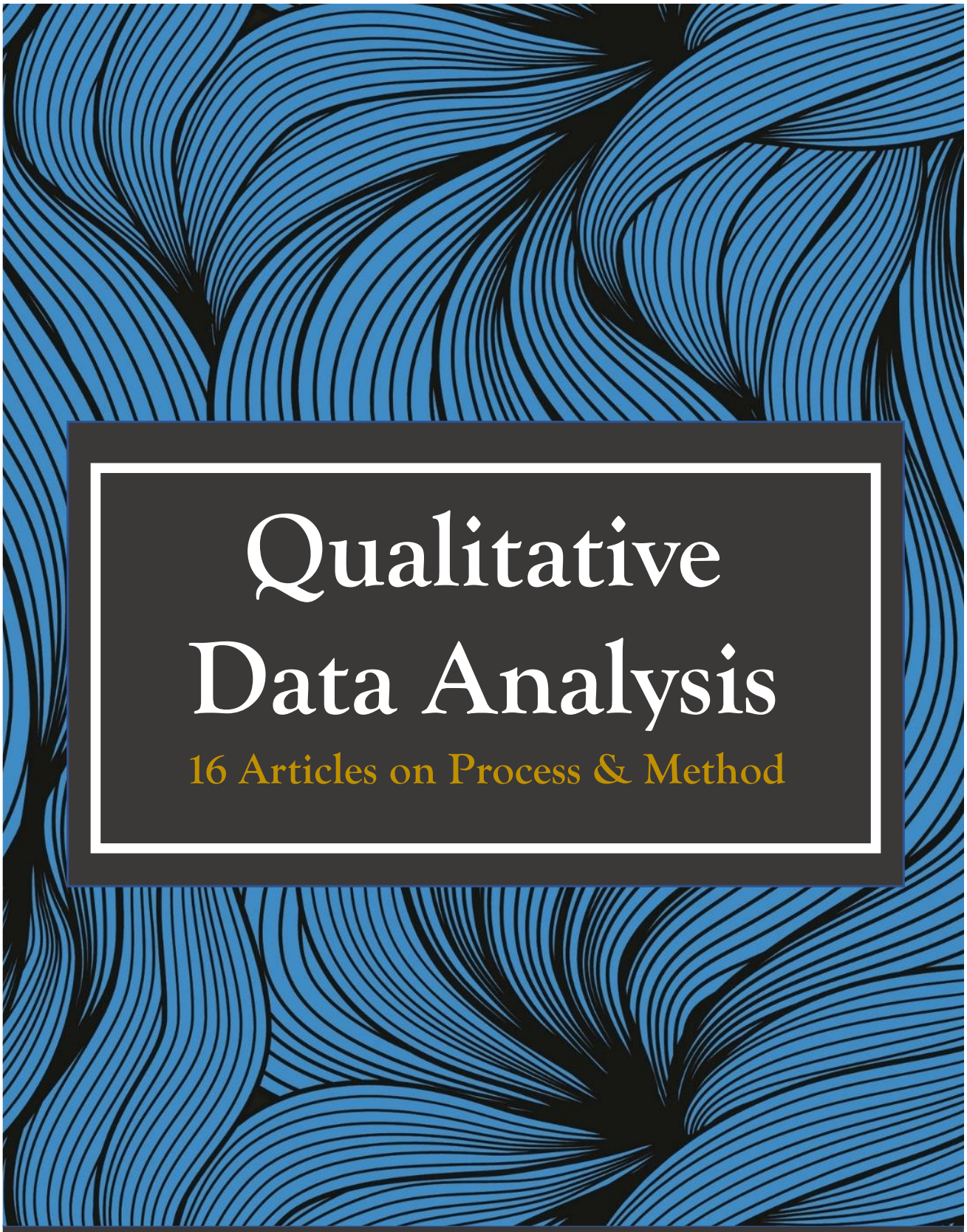


Qualitative Data Analysis

16 Articles on Process & Method

Margaret R. Roller

The contents of this compilation include a selection of 16 articles appearing in *Research Design Review* from 2010 to December 2019 concerning qualitative data analysis. Excerpts and links may be used, provided that the proper citation is given.

Table of Contents

Total Quality Framework

Analyzable Qualitative Research: The Total Quality Framework Analyzability Component 1

Finding Connections & Making Sense of Qualitative Data 4

Process

The Messy Inconvenience of Qualitative Analysis 6

Chaos & Problem Solving in Qualitative Analysis 8

Words Versus Meanings 10

Qualitative Data Processing: Minding the Knowledge Gaps 13

Qualitative Data Analysis: The Unit of Analysis 15

The Qualitative Analysis Trap (or, Coding Until Blue in the Face) 17

The Important Role of "Buckets" in Qualitative Data Analysis 19

Data Formats

The Limitations of Transcripts: It is Time to Talk About the Elephant in the Room 21

The Virtue of Recordings in Qualitative Analysis 23

Verification

Verification: Looking Beyond the Data in Qualitative Data Analysis 25

Managing Ghosts & the Case for Triangulation in Qualitative Research 27

Qualitative Content Analysis Method

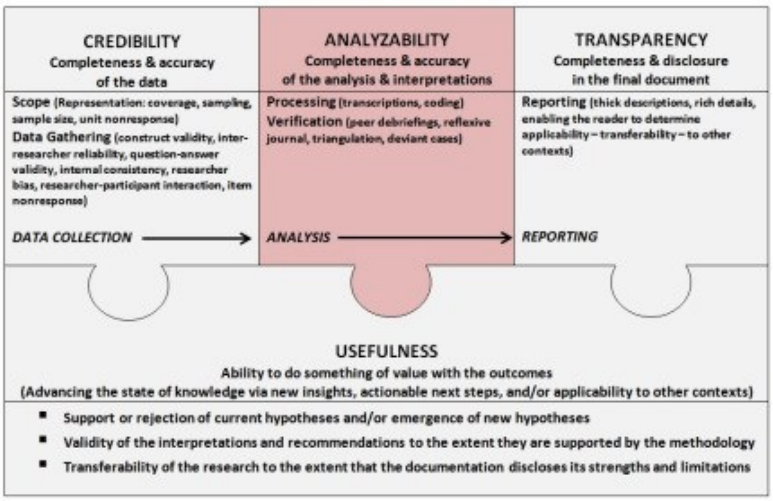
A Quality Approach to Qualitative Content Analysis 29

Secondary & Primary Qualitative Content Analysis: Distinguishing Between the Two Methods 32

Qualitative Content Analysis: The Challenge of Inference 35

Analyzable Qualitative Research: The Total Quality Framework Analyzability Component

A March 2017 article in *Research Design Review* discussed the Credibility component of the Total Quality Framework (TQF). As stated in the March article, the TQF "offers qualitative researchers a way to think about the quality of their research designs across qualitative methods and irrespective of any particular paradigm or theoretical orientation" and revolves around the four phases of the qualitative research process – data collection, analysis, reporting, and doing something of value with the outcomes (i.e., usefulness). The Credibility piece of the TQF has to do with data collection. The main elements of Credibility are Scope and Data Gathering – i.e., how well the study is inclusive of the population of interest (Scope) and how well the data collected accurately represent the constructs the study set out to investigate (Data Gathering).



The present article briefly describes the second TQF component – Analyzability. Analyzability is concerned with the "completeness and accuracy of the analysis and interpretations" of the qualitative data derived in data collection and consists of two key parts – Processing and Verification. Processing involves the careful consideration of: (a) how the preliminary data are transformed into the final dataset that is used in analysis and (b) the actual analysis of the final set of data. The transformation of preliminary data typically involves converting audio or video recordings to a written transcript. From a TQF perspective, the qualitative researcher needs to give serious thought to, among other things, the quality of the transcripts created, with particular attention to the knowledge and accuracy of the transcriptionist*. The qualitative researcher also needs to reflect on the limitations of transcripts and, specifically, what can and *cannot* be learned from the data in transcript form.

Once the final dataset has been developed, the qualitative researcher is ready to make sense of the data by way of analysis. The analysis process may vary among researchers depending on their particular approach or orientation. Broadly speaking, the analysis involves: (a) selecting the unit of analysis (e.g., an entire in-depth interview), (b) developing codes (designations that give meaning to some portion of the data in the context of the interview and research question), (c) coding, (d) identifying categories (i.e., groups of codes that share an underlying construct), (e) identifying themes or patterns across categories, and (f) drawing interpretations and implications.

Verification is the other principal piece of the TQF Analyzability component. It is at the Verification stage – that is, when interpretations and implications are being conceptualized – that qualitative researchers give critical attention to the data by looking for alternative sources of evidence that support *or contradict* early interpretations of the study data. The verification step is an important one that contributes heavily to the overall quality of a qualitative research design. The various verification techniques include: (a) peer debriefing (the unbiased review of the research by an impartial peer), (b) a reflexive journal (the researcher's diary of what went on in the study including reflections on their own values or beliefs that may have impacted data gathering or analysis), (c) triangulation (contrasting and comparing the data with other sources, such as data from different types of participants, different methods, or different interviewers or moderators), and (d) deviant cases (looking for "negative cases" or outliers that contradict the prevailing interpretation). There is another verification technique – member checking – that many researchers endorse but, from a TQF perspective, *potentially* weakens the quality of a qualitative study**.

Verification is the topic of discussion in a 2014 article posted in *RDR* – "Verification: Looking Beyond the Data in Qualitative Data Analysis." Readers of this blog will also be interested in the Morse, et al. (2002) article in *International Journal of Qualitative Methods* on verification strategies where the authors advocate utilizing verification "mechanisms" during the course of the qualitative research per se (i.e., not just at the analysis stage) to ensure the "reliability and validity and, thus, the rigor of a study."

Not unlike credible qualitative research (the subject of the March *RDR* post), analyzable qualitative research is the product of knowing how to think about quality approaches to data processing and verification. It is not about concrete procedures to follow but rather the ability to conceptualize and integrate research practices that maximize the validity as well as the ultimate usefulness of a qualitative research study. The TQF Analyzability component is a vehicle by which qualitative researchers can think about where and how to apply quality

principles in the processing and verification of their data. In doing so, researchers gain rich interpretations of the data leading to outcomes that address the research question and have value.

Value or usefulness, however, is not solely dependent on credible and analyzable research. Before a qualitative study can be truly useful it must be effectively communicated. That is where Transparency – the third component of the TQF and the subject of the next blog post – comes in.

*Specific recommended qualities of a transcriptionist are delineated in Roller & Lavrakas (2015, p. 35).

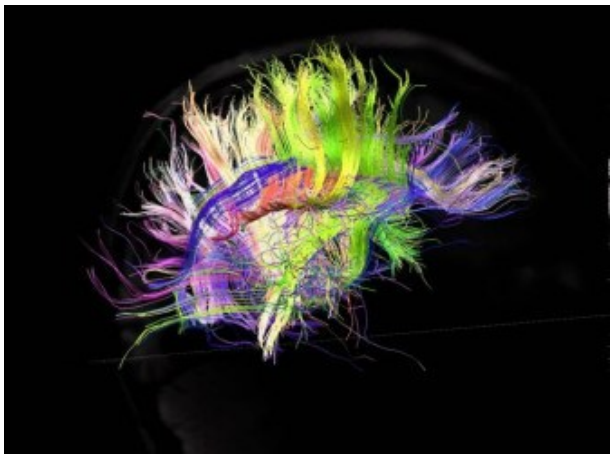
**A discussion of member checking and its potential to weaken study design can be found in Roller & Lavrakas (2015, p.43).

Morse, J. M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods*, *1*(2), 13–22.

Roller, M. R., & Lavrakas, P. J. (2015). Applied qualitative research design: A total quality framework approach. New York: Guilford Press.

Finding Connections & Making Sense of Qualitative Data

The analysis of qualitative research data is no small thing. Because the very nature of qualitative research is complicated by the complexities inherent in being human, attempting to qualitatively measure and then make sense of behavior and attitudes is daunting. In fact, it is this overwhelming aspect of qualitative research that may lead researchers – who live in the real world of time and budget constraints – to succumb to a less-than-rigorous analytical process.



And yet, Analyzability* is a critical component in qualitative research design.

All of the data collection in the world – all the group discussions, IDIs, observations, storytelling, or in-the-moment research – amounts to a meaningless exercise unless and until a thorough processing and verification of the data is conducted. Without the thoughtful work required to achieve a quality research product, qualitative data simply sits as an inert compilation of discrete elements lacking import.

Finding the connections in the qualitative data that make sense of the phenomenon, concept, or construct under investigation may, for some, be difficult and worthy of shortcuts; but proper analysis is the only thing that separates an honest, professional qualitative study from a random amalgamation of conversations or online snapshots.

In April of 2014, *Research Design Review* discussed one facet of Analyzability, i.e., verification. Verification, however, only comes into play after the researcher has conducted the all-important processing phase that converts qualitative data – that amalgamation of discrete elements – into meaningful connections that give rise to interpretations and implications, and the ultimate usefulness, of the research.

A quality approach to qualitative research design necessitates a well-thought-out plan for finding connections and making sense of the data. Here are six recommended steps in that process*:

- **Select the unit of analysis** – a subject matter, an activity, a complete narrative or interview.
- **Develop unique codes** – an iterative process utilizing a codebook that pays particular attention to context to derive explicit, closely-defined code designations.
- **Code** – a dynamic process that incorporates pretesting of codes, inter-coder checks, and coder retraining as necessary.
- **Identify categories** – a group of codes that share an underlying construct.
- **Identify themes or patterns** – by looking at the coding overall and the identified categories to reveal the essence of the outcomes. This may be made easier by way of visual displays via various programs such as PowerPoint and CAQDAS**.
- **Draw interpretations and implications** – from scrutinizing the coded and categorized data as well as ancillary materials such as reflexive journals, coders' coding forms (with their comments), and other supporting documents.

* Analyzability is one of four components of the Total Quality Framework. This framework and the six general steps in qualitative research analysis are discussed fully in Applied Qualitative Research Design: A Total Quality Framework Approach (Roller, M. R. & Lavrakas, P. J., 2015).

** Computer-assisted qualitative data analysis software, such as NVivo, Atlas.ti, MAXQDA and others

Image captured from: http://www.breakthroughresults.co.uk/interim-management.php/

The Messy Inconvenience of Qualitative Analysis

Qualitative analysis is difficult. We can wish that it wasn't so but the fact remains that the nature of qualitative research, by definition, makes analysis pretty messy. Unlike the structured borders we build into our quantitative designs that facilitate an orderly analytical process, qualitative research is built on the belief that there are real people beyond those quantitative borders and that rich learning comes from meaningful conversations.

But the course of a meaningful conversation is not a straight line. The course of conversation is not typically one complete *coherent* stream of thought followed by an equally well-thought-out rejoinder. These conversations are not rehearsed to ensure consistent, logical feedback to our research questions; but instead are spontaneous discussions where both interviewee and interviewer are thinking out loud, continually modifying points of view or ideas as human beings do.

The messiness of the interconnections, inconsistencies, and seemingly illogical input we reap in qualitative research demands that we embrace the tangles of our conversations by conducting analyses close to the source. While this means hours analyzing audio and/or video recordings, it is what is necessary. It is what we signed up for.

I am reminded almost daily of the challenge qualitative researchers face in analysis. I see this challenge when I read an article such as this one in *Quirk's* devoted to "a structured approach" to qualitative analysis; when a Twitter feed during The Market Research Event alerts me to several speakers espousing "better, faster, cheaper" qualitative research; and from my own studies which have lately involved turning over reams of written transcripts that have been misused and misconstrued by clients who cherry-pick the content.

So qualitative analysis is hard. We can use all the technology in the world to capture specific words and sentiment but we cannot make qualitative analysis something that it is not. As Maher et al. (2018) acknowledge, computer coding of qualitative outcomes has its place (e.g., in data management) yet it sidelines the all-important role of *the human interaction* that takes place in a qualitative research environment.

As in everything we do, researchers want to understand how people think. And our analytical efforts should acknowledge that people do not think in a straight line. Maybe it would be useful to take a lesson from Mark Gungor and imagine that our research participants are women whose brains consist of a "big ball of wire" where everything is connected to everything else, in contrast to men whose brains are "made up of little boxes" that are isolated and don't touch. Wouldn't it be nice if analysis was just about opening up a self-contained box, extracting neat thoughts, and moving on to the next box?

Maher, C., Hadfield, M., Hutchings, M., & de Eyto, A. (2018). Ensuring Rigor in Qualitative Data Analysis: A Design Research Approach to Coding Combining NVivo With Traditional Material Methods. *International Journal of Qualitative Methods*, *17*(1), 1–13. https://doi.org/10.1177/1609406918786362

Image captured from: http://www.kwe-tech.com/index.php?section=Services&subs=Wire%20Harness&page=Wire%20Harness.html

Chaos & Problem Solving in Qualitative Analysis

In *Conceptual Blockbusting: A Guide to Better Ideas*, James Adams offers readers a varied and ingenious collection of approaches to overcoming the barriers to effective problem solving. Specifically, Adams emphasizes the idea that to solve complex problems, it is necessary to identify the barriers and then learn to think differently. As far as barriers, he discusses four "blocks" that interfere with conceptual thinking – perceptual, emotional, cultural and environmental, and intellectual and expressive – as well as ways to modify thinking to overcome these blocks – e.g., a questioning attitude, looking for the core problem, list-making, and soliciting ideas from other people.

Adams' chapter on emotional blocks discusses ways that the thinking process builds barriers to problem solving. One of these is the inability or unwillingness to think through "chaotic situations." Adams contends that a path to complex problem solving is bringing order to chaos yet some people have "an excessive fondness for order in all things" leaving them with an "inability to tolerate ambiguity." In other words, they have "no appetite for chaos." Adams puts it this way –

The solution of a complex problem is a messy process. Rigorous and logical techniques are often necessary, but not sufficient. You must usually wallow in misleading and ill-fitting data, hazy and difficult-to-test concepts, opinions, values, and other such untidy quantities. In a sense, problem-solving is bringing order to chaos. (p. 48)

Problem solving *is* a "messy process" and no less so when carrying out an analysis of qualitative data. There are several articles in *Research Design Review* that touch on the messiness of qualitative analysis. In particular, "The Messy Inconvenience of Qualitative Analysis" underscores the idea that

Unlike the structured borders we build into our quantitative designs that facilitate an orderly analytical process, qualitative research is built on the belief that there are real people beyond [these borders] and that rich learning comes from meaningful conversations. But the course of a meaningful conversation is not a straight line. The course of conversation is not typically one complete coherent stream of thought followed by an equally well-thought-out rejoinder.

Put differently, qualitative analysts must endure a certain amount of chaos if they are to achieve their goal of bringing some semblance of "order" (i.e., interpretation) to their in-depth interview, focus group, ethnographic, narrative, or case study data. It is their ability to embrace the tangled web of human thought and interaction that allows qualitative researchers to unravel the most complex problem of all – how people think or do the things they do.

It may also be the reason why qualitative analysis remains such a mystery to quantitative-leaning researchers and, indeed, the impediment that discourages these researchers from using qualitative methods, either alone or in mixed-method designs. Qualitative analysis requires a conscious effort to accept some chaos, to not rush the march to find order in the data, and to feel comfortable in the notion that this process will lead to meaningful outcomes.

Although bringing some measure of order is a necessary ingredient to the analysis process, "the ability to tolerate chaos," as Adams states, "is a must." In this respect, Adams talks about the "limited problem-solver" as one who struggles with

The process of bringing widely disparate thoughts together [and who] cannot work too well because [his] mind is not going to allow widely disparate thoughts to coexist long enough to combine [them into a meaningful solution]. (p. 48)

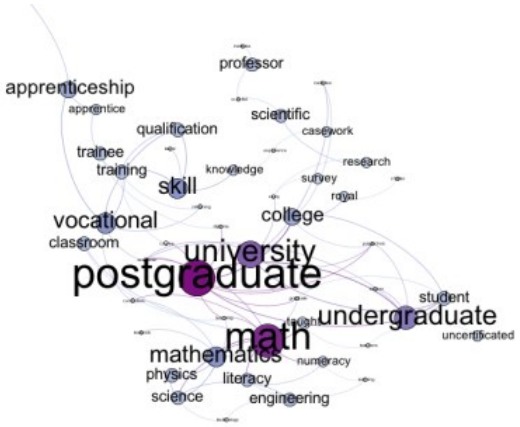
Qualitative analysis is not unlike solving complex problems that demand problem solvers who are not limited by the need for order but rather embrace the more chaotic and richer world of humans' lived experiences.

Image captured from: https://www.flickr.com/photos/22537886@N07/4734946701

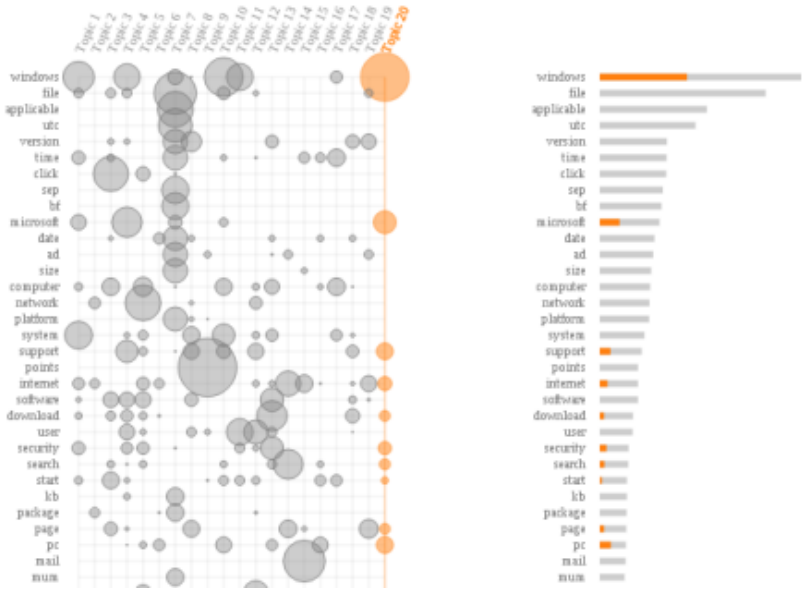
Words Versus Meanings

There is a significant hurdle that researchers face when considering the addition of qualitative methods to their research designs. This has to do with the analysis – making sense – of the qualitative data. One could argue that there are certainly other hurdles that lie ahead, such as those related to a quality approach to data collection, but the greatest perceived obstacle seems to reside in how to *efficiently* analyze qualitative outcomes. This means that researchers working in large organizations that hope to conduct many qualitative studies over the course of a year are looking for a relatively fast and inexpensive analysis solution compared to the traditionally more laborious thought-intensive efforts utilized by qualitative researchers.

Among these researchers, efficiency is defined in terms of speed and cost. And for these reasons they gravitate to text analytic programs and models powered by underlying algorithms. The core of modeling solutions – such as word2vec and topic modeling – rests on "training" text corpora to produce vectors or clusters of co-occurring words or topics. There are any number of programs that support these types of analytics, including those that incorporate data visualization functions that enable the researcher to see how words or topics congregate (or not), producing images such as these



http://dilipad.history.ac.uk/2015/08/05/visualizing-parliamentary-discourse-with-word2vec-and-gephi/



https://smirnov.ca/canadian-ai-2014-recap-a8b6058e9de6#.pcne7qf0z

Words are important. Words are how we communicate and convey our thoughts. And the relationships between words and within phrases can be useful indicators of the topics and ideas we hope to communicate. Words, on the other hand, do not necessarily express *meaning* because it is how we *use* the words we choose that often defines them. How we use our words provides the context that shapes what the receiver hears and the perceptions others associate with our words. Context pertains to apparent as well as unapparent influences that take the meaning of our words beyond their proximity to other words, their use in recognized terms or phrases, or their imputed relationship to words from Google News (word2vec).

For example, by the words alone and without a contextual reference, it would be difficult to understand the meaning of the following comment made by a male focus group participant:

"A woman's place is in the home."

Was this participant making a comment on traditional values, or was he expressing intolerance on a broader scale, or was he emphasizing the importance of home and home life?

Context is also provided by the manner in which the words are spoken. An educator participating in an in-depth interview, for example, might state,

"I use technology in the classroom when I can!"

While another educator might state,

"I use technology in the classroom, when I can."

The same words used in the same order but with different intended meanings.

So, those who want to incorporate qualitative methods into their research designs still face the hurdle of finding a "quick" and "low cost" alternative to the painstaking work of qualitative analysis. But awareness and the thoughtful consideration of the need to go beyond words – and find actual meaning – will ultimately lead to more accurate and useful outcomes.

Image captured from: https://www.trustedtarot.com/cards/the-sun/

Qualitative Data Processing: Minding the Knowledge Gaps

The following is a modified excerpt from Applied Qualitative Research Design: A Total Quality Framework Approach (Roller & Lavrakas, 2015, pp. 34-37).

Once all the data for a qualitative study have been created and gathered, they are rarely ready to be analyzed without further analytic work of some nature being done. At this stage, the researcher is working with preliminary data from a collective dataset that most often must be processed in any number of ways before "sense making" can begin.

For example, it may happen that after the data collection stage has been completed in a qualitative research study, the researcher finds that some of the information that was to be gathered from one or more participants is missing. In a focus group study, for instance, the moderator may have forgotten to ask participants in one group discussion to address a particular construct of importance—such as, the feeling of isolation among newly diagnosed cancer patients. Or, in a content analysis, a coder may have failed to code an attribute in an element of the content that should have been coded.

In these cases, and following from a Total Quality Framework (TQF) perspective, the researcher has the responsibility to actively decide whether or not to go back and fill in the gap in the data when that is possible. Regardless of what decision the researcher makes about these potential problems that are discovered during the data processing stage, the researcher working from the TQF perspective should keep these issues in mind when the analyses and interpretations of the findings are conducted and when the findings and recommendations are disseminated.

It should also be noted that the researcher has the opportunity to mind these gaps during the data collection process itself by continually monitoring interviews or group discussions. As discussed in this *Research Design Review* article, the

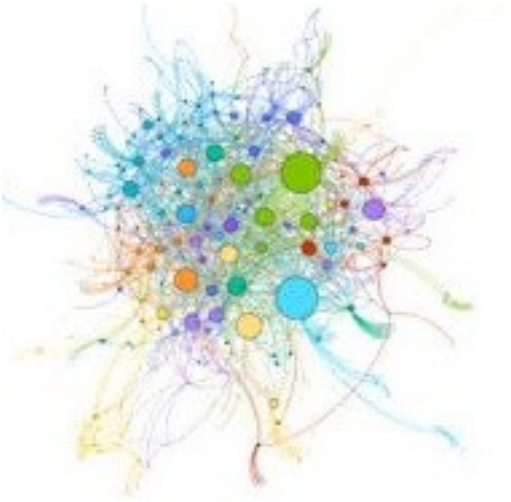
researcher should continually review the quality of completions by addressing such questions as Did every interview cover every question or issue important to the research? and Did all interviewees provide clear, unambiguous answers to key questions or issues? In doing so, the researcher has mitigated the potential problem of knowledge gaps in the final data.

Image captured from: https://modernpumpingtoday.com/bridging-the-knowledge-gap-part-1-of-2/

Qualitative Data Analysis: The Unit of Analysis

The following is a modified excerpt from Applied Qualitative Research Design: A Total Quality Framework Approach (Roller & Lavrakas, 2015, pp. 262-263).

As discussed in two earlier articles in *Research Design Review* (see "The Important Role of 'Buckets' in Qualitative Data Analysis" and "Finding Connections & Making Sense of Qualitative Data"), the selection of the unit of analysis is one of the first steps in the qualitative data analysis process. The "unit of analysis" refers to the portion of content that will be the basis for decisions made during the development of codes. For example, in textual content analyses, the unit of analysis may be at the level of a word, a sentence (Milne & Adler, 1999), a paragraph, an article or chapter, an entire edition or volume, a complete response to an interview question, entire diaries from research participants, or some other level of text. The unit of analysis may not be defined by the content per se but rather by a characteristic of the content originator (e.g., person's age), or the unit of analysis might be at the individual level with, for example, each participant in an in-depth interview (IDI) study treated as a case. Whatever the unit of analysis, the researcher will make coding decisions based on various elements of the content, including length, complexity, manifest meanings, and latent meanings based on such nebulous variables as the person's tone or manner.



Deciding on the unit of analysis is a very important decision because it guides the development of codes as well as the coding process. If a weak unit of analysis is chosen, one of two outcomes may result: 1) If the unit chosen is too precise (i.e., at too much of a micro-level than what is actually needed), the researcher will set in motion an analysis that may miss important contextual information and may require more time and cost than if a broader unit of analysis had been chosen. An example of a too-precise unit of analysis might be small elements of content such as individual words. 2) If the unit chosen is too imprecise (i.e., at a very high macro-level), important connections and contextual meanings in the content at smaller (individual) units may be missed, leading to erroneous categorization and interpretation of the data. An example of a too-imprecise unit of analysis might be the entire set of diaries written by 25 participants in an IDI research study, or all

the comments made by teenagers on an online support forum. Keep in mind, however, that what is deemed too precise or imprecise will vary across qualitative studies, making it difficult to prescribe the "right" solution for all situations.

Although there is no perfect prescription for every study, it is generally understood that researchers should strive for a unit of analysis that retains the context necessary to derive meaning from the data. For this reason, and if all other things are equal, the qualitative researcher should probably err on the side of using a broader, more contextually based unit of analysis rather than a narrowly focused level of analysis (e.g., sentences). This does not mean that supra-macro-level units, such as the entire set of transcripts from an IDI study, are appropriate; and, to the contrary, these very imprecise units, which will obscure meanings and nuances at the individual level, should be avoided. It does mean, however, that units of analysis defined as the entirety of a research interview or focus group discussion are more likely to provide the researcher with contextual entities by which reasonable and valid meanings can be obtained and analyzed across all cases.

In the end, the researcher needs to consider the particular circumstances of the study and define the unit of analysis keeping in mind that broad, contextually rich units of analysis — maintained throughout coding, category and theme development, and interpretation — are crucial to deriving meaning in qualitative data and ensuring the integrity of research outcomes.

Milne, M. J., & Adler, R. W. (1999). Exploring the reliability of social and environmental disclosures content analysis. *Accounting, Auditing & Accountability Journal*, *12*(2), 237–256.

Image captured from: http://www.picklejarcommunications.com

The Qualitative Analysis Trap (or, Coding Until Blue in the Face)

There is a trap that is easy to fall into when conducting a thematic-style analysis of qualitative data. The trap revolves around coding and, specifically, the idea that after a general familiarization with the in-depth interview or focus group discussion content the researcher pores over the data scrupulously looking for anything deemed worthy of a code. If you think this process is daunting for the seasoned analyst who has categorized and themed many qualitative data sets, consider the newly initiated graduate student who is learning the process for the first time.

Recent dialog on social media suggests that graduate students, in particular, are susceptible to falling into the qualitative analysis trap, i.e., the belief that a well done analysis hinges on developing lots of codes and coding, coding, coding until…well, until the analyst is blue in the face. This is evident by overheard comments such as "I thought I finished coding but every day I am finding new content to code" and "My head is buzzing with all the possible directions for themes."

Coding of course misses the point. The point of qualitative analysis is not to deconstruct the interview or discussion data into bits and pieces, i.e., codes, but rather to define the research question from participants' perspectives and derive underlying themes that connect these perspectives and give weight to the researcher's interpretations and implications associated with the research question under investigation.

To do that, the researcher benefits from an approach where the focus is not as much on coding as it is on "living the data" from each participant's point of view. With this in mind, the researcher (the interviewer or moderator) begins by taking time after each interview or discussion to record key takeaways and reflections; followed by a complete immersion into each interview or discussion (from the audio/video recording and/or text transcript) to understand the participant's nuanced and intended meaning. A complete absorption (understanding) of each interview or discussion prior to code development allows the researcher to fully internalize each participant's relationship to the research question, taking into consideration that: 1) not everything a participant says has equal value (e.g., a

"side conversation" between the interviewer and participant on a different topic, an inappropriate use of words that the participant subsequently redefines); 2) participants may contradict themselves or change their mind during the interview/discussion which is clarified with help from the interviewer/moderator to establish the participant's intended meaning; and 3) the tone or emotion expressed by the participant conveys meaning and is taken into account to aid in the researcher's understanding.

This big picture sets the stage for code development and the coding of content. But now coding is less about the deconstruction of interview or discussion data and more about ensuring that each participant's lived experience related to the research question is intact and not lying unconscious in the qualitative analysis trap. Coding is simply a tool. A good thing to remember the next time you begin to feel blue in the face.

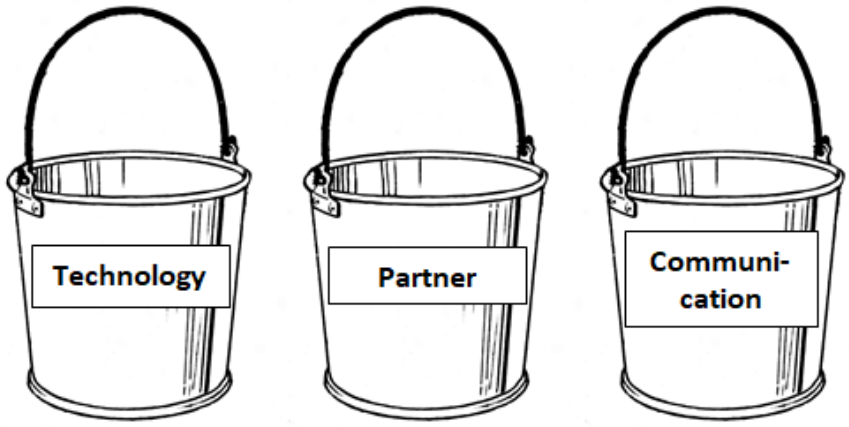
Image captured from: http://learningadvancedenglish.blogspot.com/2016/04/until-you-are-blue-in-face.html

The Important Role of "Buckets" in Qualitative Data Analysis

An earlier article in *Research Design Review* – "Finding Connections & Making Sense of Qualitative Data" – discusses the idea that a quality approach to a qualitative research design incorporates a carefully considered plan for analyzing and making sense of the data in order to produce outcomes that are ultimately useful to the users of the research. Specifically, this article touches on the six recommended steps in the analysis process.* These steps might be thought of as a variation of the classic Braun & Clarke (2006) thematic analysis scheme in that the researcher begins by selecting a unit of analysis (and thus becoming familiar with the data) which is then followed by a coding process.

Unique to the six-step process outlined in the earlier *RDR* article is the step that comes after coding. Rather than immediately digging into the codes searching for *themes*, it is recommended that the researcher look through the codes to identify *categories*. These categories basically represent buckets of codes that are deemed to share a certain underlying construct or meaning. In the end, the researcher is left with any number of buckets filled with a few or many codes from which the researcher can identify patterns or themes in the data overall. Importantly, any of the codes within a category or bucket can (and probably will) be used to define more than one theme.

As an example, consider an in-depth interview study with financial managers of a large non-profit organization concerning their key considerations when selecting financial service providers. After the completion of 35 interviews, the researcher absorbs the content, selects the unit of analysis (the entire interview), and develops 75-100 descriptive codes. In the next phase of the process the researcher combs through the codes looking for participants' thoughts/comments that convey similar broad meaning related to the research question(s). In doing so, the researcher might come up with five or six categories, including these three



Each bucket contains various codes that help define the category. The next step is to look within and across these categories to derive themes based on participants' similar meaning. In this example, the researcher extrapolated the theme "strong partnership" from codes in the Partner category – e.g., "pay attention to me," "recommend new services or products," and "be supportive" – and Communication codes – e.g., "communicate with me regularly" and "be responsive to my requests." The theme "technical expertise" was developed from codes in the Technology bucket – e.g., "integrate software systems" and "utilize advanced credit card reporting" – as well as Partner codes – e.g., "offer creative solutions" and "help us with reporting."

Any of the codes within the categories can be "re-used" to define multiple themes. So, for instance, one or more of the codes associated with the "strong partnership" and "technical expertise" themes might also help to identify the theme "experience and knowledge of the industry."

No one said that qualitative data analysis is simple or straightforward. A reason for this lies in the fact that an important ingredient to the process is maintaining participants' context and potential multiple meanings of the data. By identifying and analyzing categorical buckets, the researcher respects this multi-faceted reality and ultimately reaps the reward of useful interpretations of the data.

*Based on the Total Quality Framework. This framework and the six general steps in qualitative research analysis are discussed fully in Applied Qualitative Research Design: A Total Quality Framework Approach (Roller, M. R. & Lavrakas, P. J., 2015. New York: Guilford Press).

The Limitations of Transcripts: It is Time to Talk About the Elephant in the Room

Transcripts of qualitative in-depth interviews and focus group discussions (as well as ethnographers' field notes and recordings) are typically an important component

in the data analysis process. It is by way of these transcribed accounts of the researcher-participant exchange that analysts hope to re-live each research event and draw meaningful interpretations from the data. Because of the critical role transcripts often play in the analytical process, researchers routinely take steps to ensure the quality of their transcripts. One such step is the selection of a transcriptionist; specifically, employing a transcriptionist whose top priorities are accuracy and thoroughness as well as someone who is knowledgeable about the subject category, sensitive to how people speak in conversation, comfortable with cultural and regional variations in the language, etc.*

Transcripts take a prominent role, of course, in the utilization of any text analytic or computer-assisted qualitative data analysis software (CAQDAS) program. These software solutions revolve around "data as text," with any number of built-in features to help sort, count, search, diagram, connect, quote, give context to, and collaborate on the data. Analysts are often instructed to begin the analysis process by absorbing the content of each transcript (by way of multiple readings) followed by a line-by-line inspection of the transcript for relevant code-worthy text. From there, the analyst can work with the codes taking advantage of the various program features.

An important yet rarely discussed impediment to deriving meaningful interpretations from this qualitative analysis process is the very thing that is at the center of it all – data transcripts. Although serving a utilitarian purpose, transcripts effectively convert the all-too-human research experience that defines qualitative inquiry to the relatively emotionless drab confines of black-on-white text. Gone is the profound mood swing that descended over the participant when the interviewer asked about his elderly mother. Yes, there is text in the transcript that conveys some aspect of this mood but only to the extent that the participant is able to articulate it. Gone is the tone of voice that fluctuated depending on what aspect of the participant's hospital visit was being discussed. Yes, the transcriptionist noted a

change in voice but it is the significance and predictability of these voice changes that the interviewer grew to know over time that is missing from the transcript. Gone is an understanding of the lopsided interaction in the focus group discussion among teenagers. Yes, the analyst can ascertain from the transcript that a few in the group talked more than others but what is missing is the near-indescribable sounds dominant participants made to stifle other participants and the choked atmosphere that pervaded the discussion along with the entire group environment. And gone of course are all the many mannerisms and physical clues that gave away the insights the researcher was looking for.

Transcripts are simply a device. Yet, even with the addition of ancillary non-converted data from audio and video recordings, transcripts are the typical center of the analysis universe. Unfortunately, they have the effect of distancing the researcher from the reality – so quickly lost – of an in-depth interview or group discussion. It is simply not possible to honestly imitate the participant-researcher relationship and co-constructed nature of qualitative research by way of a textual approach. So, it is curious why discussions on qualitative analysis are replete with how-to's on working with transcripts but devoid of an equally-active discussion on their limitations as a purveyor of qualitative data.

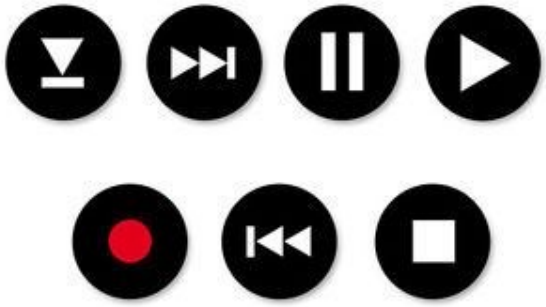
The deafening silence on the limitations of transcripts has become the elephant in the room. The behemoth void waiting to be filled with smart discussions on the true quality of our transcript data, what we can and cannot learn about our data in transcript form, alternative ways to use transcripts (in piecemeal or in whole), and how to perform an integrative analysis that offers real procedures for incorporating transcribed data with other formats.

* Discussions of the role of transcripts and transcriptionists in the quality of qualitative data (generally and specific to particular methods) can be found in: Roller, M. R., & Lavrakas, P. J. (2015). Applied qualitative research design: A total quality framework approach. New York: Guilford Press.

Image captured from: http://fineartamerica.com/products/elephant-in-the-room-wip-leah-saulnier-the-painting-maniac-poster.html

The Virtue of Recordings in Qualitative Analysis

A February 2017 article posted in *Research Design Review* discusses qualitative data transcripts and, specifically, the potential pitfalls when depending only on transcripts in the qualitative analysis process. As stated in the article,



Although serving a utilitarian purpose, transcripts effectively convert the all-too-human research experience that defines qualitative inquiry to the relatively emotionless drab confines of black-on-white text. Gone is the profound mood swing that descended over the participant when the interviewer asked about his elderly mother. Yes, there is text in the transcript that conveys some aspect of this mood but only to the extent that the participant is able to articulate it. Gone is the tone of voice that fluctuated depending on what aspect of the participant's hospital visit was being discussed. Yes, the transcriptionist noted a change in voice but it is the significance and predictability of these voice changes that the interviewer grew to know over time that is missing from the transcript. Gone is an understanding of the lopsided interaction in the focus group discussion among teenagers. Yes, the analyst can ascertain from the transcript that a few in the group talked more than others but what is missing is the near-indescribable sounds dominant participants made to stifle other participants and the choked atmosphere that pervaded the discussion along with the entire group environment.

Missing from this article is an explicit discussion of the central role audio and/or video recordings – that accompany verbal qualitative research modes, e.g., face-to-face and telephone group discussions and in-depth interviews (IDIs) – play in the analysis of qualitative data. Researchers who routinely utilize recordings during analysis are more likely to derive valid interpretations of the data while also staying connected to the fundamental goal – the *raison d'être* – of qualitative research, i.e., to embrace the complicated realm of the lived experience to gain an in-depth understanding of people in relationship to the research question(s).

In this regard, there are at least two key advantages to conducting a careful examination of the recordings, advantages that are missing when solely relying on transcripts. A review of the recordings

- **Aids in recalling peripheral but critical content.** This is content that is typically deemed outside the scope of interest by the transcriptionist, such as the "mood swing" mentioned in the above excerpt. In that case, a review of the recording allows the researcher to hear (and see in a video recording) the energy in the participant's voice when talking about his mother's illness and reminds the researcher of how this energy ebbed and flowed, bouncing from rapid-fire gleeful enthusiasm to barely audible doubt and despair spoken in unusual voice variations and accompanied by fully engaged eye contact or distracted attention depending on the direction of his mood.
- **Clarifies meaning by way of a broader context.** As the excerpt above suggests, it is only by re-living the focus group discussion with teenagers through the recording that the researcher begins to gain an understanding of the profundity of the "choked atmosphere" in the group and its impact on the outcomes. Unlike the transcript, the recording reminds the researcher of how and when the atmosphere in the group environment shifted from being open and friendly to quiet and inhibited; and how the particular seating arrangement, coupled with incompatible personality types, inflamed the atmosphere and seriously colored participants' words, engagement, and way of thinking. The discussion content and derived meaning gathered within this context will clearly be at odds with the content and meaning derived from a separate focus group discussion consisting of teenagers with similar characteristics, discussing responses to the same discussion guide, but with personalities that foster a supportive group dynamic environment.

Qualitative researchers owe it to their participants to think carefully about the nuance and complexities of their lives as shared in a focus group discussion or IDI. Not unlike note taking (discussed here), developing a standard practice of reviewing recordings "helps to maintain the all-important participant-researcher relationship" by preserving the integrity of the qualitative event and retaining the essence of what it means to conduct qualitative research.

Image captured from: http://www.ebay.com.au/itm/Lot-Badge-Button-25mm-Bouton-Radio-Cd-Control-Panel-Play-Stop-Rec-Eject/320968137417

Verification: Looking Beyond the Data in Qualitative Data Analysis

It is a common misperception among researchers that the analysis of research data is a process that is confined to the data itself. This is probably truer among qualitative researchers than survey researchers given that the latter frequently publish their work in the literature comparing and contrasting their data with relevant earlier studies. Qualitative research, on the other hand, is typically held up to less scrutiny; and, except for the usual comparisons of populations segments, it is rare to find an analytical discussion that goes beyond the patterns and themes derived from the qualitative data itself. This may be for any number of reasons. It may be associated with the idea that qualitative research by definition is chock full of uncontrollable variables that vary from study to study making data comparisons across studies unreliable, or it may be researchers' unfamiliarity with the concept of data verification in qualitative research, or it may be a function of limited resources (i.e., time and research budget), or qualitative researchers may simply be unwilling to expend the extra effort to broaden their analyses.

Yet looking outside the data we gather in in-depth interviews, group discussions, or observations is important to the integrity of our qualitative research designs. The consideration of alternative sources of information serves to verify the study data while giving the researcher a different, more enriched perspective on study outcomes. It is not important whether this additional input supports the researcher's conclusions from the primary data; and, indeed, contradictions in the verification process do not necessarily invalidate the study's findings. What *is* important, however, is that the researcher recognizes how other points of view can contribute to a more balanced as well as more robust and meaningful analysis rather than relying on study data alone.

There are many proposed approaches to the verification of qualitative research data. Three of the most useful are:

- **Triangulation**: The use of multiple sources to contrast and compare study data to establish supporting and/or contradictory information. A few common forms of triangulation are those that compare study data with data obtained from other sources (e.g., comparing the IDI transcripts from interviews with environmental activists with those from conservationists), a different method (e.g., comparing results from an IDI study to focus group results on the same subject matter), and another researcher (e.g., using multiple researchers in the analysis phase to compare interpretations of the data).
- **Negative case (or "deviant") analysis**: The researcher actively seeks instances in the study data that contradict or otherwise conflict with the prevailing evidence in the data, i.e., looks for outliers. This analysis compels the researcher to develop an understanding about *why* outliers exist, leading to a greater comprehension as to the strengths and limits of the research data.
- **Reflexive journal**: A diary kept by the researcher to provide personal thoughts and insights on what happened during the study. It is an invaluable resource that the researcher can use to review and judge the quality of data collection as well as the soundness of the researcher's interpretations during the analysis phase. This blog has discussed reflexive journals in many posts, including "Reflections from the Field: Questions to Stimulate Reflexivity Among Qualitative Researchers."

Image captured from: http://executivecoachdaveschoenbeck.com/2013/03/11/11-tips-to-help-you-get-promoted/

Managing Ghosts & the Case for Triangulation in Qualitative Research

The October 2012 issue of the American Psychological Association's *Monitor on Psychology* includes an interview with developmental psychologist, Jerome Kagan. In this interview he talks about psychology's research "ghosts," referring to the dubious generalizations psychologist's make from their often-limited research. Kagan's primary point is that "it's absolutely necessary to gather more than one source of data, no matter what you're studying," and that these multiple sources of data should come from verbal and behavioral as well as physiological measures. Only by combining these various perspectives on an issue or situation – that is, utilizing data taken in different contexts and by way of alternative methods and modes – can the researcher come to a legitimate conclusion.

This is not unlike triangulation, esp., in the social and health sciences, which is used to gauge the trustworthiness of research outcomes. Triangulation is the technique of examining a specific research topic by comparing data obtained from: two or more methods, two or more segments of the sample population, and/or two or more investigators. In this way, the researcher is looking for patterns of convergence and divergence in the data. Triangulation is a particularly important design feature in qualitative research – where measures of validity and transferability can be elusive – because it furthers the researcher's ability to gain a comprehensive view of the research question and come closer to a plausible interpretation of final results.

Scholars teach the importance of including some form of triangulation in research designs yet there is not a lot of evidence that this occurs in the real world of applied qualitative research. While there are an increasing number of ways to gather qualitative feedback – particularly via social media and mobile – that provide researchers with convenient sources of data, applied researchers would benefit from more discussion on case studies that have utilized multiple data sources and methods to find reliable themes in the outcomes. Importantly, it is further hoped that applied researchers use this contrast-and-compare approach to scrutinize the research issue from both traditional (e.g., in-person group

discussions, in-depth interviews, in-home ethnography) and newer (e.g., online based, mobile device) information-gathering strategies.

The triangulation concept is just one way that researchers can add rigor to their research designs and manage the potential "ghosts" of groundless assumptions and misguided interpretations.

A Quality Approach to Qualitative Content Analysis

The following includes excerpts from Section 1 and Section 4 in "A Quality Approach to Qualitative Content Analysis: Similarities and Differences Compared to Other Qualitative Methods" Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 20(3), Art. 31. The Table of Contents for the entire FQS special issue on qualitative content analysis can be found here.

1. Introduction

Scholarly discourse about what it means to collect and analyze qualitative data is a dynamic discussion in the qualitative community. At the center of this discourse is the shared understanding that qualitative research involves the examination of nuanced connections, along with the social and contextual dimensions, that give meaning to qualitative data. Qualitative researchers strive to discover these nuanced connections and contextual dimensions with all methods, and most assuredly with qualitative content analysis (QCA) (ELO & KYNGÄS, 2008; GRANEHEIM & LUNDMAN, 2004; HSIEH & SHANNON, 2005; LATTER, YERRELL, RYCROFT-MALONE & SHAW, 2000; SCHREIER, 2012; TOWNSEND, AMARSI, BACKMAN, COX & LI, 2011). Yet, in every instance, qualitative researchers are presented with the challenge of conceptualizing and implementing research designs that result in rich contextual data, while also incorporating principles of quality research to maximize the discovery of valid interpretations that lead to the ultimate usefulness (i.e., the "so what?") of their research.

In this article I discuss what makes QCA similar to and different from other qualitative research methods from the standpoint of a quality approach. In order to establish the basis from which quality concerns can be discussed, I begin with defining the QCA method (Section 2) and, in so doing, identifying the fundamental similarities and differences between QCA and other methods (Section 3) from the perspective of the ten unique attributes of qualitative research (ROLLER & LAVRAKAS, 2015). With this as a foundation, I continue with a brief contextual discussion of a quality approach to qualitative research and the QCA method (Section 4), followed by an introduction to one such approach, i.e., the total quality

framework (TQF) (ibid.), in which I give researchers a way to think about quality design throughout each phase of the qualitative research process (Section 5). With these preparatory sections—defining and contrasting the QCA method with other qualitative methods, discussing quality approaches, and a brief description of the TQF approach—I lay the necessary groundwork for a meaningful discussion of the similarities and differences when adapting the TQF to the QCA method, which is my focus with this article (Section 6).

4. A Quality Approach

A quality approach specific to the QCA method—as opposed to a quality orientation within the quantitative paradigm (KRIPPENDORFF, 2013)—has been put forth by several researchers. For instance, GRANEHEIM and LUNDMAN (2004) discuss the trustworthiness of QCA research, leaning on the familiar concepts of credibility, dependability, and transferability made popular by LINCOLN and GUBA (1985). Similarly, ZHANG and WILDEMUTH (2009) discuss the trustworthiness of the QCA method as defined by LINCOLN and GUBA (1985) and include the fourth criterion of confirmability. And, as a final example of how researchers have employed quality standards to the QCA method, FORMAN and DAMSCHRODER (2008) focus on issues of credibility, validity, and reliability throughout a QCA study, e.g., how memos add credibility to the research, how team coding establishes content validity as well as coding reliability, and how the examination and reporting of "negative cases" instills credibility in the findings.

With a few exceptions, a discussion of a quality approach to the QCA method as a way to think about and incorporate quality principles *at each phase* of the research process has been lacking in the literature. ELO et al. (2014), for example, offer a checklist to improve the trustworthiness of a QCA study at each of three phases, i.e., the preparation, organization, and reporting phases. Also, in his discussion of the internal quality standards associated with qualitative text analysis, KUCKARTZ (2014) outlines essential questions covering a broad scope of the research process, including the selection of method, coding, category development, consideration of outliers (i.e., "any unusual or abnormal cases," p.154), and justification of the conclusions.

By considering quality standards at each step in the research design, the researcher acknowledges that a quality qualitative research design is only "as strong as its weakest link"; meaning, for example, that a deliberate quality approach to data collection and analysis yet a failure to write a quality transparent final document, effectively masks the integrity of the research and undermines its ultimate value. A holistic quality-centric approach to qualitative research design and, specifically to

the QCA method, is my focus in this article. This approach—the total quality framework (ROLLER & LAVRAKAS, 2015)—is introduced and discussed in the remaining sections, with particular attention paid to the similarities and differences between QCA and other qualitative methods when applying this framework.

Elo, Satu & Kyngäs, Helvi (2008). The qualitative content analysis process. Journal of Advanced Nursing, 62(1), 107-115.

Elo, Satu; Kääriäinen, Maria; Kanste, Outi; Pölkki, Tarja; Utriainen, Kati & Kyngäs, Helvi (2014). Qualitative content analysis: A focus on trustworthiness. SAGE Open, 4(1), 1-10, https://doi.org/10.1177%2F2158244014522633 [Date of Access: May 7, 2019].

Forman, Jane & Damschroder, Laura (2008). Qualitative content analysis. In Liva Jacoby & Laura A. Siminoff (Eds.), Empirical methods for bioethics: A primer (pp.39-62). Oxford: Elsevier.

Graneheim, Ulla H. & Lundman, Berit (2004). Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. Nurse Education Today, 24(2), 105-112.

Hsieh, Hsiu-Fang & Shannon, Sarah E. (2005). Three approaches to qualitative content analysis. Qualitative Health Research, 15(9), 1277-1288.

Krippendorff, Klaus (2013). Content analysis (3rd ed.). Thousand Oaks, CA: Sage.

Kuckartz, Udo (2014). Qualitative text analysis: A guide to methods, practice and using software. London: Sage.

Latter, Sue; Yerrell, Paul; Rycroft-Malone, Joanne & Shaw, David (2000). Nursing, medication education and the new policy agenda: The evidence base. International Journal of Nursing Studies, 37(6), 469-479.

Lincoln, Yvonna S. & Guba, Egon G. (1985). Naturalistic inquiry. Beverly Hills, CA: Sage.

Roller, Margaret R. & Lavrakas, Paul J. (2015). Applied qualitative research design: A total quality framework approach. New York, NY: Guilford Press.

Schreier, Margrit (2012). Qualitative content analysis in practice. London: Sage.

Townsend, Anne; Amarsi, Zubin; Backman, Catherine L.; Cox, Susan M. & Li, Linda C. (2011). Communications between volunteers and health researchers during recruitment and informed consent: Qualitative content analysis of email interactions. Journal of Medical Internet Research, 13(4), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3222195/?tool=pmcentrez&report=abstract [Date of Access: April 16, 2013].

Secondary & Primary Qualitative Content Analysis: Distinguishing Between the Two Methods

The following is a modified excerpt from Applied Qualitative Research Design: A Total Quality Framework Approach (Roller & Lavrakas, 2015, pp. 241-244).

The definition and use of the content analysis method in qualitative research varies depending on the particular type of qualitative content analysis (QCA) being conducted. The most common QCA method is utilized when it plays a supportive analytical role in combination with other qualitative methods, such as in-depth interviews (IDIs) and focus group discussions, i.e., when content analysis is being used as a *secondary* method. The other less common QCA method is used when the source of content is an existing, naturally occurring repository of information (such as historical documents, media content, and diaries), i.e., when content analysis is being used as a *primary* method.

Qualitative Content Analysis Method

Secondary vs. Primary Approach	
Content analysis as a….	
Secondary method	*Focuses on content generated by another qualitative method (such as in-depth interviews, focus group discussions, or observations in ethnography) & plays a supportive analytical role with these methods.*
Primary method	*Focuses on content generated by an existing, naturally-occurring repository of information such as newspapers, consumer diaries, historical documents, television content, films, social media, blogs, & email communications.*

Secondary Method

A systematic application of QCA* as a secondary method has been conducted across a variety of disciplines. Health care researchers in particular have used content analysis in conjunction with other qualitative methods to investigate a broad range of topics. For example, Söderberg and Lundman (2001) applied the content analysis method to analyze the results from 25 unstructured IDIs conducted with women inflicted with fibromyalgia, from which they isolated five areas in these women's lives impacted by the onset of this condition. In a similar approach, Berg and Hansson (2000) examined the lived experiences of 13 nurses working in dementia care at a psychogeriatric clinic who received clinical group supervision and individually planned nursing care. Berg and Hansson conducted unstructured, open-ended IDIs with each nurse and executed a content analysis that revealed two principal and five subordinate themes indicating supportive needs at the personal and professional level. Kyngäs (2004) studied the support network among 40 teenagers suffering from a chronic disease,

such as asthma or epilepsy, by way of semi-structured IDIs. Content analysis in this instance showed six distinct social network categories for these adolescents, i.e., parents, peers, health care providers, school, technology, and pets.

Primary Method

The primary QCA method – which focuses on naturally occurring data – has also been used across a number of disciplines. These data sources are often textual in nature (i.e., written accounts of some kind, see below); however, this is not always the case. For instance, television content has been the focal point for public health researchers examining direct-to-consumer prescription drug commercials (Kaphingst, DeJong, Rudd, & Daltroy, 2004) as well as sociologists such as David Altheide (1987) who utilized content analysis to study television news coverage of the Iranian hostage crisis. The analysis of patients' "scribbles" from art psychotherapy sessions (Egberg-Thyme, Wiberg, Lundman, & Graneheim, 2013) as well as racism and the depiction of interracial relationships in U.S.-made films (Beeman, 2007) are other examples of using QCA as a primary method where the focus is on non-textual content.

Content analysis as a primary method to explore textual data has been used in: (a) sociological research to look at gender biases reflected in the Boy Scouts' and Girl Scouts' handbooks (Denny, 2011); (b) mass communication to study the portrayal of female immigrants in the Israeli media (Lemish, 2000); (c) sports marketing to investigate the social outreach programs among the four major professional leagues via a content analysis of their respective community website pages (Pharr & Lough, 2012); and (d) corporate management, including studies that analyze the content of corporate mission statements to understand "the messages communicated to organizational stakeholders" (Morris, 1994, p. 908).

Primary QCA is also used to study online content, including the examination of websites (such as Pharr & Lough, 2012, mentioned above) and the numerous ways people interact on social media. Once again, researchers in the health care industry have been particularly active using QCA to study social and other web-based phenomena. As an example, Nordfeldt, Ängarne-Lindberg, and Berterö (2012) used the content analysis method to examine essays written by 18 diabetes health-care professionals concerning their experiences using a web portal designed for young diabetes type 1 patients and their significant others. The capabilities and use of social media, however, present qualitative researchers with new challenges. Comments – made on blogs, networking sites, user groups, and content-sharing sites – and the use of hyperlinks are just two examples of how social media content is rarely isolated and, to the contrary, represent a highly integrated form of communication where finding themes or patterns from the

multiplicity of interactions may present an extremely daunting task for the researcher. For this reason, information systems researchers such as Herring (2010) and Parker, Saundage, and Lee (2011) advocate a different, non-traditional way of thinking about the content analysis method in terms of developing units of analyses, categories, and patterns based on the realities of the interactive, linked world of online social media.

* Not unlike the steps discussed in this 2015 *Research Design Review* article.

Beeman, A. K. (2007). Emotional segregation: A content analysis of institutional racism in US films, 1980–2001. *Ethnic and Racial Studies*, *30*(5), 687–712. https://doi.org/10.1080/01419870701491648

Berg, A., & Hansson, U. W. (2000). Dementia care nurses' experiences of systematic clinical group supervision and supervised planned nursing care. *Journal of Nursing Management*, *8*(6), 357–368.

Denny, K. E. (2011). Gender in context, content, and approach: Comparing gender messages in Girl Scout and Boy Scout handbooks. *Gender & Society*, *25*(1), 27–47. https://doi.org/10.1177/0891243210390517

Egberg-Thyme, K., Wiberg, B., Lundman, B., & Graneheim, U. H. (2013). Qualitative content analysis in art psychotherapy research: Concepts, procedures, and measures to reveal the latent meaning in pictures and the words attached to the pictures. *The Arts in Psychotherapy*, *40*(1), 101–107. https://doi.org/10.1016/j.aip.2012.11.007

Herring, S. C. (2010). Web content analysis: Expanding the paradigm. In J. Hunsinger, L. Klastrup, & M. Allen (Eds.), *International handbook of Internet research* (pp. 233–249). Dordrecht, Netherlands: Springer.

Kaphingst, K. A., DeJong, W., Rudd, R. E., & Daltroy, L. H. (2004). A content analysis of direct-to-consumer television prescription drug advertisements. *Journal of Health Communication*, *9*(6), 515–528. https://doi.org/10.1080/10810730490882586

Kyngäs, H. (2004). Support network of adolescents with chronic disease: Adolescents' perspective. *Nursing and Health Sciences*, *6*(4), 287–293. https://doi.org/10.1111/j.1442-2018.2004.00207.x

Lemish, D. (2000). The whore and the other: Israeli images of female immigrants from the former USSR. *Gender & Society*, *14*(2), 333–349. https://doi.org/10.1177/089124300014002007

Morris, R. (1994). Computerized content analysis in management research: A demonstration of advantages & limitations. *Journal of Management*, *20*(4), 903–931.

Nordfeldt, S., Ängarne-Lindberg, T., & Berterö, C. (2012). To use or not to use: Practitioners' perceptions of an open web portal for young patients with diabetes. *Journal of Medical Internet Research*, *14*(6), e154. https://doi.org/10.2196/jmir.1987

Parker, C., Saundage, D., & Lee, C. Y. (2011). Can qualitative content analysis be adapted for use by social informaticians to study social media discourse? A position paper. In *ACIS 2011: Proceedings of the 22nd Australasian Conference on Information Systems* (pp. 1–7). Sydney, Australia.

Pharr, J. R., & Lough, N. L. (2012). Differentiation of social marketing and cause-related marketing in US professional sport. *Sport Marketing Quarterly*, *21*(2), 91–103.

Söderberg, S., & Lundman, B. (2001). Transitions experienced by women with fibromyalgia. *Health Care for Women International*, *22*(7), 617–631. https://doi.org/10.1080/07399330127169

Qualitative Content Analysis: The Challenge of Inference

Back in April 2013, a post in *RDR* talked about the "daunting job of conducting a content analysis that reveals how people think [the "stream of consciousness"] while at the same time answers the research question and takes the sponsoring client to the next step." The article outlines the basic steps in a content analysis, including the analysis and interpretation phases of the process. Making interpretations from a content analysis are tricky things, esp., when conducting a "primary content analysis" when the content being analyzed is derived from non-research-related, pre-existing sources such as newspapers, blog posts, Hollywood films, YouTube videos, television broadcasts, and the like. The issue here is the "trap" content analysts can fall into by (a) thinking there are causal relationships in the data when there are not, and/or (b) trying to build a story in the shape of their interpretations when the story (based on the data) has little merit. In this way, an overabundance of unsubstantiated subjectivity can creep into the qualitative content analysis method.

These traps, related to causality and storytelling, are fairly easy to fall into unless a systematic and conscientious approach is taken in the analysis and interpretation phases. In particular, there are three characteristics of textual and non-textual material used in primary qualitative content analysis that may stymie the analyst's ability to draw far-reaching interpretations:

1. **The original act of constructing the content material (e.g., the document, video, or photograph) may have altered the meaning of the subject matter**. For example, in a study examining a series of blog posts regarding Detroit's inner-city crime, the researcher may be unable to discern the realities of crime in Detroit because, by the mere act of writing about it, the writer has (deliberately or not) reformulated its true nature and given the reader a biased account. Therefore, what the researcher may be studying in this example is the writer's rendition of inner-city crime in Detroit, not the actual nature of the crime "scene" itself.

2. **The instability or unpredictability of the content.** For example, politicians may routinely shift their communication "sound bites" depending on the audience, the speaking environment, or the "political mood" in the country at any one moment in time. In these cases of inconsistencies in the content, the content being analyzed may have little or nothing to do with the natural variation in the topics of interest but instead are due to the whims of the creator.

3. **The content is often a product of a group of people rather than one individual.** An example of this has to do with the documents created within corporate or governmental organizations which do not reflect the thinking of any *one* person but rather are a product of a team or group of people. Examples can be found in a variety of source material, especially in video or films and broadcast media where multi-authored creations may obscure true intentions and thereby challenge the researcher's ability to infer meaningful connections in the content. Fields (1988), for example, conducted a qualitative content analysis of television news, observing that the coverage of "right-wing Christian fundamentalists" usually showed reporters standing near churches, an American flag, or the White House, and came to this conclusion: "The juxtaposition of these symbols conveyed the message that fundamentalists were seeking political power" (p. 190). This interpretation might have been more credible if these newscasts were the creation of a single individual who made all the on-air decisions and whose position on the Christian fundamentalists was explicitly disclosed. But, as a product of many people in broadcast news with varying agendas, alternative rationales for the backdrop exist, e.g., churches might be considered an appropriate setting to report on a Christian group, or the American flag might be deemed a suitable prop given that Christian fundamentalists are an American phenomenon.

Fields, E. E. (1988). Qualitative content analysis of television news: Systematic techniques. *Qualitative Sociology*, *11*(3), 183–193.

Image captured from http://quickgamer.net/games/criminal-case/cases/scenes-4-to-6/.