

Elaboration on the Reflective Practice Framework for Phenomenographic Data Analysis

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Abstract

Over the last two decades, one can notice a turn to the reflective qualitative inquiry. However, in phenomenographic research design, the role and value of reflection are often neglected. This paper elaborates on the Reflective Practice Framework (RPF) for the phenomenographic method of data analysis developed as a result of undertaking an empirical phenomenographic study. The paper considers the genealogy of the concept “reflection” and draws on the past research to explain the theoretical foundation of the RPF. Two levels and five steps of the framework are described, and an example of how the RPF can advance the analysis of unstructured phenomenographic data is provided. The article concludes that reflection is an integral part of the phenomenographic research design that facilitates an understanding of both a phenomenon under investigation and a research process itself.

Keywords: reflexivity, reflective practice, positionality, phenomenographic research.

Introduction

Over the last two decades, one can notice a considerable turn to

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reflective qualitative enquiry and practice (Call-Cummings & Ross, 2019; Cokely & DePlacido, 2012; Crathern, 2001; Donohoe, 2019; Foley, 2002; Simpson & Courtney, 2007). Reflexive practice as a methodological tool initially emerged in feminist research. It involved asking questions about the power imbalances and identifying a researcher's position and subjectivity (Day, 2012). Over the last 20 years, the concept has expanded to include reflection on personal biases, subjectivity, commitment to the theoretical position, etc.

Differentiation and articulation of the researcher's voice and position through the reflection is another instance of the expanded use of the reflexivity technique within the qualitative inquiry. Such practice makes the voice of a researcher visible and allows the reader to hear "what is being said" (Harding, 1988, qtd. in Day, 2012, p.74). In other words, the process of reflexivity began to associate with a researcher's positionality and its influence on the research process (Brown, 2019).

While reflexivity is a popular concept used in many qualitative methodologies, much less is known about the practical aspects of reflection (Donohoe, 2019). Call-Cummings and Ross (2019) maintain that "reflexivity is issued as a call - an important step to take to establish the validity, rigour, or ethical nature of the research being done..." (p. 4). However, there is no consensus about how reflection as a practice should be organised. Wanda Pillow expressed even more pessimistic concern about the methods of reflexivity, stating that she remains "puzzled by how to teach students to be reflexive" (2003, p. 171).

Limited research has been focused on the practical application of reflexivity frameworks, techniques, and tools (Crathern, 2001; Fook, 2015; Hegarty, 2009; K rkk , 2019; Simpson & Courtney, 2007; Soedirgo & Glas, 2020). Furthermore, despite the potential benefits of reflection to demystify the process of phenomenographic data analysis, there is no emphasis on the value of reflexivity and positionality of a researcher's voice within phenomenographic studies. A search for relevant articles, using terms "phenomenography," "phenomenographic," "reflection," "reflective practice," and "reflexivity" in the Scopus database for the last 20 years showed several studies that discussed individual reflective tools or reported reflection on the research process *ex post facto* (see Gustafsson et al., 2009; Korhonen et al., 2017; K rkk  et al., 2019). Only one study reported the use of a framework for reflection and highlighted its value (K rkk , 2019).

Marton et al. (1994) stressed that there is no single algorithm to analyse phenomenographic data and pointed out that this process is "iterative and genuinely interpretive in nature" (p.282). Although there are general suggestions on how to approach the unstructured

data (Dahlgren & Fallsberg, 1991; Marton, 1986; Tufford & Newman, 2012), reflection on the development of categories of description is often neglected. To address [this] identified gap, a reflective practice framework (RPF) has been developed and tested as a part of an empirical study. The RPF provides step-by-step guidance on positioning a researcher's voice and avoiding unreflective conclusions when working with unstructured phenomenographic data. This article aims to describe the theoretical stances and constituent elements of RPF. It offers guidance for novice phenomenographers to ensure reflectivity is in place during the process of phenomenographic data analysis.

The article is organised in the following way. First, it discusses a genealogy of the art of reflection. Second, it provides a literature review of the frameworks and models for reflective practice. Third, it describes the methodology and discusses the application of the RPF during the empirical analysis. This is followed by the results, discussion, and conclusion sections. The limitations of the study are stated last.

Genealogy of the Art of Reflection: Dewey, Kolb, Archer, and Shon

The concept of reflexivity is not a new one. The importance of reflective thinking has been emphasised by such prominent scholars as Dewey, Kolb, Archer, Shon, and others. It is essential to consider earlier discussions on what reflective thought or reflective process is and to explore different schools of thought from which they arise. Various traditions are not mutually exclusive and share many commonalities, and consideration of the basic tenets of each tradition provides "a more complex understanding of the theoretical underpinnings of critical reflection" (Fook, 2015, p. 442).

Dewey: Reflection

I shall start with the early work of Dewey, "How we think" (1910). In his work, Dewey (1910) describes reflection as:

Active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further considerations to which it tends, constitutes reflective thought. (p. 6)

According to Dewey, reflective thought is only possible when the ground of a suggested interpretation is intentionally sought, and the sufficiency of its evidence is critically considered. He argued that the process of reflection is a consequence (rather than sequence) of ideas that are ordered in a way that the previous idea supports and justifies

the next one. Archer (2007) agrees with Dewey (1910) in that reflection is a process of finding one's way to the conclusion. The successive portions of reflective thought grow out of one another and support one another; they do not come and go in a medley. The stream or flow becomes a train, chain, or thread (Dewey, 1910, p. 3).

Dewey (1910) emphasised that the process of reflection is "truly educative in value" (p. 2). When an individual wants to make a choice or support one decision in favour of the other, reflection is a tool that will serve these purposes.

The origin of reflective thinking, according to Dewey, is confusion or perplexity that emerges when available data cannot provide a definitive explanation of the phenomenon or a problem. When an individual faces confusion, the most apparent interpretation known to the individual is the one rooted in one's experience and knowledge. When initial interpretation is accepted uncritically, Dewey continues, it represents uncritical thinking with minimum reflection. Such a tendency to accept the most apparent explanation is due to the mental uneasiness associated with thinking. Thus, reflective thinking is always more troublesome because it involves overcoming the thinking inertia; it requires a willingness to endure a condition of mental unrest and disturbance. By contrast, welcoming the initial solution without engaging in reflective thinking is the way to end mental discomfort (Dewey, 1910). Reflective thinking represents a judgment that has been suspended until further inquiry. As Dewey explained, the process of suspense is likely to be painful. Yet, the process of questioning and doubting is critical for thinking.

Schön: Reflective Practice

Despite the importance of his work, Dewey has been criticised for conceptualising reflection as a process of thinking rather than action. To address this issue, Schön (1983/1995; 1987) developed and adapted Dewey's ideas to the act of reflection. Reflective practice, emerged from the work of Schön (1983/1995; 1987), aimed to reduce the gap between the theory and professional practice. Schön argued that reflection is not necessarily an activity that happens after the event. Instead, it represents a way of approaching an understanding of one's life and actions.

The two dimensions of reflection suggested by Schön (1983/1995; 1987) are reflection-in-action and reflection-on-action. Although based on Dewey's (1910; 1938/1991) work, Schön emphasised the importance of acknowledging that professional knowledge involves knowing both organisational rules and creativity. The rules and actual professional practice differ from each other. By aiming to close the gap between two

areas to improve them, reflection-in-action and reflection-on-action provided instruments to articulate and develop practice theory from concrete professional practice.

Although having theoretical and practical potential, Schön's theory is not clear about the criteria determining reflection. The lack of clarity suggests that as far as there is a reflection on something, then the reflection is present (Gore & Zeichner, 1991). Nevertheless, Schön offered an alternative departure for consideration of the notion of reflection as a process that does not necessarily happen after the event.

Kolb: A Personalized Model of Reflection

Kolb's (1984) Experiential Learning Cycle offered a framework for organising a Personal Reflection Model. The Personal Reflection Model consists of three steps that encourage a researcher to reflect on fundamental questions. The first step of the model acknowledges conditions that prompt reflection by identifying and describing the experience required for reflection and upon which to reflect. Two questions of the model ("What?" and "So What?") direct an individual towards analysis and encourage reflection on what needs to be considered, acknowledged, or challenged. The final "Now What?" provides a scaffold for reflection on required actions. The personal Reflection Model suggested by Kolb reinforces the idea of reflection as a process rather than mere thinking (Sellars, 2014). Although the model acknowledges reflective practice as a metacognitive process involving emotional responses, it aims to guide the processes embedded in reflective practice. It promotes discussion of the latent factors that shape personal views, values, beliefs, and understandings and encourages a researcher to act upon them.

Archer: Reflexivity

Like Kolb, Archer extensively focuses on reflection in action. While for Dewey (1910) the importance of reflection was in its power to address a problem of misunderstanding or mistake, Archer (2007) conceptualises reflexivity as a mediator, "unknown soldier of social life", that can influence social action and social outcomes (p. 52). For Archer, reflexivity is represented by the "inner speech", an "individual reflection", which is contrasted with the external speech (Archer, 2007, p. 63). In other words, reflexive thought takes place through the internal conversation. By questioning and answering questions, we are holding an internal conversation with ourselves and *inter alia* about ourselves. This is the nature of reflective thought (Archer, 2007, p. 73).

Archer advocated the reflexive inner dialogue and supported the

statement that without “an effective inner voice, it is very difficult to initiate ideas, develop thought, be creative, and respond intelligently to discourse, plan, control our feelings, solve problems, or develop self-esteem” (Archer, 2007, p. 64). Therefore, reflection is a way of researching personal practice or experience to better understand ourselves as knowers and makers of knowledge. Understanding how social contexts and dominant discourses influence ideas, beliefs, and assumptions helps individuals to make specific connections within and between themselves and broader social and cultural environments.

Frameworks and Models for Reflective Practice: A Literature Review

Qualitative researchers emphasise the importance of reflection, an ongoing and context-specific process. Yet, little is known about it on a practical level. For example, Pillow (2003) expressed concern about methods of reflexivity, stating that she remains “puzzled by how to teach students to be reflective” (p. 171). Soedirgo and Glas (2020) also argue that there is a need for “active reflexivity” (p. 1). While Pillow does not offer any solution, Soedirgo and Glas (2020) suggest a framework for becoming involved in ongoing reflection on positionality and provide guidelines on reflective practice and engagement with research actors and audiences.

Active reflection advocated by Soedirgo and Glas (2020) is a recognition of the “complex nature and humanness” (p. 3) of any social research. The authors propose four steps for active reflection (Soedirgo & Glas, 2020) whilst committing to consideration of positionality and acknowledging the contextual nature of knowledge. The first step is documentation of the process of reflection at all stages, including the design of the research project. Documentation of reflection allows articulation of a researcher’s voice and consideration of potential power imbalances between actors involved in the research process. Furthermore, early documentation creates a foundation for benchmarking evolving thinking at later stages. The second step involves systematising reflective thoughts into a summary of individual positionality. At the third step, a researcher addresses the limitations of subjective reflexivity and seeks to include others in that process (D’Arcangelis, 2018; Soedirgo & Glas, 2020). For instance, a researcher can discuss self-positionality and individual assumptions with colleagues or seek feedback from a broader audience. The fourth step advocates sharing the thought process in the written word. This step ensures transparency about how a researcher arrived at a particular conclusion, making it possible to evaluate the quality of data and its interpretation.

Van Manen (1977) developed a hierarchical structure of three levels of reflection based on the work of Habermas. The first level is technical reflection. At this level, the effectiveness and efficiency of achieving set goals are considered through reflection (e.g., reflection upon the competencies and means required to realise set goals). The second level is a practical reflection. At this level, identified means for achieving set goals, their adequacy and rationale are examined against these goals and anticipated outcomes. Finally, the third level, a critical reflection incorporates ethical and moral considerations to address individual biases.

Another model of reflection developed by Valli (1992) contains elements of Schon's and Van Manen's frameworks. Valli proposes five levels of reflection: technical reflection, reflection-in-action and reflection-on-action, deliberative reflection, personalistic reflection and critical reflection. Technical reflection requires an individual to match competencies with professional standards and external goals and continuously improve professional performance concerning these predetermined benchmarks. At the second level, an individual must engage in ongoing reflection during and after activity to ensure continuous discussion and reconsideration of emerging issues. The third level requires an active search for alternative viewpoints. At the fourth level of personalistic reflection, an individual develops awareness of the impact of emotions, intuition, knowledge, and experience on cognitive processes. Finally, critical reflection focuses on ethical, moral, social, and political aspects. Critical reflection aims to ensure an open-minded and rational judgement and creativity of an individual.

Although showing significant overlap with reflective frameworks and models discussed earlier, Valli's (1992) model is unique because it recognises an impact of emotion and personal characteristics and background on cognitive and metacognitive processes (Sellars, 2014). Furthermore, although the frameworks of Van Manen (1977) and Valli (1992) have been criticised as hierarchies (Hatton & Smith, 1995), they are certainly helpful in that they "offer different aspects of reflective practice" (Sellars, 2014, p. 8). Sellars (2014) elaborates on Gore and Zeichner's (1991) four varieties of reflective practice: academic reflection, social efficacy reflection, developmental reflection, and social reconstructionist reflection. Similar to Fook (2015) and K rkk  (2019), Sellars emphasises the role of questions in engaging with these four types of reflection. Sellars suggests that, for example, to develop a deep understanding of classroom interactions, an educator needs to question and reflect on all four domains of reflection.

Another reflexivity tool was developed by K rkk  (2019). In her phenomenographic study, participants used a video app to follow a

five-stage reflection procedure: the creation of an individual tag set based on personal learning aims; an authentic lesson observation and feedback (optional); a selection of a lesson for video recording; a supervisory conversation; and a written reflection. Furthermore, she proposed a framework that includes seven parts essential for developing skills for meaningful reflection (Korthagen, 2017). K rkk 's (2019) framework embraces ideas of social constructivist and situatedness of learning, emphasising the interrelationships of personal and social environments which construct and shape learning.

Yet another model of reflection suggested by Fook (2015) requires small group participation. Participants are encouraged to reflect on their practice in a confidential setting. Each participant is asked to present a piece of practice that is crucial to them in some way, and the reflection is facilitated by someone versed in the approach. Fook's model has two stages: the first is an analytical process, e.g., exposure and examination of the hidden assumptions, whereas the second stage focuses on transforming identified assumptions into new ways of understanding practice.

A consideration of the different schools of thinking, theories, models, and levels of reflection revealed that they are focused on various elements of the reflective process, e.g., the reflection itself, the conditions that prompt the reflective process, or the content of reflection. A better understanding of different schools of thinking allows selecting the most appropriate aspects for a particular research or practice. Although suggesting that reflection is a personal practice that may vary from one individual to another, each of the models or frameworks discussed here offer valuable insights on reflection as a concept or a practice. For phenomenographic methodology, reflection provides an opportunity to reveal what is going on in the "black box" of the method by demystifying the data analysis process. Surprisingly, not much interest in bringing reflection to focus has been found within phenomenographic studies. Selected works that involved reflection showed no systematic approach to this process, being of little help for novice phenomenographers. Furthermore, no attempts were made to integrate reflection into the phenomenographic research design.

Methodology

A phenomenographic research study was conducted by the author of this article facilitated the development of RPF. Although a discussion of the mentioned empirical study is beyond the scope of this article, it is worth mentioning that the research project aimed to uncover qualitative differences in how adult students experience their learning

and conceptualise success in two online postgraduate programmes offered by a UK university and its partner institution in Russia.

The data analysis has been conducted following an eight-step procedure adapted from Dahlgren and Fallsberg (1991). The principle of diversity and a developed RPF guided the phenomenographic investigation. The developed framework provided a considered algorithm for maintaining reflection on the phenomena under question and the research process itself.

Results: Reflective Practice Framework for Phenomenographic Research Design

Feminist theory—a domain where the interest in reflection has initially emerged—problematizes value-free social research. It advocates the elimination of a distance between a researcher and research participants by carefully considering a researcher's identity and positionality.

In phenomenography, a researcher must also be cautious not to neglect the second-order perspective by speculating the idea of the subjective nature of knowledge. A phenomenographer must represent the research participants' perspectives as close as possible whilst reflecting on a personal contribution. From that perspective, a suggestion that a researcher is an instrument for the research is problematic. The assumption is that a researcher is a mere mechanism in the research process, whilst in phenomenography, he or she actively contributes to the knowledge production.

A phenomenographic study aims to uncover the meaning participants assign to the phenomenon under investigation. Although stating that the data is presented from the second-order perspective, a researcher is an integral part of the interpretation of participants' accounts. This means that a researcher should always acknowledge personal influence. However, to my best knowledge, a methodological tool that enhances the process of reflection on phenomenographic data analysis is absent.

There is no recipe on how to produce a phenomenographic research of good quality. However, reflection can serve as a technique to address a "triple crisis", a struggle of "representation, legitimation and praxis" (Denzin & Lincoln, qtd. in Day, 2012, p. 61). Reflection on individual biases, assumptions, and prior experience does not intend to eliminate them completely. Still, it helps to bring into the light and include them, together with a researcher's identity, into the research.

In the proposed reflective practice framework, five elements of the reflective cycle are confusion, the proposition of a solution or explanation, reasoning, recording and, finally, either verification or rejection of the proposed solution (see Figure 1).

The framework has its roots in the cyclic thinking process described by John Dewey. Dewey (1910) explains the idea of reflective thought as active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further considerations to which it tends, constitutes reflective thought (p. 6).

The framework helps to make personal perspectives that are embedded in the thinking and decision-making processes transparent, reasoned and founded in facts. In addition, it allows ethical considerations and inclusion of professional values and is open to discussion and alternative perspectives. In other words, five elements of the framework serve as tools for ongoing reflection during the eight steps of phenomenographic data analysis (see Figure 2).

The application of the framework to the data analysis is shown in Table 1, followed by an elaboration of each element of the framework in more detail.

Figure 1
Element of the Reflective Practice Framework

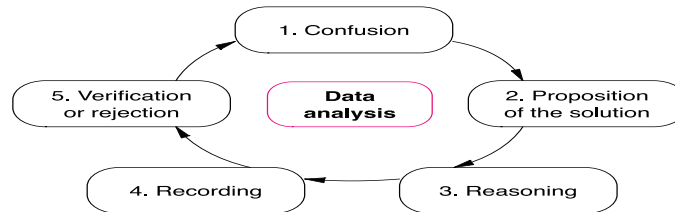


Figure 2
Eight Steps of the Phenomenographic Data Analysis

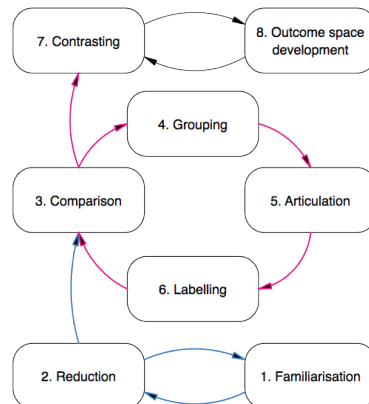


Table I**Application of the RPF to the Phenomenographic Data Analysis**

<i>A step of data analysis</i>	<i>Description of the procedure</i>	<i>Application of the Reflective Practice Framework</i>
<i>Positionality statement</i>		
	Clarification of a researcher's authority, credibility, knowledge.	• Confession about motivation, prior experience, status, and dependence on participants' authentic accounts. • Articulation of multiple identities • Discussion of theoretical stances, methodological practices and how these may affect research.
<i>Reflection on the data analysis process</i>		
Familiarisation	Reading through the transcripts, listening to audio-recorded interviews.	
Reduction	Identification of the most distinctive utterances relevant to the research questions to formulate a data pool.	• Confusion • Proposition of the solution • Reasoning • Documentation Reflection on why a researcher finds utterances meaningful or striking and a search for alternative relevant meanings.
Comparison	Comparison of the piles of data within the data pool in order to identify differences and similarities.	• Confusion • Proposition of the solution • Reasoning • Documentation • Verification or Rejection. During the reflection, a researcher may ask a specific question about how a particular utterance related to the researcher question, e.g.: • How do my study participants appear to connect to the phenomenon under question? • How do they go about the phenomenon under question? • What is the meaning of the phenomenon under question for them?

Table I (continued)

<i>A step of data analysis</i>	<i>Description of the procedure</i>	<i>Application of the Reflective Practice Framework</i>
		When a solution is proposed, a researcher evaluates whether it is solidly grounded in data. Once a researcher thinks that the roots in data are found, he/she is encouraged to pose the same question again to generate alternative interpretations. Such practice allows one to focus on research aims and phenomena under investigation and look for meanings in data not available from first sight.
Preliminary grouping	Preliminary systematisation and grouping of utterances that appear to represent similar ways of conceptualising a phenomenon into the piles of data	• Confusion • Proposition of the solution • Reasoning • Documentation • Verification or Rejection At this stage, a researcher is encouraged to go through all the five steps of data analysis, cultivating confusion when deciding whether the piles of data are similar or different.
Articulation	To capture the essential meaning of a proposed category.	• Documentation The piles of data associated with the proposed category are scrutinised to develop a central meaning of the category, and documentation of the thinking process is essential at this stage. It shows the evolution of the proposed categories and ensures that the voice of the researcher is visible to the reader.
Labelling	Finding the criterion that attributes for each potential category, highlighting the essence of each category by giving it a name.	Names for categories can be suggested using participants' quotations, or by assigning a metaphor to each category.

Table I (continued)

<i>A step of data analysis</i>	<i>Description of the procedure</i>	<i>Application of the Reflective Practice Framework</i>
Contrasting	Distinguish critical variations across identified categories of description.	• Confusion • Proposition of the solution • Reasoning • Documentation • Verification or Rejection. This process involves a consideration of mutual relationships across the developed categories. A researcher should return to the positionality statement to maintain empathy for the participants' opinions and think about the representation of their voices. A researcher is encouraged to go through all reflection steps to propose several alternative variations within and across each category of description and articulate why particular areas of variations have been prioritized and selected for inclusion into the outcome space.
Development of the Outcome Space	Development of the model which represents distinctive characteristics of each category, resemblances, and relations between them.	• Confusion • Proposition of the solution • Reasoning • Documentation • Verification or Rejection. At this step, a researcher is required to make a distinction between foregrounded (referential) aspects and backgrounded (structural) aspects of a phenomenon identify dimensions of variations that run across categories. Furthermore, a context within which each category is discerned (an external horizon) is discussed. This process is often challenging and may involve confusion. Utilising a reflective practice framework, a researcher is encouraged to produce several alternative outcome spaces and seek evidence in data that helps to develop the most stable hierarchy. The evolution of the outcome space is made visible by documenting this process.

Level One: Positionality Statement

Harding argued that understanding a researcher's position is critical in the qualitative inquiry as it makes the voice of the research visible and confident and allows the reader to hear "what is being said" (qtd. in Day, 2012, p.74). Commitment to reflexivity provides an opportunity to assess qualitative research with a consideration of a researcher's position (MacLean et al., 2019; Soedirgo & Glas, 2020). To allow this opportunity, D'Arcangelis (2018) and Soedirgo and Glas (2020) advocate disclosure of self-positionality. In phenomenographic study, articulation of individual positionality is of particular importance. When analysing data, a phenomenographer interprets a participant's interpretation of the phenomenon, and thus, it is critical to distinguish the two voices explicitly. However, the introduction of positionality is not a straightforward process. Rather, as Watson argues, it has "slips" and inconsistencies (qtd. in Day, 2012, p. 80). Even with reflection, there is a risk of "reflexive inclusion" of the self into the piece of research (Day, 2012, p. 69). Thus, an analysis of the self rather than mere disclosure is an essential element of the reflexive technique (Watson, 2006, qtd. in Day, 2012, p. 70). Such analysis may involve clarification of a researcher's authority, credibility, knowledge, and a confession about the prior experience, status, and the dependence of research on participants' accounts (Watts, 2006, qtd. in Day, 2012, p. 70).

In the RPF, a researcher's confession and description of identity evolution are made within a positionality statement. In the statement, a researcher clarifies which identities are put forward, e.g., a woman, a parent, a student, an adult, or a multidimensional identity. Furthermore, consideration and self-positioning involve reflection on one's theoretical perspectives and past methodological practices and how those may influence the study.

Level Two: Five Steps of Reflection

Step 1. Confusion

As indicated in Figure 1, reflection starts with confusion. In phenomenographic data analysis, confusion emerges when a researcher faces unstructured data. The unstructured data can only suggest an interpretation or a possible way of organising participants' utterances; it cannot provide a definite interpretation. Since the insights and suggestions that emerge in a researcher's mind are always rooted in prior experience and knowledge (Dewey, 1910), a researcher can terminate

the thinking process by accepting initially appeared interpretations and explanations. On the other hand, rejecting the initial solution suspends uncritical thinking and initiates reflection. Without suspending a judgement, the immediate conclusion cuts the possibility of reflective thinking. As a result, the subjectivity of an individual remains unexplored. When dealing with unstructured phenomenographic data, difficulty or confusion is a starting point of reflective thinking. An essential part of the reflective thinking technique is the cultivation of uneasiness or confusion. This postpones the first suggestion of a solution until the nature of confusion is thoroughly explored. Such practice, according to Dewey (1910), is an indicator of good thinking.

Step 2. Proposition of the Solution

The next step of reflection, reasoning, presumes a more intimate and extensive consideration of the proposed idea or interpretation and involves an examination of the empirical data. Working with unstructured phenomenographic data means going from what is present (the raw data) to something absent, something that can be only proposed (an interpretation of the data) (Dewey, 1910). Hence, the process of interpretation of phenomenographic data is somewhat speculative and exploratory. As far as it is not accepted but only tentatively entertained, the suggested interpretation constitutes an idea, a proposition, a guess, a hypothesis, or a theory (Dewey, 1910). Once suspended, a postponement of an initial interpretation is pending further evidence. At this stage of reflection, a researcher is required to cultivate a variety of alternative interpretations. The final conclusion depends upon the existence of evidence and the presence of rival conjectures of probable explanation to its favour. Such cultivation of a variety of alternative suggestions is another crucial factor of good reflective thinking.

Step 3. Reasoning

At the reasoning stage, accepting the interpretation in its first form is prevented by looking into it more thoroughly. At this stage of reflection, conjectures that seemed plausible at first glance could be found lacking grounding in data. Even when the reasoning does not lead to rejection of the proposed interpretation, it develops the interpretation into a form that is more apposite to the phenomenon under question. At the same time, interpretations that seemed remote and weak at first may be elaborated and transformed during this stage and become suited and fruitful. As Dewey emphasised, the development of the interpretation through reasoning helps to “supply the intervening

or intermediate terms that link together into a consistent whole apparently discrepant extreme” (Dewey, 1910, p. 76).

Whilst interpretation is inferred from given data; reasoning sets out from an interpretation. Reasoning has the same effect upon a suggested interpretation as more extensive observation has upon the original problem. By searching for evidence in data to support the proposed interpretation and by looking at the context within which that evidence is found to make a better sense of interpretation, a researcher is entering the reasoning process and facilitates a deeper reflection.

Step 4. Documenting or Recording

One of the most challenging tasks of qualitative research is to represent the truth in their findings and allow the voices of people involved in the study to be heard. This is especially true for phenomenographic research, which takes a second-order perspective. The process of analysis of phenomenographic data involves interpretation of the meanings that participants assigned to the phenomenon, consideration of how a researcher accounts for participants’ experiences, and consideration of how a researcher accounts for own experience and assumptions. The last point relates to positionality and comes from the idea that a researcher actively contributes to knowledge production.

The documenting step within the RPF allows researchers to bring together outcomes of a reflective nature and ensure transparency and validity of analysis and interpretation. However, there is another reason for documentation of reflection. According to Dewey, when conducting an internal conversation, individuals know what they mean, and abbreviations and shortcuts are often employed in the inner dialogue. Through the documentation of reflection, implicit ideas and insights are made explicit, and what was unconsciously assumed is exposed to the light, resulting in fruitful thinking. Through documentation, the risks of misunderstanding and misinterpretation are minimised. By contrast, in an uncritical thinking practice, a consecutive train of thoughts is taken for granted and not examined, leaving the unconscious assumptions and influences unexpressed. Making reflexivity a conscious and visible process through documenting, a phenomenographic researcher transparently applies thought processes and make assumptions explicit.

According to Dewey (1991), to be a reflective practitioner or a researcher is “to look back over what has been done so as to extract the net meanings which are the capital stock of intelligence dealing with further experiences” (p. 86). Documentation of reflection allows read-

ers to determine the researcher's positionality, articulate a researcher's voice, reflect on potential power relations between the research and participants and, finally, record and revise identified assumptions.

Step 5. Verification or Rejection

The conclusive step of RPF is verification of the proposed interpretation. At this step, conditions are deliberately arranged according to the requirements of an interpretation to see if the empirical evidence supports the results. For example, suppose it is found that the proposed interpretation is firmly grounded in data. In that case, the confirmation is strong to induce a conclusion- at least until contrary facts indicate the advisability of its revision or its rejection. (Dewey, 1910, p. 77). Otherwise, the suggested interpretation is rejected, and a new cycle of reflection begins again with confusion. The process of grounding the interpretation and conclusion in the empirical evidence addresses potential fallacious intrinsic and extrinsic beliefs emphasized by Dewey.

Discussion

This paper introduces a model for reflection that includes two levels and five steps. The first level of reflection involves the development of a positionality statement. This process has several aims. First, it acknowledges that interpretation of the phenomenographic data is mediated by a researcher's beliefs, values, assumptions and accepted paradigms. Developing a positionality statement engages a researcher in each aspect of reflection authentically and allows recognition and acknowledgement of the origins and impact of own belief systems, values and prior knowledge and experience. Habermas (1974) regards this act as a self-determined action. Calderhead (1989) comments on this perspective of Habermas, noting that reflection is viewed as a process of becoming aware of one's context, of the influence of societal and ideological constraints on previously taken-for-granted practices and gaining control over the direction of these influences (p. 44).

The researcher's biases, beliefs, and values should not be excluded from the interpretation of the phenomenon under investigation. Reflection is essentially a very personal interpretation of reality. Understanding individual professional context may pave the way for a more authentic researcher that embraces a researcher's epistemological perspective. That perspective reflects what a researcher believes about knowledge construction and personal definitions of truth and reality.

Thus, developing a positionality statement allows phenomenographers to lead a more authentic reflection by acknowledging rather than

“bracketing” personal beliefs, philosophical stances, assumptions, and feelings. Furthermore, a researcher is honest with the reader about the standpoints from which the data analysis has been approached and how these have been evolved throughout the research process.

Secondly, by acknowledging that any interpretation is likely to be based on experience and prior knowledge, the framework facilitates the suspension of immediate, uncritical interpretation of data. One of the difficulties of reflective practices is the perceived importance of being objective. However, the philosophical debate regarding an individual’s capacity to present an objective perspective becomes muted in the face of the position that all objectivity is first understood as subjective experience (Nisbett, 2005). Critical scrutiny of the origins, validity and limitations of personal subjective interpretation allows a researcher to become more open to other perspectives and interpretations.

The proposed RPF offers a more realistic approach to reflection- an approach that values individuals’ holistic nature and embraces limitations of a researcher’s subjectivity (Sellars, 2014, p. 10). Moreover, it provides practical guidance to enhance the quality of thinking and judgement (Dewey, 1910).

The third aim of the framework is a gradual construction of the researcher’s position, making the researcher’s voice and position explicit. Most elements presented in RPF allow the audience to see how a researcher goes about knowledge construction during a phenomenographic data analysis. Through reflective analysis, by engaging in ongoing inner dialogue during the documentation (journal writing, notes making, and articulating the data analysis procedures to the wider audience), researchers can better understand how they arrived at the particular conclusion. Furthermore, documenting makes the reflection process available to a reader, which allows an independent evaluation of the research results and increases the trustworthiness of the research (Anfara et al., 2002).

To conclude, as Glesne and Peshkin (1992) emphasise, reflection, monitoring and justification of a researcher’s influence is an essential element of becoming a better qualitative researcher. The RPF may assist novice phenomenographers in developing a self-reflective awareness (Finlay, 2008) and to avoid a typical social science trap - a tendency to notice evidence that “corroborate a favourite belief more readily than those that contradict it” (Dewey, 1910, p. 7).

Conclusion

By drawing on the historical understanding of reflective thinking, this article proposes the RPF for a phenomenographic data analysis. It

begins with outlining the basic theory and origins of reflective thought, elaborates on the development of the framework, describes its elements, and explains how it can ensure ongoing reflection in phenomenographic data analysis. The RPF offers what Guillemin and Gillam name “ethics in practice” (in Call-Cummings & Ross, 2019, p. 5) and presumes an ongoing ethical engagement and considerations of choices made throughout the research.

Adding reflection to the data analysis process triggers the question of how a researcher participates in knowledge production. The reflective practise technique described in this paper involves the development and a regular revision of the positionality statement, making the evolution of a researcher’s identity and philosophical stances visible for both the author and the reader.

The RPF also makes interpretations transparent. It emphasises conflicting issues, insights, the lack of the researcher’s confidence and the evolution of a researcher’s understanding of data, demystifying the very process of phenomenographic data analysis.

The article advocates the cognisance of a researcher’s contribution to knowledge construction throughout the research process. It suggests how reflection can address the limitation of phenomenographic methodology. By doing so, this article offers a significant contribution to the methodological development and a discussion around qualitative research that recognises the weight of individual subjectivity.

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