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Data Analysis

Data analysis in ethnography: Thematic analysis and exemplary life histories

Ethnography shares with the other four approaches a core method of data analysis, namely *thematic analysis*. The other approaches may use different terms or specify slightly different procedures, but the core analytic method is quite similar. We describe it briefly here in its ethnographic form, and we'll describe it briefly in its other forms when outlining the other approaches. Learners are advised to master the general method regardless of the approach they select.

Once the data are collected by observations, interviews (audio taped and transcribed), field notes, or any other sources, *patterns of experience* (recurring words, phrases, descriptions, etc.) are identified and listed. These patterns are derived from direct quotes and paraphrases of recurring ideas emerging from the data. These patterns form the first level of thematic analysis.

Next, the researcher identifies data that correspond to the identified patterns. If, in a study of the culture of a corporation, a pattern is noted such as "males defer to hierarchically superior males, but not to hierarchically superior females," examples that confirm this – that show it is both recurring and an accurate description of events - are located in the data (transcripts, notes, etc.) and annotated with the listed pattern (as quotes along with citation of their source).

Now, the researcher combines and catalogues *related* patterns into *themes*. Themes are defined as descriptive meaning units derived from the patterns. For example, if along with the earlier example this pattern emerged: "males repeatedly initiate flirting behavior with females regardless of the females' rank and the females return the flirtation, even when they dislike it," two themes or meaning units might be constructed as follows: "Males impose rank-dominance on subordinate males" and "males impose sexual-dominance on all females."

Finally, at the highest level of abstraction, themes that emerge from the patterns (which emerged from the original data) are synthesized together to form a comprehensive representation of the element of the culture that is being investigated. The above meaning units or themes might constellate with other descriptive themes of the male and female interactions in the organization into a rich and textured description of the rules, customs, attitudes, and practices around gender in that organization.

This distillation of the practice of thematic analysis is adapted from Taylor and Bodgan (1984) and Aronson (1994).

In writing ethnographic reports, one common – though by no means required - presentation practice is to construct "life stories" of representative or exemplary participants in the culture, group, or organization. Perhaps a more accurate term would be "culture stories" or "organization stories." The objective is not to single out the individuals for study, but to use their experiences to exemplify key themes found in the data. These representative life stories are not standard biographies or life histories as might be found in biographical research.

These life or organizational stories are created in a process not unlike thematic analysis. Here, however, the stories of the participants' experience in the culture, group, society, or organization are culled for the initial patterns of recurring experiences, behaviors, etc. These in turn are organized into themes or meaning units which in a robust way exemplify important aspects of the larger culture, society, group, or organization. Finally, as in thematic analysis, the meaning units are woven into a richly evocative description of the meaning of the persons experience in this culture which stands for

many others' similar experiences. In effect, the life story (or the organization story, if you will) of the exemplar "stands for" the essence of the ethnographic description of what it means to be a member of this culture, group, or organization.

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Data analysis in case studies

Two types of data analysis for a case study are sometimes referred to (for example, Patton, 2005): *holistic analysis*, in which the information about the entire case is analyzed; and *embedded analysis*, in which information about a specific but limited aspect of the case is analyzed. For example, in a case study of learners' experiences with online education, if all aspects of the experience are studied – the nature of the online platform, the IT support structure, the type of educational company providing the online learning, the quality and training of the teachers, the nature of the curriculum, the demographics of the learners, the costs and benefits perceived by the learners, the work load of the faculty, and so on and so forth – the analysis is said to be holistic.

However, if out of that mass of data only one aspect is analyzed and reported – for example, the learners perceptions of the learning platform and of the instructors' competence – this would be an embedded analysis. A case study dissertation would most likely be a holistic analysis of a case or set of cases.

There is no consensus format for case study data analysis, but a common series of steps can be found in many sources. The following description is adapted from Creswell (1998) and Stake (1995).

- The opening step of data analysis – sometimes referred to as *description* – involves creating a detailed description of the case as a whole and of its setting(s) and contexts. The objective is both clarity and detail, creating a rich and textured picture of the case and its settings.
- The case study researcher looks at single instances in the described data and draws meaning from each without (yet) looking for multiple instances. This process pulls the described data apart and puts them back together in more meaningful ways. This may be called *direct interpretation*.
- Next, the researcher seeks a collection of meaning-rich instances from the data, aggregating these into categories of meaning, giving rise to the term *categorical aggregation*.
- By analyzing the categories (and the underlying instances and data of the various categories), the researcher will identify themes – common statements of recurring description and patterns of meaning - and connections between or among the themes. These themes will be developed using verbatim passages and direct quotes from the data to elucidate each theme. At this point, data from the case itself are used, without being compared yet with data and themes from other cases; this is *within-case analysis*.
- The same steps are followed for each case in the series, so that each is analyzed within itself. (For instance, if the study investigates ten cases of multiple sclerosis in young married people, each person's data are analyzed separately first, as a single case, before taking the next step)
- Then, the researcher will develop a thematic analysis across cases (*across case analysis*) as well as interpretations of the integrated meaning of all the cases in the study.
- In the final, *interpretive*, phase, the researcher develops naturalistic generalizations from the data as a whole and reports on the lessons learned from the case study.

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Grounded theory data analysis methods and procedures: Coding

Because grounded theory goes beyond the descriptive and interpretive goals of many other qualitative models and is aimed at building theories, data analysis tends to be more complex and aims to achieve an explanatory power that is not necessary in other approaches. The heart of the grounded theory approach occurs in its use of coding, its main form of data analysis. There are three different types of coding used in a more-or-less sequential manner (this discussion is adapted from Strauss and Corbin, 1990, 1998, Patton, 2003; and Creswell, 1998).

The first type of coding is open coding which is much like the description goal of science. Usually open coding is done first. During open coding, the researcher labels and categorizes the phenomena being studied. This involves the process of describing the data through means such as examination, comparison, conceptualization, and categorization. Labels are created to describe in one or a few words the categories one finds in the data. Examples are collected for all these categories. For example, in a grounded theory study of the effects of child sexual abuse, open coding might discover in the reports of the participants some categories such as these: Feeling powerless, hating myself, hating the abuser, or feeling permanently damaged.

The categories are studied more carefully to identify subcategories, which are called properties and dimensionality in the categories. For instance, the researcher in our example might discover that “hating myself” had a wide range of emotional power – in some participants it is very strong, whereas in others it is not strong at all. The categories, properties, and dimensions discovered in the data are fully described in the participants’ words.

Then begins the second type of coding: axial coding which involves finding links among the categories, properties, and dimensions that were derived from open coding. (A link is an axis, hence the term axial.) How is axial coding actually done?

Axial coding first identifies the central categories about the phenomenon. These central or core categories tend to be the most important aspect(s) of element of the phenomenon, the one that clearly has the greatest strength and appears in all or most of the participants’ reports or other data. For instance, a central category of the phenomenon of the psychological effects of childhood sexual abuse might be found to be “feelings of powerlessness.”

Next, the researcher explores the data carefully to discover causal conditions, which are categories of conditions influencing the central category or categories. For instance, in the child sexual abuse study, one causal condition might be found to be “repeated humiliations,” a condition that is found across many reports to support or influence the development of feelings of powerlessness (the central category).

The researcher continues axial coding by identifying interactions among the categories (which are called strategies, although that term might be confusing). Strategies in the example study could be, for example, “repeated humiliations strengthen feelings of powerless, but weaken hatred of the abuser while strengthening self-hatred.” You might think of “strategies” in grounded theory as the equivalent of correlations in statistical theory-building.

Axial coding continues with the identification and exploration of other supporting or weakening conditions which exert lesser influences on the central variables. These are categories in the data

which label the contexts and intervening conditions. Examples from the grounded theory study of the effects of child sexual abuse might include “protection by another adult,” which when found to be present ameliorates (positively influences) the central category, but which is insufficient in itself to prevent the damage entirely. Finally, consequences are carefully identified and described. These would include all the outcomes of the presence of the central category in all its interactions (strategies) with contexts, intervening conditions, properties, dimensions, etc. Consequences describe what happens when the central category is found under specific conditions. For example, when “feelings of powerless” are found to be very strong, accompanied (interacting with) “isolation” and “repeated humiliation,” depression may be found to be a consequence.

Notice that these consequences are NOT presupposed, but are carefully teased out of the real reports and descriptions of their experiences by the many participants in the study. Preconceptions about the theory must be left at the door. See “Phenomenology,” below, and its discussion of epoche and the phenomenological reduction. Without using the terminology of phenomenology, the requirement is the same.

The third type of coding is selective coding continues the axial coding activity of relating the subsidiary categories to the central category(s). Selective coding is the process of selecting your main phenomenon (core category) around which all other phenomena (subsidiary categories) are grouped, arranging the groupings, studying the results and rearranging where necessary. It is necessary to remain faithful to the data, so in selective coding, one frequently goes “back to the things themselves” to ensure that one is capturing what one’s informants told one.

From this last type of coding, the grounded theory researcher moves toward developing a model of process and a transactional system, which essentially tells the story of the outcome of the research. Creating a literal “story line” is one manner of doing selective coding. The story line tells the results of the axial coding in a coherent narrative. Many grounded theory researchers do not create a conditional matrix, a diagram or picture of the various categories, interactions, and relationships among the central category(s) and the subsidiary categories. But the conditional matrix is a very helpful tool in creating the narrative story line which embodies the grounded theory.

The selective coding process typically focuses on two dimensions of the phenomenon: its process and its transactional system. Again, the conditional matrix is quite useful in elucidating these two elements of the theory.

- Process is the manner in which actions and interactions occur in a sequence or series. It incorporates the time element. (“As time went on and I got older, the repeated humiliations my father inflicted on me began to tear me apart. I started to hate myself, though not at first.”) It also incorporates the various categories which mutually influenced each other. (“My brother tried to help, and I was grateful, but I was more worried he’d get hurt, so I asked him to stay out of it. He hasn’t been much a part of my life since.”)
- The transactional system is a grounded theory’s analytic method that allows an examination of the interactions of different events. (“Self-hatred led to increased willingness to be hurt. It strengthened the belief among most participants that the victim is bad and deserves punishment, and also strengthened the yearning for even the abusive “love” offered by the perpetrator. This in turn alienated most participants from other sources of more benign love, because the victims did not feel worthy of it.”)

The use of the conditional matrix and the process and transactional-system analysis leads finally to the general description of the grounded theory. It might be a brief sentence distilling all the above work, or a more complex statement. But it will also be accompanied by a set of propositions or hypotheses which explain the phenomenon under study.

At this stage, it is usual for grounded theory researchers to return not only to the original data to ensure that the theory fits those data, but may meet with the participants again to compare the theory with their perceptions and to ask them whether the theory fits their experiences. Their responses will be taken as new data to be incorporated into the theory, which is thought to be in a continual adaptation and evolution. Grounded theory is never complete. (Adapted from Strauss, & Corbin, 1990, 1998; Creswell, 1998; Patton, 2002)

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Phenomenological Data Analysis

Most standard texts (e.g., Creswell, 1998; Patton, 2002; or Taylor and Bogdan, 1984) propose a general five-step model for phenomenological analysis. These steps are elaborated in three more detailed models described in Appendix A (see “empirical phenomenology” [Amedeo Giorgi], “transcendental phenomenology” [Clark Moustakas] and the Stevick-Colaizzi-Keen Method of Analysis of Phenomenological Data). The Giorgi model, the Moustakas model, and the Stevick-Colaizzi-Keen method of analysis of phenomenological data are acceptable in the General Psychology specialization. Other models can be used provided they meet (are equivalent to) the criteria described in these pages.

Preliminary steps

The generic method of analysis consists of five essential steps, but is preceded by careful preparation of the data and of the researcher. First, the data must be transformed into written form – usually transcripts of interviews – which can be studied as a whole and, later, in bits or units. Word processing programs are ideal for this, allowing both retention of the original interview in “raw” form and “cutting and pasting” individual segments (phrases, sentences, paragraphs) into separate documents for deeper analysis and comparison. These segments (or “meaning units” as described above) will be organized thematically in two major ways: within the context of a single interview, and across a series of interviews.

For example, in a series of phenomenological interviews on the experience of grief in children, the researcher found that participant A repeated the phrase, “she left me behind” many times in talking about what it was like to lose his mommy. Within the context of that child’s experience, being “left behind” became a very significant part of the experience, a “meaning unit.” Meanwhile, child B repeated the phrase “she’s gone, I can’t find her” a number of times. This too was a meaning unit for child B. Looking across both transcripts and comparing the two meaning units and reflecting deeply on them and their contexts in the interviews, the researcher teased out a deeper level of meaning by comparing the two different units: “I feel lost.” This “across interviews” would not have been possible unless the individual phrases could have been cut out and kept in a separate “meaning unit” document of some kind, which word processing makes quite handy.

Before starting to analyze data, though, the researcher does a second preparatory step, which as been described briefly above as the “phenomenological reduction.” She attempts to reduce the impact of his or her biases, preconceptions, and beliefs about the phenomenon and opening oneself to the data and meanings that emerge from the data in their own terms. If we include these two preliminary steps with

the five steps proposed by most texts, we have a generic seven-step model for data analysis, beginning with:

Step 1 and 2: Prepare the data and adopt the phenomenological attitude (“reduction” or “epoche” [see below].)

Steps in phenomenological data analysis: Generic model

Step 3: Achieve a Sense of the Whole. The researcher reads the entire description in order to get a general sense of the whole statement.

Step 4: Discrimination of Meaning Units Within a Psychological Perspective and Focused on the Phenomenon Being Researched. Once the sense of the whole has been grasped, the researcher goes back to the beginning and reads through the text once more and delineates each time that a transition in meaning occurs. The specific aim is to discriminate “meaning units” from within a psychological perspective and with a focus on the phenomenon being researched. The meaning unit should be made *with psychological criteria in mind*. The researcher next eliminates redundancies and clarifies and elaborates on the meaning of the units by relating them to each other and to the sense of the whole.

Step 5: Transformation of Subjects Everyday Expressions into Psychological Language with Emphasis on the Phenomenon Being Investigated. Once meaning units have been delineated and linked together, the researcher goes through all of the meaning units, which are still expressed in the concrete language of the participants, reflects on them, and comes up with the essence of the experience for the participant. The researcher next transforms each relevant unit’s essence into the language of psychological science.

Step 6: Synthesis of Transformed Meaning Units into a Consistent Statement of the Structure of the Experience. Here, the researcher synthesizes all of the transformed meaning units (now expressed in the language of psychological science) into a consistent statement regarding the participant’s experience.

Step 6: Final Synthesis: Finally, the researcher synthesizes all of the essence or structure statements regarding each participant’s experience into one consistent statement, which describes and captures the essence of the experience being studied.

Acceptable Models of Phenomenological Analysis

The generic model described above is elaborated in two acceptable and detailed models of psychological phenomenological analysis developed by Amedeo Giorgi at Duquesne University and Clark Moustakas at the Center for Humanistic Studies and The Union Institute. Each of these models is detailed and provides a stepwise guide to the seven generic steps presented above. Either of the models is acceptable for phenomenological research in the General Psychology specialization. The Moustakas model is further elaborated in the Stevick-Colaizzi-Keen model.

A learner may adopt a different model for the data analysis, provided that the alternative model is at least as clearly articulated and provides at least as much guidance for procedures as the accepted models. The learner should prepare a careful description of and rationale for using an alternative model, and that rationale should be approved by the mentor (and the dissertation committee, of course) and reviewed (with a rating of “Satisfactory” or better) by the Methodology Committee of the Specialization.

The Giorgi model (usually called “empirical phenomenology” or “phenomenological psychology”) (1985, 1997) (Giorgi & Giorgi, 2003) and the Moustakas model (often called “transcendental phenomenology”) and the “Stevick-Colaizzi-Keen Model” synthesized by Moustakas (1994) and based on the work of Ernest Keen of Bucknell University (1975) and Paul F. Colaizzi and Emily M. Stevick of Duquesne

University are described more fully in Appendix A. They differ from each other and from the generic model above only in the ways in which they outline the procedures. Each provides much more detail about how to proceed in each step or stage.

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Data Analysis Methods in Heuristic Inquiry

In general, six steps characterize the heuristic approach to data analysis. They are as follows: initial engagement, immersion, incubation, illumination, explication and synthesis (Douglass and Moustakas, 1985; Moustakas, , 1967, 1981, 1990, 2001). Steps 1 and 2 (initial engagement and immersion) would appear to be preliminary to data collection, but because the researcher (who performs them) is a participant, they already are a form of data collection.

Step 1: **Initial engagement** involves and awareness of the topic. In heuristics it is essential that the topic not only be of importance to the researcher but also that he/she experiences a sense of passion in connection with it. From the experience of being with the topic in an open way emerges the question. The culmination of the initial engagement period is the creation of a clear research question which forms the heart of the inquiry. Initial engagement requires the researcher to reduce the influence of preconceptions and beliefs about the phenomenon, so it includes a form of the phenomenological reduction or epoche (see Appendix A for a description of epoche).

Step 2: During the **immersion** step, the researcher makes his/her question the center of the experiential world, allowing the self to become one with the question. This is done in a loose, non-structured way, permitting openness to the range of related experiences, which helps to facilitate an understanding of the phenomenon. During this step, the researcher is non-judgmental and non-critical, open to the flow of experience (again, a version of the phenomenological reduction). The researcher is open to intuitions (hunches based on clues) and tacit knowledge (knowing that he/she knows but not knowing how he/she knows). At this stage, journaling or other forms of self-expression may become the primary mode of both data collection and data analysis.

During immersion, heuristic researchers also gather information from their co-researchers, in the form of interviews, diaries, journals, writings, art, film, etc., and immerse themselves in those data along with their own data. Typically, each researcher finds a personal method for immersing oneself in the data

that are emerging from the interviews and other documents. As can be seen, data “collection” and data “analysis” are not easily separated into discrete steps or stages, but are an integrated and ongoing process each informing the other.

Step 3: After a period of time, having been immersed in the research question, the researcher puts aside all deliberate focus on the experience and the data and allows the information to be processed on an unconscious level, a process known as **incubation**. When this becomes appropriate cannot be arbitrarily specified, but depends on the data themselves. A common marker is when new themes are no longer emerging in the data (a condition sometimes called *saturation*). During incubation, data are no longer being collected intentionally (although new insights may emerge or new information may arise). Instead, the researcher allows the data to “go unconscious” and to be processed at that level. No *intentional* (conscious) work is done to further the interpretation, although obviously the engaged researcher will be “present” to the process and reflecting often on how it is going.

Step 4: The information continues to consolidate and grow (“incubate”) until a sense of discovery occurs. This moment of realization and enlightenment is known as **illumination**, and often has the feel of an “Aha!” experience. At this point, new knowledge is obtained, representing a whole that is greater than the sum of its parts. The great danger here is that the researcher will succumb to pressures of time, money, or expediency and “force” an illumination which is not authentic. Because the incubation period (step 3) is by nature an unconscious process, it is unpredictable. One cannot know ahead of time when insight or illumination will emerge. This provides an element of risk to the Capella University dissertation learner, because the time-and-money pressures of the four-course, one-year model can be a factor.

Step 5: The next step is **explication**. During the explication phase, the researcher returns to the data (transcripts, documents, etc.), and with the new insights gained during the illumination phase, observes the patterns and themes arising which portray *essential meanings*. This is a version of “thematic analysis” as discussed in the section on ethnography. *Indwelling* is used to dwell within the experiences and draw meaning from them. Polanyi (1966) refers to indwelling as follows: “It brings home to us that it is not by looking at things, but by dwelling in them, that we understand their joint meaning” (p. 18). This phase resembles the earlier immersion phase, with the difference that now one dwells in the data and their emerging meanings and structures in order to interpret them, whereas in the earlier immersion phase, one was immersed in the articulation of the phenomenon itself and in gathering similar articulations from one’s co-researchers. The goal of step 5 is to articulate by indwelling and reflection the essential structures of the experience of the phenomenon under study.

Step 6: The final step in a heuristic inquiry is **synthesis**. It is through synthesis that the whole experience is captured. Synthesis is more than a summary, it is the creation of a new understanding of the essence of the experience. “Synthesis goes beyond distillation of themes and patterns. It is not a summary or recapitulation. In synthesis, the searcher is challenged to generate a new reality, a new monolithic significance that embodies the essence of the heuristic truth” (Douglass and Moustakas, 1985, p. 17). The synthesis in heuristic inquiry is similar to the “final synthesis” in the generic model of phenomenological analysis.

The task is (1) to arrive at a depiction of the experience, a synthesizing statement that illuminates the question or problem AND (2) to develop portraits of the persons who have explicated the experience.

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Detailed Step-by-Step Procedures for Data Analysis

Three Models of Phenomenological Analysis

- A. Empirical Phenomenology is a model of phenomenological psychological research that was developed at Duquesne University (Giorgi, 1985, 1997; Giorgi & Giorgi, 2003).

In order to develop an understanding of the phenomenological psychological research method, it is essential to first understand the concept of intentionality and its role in the phenomenological method. The following passage from Amedeo Giorgi (1997) explains the role of intentionality in phenomenology.

Finally, no discussion of phenomenology would be complete without mentioning intentionality. Edmund Husserl took the term over from Franz Brentano but uses it in a fundamentally different way. For Husserl, intentionality is the essential feature of consciousness, and it refers to the fact that consciousness is always directed to an object that is not itself consciousness, although it could be, as in reflective acts. More precisely, consciousness always takes an object, and the object always transcends the act in which it appears. This idea is important for the human sciences as well, since it helps overcome the Cartesian understanding of the subject-object relationship. There are not two independent entities, objects and subjects, existing in themselves which later get to relate to each other, but the very meaning of subject implies a relationship to an object, and to be an object intrinsically implies being related to subjectivity. Thus, the subject object relationship must be understood structurally and holistically (p. 237).

In the philosophical phenomenological method there are three interlocking steps: (1) the phenomenological reduction, (2) description and (3) search for essences. The phenomenological reduction is a methodological device devised by Husserl that is used to make research findings, which use the phenomenological model more precise. During the phenomenological reduction, one brackets past knowledge about the phenomenon encountered in order to be fully present to it as it is in the concrete situation in which one is encountering it. One puts aside or renders "non-influential" all past knowledge that may be associated with the presently given object.

The researcher cannot expect all participants in the psychological phenomenological study to be phenomenological and, thus, capable of assuming the attitude of the phenomenological reduction. Moreover, for human science research, the details, biases, errors, and prejudices that we carry with us in everyday life are exactly what have to be understood in psychological phenomenological research. What is critical is that the description be as precise and detailed

as possible with a minimum number of generalities and abstractions. However, the phenomenological attitude does demand that the researcher be able to do his/her work from within the attitude of the reduction or else no phenomenological claims for the analysis could be made.

There are two descriptive levels of the empirical phenomenological model:

Level 1, the original data is comprised of naïve descriptions obtained through *open-ended questions* and *dialogue*.

Level II, the researcher describes the structures of the experiences based on reflective analysis and interpretation of the research participant's account or story.

The method of analysis consists of five essential steps which are as follows:

- 1) *Sense of the Whole* – One reads the entire description in order to get a general sense of the whole statement.
- 2) *Discrimination of Meaning Units Within a Psychological Perspective and Focused on the Phenomenon Being Researched* – Once the sense of the whole has been grasped, the researcher goes back to the beginning and reads through the text once more and delineates each time that a transition in meaning occurs with the specific aim of discriminating "meaning units" from within a psychological perspective and with a focus on the phenomenon being researched. The meaning unit should be made with psychological criteria in mind. The researcher next eliminates redundancies and clarifies and elaborates on the meaning of the units by relating them to each other and to the sense of the whole.
- 3) *Transformation of Subjects Everyday Expressions into Psychological Language with Emphasis on the Phenomenon Being Investigated* – Once meaning units have been delineated, the researcher goes through all of the meaning units, which are still expressed in the concrete language of the participants, reflects on them and comes up with the essence of the experience for the participant. The researcher next transforms each relevant unit into the language of psychological science.
- 4) *Synthesis of Transformed Meaning Units into a Consistent Statement of the Structure of the Experience* – Finally, the researcher synthesizes all of the transformed meaning units into a consistent statement regarding the participant's experience.
- 5) *Final Synthesis* – Finally the researcher synthesizes all of the statements regarding each participant's experience into one consistent statement, which describes and captures the essence of the experience being studied.

(Adapted from Giorgi, 1985, 1997; Giorgi & Giorgi, 2003)

- B. *Transcendental Phenomenology* -There are three core processes that facilitate derivation of knowledge in the transcendental phenomenological approach as proposed by Clark Moustakas (1994). The three core processes are: **Epoche**, Transcendental- Phenomenological Reduction and Imaginative Variation.

- 1) *Epoche*: Setting aside prejudgments and opening the research interview with an unbiased, receptive presence. It is returning to things themselves, free of prejudgments and preconceptions.

- 2) *Transcendental Phenomenological Reduction*: The task is that of describing in textual language just what one sees, not only in terms of the external object but also the internal act of consciousness, the experience as such, the rhythm and relationship between phenomenon and self. Textual qualities are as follows: rough and smooth; small and large; quiet and noisy; colorful and bland; hot and cold; stationary and moving; high and low; squeezed in and expansive, fearful and courageous; angry and calm – descriptions that present varying intensities; ranges of shapes, sizes and special qualities; time references and colors within an experiential context.
 - a. *Bracketing* the Topic or Question – The focus of the research is placed in brackets, everything else is set aside so that the entire research process is rooted solely on the topic and question.
 - b. *Horizontalization* – Every statement is treated as having equal value.
 - c. Statements irrelevant to the topic or question as well as those that are repetitive or overlapping are deleted, leaving only the Horizons (the textual meaning and invariant constituents of the phenomenon)
 - d. *Delimiting Horizons or Meanings*: Horizons that stand out as invariant qualities of the experience.
 - e. *Invariant Qualities and Themes* – Non-repetitive, non-overlapping constituents are *clustered* into *themes*.
 - f. *Individual Textual Descriptions* – Develop integration, descriptively, of the invariant textual constituents and themes of each research participant.
 - g. *Composite Textual Description* – Develop integration of all of the individual textual descriptions into a group or universal textual description.
- 3) *Imaginative Variation*: The task of Imaginative Variation is to seek possible meanings through the utilization of imagination, varying frames of reference, employing polarities and reversals, and approaching the phenomenon from divergent perspectives, different positions roles or functions. The aim is to arrive at structural descriptions of an experience, the underlying and precipitating factors that account for what is being experienced; in other words the “how” that speaks to conditions that illuminate the “what” of experience. How did the experience of the phenomenon come to be what it is? The steps to Imaginative Variation are as follows:
 - a. Systematic varying of the possible structural meanings that underlie the textual meanings. Vary perspectives of the phenomenon from different vantage points, such as opposite meanings and various roles. Using free fantasy variations, consider freely the possible structural qualities or dynamics that evoke structural qualities.
 - b. Construct a list of the structural qualities of the experience.
 - c. Recognizing the underlying themes or contexts that account for emergence of the phenomenon.
 - d. Develop structural themes by *clustering* the structural qualities into themes.
 - e. Considering the *universal structures* that precipitate feelings and thoughts with reference to the phenomenon, such as: time, space, bodily concerns, materiality, causality, relation to self, or relation to others;
 - f. *Individual Structural Descriptions*: For each participant, integrate the structural qualities and themes into an individual structural description of the experience.
 - g. *Composite Structural Description*: Integration of all of the individual structural descriptions into a group or universal structural description of the experience.
- 4) *Synthesis of Meanings and Essences*: The final step in the phenomenological research process is the intuitive integration of the composite textual and structural

descriptions into a unified statement of the essences of the experience of the phenomenon as a whole. The essences of any experience are never totally exhausted. The fundamental *textual-structural synthesis* represents the essences at a particular time and place from the vantage point of an individual researcher following an exhaustive imaginative and reflective study of the phenomenon.

(Adapted from Moustakas, 1994)

C. Stevick-Colaizzi-Keen Method of Analysis of Phenomenological Data (See Flow Chart in Appendix B)

Epoche is the first step in the phenomenological method and is a process in which the researcher sets aside all preconceived ideas about what is being experienced and described by the participants. *Phenomenological Reduction* is the process by which the participant describes in textual language just what one sees, not only in terms of the external object but also the internal act of consciousness, the experience under inquiry as such, the rhythm and relationship between phenomenon and self. Textual qualities are as follows: rough and smooth; small and large; quiet and noisy; colorful and bland; hot and cold; stationary and moving; high and low; squeezed in and expansive, fearful and courageous; angry and calm – descriptions that present varying intensities; ranges of shapes, sizes and special qualities; time references and colors within an experiential context. During this step in the phenomenological process, the textual qualities of the lived experience of the participant are separated. Those comments that deal with the question are clustered into themes (Moustakas, 1994).

Following the Phenomenological Reduction, the researcher uses *imaginative variation*. The task of imaginative variation is to seek possible meanings through the utilization of imagination, varying frames of reference, employing polarities and reversals, and approaching the phenomenon from divergent perspectives, different positions roles or functions. The aim is to arrive at structural descriptions of an experience, the underlying and precipitating factors that account for what is being experienced; in other words, the “how” that speaks to conditions that illuminate the “what” of experience. How did the experience of the phenomenon come to be what it is? Through the use of imaginative variation the researcher examines the data collected from participants from different views, changing the frames of reference, using polarities and reversals, and looking at the phenomenon from different perspectives, positions, roles, or functions. Employ universal structures as themes: time, space, materiality, relationship to self, relationship to others, bodily concerns, causal and intentional structures.

The final step of the process is called *intuitive integration*. Intuitive integration is the process by which the researcher develops textual-structural synthesis that represents the essence of the experience of the phenomenon under inquiry (Moustakas, 1994).

The steps to the modified Stevick-Colaizzi-Keen Method of Analysis of Phenomenological Data are as follows:

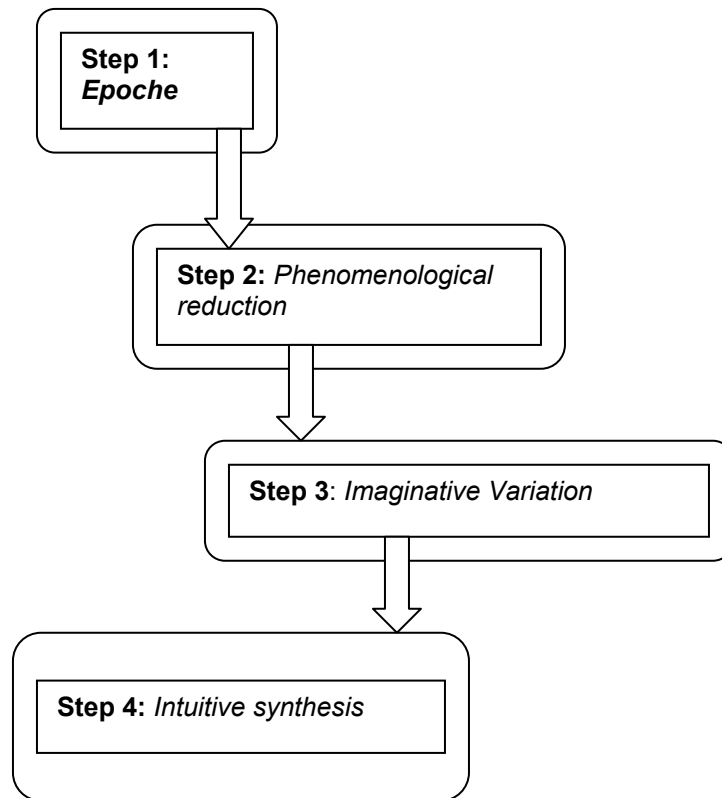
- 1) Set aside all preconceived ideas about what is being experienced and described by the participant (*Epoche*).
- 2) Consider each statement with the emphasis on the importance for description of the experience.
- 3) Record all of the relevant statements dealing with the experience.
- 4) Make a list of every non-repetitive, non overlapping statement. These constitute the invariant horizons or meaning units of the experience.

- 5) Cluster the invariant meaning units into themes.
- 6) Organize the invariant meaning units and themes into a description of the textures of the experience (textural description). Include direct quotes and verbatim passages from the participants.
- 7) Reflect on the textual descriptions. Through the use of imaginative variation, develop a description of the structures of these experiences (structural description).
- 8) Construct a textural-structural description of the meanings and essences of the experiences for the individual participant.
- 9) Once this process is completed for the data collected from each participant in the study, synthesize all of these descriptions into a composite textural-structural description of the experience representing the essence of the experience of the participants in the study as a whole. Thus, developing a composite textural-structural synthesis, which represents the lived experience of the subject under investigation for participants involved in the study.

(Adapted from Moustakas, 1994)

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Appendix B Flow chart of Keen's version of transcendental phenomenological *data analysis*

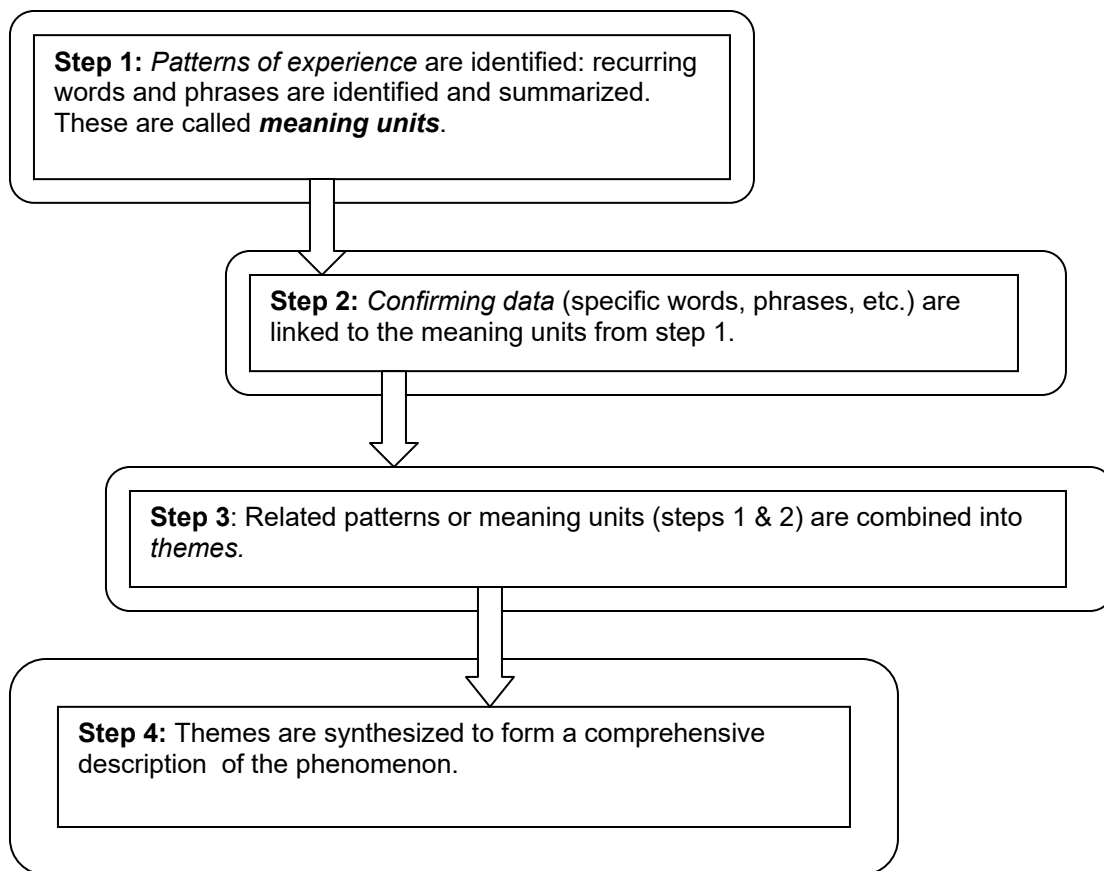
Epoche is the first step in the phenomenological method and is a process in which the researcher sets aside all preconceived ideas about what is being experienced and described by the participants. Phenomenological researchers develop their own techniques, often involving meditative or awareness techniques (such as mindfulness meditation, journaling, and the like) to become aware of the arising of biases or biasing thoughts).

Phenomenological Reduction is the process by which the participant describes in textual language just what one sees, not only in terms of the external objects but also the internal act of consciousness, the experience under inquiry as such, the rhythm and relationship between phenomenon and self. During this step in the phenomenological process, the textural qualities of the lived experience of the participant are separated and a textural description is developed.

The task of *imaginative variation* is to seek possible meanings through the utilization of imagination, varying frames of reference, employing polarities and reversals, and approaching the phenomenon from divergent perspectives, different positions roles or functions. The aim is to arrive at structural descriptions of an experience, the underlying and precipitating factors that account for what is being experienced; in other words, the “how” that speaks to conditions that illuminate the “what” of experience.

The final step of the process is called *intuitive integration*. Intuitive integration is the process by which the researcher develops textural-structural synthesis that represents the essence of the experience of the phenomenon under inquiry

Appendix C Flow chart of Generic *thematic analysis* of Qualitative Data



Patterns of experience or **meaning units**

Once the data are collected by observations, interviews (audio taped and transcribed), field notes, or any other sources, *patterns of experience* (recurring words, phrases, descriptions, etc.) are identified and listed. These patterns are derived from direct quotes and paraphrases of recurring ideas emerging from the data. These patterns form the first level of thematic analysis.

Linking the data themselves to the meaning units (*confirming the meaning units*)

Next, the researcher identifies data that correspond to the identified patterns. If, in a study of the culture of a corporation, a pattern is noted such as “males defer to hierarchically superior males, but not to hierarchically superior females,” examples that confirm this – that show it is both recurring and an accurate description of events - are located in the data (transcripts, notes, etc.) and annotated with the listed pattern (as quotes along with citation of their source). This step is critical, because it provides confirming evidence that the meaning units have emerged directly from the data themselves and not from the researcher’s biases or preconceptions. This step also provides the material for substantiating the “results” section of the dissertation (typically Chapter Four).

Creating Themes

Now, the researcher combines and catalogues *related* patterns into *themes*. This is a more abstract step, during which the researcher must beware the intrusion of bias, preconceptions, beliefs, etc. Themes are comprised of combinations and distillations of the descriptive meaning units derived from the patterns in the data. For example, if along with the earlier example this pattern emerged: “males repeatedly initiate flirting behavior with females regardless of the females’ rank and the females return the flirtation, even when they dislike it,” two themes or meaning units might be constructed as follows: “Males impose rank-dominance on subordinate males” and “males impose sexual-dominance on all females.”

Synthesis of themes

Finally, at the highest level of abstraction, themes that emerge from the patterns or meaning units (which emerged from the original data) are synthesized together to form a comprehensive representation of the element of the culture that is being investigated. The above meaning units or themes might constellate with other descriptive themes of the male and female interactions in the organization into a rich and textured description of the rules, customs, attitudes, and practices around gender in that organization.

This distillation of the practice of thematic analysis is adapted from Taylor and Bodgan (1984) and Aronson (1994)

Appendix D Moustakas' Description of Data Analysis in Heuristic Research

- 1) Place all the material drawn from one participant before you (recordings, transcriptions, journals, notes, poems, art work, etc.). This material may either be data gathered by self-search or by interviews with co-researchers.
- 2) Immerse yourself fully in the material until you are aware of and understand everything that is before you.
- 3) Put the material aside for a while. Let it settle in you. Live with it but without particular attention or focus. Return to the immersion process. Make notes where these would enable you to remember or classify the material. Continue the rhythm of working with the data and resting until an illumination or essential configuration emerges. From your core or global sense, list the essential components or themes that characterize the fundamental nature and meaning of the experience. Reflectively study the themes, dwell inside them, and develop a full depiction of the experience. The depiction must include the essential components of the experience.
- 4) Illustrate the depiction of the experience with verbatim samples, poems, stories, or other materials to highlight and accentuate the person's lived experience.
- 5) Return to the "raw material" of your co-researcher (participant). Does your depiction of the experience fit the data from which you have developed it? Does it contain all that is essential?

Complete the above steps for each participant. Then:

- a) Place the Reflective Depiction for each participant before you.
- b) Immerse yourself completely in the Reflective Depictions until you are fully aware of and understand what they contain.
- c) Put the material aside and engage in a rhythm of rest and work until the essential invariant and non-repetitive themes of the material stand out.
- d) Make a list of the essential components of the experience (these should portray the qualities, nature, and meanings that characterize the experience).
- e) From the above, develop a full reflective depiction of the experience, one that characterizes the participants as a group, reflecting core meanings not only for the individuals but the group of persons as a whole. Include in the depiction, verbatim samples, poems, stories, etc., to highlight and accentuate the lived nature of the experience. This depiction will serve as the creative synthesis, which will combine, in an esthetically pleasing way, the themes and patterns into a representation of the whole. This synthesis will communicate the essence of the lived experience under inquiry. The synthesis is more than a summary - it is like a chemical reaction, a creation of anew.
- f) Return to the individuals, select two or three and develop portraits of these persons that are consistent with the composite depiction of the group as a whole, in such a way that the phenomenon and the person emerge as real.

(Adapted from Moustakas, 1990)

References

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