Article

A Qualitative Framework for Collecting and Analyzing Data in Focus Group Research

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Abstract

Despite the abundance of published material on conducting focus groups, scant specific information exists on how to analyze focus group data in social science research. Thus, the authors provide a new qualitative framework for collecting and analyzing focus group data. First, they identify types of data that can be collected during focus groups. Second, they identify the qualitative data analysis techniques best suited for analyzing these data. Third, they introduce what they term as a micro-interlocutor analysis, wherein meticulous information about which participant responds to each question, the order in which each participant responds, response characteristics, the nonverbal communication used, and the like is collected, analyzed, and interpreted. They conceptualize how conversation analysis offers great potential for analyzing focus group data. They believe that their framework goes far beyond analyzing only the verbal communication of focus group participants, thereby increasing the rigor of focus group analyses in social science research.

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Traditionally, focus group research is "a way of collecting qualitative data, which—essentially—involves engaging a small number of people in an informal group discussion (or discussions), 'focused' around a particular topic or set of issues" (Wilkinson, 2004, p. 177). Social science researchers in general and qualitative researchers in particular often rely on focus groups to collect data from multiple individuals simultaneously. Focus groups are less threatening to many research participants, and this environment is helpful for participants to discuss perceptions, ideas, opinions, and thoughts (Krueger & Casey, 2000). Researchers have used focus groups for decades (Morgan, 1998), indeed for the past 80 years. In the 1920s, they were conducted to assist researchers in identifying survey questions (Morgan, 1998). In the early 1940s, Paul Lazarsfeld and Robert Merton, who are credited with formalizing the method of focus groups (Madriz, 2000), used focus group methods to conduct a government-sponsored study to examine media effects on attitudes towards the involvement of the United States in World War II (Merton, 1987). These groundbreaking methodologists used focus group data to identify "salient dimensions of complex social stimuli as [a] precursor to further quantitative tests" (Lunt, 1996, p. 81). Moreover, according to Kamberelis and Dimitriadis (2005),

> Two dimensions of Lazarsfeld and Merton's research efforts constitute part of the legacy of using focus groups within qualitative research: (a) capturing people's responses in real space and time in the context of face-to-face interactions and (b) strategically 'focusing' interview prompts based on themes that are generated in these face-to-face interactions and that are considered particularly important to the researchers. (p. 899)

Later, according to Greenbaum (1998), focus group data were collected and analyzed mainly for market researchers to assess consumers' attitudes and opinions. In the past 20 years, focus group research has been used to collect qualitative data by social science researchers (Madriz, 2000). Furthermore, in the past years, books on the use and benefits of focus groups have emerged (Krueger, 1988; Morgan, 1988).

Social science researchers can derive multiple benefits from using focus groups. One is that focus groups are an economical, fast, and efficient method for obtaining data from multiple participants (Krueger & Casey, 2000), thereby potentially increasing the overall number of participants in a given qualitative study (Krueger, 2000). Another advantage to focus groups is the environment, which is socially oriented (Krueger, 2000). In addition, the sense of belonging to a group can increase the participants' sense of cohesiveness (Peters, 1993) and help them to feel safe to share information (Vaughn, Schumm, & Sinagub, 1996). Furthermore, the interactions that occur among the participants can yield important data (Morgan, 1988), can create the possibility for more spontaneous responses (Butler, 1996), and can provide a setting where the participants can discuss personal problems and provide possible solutions (Duggleby, 2005).

Literature abounds regarding how to design a focus group, how to select focus group participants, and how to conduct the focus group session group (e.g., appropriate focus group interview questions, length of focus group interviews, keeping focus group participants on task) (e.g., Krueger, 1988, 1994, 2000; Morgan, 1997). In a few articles published in health-related journals, authors (i.e., Carey, 1995; Carey & Smith, 1994; Duggleby, 2005; Kidd & Parshall, 2000; Morrison-Beedy, Cote-Arsenault, & Feinstein, 2001; Stevens, 1996; Wilkinson, 1998) have discussed issues related to the analysis of focus group data. However, there is very little specific information regarding how to analyze focus group data (Nelson & Frontczak, 1988; Vaughn et al., 1996; Wilkinson, 1999, 2004) or what types of analyses would be helpful with focus group data (Carey, 1995; Duggleby, 2005; Wilkinson, 2004). Consistent with this assertion, Wilkinson (2004) concluded:

> As indicated, compared with the extensive advice on how to *conduct* focus groups, there is relatively little in the focus group literature on how to *analyze* the resulting data. Data analysis sections of focus group 'handbooks' are typically very brief….In published focus group studies, researchers often omit, or briefly gloss over, the details of exactly how they conducted their analyses. (p. 182, emphasis in original)

With this in mind, in the present article we provide a new qualitative framework for collecting and analyzing focus group data in social science research. First, we delineate multiple avenues for collecting focus group data. Second, using the works of Leech and Onwuegbuzie (2007, 2008), we outline multiple methods of analyzing focus group data using qualitative data analyses. Third, we introduce a new way of analyzing focus group data, what we term micro-interlocutor analysis, which incorporates and analyzes information from the focus group by delineating which participants respond to each question, the order of responses, and the nature of the responses (e.g., non sequitur, rambling, focused) as well as the nonverbal communication used by each of the focus group participants. In particular, we conceptualize how conversation analysis offers much potential for analyzing focus group data. We contend that our framework represents a more rigorous method of both collecting and analyzing focus group data in social science research.

The Planning and Organization of the Focus Group

The research question and research design ultimately guide how the focus group is constructed. Well-designed focus groups usually last between 1 and 2 hours (Morgan, 1997; Vaughn et al., 1996) and consist of between 6 and 12 participants (Baumgartner, Strong, & Hensley, 2002; Bernard, 1995; Johnson & Christensen, 2004; Krueger, 1988, 1994, 2000; Langford, Schoenfeld, & Izzo, 2002; Morgan, 1997; Onwuegbuzie, Jiao, & Bostick, 2004). The rationale for this range of focus group size stems from the goal that focus groups should include enough participants to yield diversity in information provided, yet they should not include too many participants because large groups can create an environment where participants do not feel comfortable sharing their thoughts, opinions, beliefs, and experiences. Krueger (1994) has endorsed the use of very small focus groups, what he terms "mini-focus groups" (p. 17), which include 3 (Morgan, 1997) or 4 (Krueger, 1994) participants, when participants have specialized knowledge and/or experiences to discuss in the group. Because participants might not be available on the day of the focus group, Morgan (1997) has suggested overrecruiting by at least 20% of the total number of participants required, and Wilkinson (2004) suggested an overrecruitment rate of 50%.

The number of times a focus group meets can vary from a single meeting to multiple meetings. Likewise, the number of different focus groups can vary. However, using multiple focus groups allows the focus group researcher to assess the extent to which saturation (cf. Flick, 1998;

Lincoln & Guba, 1985; Morse, 1995; Strauss & Corbin, 1990) has been reached, whether data saturation (i.e., occurring when information occurs so repeatedly that the researcher can anticipate it and whereby the collection of more data appears to have no additional interpretive worth; Sandelowski, 2008; Saumure & Given, 2008) or theoretical saturation (i.e., occurring when the researcher can assume that her/his emergent theory is adequately developed to fit any future data collected; Sandelowski, 2008). Focus groups can be formed by using preexisting groups (e.g., colleagues at a place of work). Alternatively, these groups can represent newly formed groups that the researcher constructs by selecting members either randomly or, much more commonly, via one of the 19 or more purposive sampling techniques (e.g., homogeneous sampling, maximum variation sampling, critical case sampling, or multistage purposeful sampling; Onwuegbuzie & Collins, 2007). Krueger (1994) and Morgan (1997) have suggested that three to six different focus groups are adequate to reach data saturation and/or theoretical saturation, with each group meeting once or multiple times.

Krueger (1994) suggested that it is ideal for the focus group to have a moderator team. This team typically comprises a moderator and an assistant moderator. The moderator is responsible for facilitating the discussion, prompting members to speak, requesting overly talkative members to let others talk, and encouraging all the members to participate. Furthermore, the moderator is responsible for taking notes that inform potential emergent questions to ask. In most cases, the moderator presents the focus group participants with a series of questions. However, instead, the moderator might present the members with stimulus material (e.g., newspaper article, video clip, audio clip) and ask them to respond to it. Alternatively still, the moderator might ask the members to engage in a specific activity (e.g., team-building exercise, brainstorming exercise) and then provide reactions to it. In contrast, the assistant moderator's responsibilities include recording the session (i.e., whether by audio- or videotape), taking notes, creating an environment that is conducive for group discussion (e.g., dealing with latecomers, being sure everyone has a seat, arranging for refreshments), providing verification of data, and helping the researcher/moderator to analyze and/or interpret the focus group data (Krueger & Casey, 2000).

Sources of Focus Group Data

There are many sources of focus group data, yet most researchers use only the actual text (i.e., what each of the participants stated during the focus group) in their analyses. Multiple types of data can be collected during a focus group, including audiotapes of the participants from the focus groups, notes taken by the moderator and assistant moderator, and items recalled by the moderator and assistant moderator (Kruger, 1994). All of these data can be analyzed, yet they differ in the amount of time and rigor it will take to complete the analysis.

Transcript-based analysis represents the most rigorous and time-intensive mode of analyzing data. This mode includes the transcription of videotapes and/or audiotapes, which, according to Krueger (1994), commonly will result in 50 to 70 pages of text per focus group meeting. These transcribed data can then be analyzed alongside field notes constructed by the moderator and assistant moderator and any notes extracted from the debriefing of one or more members of the debriefing team. Another mode for analyzing data from a focus group is tape-based analysis, wherein the researcher listens to the tape of the focus group and then creates an abridged transcript. This transcript is usually much shorter than is the full transcript in a transcript-based analysis. Notwithstanding, this type of analysis is helpful because the researcher can focus on the research question and only transcribe the portions that assist in better understanding of the phenomenon of interest. Note-based analysis includes analysis of notes from the focus group, the debriefing session, and any summary comments from the moderator or assistant moderator. Although the focus group is audiotaped and/or videotaped, the tape is used primarily to verify

quotations of interest to the researcher, although the tape can be used at a later date to glean more information. Finally, a memory-based analysis is the least rigorous because it involves the moderator recalling the events of the focus group and presenting these to the stakeholders. Unless the focus group researcher/moderator is experienced, we recommend that transcript-based analyses be used.

Focus group data can arise from one of the following three types: individual data, group data, and/or group interaction data (Duggleby, 2005). Focus group theorists disagree as to the most appropriate unit of analysis for focus group data to analyze (i.e., individual, group, or interaction). Some theorists believe that the individual or the group should be the focus of the analysis instead of the unit of analysis (Kidd & Marshall, 2000). However, most focus group researchers use the group as the unit of analysis (Morgan, 1997). By doing so, the researchers code the data and present emergent themes, unfortunately, typically not delineating the type of qualitative analysis used (Wilkinson, 2004). Although these themes can yield important and interesting information, analyzing and interpreting only the text can be extremely problematic. In particular, only presenting and interpreting the emergent themes provides no information about the degree of consensus and dissent, resulting in dissenters effectively being censored or marginalized and preventing the delineation of the voice of negative cases or outliers—what Kitzinger (1994) referred to as argumentative interactions—that can increase the richness of the data (Sim, 1998). Moreover, analyzing and interpreting information about dissenters would help researchers determine the extent to which the data that contributed to the theme reached saturation for the focus group, or what we call within-group data saturation.[1, 2] Thus, information about dissenters would increase the descriptive validity, interpretive validity, and theoretical validity (cf. Maxwell, 2005) associated with the emergent themes, which, in turn, would increase *Verstehen* (i.e., understanding) of the phenomenon of interest.

Analyzing Focus Group Data
with Qualitative Data Analysis Techniques

To date, no framework has been provided that delineates the types of qualitative analysis techniques that focus group researchers have at their disposal. This is surprising, bearing in mind (a) the relatively long history of focus group research (i.e., around 80 years; Morgan, 1998), (b) the complexity of analyzing focus group data compared to analyzing data from an individual interview, and (c) the array of qualitative analysis techniques available to qualitative researchers (cf. Leech & Onwuegbuzie, 2008). Thus, in this section we identify qualitative data analysis techniques that are best suited for analyzing focus group data. The frameworks of Leech and Onwuegbuzie (2007, 2008) suggest several qualitative analysis techniques that can be used to analyze focus group data. Specifically, the analytical techniques that lend themselves to focus group data are constant comparison analysis, classical content analysis, keywords-in-context, and discourse analysis (for a review of analytical techniques, see, for example, Leech & Onwuegbuzie, 2007, 2008). We summarize each of these analyses in subsequent sections.

Constant comparison analysis. Developed by Glaser and Strauss (Glaser, 1978, 1992; Glaser & Strauss, 1967, Strauss, 1987), constant comparison analysis, also known as the method of constant comparison, was first used in grounded theory research. Yet, as Leech and Onwuegbuzie (2007, 2008) have discussed, constant comparison analysis can also be used to analyze many types of data, including focus group data.

Three major stages characterize the constant comparison analysis (Strauss & Corbin, 1998). During the first stage (i.e., open coding), the data are chunked into small units. The researcher attaches a descriptor, or code, to each of the units. Then, during the second stage (i.e., axial

coding), these codes are grouped into categories. Finally, in the third and final stage (i.e., selective coding), the researcher develops one or more themes that express the content of each of the groups (Strauss & Corbin, 1998).

Focus group data can be analyzed via constant comparison analysis, especially when there are multiple focus groups within the same study, which, as noted previously, allows the focus group researcher to assess saturation in general and across-group saturation in particular. Because focus group data are analyzed one focus group at a time, analysis of multiple focus groups effectively serves as a proxy for theoretical sampling, which is when additional sampling occurs to assess the meaningfulness of the themes and to refine themes (Charmaz, 2000). Thus, researchers could use the multiple groups to assess if the themes that emerged from one group also emerged from other groups. Doing so would assist the researcher in reaching data saturation and/or theoretical saturation. Thus, we recommend that researchers design their studies with multiple focus groups to have groups with which to test themes. We call this design an emergent-systematic focus group design, wherein the term *emergent* refers to the focus groups that are used for exploratory purposes and *systematic* refers to the focus groups that are used for verification purposes.

Classical content analysis. Similar to constant comparison analysis, classical content analysis includes creating smaller chunks of the data and then placing a code with each chunk. However, instead of creating a theme from the codes (as with constant comparison analysis), with classical content analysis, these codes then are placed into similar groupings and counted. Within Morgan's (1997) three-element coding framework, there are three unique ways to use classical content analysis with focus group data: (a) the analyst can identify whether each participant used a given code, (b) the analyst can assess whether each group used a given code, and (c) the analyst can identify all instances of a given code. We recommend that researchers not only provide information regarding the frequency of each code (i.e., quantitative information) but supplement these data with a rich description of each code (i.e., qualitative information), which would create a mixed methods content analysis.

Keywords-in-context. The purpose of keywords-in-context is to determine how words are used in context with other words. More specifically, keywords-in-context represents an analysis of the culture of the use of the word (Fielding & Lee, 1998). As noted by Fielding and Lee, the major assumption underlying keywords-in-context is that people use the same words differently, necessitating the examination of how words are used in context. Furthermore, the contexts within words are especially important in focus groups because of the interactive nature of focus groups. Thus, each word uttered by a focus group member not only should be interpreted as a function of all the other words uttered during the focus group, but it should be interpreted with respect to the words uttered by all other members of the focus group. As is the case for classical content analysis, keywords-in-context can be used across focus groups (i.e., between-group analysis), within one focus group (i.e., within-group analysis), or for an individual in a focus group (i.e., intramember analysis). Keywords-in-context involves a contextualization of words that are considered central to the development of themes and theory by analyzing words that appear before and after each keyword, leading to an analysis of the culture of the use of the word (Fielding & Lee, 1998).

Discourse analysis. A form of discourse analysis that is also known as discursive psychology was developed by a group of social psychologists in Britain led by Potter and Wetherell, who posited that to understand social interaction and cognition, it is essential to study how people communicated on a daily basis (Potter & Wetherell, 1987). Broadly speaking, this form of discourse analysis involves selecting representative or unique segments or components of language use (e.g., several lines of a focus group transcript) and then analyzing them in detail to

examine how versions of elements such as the society, community, institutions, experiences, and events emerge in discourse (Phillips & Jorgensen, 2002). More specifically, Cowan and McLeod (2004) conceptualized that discourse analysis operates on three fundamental assumptions: antirealism (i.e., people's descriptions cannot be deemed true or false portrayals of reality), constructionism (i.e., how people's constructions are formed and undermined), and reflexivity.

Discourse analysis depends on the researcher's sensitivity to language use, from which an analytic tool kit is developed that includes facets such as rhetorical organization, variability, accountability, positioning, and discourses (Cowan & McLeod, 2004). With respect to rhetorical organization, the analyst examines selected talk or text to determine how it is organized rhetorically to make assertions that are maximally credible while protecting the speaker from challenge and refutation (Billig, 1996). According to Potter (2004), discourse analysts maintain "a specific focus on the way versions and descriptions are assembled to perform actions" (p. 207). When using language, people perform different social actions such as supporting, questioning, or criticizing. Language then varies with the action performed. Thus, variability can be used to demonstrate how individuals employ different discursive constructions to perform different social actions.

The discourse analyst examines words and phrases to ascertain how individuals use accountability for their versions of experiences, events, locations, and the like. For example, when questioning the competence of a female supervisor, a male employee might use the phrase "I am a big supporter of feminism," to prevent being accused of sexism. Positioning denotes the proclivity for speakers to situate each other with respect to social narratives and roles. For instance, the way a student talks might position him/her as a novice, whereas the way a teacher talks might indicate that he/she is an expert.

Finally, the concept of discourses refers to well-grounded ways of relating to and describing entities. Cowan and McLeod (2004) stated that the use of discourse analysis procedures can require a critical rereading of processes that occur in social interactions that have been overlooked. Discourse analysis lends itself to the analysis of focus group data because these data stem from discursive interactions that occur among focus group participants.

Micro-interlocutor Analysis: A New Method of Analysis for Focus Group Research

According to Wilkinson (1998), most focus group analysts use the group as the unit of analysis. However, using the group as the unit of analysis precludes the analysis of individual focus group data. In particular, it prevents the researcher from documenting focus group members who did not contribute to the category or theme. As such, their voices, or lack thereof, are not acknowledged. These focus group members might include those who are relatively silent (e.g., members who are too shy to speak about this issue; members who do not want to reveal that they have a different opinion, attitude, experience, level of knowledge, or the like; members who do not deem this issue to be worth discussing), members who are relatively less articulate, members who have a tendency to acquiesce to the majority viewpoint, and members who are not given the opportunity to speak (e.g., due to one or more members dominating the discussion, due to insufficient time for them to speak before the moderator moves on to the next question).

As noted by Crabtree, Yanoshik, Miller, and O'Connor (1993), a sense of consensus in the data actually might be an artifact of the group, being indicative of the group dynamics, and might provide little information about the various views held by individual focus group members. According to Sim (1998), "Conformity of opinion within focus group data is therefore an

emergent property of the group context, rather than an aggregation of the views of individual participants" (p. 348). As such, when discussing emergent themes, we recommend that in addition to providing verbatim statements (i.e., quotations) made by focus group participants, whenever possible, researchers delineate information about the number or proportion of members who appeared to be part of the consensus from which the category or theme emerged. Furthermore, researchers should specify the number or proportion of members who appeared to represent a dissenting view (if any) as well as how many participants did not appear to express any view at all. In addition, because merely agreeing to a majority view either verbally (e.g., by using statements such as "I agree" or "Yes"; by making an utterance such as "Uh-um") or nonverbally (e.g., nodding one's head or smiling) might reflect some level of acquiescence, we suggest that researchers document how many focus group members provide substantive statements or examples that generate or support the consensus view. Similarly, we recommend that they document how many members provide substantive statements or examples that suggest a dissenting view. Thus, researchers/moderators are reliant on the assistant moderator who is in the best position to record information about the level of consensus and dissension. To facilitate this information-gathering process, we recommend that the assistant moderator use template sheets. For example, he or she could use a matrix similar to the one in Figure 1.

Figure 1. Matrix for assessing level of consensus in focus group

Focus Group Question	Member 1	Member 2	Member 3	Member 4	Member 5	Member 6
1						
2						
3						
……						

The following notations can be entered in the cells:

A = Indicated agreement (i.e., verbal or nonverbal)
D = Indicated dissent (i.e., verbal or nonverbal)
SE = Provided significant statement or example suggesting agreement
SD = Provided significant statement or example suggesting dissent
NR = Did not indicate agreement or dissent (i.e., nonresponse)

Using Figure 1 would allow the researcher to count the number of focus group members falling into each category, which could appear in the final report (e.g., "Four of the six focus group members believed…, with the remaining two members not providing any response to this question"; "All six focus group members had this experience….with one member vividly recalling…").

Some focus group methodologists (e.g., Carey, 1995; Kidd & Marshall, 2000; Morgan, 1993, 1997; Silverman, 1985) have promoted the use of simple descriptive counts of categories. We agree that counts can provide very useful information, not only about level of consensus/dissent but also about response patterns among the focus group members. However, we believe that counts should never be used to replace any qualitative data arising from focus groups because by themselves they can present a misleading picture. In particular, the fact that the majority or even all of the focus group members express a particular viewpoint does not necessarily imply that this viewpoint is important or compelling. However, when contextualized, the use of counts can provide richer information than would be obtained by using qualitative data alone (cf. Sandelowski, 2001). Indeed, supplementing qualitative data with counts yields a form of mixed methods data analysis, or what is also known as mixed analysis (Onwuegbuzie & Teddlie, 2003; see also Morse, 2003). When used in this manner, enumerating the frequency of a particular viewpoint or experience actually expands the data set rather than reduces it. For example, we believe that it is more informative to report that 7 out of 8 participants held a certain viewpoint (i.e., data expansion) than to state that the majority of participants held a certain viewpoint (i.e., data reduction). Moreover, in addition to helping emergent themes be situated in a more meaningful context (i.e., enhancing representation), enumerating the data (where possible) can help to validate any inferences made about the level of consensus.

As stated by Sechrest and Sidani (1995, p. 79), "qualitative researchers regularly use terms such as 'many,' 'most,' 'frequently,' 'several,' 'never,' and so on. These terms are fundamentally quantitative." Thus, focus group researchers can obtain more meaning by disclosing information about level of consensus/dissent. Moreover, just as using counts by themselves can be problematic, mainly reporting and describing the themes that emerge from an analysis of focus groups also can be misleading because, to the extent that any themes that might stem from dissenters are ignored, it can lead to unwarranted analytical generalizations (i.e., in which findings are "applied to wider theory on the basis of how selected cases 'fit' with general constructs"; Curtis, Gesler, Smith, & Washburn, 2000, p. 1002) and internal (statistical) generalizations (i.e., which, in the context of focus groups, involve making generalizations, inferences, or predictions on data obtained from one or more focus group members to all focus group members; Onwuegbuzie, Slate, Leech, & Collins, 2009). Thus, the inclusion of frequency data helps the researcher to disaggregate focus group data, which is consistent with the qualitative researcher's notion of treating each focus group member as a unique and important study participant. Further, as noted by Onwuegbuzie, Johnson, and Collins (2009), the ontological, epistemological, and methodological assumptions and stances representing constructivist and other qualitative-based paradigms (e.g., participatory paradigm) do not prevent descriptive statistics from being combined with qualitative data.

Lazarsfeld, the same methodologist who co-developed focus group methodology, as we noted previously, and his colleague Allen Barton (Barton & Lazarsfeld, 1955) advocated the use of what they coined as *quasi-statistics* in qualitative research. According to these authors, quasi-statistics refer to the use of descriptive statistics that can be extracted from qualitative data. Furthermore, Howard Becker (1970), a prolific symbolic interactionist, concluded that "one of

the greatest faults in most observational case studies has been their failure to make explicit the quasi-statistical basis of their conclusions" (pp. 81–82). Consistent with this assertion, Maxwell (2005) observed,

> Quasi-statistics not only allow you to test and support claims that are inherently quantitative, but also enable you to assess the *amount* of evidence in your data that bears on a particular conclusion or threat, such as how many discrepant instances exist and from how many different sources they were obtained. (p. 113, emphasis in original)

Of course, authors (e.g., Ashbury, 1995; Sim 1998) and others who are quick to declare that the use of counts in the analysis of focus group data can be misleading are slow to acknowledge that omitting numeric information also can be misleading, especially when the group is dominated by one or a few focus group members.

Another important source of data in focus groups that is neglected by many, if not most, researchers in the final reports is that pertaining to nonverbal communication. Such nonverbal data include the proxemic (i.e., use of interpersonal space to communicate attitudes), chronemic (i.e., use of pacing of speech and length of silence in conversation), paralinguistic (i.e., all variations in volume, pitch, and quality of voice), and kinesic (i.e., body movements or postures) (cf. Gorden, 1980). If the focus group session has been videotaped or even audiotaped, then the moderator and assistant moderator are not limited to collecting nonverbal communication data during the focus group session. As is the case for when collecting data about level of consensus and dissension, whenever possible, the assistant moderator should collect as much nonverbal communication data as possible so that the focus group analyst can include this information alongside the verbal data (Fontana & Frey, 2005). We suggest that the assistant moderator create and use a seating chart that documents where each focus group member sits as well as the proximity of each person to each of the other focus group member. Furthermore, we recommend that the assistant moderator also record relevant demographic information on the seating chart so that the analyst can examine seating patterns (e.g., where all the female members sit in relation to each other). The analyst could investigate more easily any relationships among response patterns, demographic characteristics, and seating patterns. Such investigations could be used for the purposes of representation (i.e., data expansion) or legitimation (e.g., to assess whether response patterns have a gender context). We recommend that assistant moderators use transcription conventions to proxemic, chronemic, kinesic, and paralinguistic information. A sample of transcription conventions is presented in Table 1.

Onwuegbuzie, Collins, and their colleagues (Collins, Onwuegbuzie, & DaRos-Voseles, 2004; DaRos-Voseles, Collins, & Onwuegbuzie, 2005; DaRos-Voseles, Collins, Onwuegbuzie, & Jiao, 2008; DaRos-Voseles, Onwuegbuzie, & Collins, 2003; Jiao, Collins, & Onwuegbuzie, 2008; Onwuegbuzie, 2001; Onwuegbuzie & Collins, 2002; Onwuegbuzie, Collins, & Elbedour, 2003; Onwuegbuzie & DaRos-Voseles, 2001) have provided much evidence of the important role that group dynamics play in determining group outcomes. Thus, it is reasonable to expect the composition of the focus group to influence the quality of responses given by one or more of the participants. Focus groups that are heterogeneous with respect to demographic characteristics, educational background, knowledge, experiences, and the like, are more likely to affect adversely a member's willingness, confidence, or comfort to express their viewpoints (Sim, 1998; Stewart & Shamdasani, 1990). Thus, it is important that the moderator and assistant moderator document and monitor the group dynamics continuously throughout each focus group session.

Table 1. Matrix for documenting proxemic, chronemic, kinesic, and paralinguistic information

Focus Group Question	Member 1	Member 2	Member 3	Member 4	Member 5	Member 6
1						
2						
3						
……						

Symbols such as the following could be inserted into the cells by the assistant moderator, as appropriate:

hhh   The letter "h" is used to indicate hearable aspirations, its length being approximately proportional to the number of 'h's. If preceded by a dot, the aspiration denotes an in-breath.

>   Talk is faster than the surrounding talk.

<   Talk is slower than the surrounding talk.

(0.6)   Numbers in parentheses indicate periods of silence, in tenths of a second—a dot inside parentheses indicates a pause of less than 0.2 seconds.

:::   Colons indicate a lengthening of the sound just preceding them, proportional to the number of colons.

toda-   A hyphen indicates an abrupt cut-ff or self-interruption of the utterance in progress indicated by the preceding letter(s) (the example here represents a self-interrupted 'today').

____   Underlining indicates stress or emphasis.

gr^eat   A 'hat' circumflex accent symbol indicates a marked increase in pitch.

=   Equal signs indicate no silence between consecutive clauses or sentences.

Note: The above symbols were adapted from Sacks, Schegloff, and Jefferson (1974) and Silverman (2004). Printed with kind permission by *Language* journal, Rochester University, Dr. Greg Carlson, Editor.

LLL   The letter "L" is used to represent laughter.

SSS   The letter "S" is used to represent sighing.

FFF   The letter "F" is used to represent frowning.

PPP   The letter "P" is used to represent passion.

L ↑   Speaker leans forward while talking, the length of the arrow being approximately proportional to how far the speaker leans.

L ↓   Speaker leans backward while talking.

L ←   Speaker leans to the left while talking.

L →   Speaker leans to the right while talking.

_____

We recommend that moderators and assistant moderators consider using Venn diagrams, which visually represent sets, also known as set diagrams, to document and to monitor the response patterns of subgroups of interest (e.g., gender, age, ethnicity) across each of the focus group questions or across multiple questions. In Figure 2 we have provided an example of gender comparisons of responses made to the first two questions posed to a focus group. In this figure, strong evidence can be seen that the men (denoted by *m*) are dominating the responses to the first two questions because five of them responded to both questions, whereas only one female (denoted by *f*) responded to both questions. If such a pattern is observed during the focus group session, the moderator could make adjustments to ensure a more symmetrical distribution of responses. In this particular case, the moderator would intervene by calling on one of the women to respond first. Otherwise, if such a pattern only is determined after completion of the focus group, then adjustments could be made to subsequent focus groups that are selected within the same study, or, at the very least, interpretations could be made in light of such lack of parity. Alternatively still, the information about response patterns could help inform the researcher as to whom to select for selection of follow-up individual interviews. Such Venn diagrams are appealing because (a) templates can be constructed in advance and (b) either the moderator or assistant moderator can complete it very quickly as the focus group members are responding. Venn diagram templates are readily available via http://classtools.net/education-games-php/venn/, and may be modified interactively to reflect the group composition and response patterns.

Figure 2. Venn Diagram comparing the response patterns of the male (x) and female (y) focus group members for the first two questions

Question 1

m

ffff
f

M m m
f m m

Question 2

f f
f f
f

m
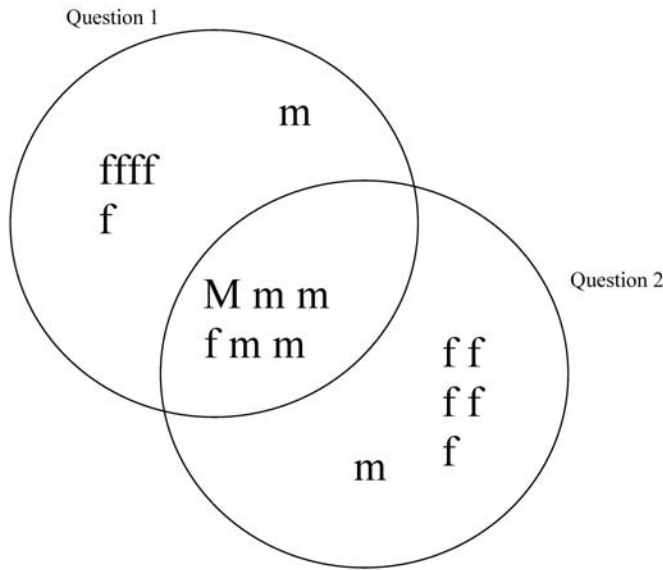
The focus group contains six males (m) and six females (f) . The capital letters denote the person who responded to the question first. Here, the same male responded to both questions first. Also, five of the males responded to both questions, as shown by the elements in the intersection, whereas only one female responded to both questions. From this Venn diagram representation, the researcher might conclude that males were denominating the discussion pertaining to the first two questions. This diagram can be extended to monitor the response patterns for more than two questions. Also, a Venn diagram can be used to monitor other demographic information deemed important.

Furthermore, visual information may be added to the Venn diagram without cognitively overloading the moderator or assistant moderator. For example, the moderator/assistant moderator could record the response patterns of multiple subgroups (e.g., gender, ethnicity). Alternatively, rather than monitoring subgroup response patterns, the moderator/assistant moderator could monitor individual patterns by using a unique letter (e.g., corresponding to the participant's name) or number (e.g., corresponding to the seating chart) for each of the focus group members. Further, a subscript below each letter (or a superscript above each letter) could be used to indicate the number of unique times each focus group member responded to a particular question (e.g., C_4 = Member C made four separate contributions to the group's response to the question). Thus, Gestalt theory, which underlies Venn diagrams, can be naturally extended both to generate and analyze focus group data.

Another effective way of monitoring the response patterns of select subgroups is by counting and comparing the total number of words/utterances of each subgroup. This would identify whether the amount spoken by any subgroup was disproportionally high. The information provided by a subgroup that used a relatively high number of words/utterances could be compared with that provided by the other subgroup(s) to determine why this might have occurred and the extent to which it affected within-group saturation. As such, this comparison of words/utterances could

serve as a validation tool. More specifically, monitoring the quantity and quality of words stemming from each subgroup on interest could be used to assess what we call across-subgroup saturation, which refers to data saturation and/or theoretical saturation that occurs across all subgroups of interest.

The role of conversation analysis

A vital distinction between focus group interviews and other individual interviews is that the former interview format involves group discussion whereas the latter format does not (Vaughn et al., 1996). Despite this distinction, much of the research studies based on focus group data extract themes stemming from the members' viewpoints but do not analyze interactions among the participants and between the participants and the moderator (Myers, 1998, 2006). As concluded by Wilkinson (2004),

> A particular challenge is substantively to address the interactive nature of focus group data: a surprising limitation of focus group research is the rarity with which group interactions are analyzed or reported (Kitzinger, 1994b; Wilkinson, 1999). Extracts from focus group data are typically presented as if they were one-to-one interview data, often with no evidence of more than one research participant being present, still more rarely does interaction per se constitute the analytic focus. This is all the more surprising given that…focus group researchers typically emphasize interaction between participants as the most distinctive feature of the method, even cautioning that researchers "who do not attend to the impact of the group setting will incompletely or inappropriately analyze their data" (Carey and Smith, 1994, p. 125). (p. 184)

Conversation analysis is a qualitative data analysis technique that offers much potential for analyzing focus group data. Although conversation analysts have tended to avoid analyzing interview data (Potter, 2004), this form of analysis appears to be justifiable for focus groups because an underlying assumption of this technique is that it is primarily through interaction that people build social context (Heritage, 2004). In his discussion on identification of place within conversations, Myers (2006) asserted that, "researchers should look at *how* people talk about place before they try to categorise *what* participants say about it" (p. 321, emphasis in original). In addition, researchers involved in focus groups within educational settings also should examine interactions on how individuals communicate with each other, where focus group members might modify their communication styles depending on the audience, the appropriateness of participating in a focus group, and the perceived correct responses expected of them. Furthermore, according to Myers (1998), there are three factors that influence turn-taking among focus group members: "(a) The moderator introduces topics and closes them, following a plan; (b) The moderator can intervene to control turn-taking; [and] (c) The moderator elicits and acknowledges responses" (p. 87).

As such, we believe that examining (a) the "how" and the "what" of members' interactions, (b) the interactions between the moderator and the focus group members, and (c) the interactions among the members themselves will yield richer data and, subsequently, enhance meaning. As did Myers and Macnaghten (1999), who have used conversation analysis with focus groups, we contend that conversation analysis is an appropriate method to employ with focus group data.

Conversation analysis is a subfield of linguistics, and has roots in social phenomenology, or what is more commonly known as ethnomethodology (Roger & Bull, 1989), and combines both logico-analytic and hermeneutic-dialectic perspectives (Heritage, 1987; Markee, 2000; Mehan,

1978). Roger and Bull (1989) defined conversation analysis as "examin[ing] the procedures used in the production of ordinary conversation" (p. 3). Similarly, ten Have (1999) defined conversation analysis as "an explication of the ways in which conversationalists maintain an interactional social order" (p. 3).

According to Hopper, Koch, and Mandelbaum (1986), conversation analysis is used to understand structures of conversational action and individuals' practices for conversing. Conversation analysis facilitates the analysis of turns rather than utterances (Sacks, Schegloff, et al., 1974), and for data to change, adapt, or modify the questions (Heritage & Atkinson, 1984; Markee, 2000). The heuristic-inductive approach underlying conversation analysis allows the researcher to incorporate the pragmatist philosophy of the research question driving the study.

Markee (2000) conceptualized four assumptions underlying conversation analysis: (a) conversation has structure; (b) conversation is its own autonomous context—that is, the meaning of a particular utterance is shaped by what immediately precedes it and also by what immediately follows it; (c) there is no a priori justification for believing that any detail of conversation, however minute, is disorderly, accidental, or irrelevant; and (d) the study of conversation requires naturally occurring data. The first three assumptions underlying conversation analysis clearly hold for the focus group context. However, it might be argued that the fourth assumption is not met. Yet, we believe that even though the settings in which focus groups take place are not natural, the conversations that ensue within the focus group settings are in fact naturally occurring.

Furthermore, Markee (2000) outlined procedures for undertaking conversation analyses, with the first step being to examine the "prototypical examples" (p. 99), which involve examination of the whole data set and analysis based on qualitative research criteria. The goal of conversation analysis is not to quantify data (i.e., the conversation). However, quantitative analyses can be employed for presenting regularities in numerical form, yielding a mixed analysis. Prototypical examples are sequences of questions and answers or adjacency pair, as outlined by Sacks and Schegloff (1973). Conversation analysts avoid arriving at final categorizations, codes, and themes too early so that they can preserve detail that would be lost through such processes (Hopper et al., 1986).

In the second step of the conversation analysis process, transcripts are analyzed to identify and/or verify claims and structures, as well as undergo what Markee (2000) has called "artificial falsification" (p. 99). Artificial falsification involves examining the data by identifying prototypical examples, corroborating data, and using data from external sources to strengthen further the findings. This final step also corresponds to Seliger and Shohamy's (1989) three-element criteria for the verification of qualitative data: (a) data retrievability, (b) data confirmability by supporting assertions with examples from the collected data, and (c) data representativeness.

Applied to focus group research, conversation analysis involves examining the sequences and forms of turns (i.e., turn-taking, turn organization) on the method of focus group members' conversational interactions. Moreover, conversation analysis could provide a starting point for analyzing focus groups (Myers, 1998) and a basis to interrelate larger questions within social theory and interactional discourses (Myers, 1998, 2006). Thus, conversation analysis would enable the researcher to examine talk within focus group interactions. According to Heritage (2004), there are six basic places in which the researcher can examine interactions: (a) turn-taking organization (i.e., identifying very specific and systematic transformations in conversational turn-taking approaches), (b) overall structural organization and interaction (i.e., building an overall

map of the interaction with respect to its typical phases or segments), (c) sequence organization (i.e., examining how certain courses of action are formed and developed and how particular action opportunities are activated or withheld). (d) turn design (i.e., identifying distinct selections that a person's speech characterizes: the action that the talk is designed to perform, and the means that are selected to perform the action), (e) lexical choice (i.e., identifying the ways that speakers select their descriptive terms that are linked to the institutional setting), and (f) epistemological and other forms of asymmetry (i.e., identifying the level of asymmetry in the social interaction: between the speaker and the hearer of a turn at talk, between the initiator of the conversation and the respondent in a series of interaction, between participants who are more proactive in directing the conversation and those how are not, and between those whose interventions are pivotal for the outcomes of conversations and those whose interventions are not). Each of these elements can be examined in focus groups.

The progression and management of conversation is influenced by the knowledge, experiences, and discursive styles of each focus group participant and the moderator. A key aspect of conversation analysis is examining all cues that participants exhibit. The relevance of tone, pauses, even facial expression is central in conversation analysis. A computer-assisted qualitative data analysis software program named Transana (Fassnacht & Wood, 1995–2003) provides the researcher with a tool for analyzing video and audio data as well as transcriptions of data. This software program also allows for portions of a transcript to be linked with frames within the video. Furthermore, consistent with conversation analysis protocol, pauses and overlaps can be measured. Schegloff (n.d.) has created a transcription module that outlines a more detailed examination and practice of transcript conventions pertaining to conversation analysis.

Within each focus group, conversation analysis allows researchers to analyze an array of actions and emotions such as joking, frowning, agreeing, debating, criticizing, and using sarcasms. Researchers are also able to examine how participants attempt to portray themselves within focus groups to persuade, dissuade, impress, complain, or flirt—to name but a few actions. Conversation analysis focuses more on the participants' analysis/understanding of the interaction than on the researcher's/moderator's own analysis/understanding. With so much potential for analyzing focus group interactions, as noted by Wilkinson (2004), "it therefore seems extraordinary that focus group researchers looking for a way to analyze the key feature of their data, i.e., interaction between participants, have not more extensively utilized this approach" (p. 188).

Conclusions

Despite the widespread use of focus groups in the social and behavioral sciences and the number of books and articles devoted to this methodology, it is surprising that few explicit guidelines exist on how to analyze focus group data in social science research. As such, in the present article, we have provided a qualitative framework—what we term a micro-interlocutor analysis— for obtaining pertinent information from focus group participants in social science research. We believe that our framework goes far beyond analyzing only the verbal communication of focus group participants. As such, we contend that our framework increases the rigor of focus group analyses in qualitative research.

Notes

1. Within-group saturation is different from across-group data saturation, which refers to data saturation that occurs across all the focus groups that take place within a study.

2. We point out that within-group saturation is a necessary but not sufficient condition for both overall data saturation and theoretical saturation. For either data saturation and/or theoretical saturation to occur, both within-group saturation and across-group saturation must occur.

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