

11-28-2016

Focus Group Data Saturation: A New Approach to Data Analysis

Mary E. Hancock PhD, RNC-OB
Shepherd University, mhancock@shepherd.edu

Linda Amankwaa PhD, RN, FAAN
Albany State University; University of Phoenix

Maria A. Revell PhD, MSN, RN COI
Tennessee State University

Dale Mueller EdD, MSN, NEA-BC
California State University

Follow this and additional works at: <https://nsuworks.nova.edu/tqr>



Part of the [Quantitative, Qualitative, Comparative, and Historical Methodologies Commons](#), and the [Social Statistics Commons](#)

Recommended APA Citation

Hancock, M. E., Amankwaa, L., Revell, M. A., & Mueller, D. (2016). Focus Group Data Saturation: A New Approach to Data Analysis. *The Qualitative Report*, 21(11), 2124-2130. <https://doi.org/10.46743/2160-3715/2016.2330>

This How To Article is brought to you for free and open access by the The Qualitative Report at NSUWorks. It has been accepted for inclusion in The Qualitative Report by an authorized administrator of NSUWorks. For more information, please contact nsuworks@nova.edu.



Focus Group Data Saturation: A New Approach to Data Analysis

Abstract

The qualitative research “gold standard” for quality research is data saturation. The limited literature on reporting data saturation and transparency in qualitative research has supported an inconsistent research standard suggesting researchers have not adequately reported data saturation to promote transparency (O’Reilly & Parker, 2012). Confusion regarding how to analyze qualitative data to achieve data saturation, how to write clear qualitative research findings, and present these findings in a usable manner continues (Sandelowski & Leeman, 2012). A phenomenological asynchronous online focus group using WordPress® was employed to answer the research question. Based on the current literature on the topic of focus group data saturation, the study findings were analyzed by group, individual, and day of the study. Additionally, the data was presented in a chart format providing a visible approach to data analysis and saturation. Employing three different methods of data analysis to confirm saturation and transparency provides qualitative researchers with different approaches to data analysis for saturation and enhancement of trustworthiness. Placing data in a visual configuration provides an alternative method of presenting research findings. The data analysis methods presented are not meant to replace existing methods of achieving data saturation but to provide an alternate approach to achieving data saturation and reporting the findings in a clear, usable format.

Keywords

Qualitative Research, Focus Group, Data Saturation, Trustworthiness

Creative Commons License



This work is licensed under a [Creative Commons Attribution-NonCommercial-Share Alike 4.0 International License](https://creativecommons.org/licenses/by-nc-sa/4.0/).

Acknowledgements

Mary would like to thank her dissertation chair, Dr. Linda Amankwaa and her committee members, Dr. Maria Revell and Dr. Dale Mueller for their support and guidance in developing her first post-doctoral dissertation study article. She would also like to thank her colleagues at Shepherd University for their support as she completed her dissertation.

Focus Group Data Saturation: A New Approach to Data Analysis

Mary E. Hancock

Shepherd University, Shepherdstown, West Virginia, USA

Linda Amankwaa

Albany State University, Georgia, USA

University of Phoenix, Arizona, USA

Maria A. Revell

Tennessee State University, Nashville, Tennessee, USA

Dale Mueller

California State University – Dominguez Hills, Carson, California, USA

The qualitative research “gold standard” for quality research is data saturation. The limited literature on reporting data saturation and transparency in qualitative research has supported an inconsistent research standard suggesting researchers have not adequately reported data saturation to promote transparency (O’Reilly & Parker, 2012). Confusion regarding how to analyze qualitative data to achieve data saturation, how to write clear qualitative research findings, and present these findings in a usable manner continues (Sandelowski & Leeman, 2012). A phenomenological asynchronous online focus group using WordPress® was employed to answer the research question. Based on the current literature on the topic of focus group data saturation, the study findings were analyzed by group, individual, and day of the study. Additionally, the data was presented in a chart format providing a visible approach to data analysis and saturation. Employing three different methods of data analysis to confirm saturation and transparency provides qualitative researchers with different approaches to data analysis for saturation and enhancement of trustworthiness. Placing data in a visual configuration provides an alternative method of presenting research findings. The data analysis methods presented are not meant to replace existing methods of achieving data saturation but to provide an alternate approach to achieving data saturation and reporting the findings in a clear, usable format. Keywords: Qualitative Research, Focus Group, Data Saturation, Trustworthiness

The qualitative research “gold standard” for quality research is data saturation. Instead of relying on the number of participants, qualitative research focuses on different perspectives and opinions of participants. The limited literature on reporting data saturation and transparency in qualitative research has supported an inconsistent research standard suggesting researchers have not adequately reported data saturation to promote transparency (O’Reilly & Parker, 2012). Confusion regarding how to analyze qualitative data to achieve data saturation, how to write clear qualitative research findings, and present these findings in a usable manner continues (Sandelowski & Leeman, 2012). This article provides a new approach for analyzing phenomenological focus group data for saturation and presenting usable findings.

Focus Group Study

A 10-day phenomenological focus group employed an asynchronous online research design in a quest to understand the lived experience of male registered nurses (RNs) seeking employment in healthcare organizations, particularly when choosing a nursing specialty. Institutional Research Board (IRB) approval was obtained from the University of Phoenix. Five open-ended interview questions were posted on the study's WordPress® website. Participants were required to answer the five interview questions and respond to two fellow study participants to facilitate discussion. The participants were able to view the postings of each participant during the study promoting interaction. Eight male RNs completed the 10-day study. Data saturation was set at five responses per theme and subtheme. Trustworthiness criteria were met.

Saturation: Current Approach

Thematic data saturation is reached when there are no new emerging ideas in the data (Bowen, 2008; Houghton, Casey, Shaw, & Murphy, 2013; O'Reilly & Parker, 2012). As noted by Kerr, Nixon, and Wild (2010), the term data saturation is best described as data adequacy meaning no new information is obtained. Complicating the issue of data saturation is the lack of evidence and guidelines in current qualitative research in how to reach data saturation (Bowen, 2008; Francis et al., 2010; Kerr et al., 2010). O'Reilly and Parker (2012) discuss saturation noting that the idea of data saturation begins with the qualitative research method of grounded theory and specific theory-driven meanings. Although data saturation is applied to other qualitative research methods, it is not appropriate for every qualitative research method. Further complicating the issue is data saturation has multiple meanings resulting in limited transparency (O'Reilly & Parker, 2012).

Sandelowski and Leeman (2012) discussed the challenge of presenting qualitative research findings. The researcher is obliged to present their research findings in a manner that permits transferability. The reader is obliged to have sufficient knowledge to transfer the results (p. 1405). The researchers discuss the need to present thematic sentences in the form of sets to enhance the visualization of the data for clarity and transferability. Without a clear presentation of research findings, the reader cannot transfer the results placing trustworthiness in question.

Focus Groups

Determining data saturation for a focus group is challenging. The current literature addresses focus groups in terms of planning and conducting a focus group (Curtis & Redmond, 2007; Doody, Slevin, & Taggart, 2013; Freeman, 2006; Jayasekara, 2012; Kitzinger, 1995; MacDougall & Fudge, 2001; Manoranjitham & Jacob, 2007; Shaha, Wenzel, & Hill, 2011). Few articles discuss data analysis of focus group data and application of the data to ensure trustworthiness. There is controversy in the limited literature regarding whether the individual or group is analyzed. Kitzinger (1995) stated focus group data must be reviewed in its entirety analyzing the data as a group, then individually. In terms of reporting, focus group data must not be presented using percentages and individual opinions not conforming to group consensus must also be considered (Kitzinger, 1995). Manoranjitham and Jacob (2007) confirmed Kitzinger (1995) stating focus group data must be presented in descriptive form highlighting differing individual beliefs. However, Kidd and Parshall (2000) stated there is not a single unit of analysis but the individual, group, or both could be the focus of the analysis. Employing

flexible analytical approaches to identify influences on the individual or group must be considered prior to developing conclusions (Kidd & Parshall, 2000).

Because of the nature of the asynchronous online format, focus group participants entered and exited the study at various points during the 10-day time frame. Answering the interview questions and responding to other participants took place at various times during the study adding, confirming or refuting information. Therefore, the exact time of data saturation was difficult to determine. Im and Chee (2006) confirmed the issue of specific timing of data saturation discovering the asynchronous online format encouraged interaction, but the interaction was delayed leading to difficulty in determining data saturation. A flexible data analysis approach was necessary to ensure saturation. Based on the current literature, data was analyzed by the group, individual, and by day of the study.

Saturation: New Approach

Data Saturation by Group

Criteria for data saturation was set at five responses per theme and subtheme based on group analysis. Each time a participant discussed a theme or subtheme, the response was logged. Data saturation was reached after the first six participants completing the interview questions and responding to two fellow participants on day eight of the study. Two participants answered interview questions and responded to two fellow participants during the last two days of the study confirming data saturation. Each theme and subtheme was saturated meeting the criteria for data saturation by the group (see Figure 1).

Focus Group Data by Theme and Subtheme

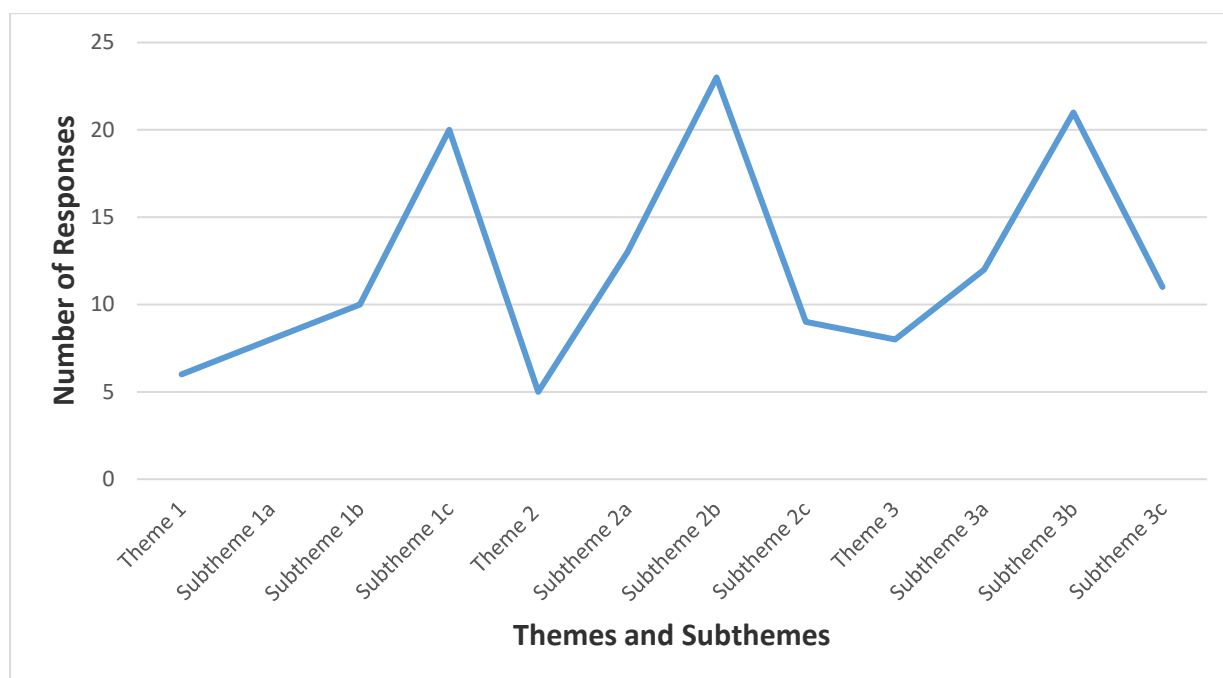


Figure 1. Group data saturation by theme and subtheme.

Data Saturation by Individual Participant

The nature of phenomenology is to explore the experience and perspective of the phenomena in question. The lived experience of the male RN seeking employment is highly

individualized based on factors such as previous experience, age, and geographical location. Individual Focus Group Responses by Theme and Subtheme demonstrate the difficulty in determining data saturation by the individual (see Figure 2). Each participant had a different experience when seeking employment. Because the participants were required to respond to two fellow participants, the discovered themes and subthemes were discussed multiple times by some participants. Other participants did not address each theme and subtheme; therefore, some responses met different themes and subthemes while others did not. The participants discussed what was important to them highlighting the phenomenological focus of the study.

Individual Focus Group Responses by Theme and Subtheme

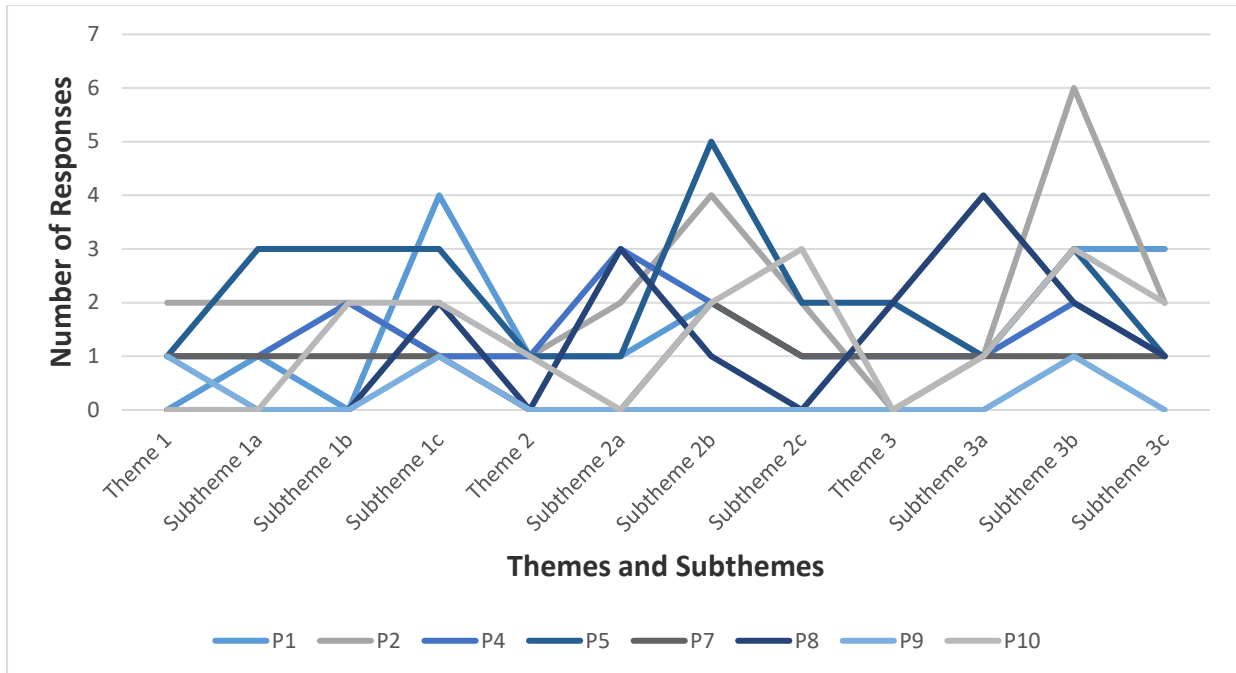


Figure 2. Individual responses by theme and subtheme.

Data Saturation by Day of Study

Data saturation by an individual was difficult to determine based on the highly individualized factors of the focus group participants when seeking employment (see Figure 2). Determining saturation by theme and subtheme was employed to ensure data saturation. The data analysis by the group was revisited. Theme and subtheme responses were calculated for each day of the study. Each theme and subtheme reached data saturation on different days during the study keeping with the phenomenological research design and asynchronous online environment confirming the current literature (see Figure 3). Each theme and subtheme were saturated by Day 9 of the study. Data saturation of each theme and subtheme was met by group as well as by data analysis by date (see Figure 3).

Data Saturation by Theme and Subtheme

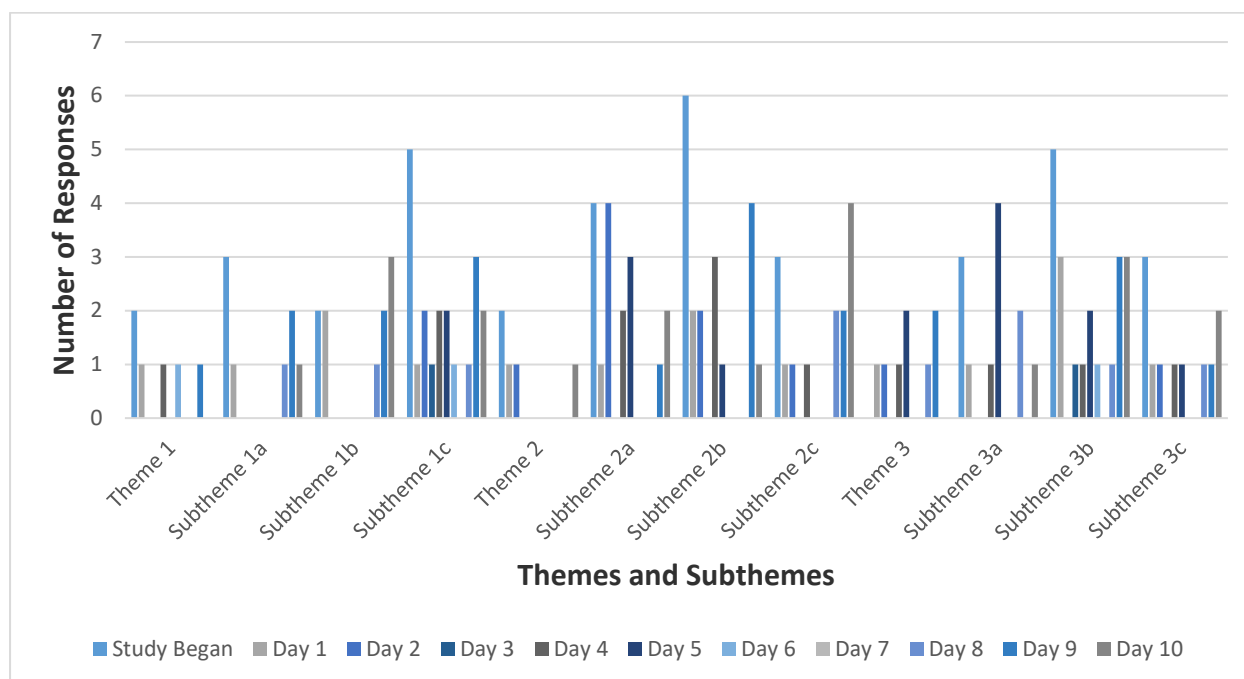


Figure 3. Theme and subtheme responses logged by date for the focus group.

Recommendations

Because of the subjective nature of qualitative research, analyzing the focus group data by group, individual, and day of study provided three methods of data analysis to ensure data saturation was met promoting trustworthiness. Individual Focus Group Responses by Theme and Subtheme provided a visual display of each focus group member's individual experiences when seeking employment highlighting the difficulty in determining saturation (see Figure 2). The highly individualized nature of seeking employment established the phenomenological research design was appropriate. Analyzing the identified themes and subthemes by the group and by day of study provided a collective voice associated with the focus group research design confirming data saturation.

Experienced and novice qualitative researchers may benefit from examining their data using the three approaches presented. Thematic analysis by theme and subtheme is the traditional method used by qualitative researchers. Analysis by individual and by day of study provides additional methods for data analysis to confirm saturation and strengthen trustworthiness in asynchronous studies. Placing the data in a chart or other figure provides a visual effect prompting the researcher to view the data in a different way confirming saturation, reviewing the data analysis, or the need for further research. Presenting the findings in a visual format provides the reader with a clear and usable understanding of how saturation was reached.

Summary

The literature is limited regarding how qualitative researchers determine data saturation. Many researchers do not adequately report their data saturation to promote transparency placing their trustworthiness plan in question. Additionally, how to present qualitative data saturation into a clear format has proved challenging. Employing three different methods of data analysis to confirm saturation and transparency provides qualitative

researchers with different approaches to data analysis for saturation and enhancement of trustworthiness. Placing data in a visual configuration provides an alternative method of presenting research findings provided the visual data is clear and concise. Visual data should not be used as a filler but as an enhancement to the report. The data analysis methods presented are not meant to replace existing methods of achieving data saturation but to provide an alternate approach to achieving data saturation and reporting the findings in a clear, usable format.

References

- Bowen, G. A. (2008). Naturalistic inquiry and the saturation concept: A research note. *Qualitative Research*, 8(1), 137-152.
Retrieved from <http://www.dx.doi.org/10.1177/1468794107085301>
- Curtis, E. A., & Redmond, R. (2007). Focus groups in nursing research. *Nurse Researcher*, 14(2), 25-37. Retrieved from <http://rcnpublishing.com/journal/nr>
- Doody, O., Slevin, E., & Taggart, L. (2013). Focus group interviews in nursing research: Part 1. *British Journal of Nursing*, 22(1), 16-19.
Retrieved from <http://www.britishjournalofnursing.com/>
- Freeman, T. (2006). Best practice' in focus group research: Making sense of different views. *Journal of Advanced Nursing*, 56(5), 491-497.
Retrieved from <http://dx.doi.org/10.1111/j.1365-2648.2006.04043.x>
- Francis, J. J., Johnston, M., Robertson, C., Glidewell, L., Entwistle, V., Eccles, M. P., & Grimshaw, J. M. (2010). What is an adequate sample size? Operationalising data saturation for theory-based interview studies. *Psychology and Health*, 25(10), 1229-1245. Retrieved from <http://dx.doi.org/10.1080/08870440903194015>
- Houghton, C., Casey, D., Shaw, D., & Murphy, K. (2013). Rigour in qualitative case-study research. *Nurse Researcher*, 20(4), 12-17.
Retrieved from <http://rcnpublishing.com/journal/nr>
- Im, E., & Chee, W. (2006). An online forum as a qualitative research method. *Nursing Research*, 55(4), 267-273.
Retrieved from <http://journals.lww.com/nursingresearchonline/pages/default.aspx>
- Jayasekara, R. S. (2012). Focus groups in nursing research: Methodological perspectives. *Nursing Outlook*, 60(6), 411-416.
Retrieved from <http://dx.doi.org/10.1016/j.outlook.2012.02.001>
- Kerr, C., Nixon, A., & Wild, D. (2010). Assessing and demonstrating data saturation in qualitative inquiry supporting patient-reported outcomes research. *Expert Reviews Pharmacoeconomics Outcome Research*, 10(3), 269-281. Retrieved from <http://dx.doi.org/10.1586/ERP.10.30>
- Kidd, P. S., & Parshall, M. C. (2000). Getting the focus and the group: Enhancing analytical rigor in focus group research. *Qualitative Health Research*, 10(3), 293-308.
- Kitzinger, J. (1995). Introducing focus groups. *BMJ: British Medical Journal*, 311(7000), 299-302.
- MacDougall, C., & Fudge, E. (2001). Planning and recruiting the sample for focus groups and in-depth interviews. *Qualitative Health Research*, 11(1), 117-126.
- Manoranjitham, S., & Jacob, K. S. (2007). Focus group discussion. *Nursing Journal of India*, 98(6), 125-127.
- O'Reilly, M., & Parker, N. (2012). 'Unsatisfactory saturation': A critical exploration of the notion of saturated sample sizes in qualitative research. *Qualitative Research*, 19(2), 190-197. Retrieved from <http://dx.doi.org/10.1177/1468794112446106>
- Sandelowski, M., & Leeman, J. (2012). Writing usable qualitative health research findings.

Qualitative Health Research, 22(10), 1404-1413. Retrieved from <http://dx.doi.org/10.1177/1049732312450368>

Author Note

Mary E. Hancock, PhD, RNC-OB is a 2015 doctoral graduate from the University of Phoenix School of Advanced Studies. She is currently an Assistant Professor of Nursing at Shepherd University and a member of AAMN and AWHONN. Her passion is obstetrical nursing and the inclusion of men in the nursing profession. Correspondence regarding this article can be addressed directly to mhancock@shepherd.edu.

Linda Amankwaa, PhD, RN, FAAN Associate Professor, Nursing Albany State University, Georgia Associate Faculty, Doctoral Chair School of Advanced Studies University of Phoenix.

Dr. Maria A. Revell is an Associate Professor and Master of Science in Nursing Program Director at Tennessee State University. She received a bachelor's degree in nursing from Tuskegee Institute, a master's from the University of AL, Huntsville, a doctorate from the University of AL, Birmingham and is certified in online instruction. She has more than 40 years of experience in nursing with 23 years at the bedside in critical care. Her professional experiences include work with families and individuals in the U.S., China, Cuba, the Czech Republic and South Africa. Research endeavors have included teaching methodology and the promotion of wellness and environmental safety. Dr. Revell has more than 40 publications in areas of nursing including textbook author and international refereed journals. She has received local and national grants to promote technology and diversity in the nursing workforce. Her professional career includes awards for teaching, grants and publications.

Dale Mueller is a Registered Nurse and public advocate for access to health services, including mental health treatment, in a culturally meaningful context. She is affiliated with the Mental Health Planning Council (California, USA) as well as an Associate Professor at California State University, College of Health, Human Services and Nursing. She has served in executive capacities in many community-based organizations for over 30 years. She has written and taught many online courses for health care professionals. Dale continues to hold public service positions in health policy for the advancement of culturally relevant delivery of health care.

Mary would like to thank her dissertation chair, Dr. Linda Amankwaa and her committee members, Dr. Maria Revell and Dr. Dale Mueller for their support and guidance in developing her first post-doctoral dissertation study article. She would also like to thank her colleagues at Shepherd University for their support as she completed her dissertation.

Copyright 2016: Mary E. Hancock, Linda Amankwaa, Maria A. Revell, Dale Mueller and Nova Southeastern University.

Article Citation

Hancock, M. E., Amankwaa, L., Revell, M. A., Mueller, D. (2016). Focus group data saturation: A new approach to data analysis. *The Qualitative Report*, 21(11), 2124-2130. Retrieved from <http://nsuworks.nova.edu/tqr/vol21/iss11/13>
