting.
- Consider using Remote Simultaneous Interpretation (RSI) which are very efficient and useful tools for providing language translation (Roocroft, 2019; UXalliance, 2020).

After the Session

- Provide participants with a link to a secure online discussion board (to keep open for a few days following the focus group) where they can type in any afterthoughts pertaining to the focus group discussion topics (Tuttas, 2015).
- Thank participants for their time, input, and feedback.
- Send a thank you note (and the incentive, if applicable) to the participants.

For virtual focus groups, unlike in person, participants can remain anonymous with pseudonyms. Sometimes anonymity makes people more willing to talk, however, they can also become more disengaged since they are anonymous (Kite & Phongsavan, 2017).

Often an incentive is offered to get the participants to attend the focus group. It is not a reward or an honorarium or salary; it is offered to the participants so that they will schedule the time to partake in the session. Since participants do not need to travel, the time commitment invested is less for virtual focus groups than for in-person ones. Krueger and Casey (2015) assert that “when the topic of the study is [not for profit], then the intangible incentives [being invited to share personal opinions and experiences, listening to how others feel on the same topic] often take on greater importance... In these studies, the promise of receiving a copy of the results and a description of how the results might be used may be all the incentive needed” (pp. 219-220). An incentive could be given to each individual participant or their names could be entered into a draw. Although some institutions do not give out incentives, it is general practice that an incentive is offered to participants for their time commitment and participation in the focus group.

Video-Conferencing Tools

Zoom[®], Microsoft Teams, WebEx by Cisco, Google Meet, Skype, GoToMeeting by LogMeIn, and Jitsi are some commonly used examples of video-conferencing tools currently available. When choosing the video conferencing platform, it is important to ensure that the facilitator is able to view all the faces of the participants, so that they can maintain visual cues and not completely lose the information revealed by the body language (Acro Lab, 2020).

Many tools allow changes to the background of the video, if the facilitator or notetaker or any participant does not want to share their personal surroundings. Turner (2020) suggests that the background appearance of the facilitator's screen (e.g., professional office, living room) could subtly influence how the participants view the facilitator and what they choose to share. Therefore, it is recommended that facilitators choose a professional or neutral background. However, Stewart and Williams (2008) acknowledge that there is no such thing as a neutral venue for a focus group; it should be recognized that whatever setting is chosen, the venue itself will have an impact on the data collected. They further explain that "a virtual setting is no different in this respect in that, whatever graphical environment is chosen, it may, like an offline equivalent, hold several connotations that could affect the way participants interact" (p. 16). Regardless, it is still recommended that a neutral, professional or blurred background be chosen.

Some of these tools have features that help participants to set up their camera and audio for ideal clarity with positioning and lighting. Depending on what features are needed for the focus groups, there are options available. For example, many video conferencing tools have private spaces which are necessary if there are going to be breakout groups. If breakout group exercises are happening during the session, an additional observer or facilitator would be beneficial (UXalliance, 2020). However, if the focus groups do not have many participants, then breakout groups may not be necessary.

Additionally, the platform should provide for the possibility of sharing the moderator's screen in order to allow the use of presentations or other visual aids useful for facilitating. The viewing size of the sharing screen has an impact on the participants' experience in the group as well as for those who may have a visual impairment, so it is important to take this into account. If a sharing screen is not integrated or available on the current platform, or more features are required, there are collaborative tools to support remote focus groups, such as Padlet, Whimsical, Miro and Mural. These tools are not meant as an alternative to the videoconferencing tool, but can be used to do some brief exercises with the participants during the session. The facilitator sends the participants a link to access a virtual workspace where they can collaborate simultaneously or simply observe while the facilitator is using the virtual whiteboard (e.g., writing notes, flowcharts, mind maps, sticky notes). They are used in a virtual environment the same way that whiteboards or flipcharts are used during in-person sessions. It is imperative though, when using these tools, to ensure that all participants have access and are able to

participate in the exercises. For example, Padlet has collaborative features, but participants cannot contribute to the activity if they do not have a compatible account.

It is also important to consider compatibility features. Virtual environments disproportionately affect people with sensory impairments like deafness or hearing loss. There are some applications that provide live captions (e.g., Microsoft Teams) and some can be used in conjunction with other video conferencing software. Captions can benefit many participants and can provide a better experience for people with neurodevelopmental disorders like attention deficit hyperactivity disorder (ADHD) and autism as well as improve understanding for participants whose first language may not be the same as the facilitator (The Big Hack and Business Disability Forum, 2020). Live video captions refer to automatically transcribed closed captions that appear on the screen as people talk; they are also called subtitles, live subtitles, closed captions, and automatic video captions. As with any artificial intelligence (AI) technology, live captions have limitations as the quality varies and is never as accurate as a human transcriber.

Another consideration (if applicable) is the need for language translation for international participants or participants who speak a language other than the one spoken by the facilitator. Simultaneous interpretation is the process of translating speech from one language to another in real-time. A presenter speaks in one language, their voice and image are streamed live to a remote interpreter, through an internet connection. An interpreter hears and sees the speaker on their device, and they translate the speaker's language into another language, in real-time. The interpreter's speech is transmitted to a cloud-based Remote Simultaneous Interpretation (RSI) platform through their laptop or desktop computer. Participants can connect to the RSI platform via a computer or mobile device, seeing and hearing the speaker in the language of their choice. Some RSI platforms (for example, Interprefy) offer standalone web conferencing services, as well as integration with teleconferencing products like WebEx by Cisco, GoToMeeting by LogMeIn, Skype, and Zoom[®] (Roocroft, 2019).

Most tools have features to record the sessions. It is important that recordings are saved and stored on a secure computer. For example, Zoom[®] has a feature that allows local recording so that the files are stored on the facilitator's computer, and not on the Zoom[®] cloud. If the facilitator or recorder does not want to rely on the recording system in the conference software, Open Broadcaster Software (OBS) is free open source software for Microsoft Windows, Mac or Linux (Turner, 2020). There is a voice recorder application built into Microsoft Windows if one wants to record the audio of the focus group on a personal computer. Audacity software is available for Microsoft Windows and Mac, which is free and open source if more control is needed. With a Google account, using Chrome, there is a voice transcription built into Google Docs that is unlimited and free (Turner, 2020). Storing and analysing video data can require

quite a lot of storage space. Therefore, it is not recommended to store data on a smartphone (Turner, 2020).

Security should be a high priority. There are security measures that can be employed when using sites on commercial servers to collect data, such as vetting potential participants for authenticity, password protection, and the use of online pseudonyms or avatars to preserve privacy (Oringderff, 2004). There are many free tools available to facilitate group communication; however, privacy, storage, recording, and saving features may be a concern. And, some of these platforms have limits of how many can participate in the virtual environment. With free software, support is generally limited; users would not typically have technical support and would have to go to the website or community forums for help. This likely means the researcher would be responsible for helping participants get the application and hardware ready for the focus group (Abrams & Gaiser, 2017). Nevertheless, it is strongly recommended to use software supported by the organization, institution or college; it would be vetted and more secure and there is no additional software to download (Turney & Pocknee, 2005).

Another feature that is essential is whether the interface adapts well to mobile devices or if it has a separate mobile device application (Abrams & Gaiser, 2017). All virtual groups should have a chat feature in order for participants to ask questions during the session. Questions and comments can also be banked and answered towards the end of the discussion. It may be worthwhile to have a phone-in option in case of a weak internet connection (from either the facilitator or any participant) or if there is a lost video connection during the focus group (Namey, 2020; Tuttas, 2015). There are many videoconferencing tools available today. In Table 4 the advantages and disadvantages of a few selected video-conferencing tools that are commonly used (at the time of writing) are presented.

Table 4. Advantages and Disadvantages of Selected Video-Conferencing Tools

Tools	Advantages	Disadvantages
Adobe Connect 11	<ul style="list-style-type: none"> • instant access across a wide range of devices (i.e., no add-ins, no downloads) • can collaborate, host, and present directly in front of mobile, IOS and Android devices • secure to send documents and notes • support for embedded subtitles for MP4 videos • support descriptive audio and foreign language tracks 	<ul style="list-style-type: none"> • pay for service

Tools	Advantages	Disadvantages
	<ul style="list-style-type: none"> • recording and editing tools 	
<p>Google Meet (formerly Google Hangouts)</p>	<ul style="list-style-type: none"> • free versions and paid business versions • up to 25 participates (up to 500 depending on the type of paid business versions) • one hour limit (longer with paid business versions) • IOS and Android compatible • screen and document sharing capabilities • chat messaging function • ability to “pin” or spotlight a video • whiteboards (available with Google Jamboard) • recording transcripts (paid business versions only) • breakout rooms and polls (paid business versions only) • waiting room (available to download via a Chrome extension) • appearance and lighting meeting filters (available to download via a Chrome extension) • over 200 integrations including Slack, Eventbrite, WordPress, and other Google apps • full page zoom magnifier, high-contrast colour, and accessibility extensions in Chrome browser (paid business versions only) • 15 GB (free version) cloud storage • paid business versions range from 30 GB to unlimited cloud storage for recordings (depending 	<ul style="list-style-type: none"> • no technical support for the free version • participants must have a Gmail account (paid Google Workspace – formerly G suite account for paid business versions) • need to have the latest version of the application already downloaded to a digital/mobile device • noise minimization feature focuses audio on the speaker’s voice and not background noise • captions are not recorded and do not appear when the recording is played back (only with paid business versions)

Tools	Advantages	Disadvantages
	<p>on the paid business versions)</p> <ul style="list-style-type: none"> • free call-in number (paid business versions only) 	
GoToMeeting by LogMeIn	<ul style="list-style-type: none"> • up to 250 participants (depending on paid business version) • unlimited meetings and no meeting time limits • screen sharing • breakout rooms • raise hand feature • IOS and Android compatible • Google calendar plugin • dial-in conference line • 24/7 customer care • secure socket layer (SSL) encryption 	<ul style="list-style-type: none"> • no free version • cloud recording and transcription (only available with higher business versions) • note taking, drawing tools (only available with higher business versions) • meeting lock (only available with higher business versions) • virtual backgrounds require a separate, free product • lacks whiteboard functionality
Jitsi	<ul style="list-style-type: none"> • free • no software to install • unlimited free meeting access for up to 100 participants • screen sharing • integrations including Slack, Microsoft, and Google • IOS and Android compatible • securely encrypted • password required 	<ul style="list-style-type: none"> • sound quality is fair • not as many features as other videoconferencing tools
Microsoft Teams	<ul style="list-style-type: none"> • video or audio meetings • up to 100 participants (up to 300 participants for the paid business versions) • one to 30 hours meeting duration • can see up to 49 participants on the screen • screen sharing • chat functionalities (messaging function) • customized backgrounds and background blur technology 	<ul style="list-style-type: none"> • expensive for the business versions • Microsoft account is required • not intuitive • guest access; breakout rooms; meeting recordings and transcriptions available only on higher business versions • over 250 integrated apps and Microsoft 365 services including Sharepoint, Planner, among others for Teams

Tools	Advantages	Disadvantages
	<p>(e.g., for privacy or to remove distractions for those lip reading)</p> <ul style="list-style-type: none"> • integration with Microsoft 365 • call recording • live captions available on desktop application and mobile • 5 GB (free version) cloud storage • paid business versions range from 10 GB to 1TB cloud storage for recordings (depending on the paid business versions) • for video and audio data, Microsoft Teams uses Secure Real-time Transport Protocol (SRTP) technology • live chat support and customer call back (paid business versions only) 	<p>available only on higher business versions</p> <ul style="list-style-type: none"> • browser-based web application version doesn't support real-time calls or meetings
Skype Meet Now	<ul style="list-style-type: none"> • free • access via desktop and mobile devices • IOS and Android compatible • up to 100 participants • do not need an account to participate • background blur technology (e.g., for privacy or to remove distractions for those lip reading) • chat messaging function • screen sharing • live AI closed captions and subtitles available on desktop and mobile 	<ul style="list-style-type: none"> • pay to use premium features like voice mail, SMS texts, making calls to a landline, or mobile phone outside of Skype • business version not compatible with consumer version • captions need to be turned on each time • recordings kept for only 30 days • desktop or mobile application needs to be downloaded for business version
Webex by Cisco	<p>free version includes:</p> <ul style="list-style-type: none"> • desktop and web applications • no software to install, plugin or download 	<ul style="list-style-type: none"> • online support only for free version • can upgrade to a paid version with more features, including meeting length and capacity,

Tools	Advantages	Disadvantages
	<ul style="list-style-type: none"> • join meetings by clicking on a link • up to 50 minutes • up to 100 people can participate • 4 different layout viewing options • polling and raise-hand features • file and whiteboard sharing options; interactive whiteboards • virtual backgrounds • breakout rooms • optimized video and audio preview; consolidated panel controls; contextual option menus • detects background noise to remove distractions • local MP4 recording storage • calendar integration • ability to “pin” a video (e.g., for an interpreter) 	<ul style="list-style-type: none"> technical/customer support, recording transcript, alternative cohosts, and cloud recording storage • fee for Call Me feature (meeting automatically calls participants at the scheduled start time) • closed caption support with paid version • limited to 10GB of cloud storage
Zoom [©]	<ul style="list-style-type: none"> • free versions and paid business versions • up to 100 participants (up to 500 depending on the type of paid business versions but can purchase additional Add-ons to expand meeting capacity) • 40-minute limit (up to 30 hours with paid business versions) • screen and document sharing capabilities • Screen Reader accessible • chat messaging function • ability to “pin” a video (e.g., for an interpreter) • collaboration features including co-annotation and whiteboarding 	<ul style="list-style-type: none"> • limited minutes for free version • need to have latest version of the application already downloaded to a digital/mobile device • costly Add-ons • limited cloud storage – 1 GB to unlimited cloud storage for recordings (with paid business versions only) • not properly encrypted so privacy settings must be implemented (waiting room, passwords) • no live captions available; closed caption support for

Tools	Advantages	Disadvantages
	<ul style="list-style-type: none"> • recording transcripts (paid business versions only) • breakout rooms • waiting rooms and password protection • polls (paid business versions only) • access via desktop and mobile devices • full HD video and audio capability • attention indicators (e.g., raise-hand feature, emoticons) • over 1,000 integrations including Kahoot, Calendly, among others • Zoom phone (paid business versions only) 	<ul style="list-style-type: none"> • real-time transcription must be provided through a third-party service • Intelligent Noise Cancellation (only with Zoom client)
8x8	<ul style="list-style-type: none"> • free standalone version does not cap number of meetings or meeting minutes • join meetings by clicking on a link • up to 50 participants • transcribe and share recorded meetings • live stream meetings to YouTube • compatible with integrations from Google and Microsoft calendars 	<ul style="list-style-type: none"> • upgrade to a paid version with more features • no survey tools (even with paid version) • sound quality fair • limited technical support

Source: Boughton (2019); Brame & McAllister (2022); Novak & Bottorff (2022); The Big Hack and Business Disability Forum (2020); Turner (2020); Author’s depiction of available information from listed websites (retrieval date: July 28, 2022).

There are a lot of technical and practical challenges with technology, so it is important to test the different tools before using them with participants. There may be a learning curve, especially the first time using the technology and becoming familiar with all the features. However, most platforms have some type of technical support or online forums to help problem solve issues or ask questions. With all technology, it is continually evolving, therefore it is important to check

for updates and alternative platforms that may have features that one requires to run a successful focus group.

Considerations of and Challenges with Conducting Virtual Face-to-Face Focus Groups

The most common challenges when conducting virtual face-to-face focus groups are computer internet issues including: access, connectivity, bandwidth, video freezing, and sound quality; participant digital literacy; participant withdrawal; time and setting; differences in dynamics; distractions; privacy issues; and online conference fatigue.

With any technology, unexpected issues arise, such as, difficulties with connecting to the internet, a power failure, or problems with audiovisual equipment and/or outdated hardware. Even when devices and connections have been tested, these issues can still occur. When there is a glitch in the technology, it may interfere with the flow of the process and could be disruptive to continue without some individuals. Indeed, this is unavoidable with focus groups that are conducted online, and facilitators should be prepared to manage with these complications, as well as have the competency to resolve the challenges efficiently (Tuttas, 2015).

In a study conducted by Archibald et al. (2019), they found that participant digital literacy had an impact on the use of video-conferencing technology. Some participants who experienced technical difficulties attributed it to their ability to use the technology effectively. Thus, an increase in frustration may occur when participants are using tools with which they are not familiar. Additionally, glitches in technology may also prevent some people from participating in virtual focus groups.

The invitation to a virtual focus group may be taken less seriously than a commitment for an in-person focus group, due to a decreased sense of accountability. Therefore, there is a greater risk that participants decide at the last minute not to show up (Acro Lab, 2020; Kite & Phongsavan, 2017). Furthermore, unexpected commitments of the participants can also lead to participants not joining the group, joining late or leaving the focus group before it ends (Acro Lab, 2020; Daniels et al., 2019). Tuttas (2015) further notes that if a participant chooses to withdraw from the study, closing their computer is simpler than walking out of an in-person focus group.

When conducting focus groups with participants from other or international time zones, choosing a time may be difficult. The time differences may have an impact on how the participant responds. For example, some participants may be participating in the morning, some at lunchtime, and others at the end of the day. There is no time that is deemed best for focus groups. The time chosen should be best to meet the needs of those who are participating.

It is worth noting that virtual focus groups do not completely replicate the experience of in-person focus groups. The dynamic does change when everyone is not in the same room together.

In an in-person focus group setting, usually everyone looks toward whomever is speaking, thereby reinforcing the group dynamic. The same is not necessarily the case (or true) in a virtual focus group. It may seem that everyone is looking towards the person speaking, but they could also be looking at other participants, looking at something else on their computers, listening to activities going on in the background, among others.

Individuals do not always display the same body language or respond in the same physical way when they are not in the same room as other participants. Collard and Van Teijlingen (2016) found that, “[i]n addition, web-cameras usually only present the upper torso or head of the individual, making the researcher unable to read the participant’s body language...[A participant may] sit too close to or too far away from the camera, the camera may be out of focus or the lighting in the room may be poor” (pp. 6-7). Lobe (2017) further implies “it can be difficult to collect high quality non-verbal data when just one camera is used to capture an entire group” (p. 238). As mentioned previously, participants can turn off their camera and the facilitator is consequently unable to observe facial expressions and other nonverbal communication.

During a virtual focus group, it is possible for some participants to engage in outside tasks without others knowing. For example, some participants may be reading emails, others might be working on unrelated tasks, while a few others may be engaging in social media while participating in the focus group (Mittleman et al., 2000). There may also be personal distractions from children, pets, deliveries, background noise, and anything else that might be happening (Acro Lab, 2020; Turner, 2020). However, Hughes and Lang (2004) contend that it is “not whether or not members are giving absolutely all their attention, but whether they are giving enough attention to provide sufficiently rich data to adequately address the issues of interest to the researchers” (p. 103). It can be argued that since the purpose of focus groups is to hear and build on the perspectives and experiences of others, this cannot be done with minimal attention or engagement.

There are also potential privacy issues given non-participants may be able to overhear discussions. In virtual focus groups, there may be other people in the vicinity of the discussions without the facilitator and/or other participants’ knowledge. As mentioned previously, protocols regarding privacy should be stated in the consent form as well as at the beginning of the focus group.

With many activities being online (courses, meetings, extra-curriculars), some people may be fatigued from feeling that they have to perform for the camera, since a camera is staring straight at them. During in-person focus groups, participants tend to only make eye contact with one or two people around a table. However, during virtual focus groups, people see several faces staring at them and feel all eyes are on them at one time. In research conducted by Bailenson (2021) at Stanford University, he states that in virtual environments, the interpersonal distance (i.e.,

closeness) of the faces on the screen is unnatural. “On Zoom grids, faces are bigger in one’s field of view than they are face-to-face when one accounts for how groups naturally space in physical conference rooms” (p. 2). Therefore, facial expressions and eye gaze are magnified and this in turn can cause cognitive discomfort for some participants. Further, when people are in a room together, they are generally looking around and not staring directly at anyone for a prolonged period of time. However, in a typical virtual meeting, Bailenson (2021) asserts that “regardless of who is speaking, each person is looking directly at the eyes of the other people for the duration of the meeting (assuming one is looking at the screen).” (p. 2).

Being on camera projects elements of self-awareness and can cause social anxiety, since people feel that they may have to be more focused than they would if they were in person. The dynamics change with a video feed; a participant can not only see the researcher (and other participants), but themselves as well. The potential for making eye contact with oneself and viewing one’s own appearance in the video image as it is being broadcast can have an influence on their responses and may slightly change the dynamics or flow of the discussion. And, since one’s surroundings is in the background, people are constantly having to keep it clean, organized, and make sure that nothing in the vicinity is distracting them. This can attribute to virtual conference, participant or “zoom” fatigue (Abrams et al., 2014; Bailenson, 2021; Daigle, 2020; Rezabek, 2000).

Data Collection and Analysis

For focus groups in general (virtual and in-person), instead of generalizing findings, the emphasis is placed upon achieving a depth of understanding. Data richness refers at least to three major aspects, which are depth, breadth, and relevance. Depth refers to interaction and connections between themes, concepts, and experiences; breadth contains the range of topics or themes discussed; and relevance is how much the contents discussed adhere to the ultimate goal of the research (Abrams, 2014). Research collected from focus groups should be trustworthy and believable to others, transferable to another context, dependable since data are obtained until saturation, and confirmable by providing reasons into reaching certain decisions and conclusions without bias (Stalmeijer et al., 2014).

One type of analysis that is commonly used for analyzing focus group data is content analysis. Content analysis is coding text into fewer categories, seeking similar themes in order to make inferences. It is a methodical, replicable technique for systematically categorizing segments of text (or other works) into fewer categories (Krippendorff, 2004). The purpose of coding is to label, categorize, analyse, and interpret data. Coding is the process by which the categories are established. Essentially, it is to give an organizational structure to the research in order for it to be interpreted, discussed, and the results written up for others to read. For report writing, direct quotes, verbatim passages or summarized themes can be used to explain the results. It is a useful methodology for examining and discovering attitudes, beliefs, trends, and patterns in text, in

addition to other works whether that is individual, group, institutional or societal (Krippendorff, 2004). Data can also be analyzed using discourse or conversation analysis. Data gleaned from focus groups can be presented using direct quotes or summarized by themes. However, if anonymity and/or confidentiality is ensured then “this would seem to preclude being directly reported in the form of quotations” (Sim & Waterfield, 2019, p. 3008).

Conclusion

Virtual focus groups can reach a broader audience, require less travel time, and are not affected by weather or location. However, technological issues (e.g., access, internet connectivity, bandwidth, video freezing, and sound quality) and participant distraction (e.g., working from home, children, pets, deliveries, background noise) can be a drawback to conducting focus groups virtually. Nevertheless, facilitating virtual focus groups has become more commonplace and with new technologies being developed, they will continue to be used by researchers to collect data.

In virtual environments, choosing the right online platform or tools is essential. The most common issues with conducting virtual focus groups are computer internet issues including access, connectivity, bandwidth, video freezing, and sound quality; participant withdrawal; distractions; privacy issues; time and setting; online conference fatigue; and differences in dynamics. When there is a glitch in the technology, it may interfere with the flow of the process and could be disruptive to continue without some individuals. Indeed, this is unavoidable when conducting focus groups virtually and facilitators should be prepared to manage despite these complications. Focus group facilitators need to become more competent and experienced with the use of virtual video-conferencing tools and technologies. It is essential that they continuously update these skills, due to rapid changes in the technology, in order to conduct successful virtual focus groups.



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