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# Phenomenology and its Application As a Research Method in Social Sciences

*Sosyal Bilimlerde Araştırma Yöntemi Olarak Fenomenoloji ve Uygulanışı*

**ABSTRACT**

The aim of this study is to analyze the basic features of phenomenological research, which is a qualitative research design that has recently been frequently preferred in social sciences, in the studies conducted on the literature and to provide a basic and small contribution to the researchers who will use these designs. In this study, firstly, the characteristics of qualitative research are mentioned, and then a brief analysis of the effects of phenomenological research on social sciences, contributions to researchers, advantages and disadvantages of phenomenological research is made.

**Keywords:** Phenomenology, social research, qualitative, design method, sociology.

**ÖZET**

Bu çalışmanın amacı sosyal bilimlerde son zamanlarda sıklıkla tercih edilmekte olan niteliksel araştırma deseni olan fenomenolojik araştırmaların temel özelliklerini, literatüre yönelik olarak yapılan araştırmalarda analiz etmek ve söz konusu desenleri kullanacak araştırmacılara temel ve küçükte olsa bir katkı sağlamayı amaçlamaktadır. Bu çalışmada öncelikli olarak nitel araştırmaların karakteristik özelliklerinden bahsedilmiş, ardından fenomenolojik araştırmaların sosyal bilimlere etkileri, araştırmacılara katkıları, avantajlı ve dezavantajlı yönleriyle kısa bir analizi yapılmaktadır.

Anahtar Kelimeler: Fenomenoloji, sosyal araştırmalar, niteliksel, desen yöntem, sosyoloji.

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## INTRODUCTION

Phenomenography, as an approach of qualitative research, was developed in the early 1970s by a researchers group conducted by Ference Marton, from the Education Faculty at the Gothenburg University, Sweden. Phenomenography is a research method that examines what people perceive, understand and experience about the events they encounter in the universe they live in.

This research method is not a frequently used method in research conducted in our country, and this research method is not included in detail in research books. In this study, the definition, purpose, characteristics, historical development of the phenomenographic research method, how it is done, how its generalizability, validity and reliability are ensured, and the studies conducted using this method are touched upon. In addition, the similarities and differences of this method with other research methods such as phenomenology have been revealed.

The term phenomenon in the concept of phenomenography is defined as "görüngü (phenomenon)" in the dictionary of philosophy terms (Akarsu, 1975). In general terms, phenomenon is used for everything perceived by the senses and through the senses. "Phenomenography" is derived from the Greek words "appearance" (phainomenon) and "description" (graphein). Phenomenography, which is the combination of these two words, can be defined as "the description of what appears" (Hasselgren and Beach, 1997).

Although individuals grow up in the same world and environment, they comprehend and comment about the same phenomena in a different way. Trying to characterize these different understandings of individuals regarding various aspects of the world surrounding them, a group of Swedish researchers utilized a device called "phenomenographic research" in their researches (Çepni, 2007).

Phenomenographic research is interested in what people perceive, understand and experience about the events they come across in the universe they live in. In phenomenographic research, individuals' definitions of a phenomenon are not evaluated as true or false. The definitions put forward by individuals regarding the phenomenon to be investigated (such as learning and teaching) are divided into categories. Dividing definitions into categories clearly reveals what individuals think (Koballa et al., 2000).

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Phenomenography, developed in the early 1970s by Ference Marton and colleagues at the University of Gothenburg, represents a distinctive approach within qualitative research, focusing on the qualitatively different ways individuals perceive, understand, and experience phenomena in the world around them (Marton, 1981; Hasselgren & Beach, 1997). Despite its significant contributions to educational research, phenomenography has remained underutilized and underrepresented in the methodological literature in Turkey (Çepni, 2007). While phenomenology is frequently addressed in qualitative research textbooks, phenomenography often receives only superficial mention, if at all, leading to a lack of awareness and application among local researchers. This study aims to address this gap by systematically exploring the historical development, core principles, methodological procedures, and analytical strategies of the phenomenographic approach. In doing so, it not only contributes to the diversification of qualitative methodologies available to Turkish scholars but also provides an accessible and comprehensive resource for those seeking to apply this method in educational and social research. Furthermore, by delineating the differences and similarities between phenomenography and related approaches such as phenomenology, this study clarifies conceptual ambiguities and supports methodological pluralism within the qualitative research landscape.

**Purpose Of The Study**

This study aims to introduce the phenomenographic research method, which is included in the qualitative research approach. For this purpose, information is given about the definition, purpose, characteristics, historical development of the phenomenographic research method, how it is carried out, how its generalizability, validity and reliability are ensured, and examples of studies conducted with this method are presented. Additionally, the similarities and differences of this method with other research methods such as phenomenology are mentioned.

**The Method**

This study is a compilation type research. Document analysis procedure has been utilized in the research. The procedure is based on collecting and examining existing records and documents. Any written material that provides information about the subject to be researched is called a document (Balcı, 2006).

**Phenomenology As A Conceptual Research Method**

Phenomenography is an empirical study tradition that attempts to reply questions as to thoughts and learning (especially in the educational research context) (Marton, 1986) and examines people's relationships with world around them. The word “Phenomenography” is of Greek origin. It is formed by combining the words Phainomenon (appearance) and graphein (definition). So, phenomenography means the appearances description (Hasselgren and Beech, 1997: cited in Orgill, 2000).

Epistemological roots of phenomenography; It is based on phenomenalism, which presents reality with phenomenon and phenomenon with real experience. Phenomenalism was formally initiated by the German philosopher Edmond Husser (1901) and later developed by Heidegger and Sairte (Bell,2001).

The term of phenomenography was utilized at first in Ulrich Sonnemann's (1954) book "Existence and Therapy" (Bell, 2001). He used the term to identify subtle key differences between the two forms of psychotherapeutic research, that of Jaspers and Heidegger. The work of Jaspers' is a report of the distribution of lived experiences recorded by the individual. Heidegger's work, on the other hand, is a research that describes individual experiences observed experimentally by the researcher. Sonnemann characterized Jaspers' work as "Phenomenography" and Heidegger's work as "Phenomenology" (Bell, 2001).

Phenomenography emerged from the research of education conducted in Sweden (at the University of Gothenburg) in the late 60s and early 70s. The purpose of this study was to view the world from the perspective of the student's through a lot of processes such as perception, conceptualization, understanding and grasping (Ashworth and Lucas, 1998).

When Ference Marton and her colleagues Roger Säljö, Lars-Öwe Dahlgren and Lennart Svensson undertook this pioneering research, many academics from around the world were interested in the way the research was done. Many of these scholars applied phenomenographic methods to their own research after meeting one-on-one with experienced Phenomenographers (Clement, 2001).

Since then, the research paradigm has emerged and gradually developed. Marton (1981) talked about the starting point and philosophy of phenomenography in his article "Phenomenography - Depicting Concepts of World Around Us". According to Marton (1981), questions in educational psychology generally concern why some students are more successful than others. An alternative question to this question was questioned by Säljö (1981):

Marton said that these two ways of formulating questions represent two different perspectives: The first and more adopted perspective is; “we orient ourselves to the world and create situations related to it”. In the second perspective, “we orient ourselves to people's ideas or experiences of the world and create situations as to the ideas of people regarding the world.” Marton (1981) called the former first-order perspective and the latter second-order perspective.

According to Marton (1981), there are two important reasons for choosing the second-degree perspective: The first, and more obvious, is that finding out the different ways in which people experience, understand, interpret, capture, and grasp different aspects of reality is interesting enough, that it has pedagogical potential so that it is not weak or insufficient, and that the need to shape field knowledge. The second is that the definitions received from the second-order perspective are more original and independent than the definitions derived from the first-order perspective.

Marton (1981) says this means: If we (returning to our example) are interested in what people think about their school performance, then we have to look into this problem. Since the reply may not come from a combination of the thing that we find regarding the general qualifications of the mind of the human or the school system, or even about both.

Marton (1981) stated that the purpose of the research program discussed is not to classify people or compare groups or to make right or wrong decisions, opinions or explanations about people; He said that his aim was to find and systematize different aspects of reality and ways of thinking that have social importance and are shared by a certain social segment.

He stated that the research method he wanted to discuss is complementary to other research methods and that it is a method that investigates the definitions, analyzes and understanding of experiences, and tends towards experience-based definition and he said that he wanted to name this approach, which is relatively different from others, as "Phenomenography". Phenomenography is the experimental study of a limited number of qualitatively different ways of experiencing, understanding, perceiving and comprehending various aspects of the world around us and different events in this world (Marton, 1981).

Borg and Gall's (1996) phenomenography definition is "a specialized methodological research process for the research of different ways that people understand the world around them, and the analysis and grouping of data into concept categories built on the assumption that there are a limited number of qualitatively different ways of comprehending a phenomenon" (as cited in Bell). , 2001).

The process of depicting the educational aspects of the learning experience regarding a phenomenon requires investigating the diversity of students' learning experiences about that phenomenon (Marton, 1981). According to Säljö (1997), phenomenographic research is a practice worth spending time on because it tries to find, limit and depict various ways of experiencing the reality. This method accepts that there are a limited number of different ways of experiencing reality (as cited in McDonald, 2000).

**Purpose Of The Phenomenographıc Research Approach**

Phenomenography is an experimental method of research. This method is especially designed to reply questions as to thoughts and learning in the content of educational research (Jafari and Iturralde, 2004). The aim of the phenomenographic approach is to depict, analyze and understand, from a second-order perspective, how the individual conceptualizes the phenomena in the world around them. In other words, it is to depict the phenomenon as it appears to individuals (Marton 1981, 1986, 1994). The concept of "conceptualization" is the most important here and is described as "a way of seeing the relationship between an individual and the phenomenon" (Johansson, Marton and Svensson, 1985: cited in Eklund-Myrskog, 1996. Marton (1981, 1994) believes that there are limited qualitative differences in how different people experience a particular event. The aim is to illuminate the different conceptions people possess for a given event.

Phenomenology, one of the perspectives that form the basis of qualitative research (Yıldırım and Şimşek, 2016: 41), is based on a strong philosophical background (Cresswell, 2018: 77). Although the concept of phenomenology was first encountered in Hegel's work "Phenomenology of Mind" (Johnson, 2008: 138), Edmund Husserl is considered as the representative of the phenomenological school of philosophy. In addition, thinkers such as Heidegger, Sartre and Merleau-Ponty also played a role in the development of phenomenological thought (Cresswell, 2018: 77).

According to phenomenology, the concept of phenomenon is the object, event and/or phenomena perceived by consciousness. In this context, phenomenology is an approach that analyzes everything experienced by

consciousness and looks into how people understand the world they live in with their consciousness (Cevizci, 1999: 341; Craib, 1992: 98). Phenomenological thought is radically anti-positivist (Haralambos and Holborn, 1995: 889).

According to phenomenology, the world is the subjective reality that individuals perceive with their consciousness. In this respect, for phenomenology, social reality is a relative reality and is a dynamic created and reproduced by actors in daily life through routines and relationships, rather than a fixed phenomenon with universal laws that sit "there" waiting to be discovered (Tatlıcan, 2011: 113; Slattery, 1991: 142).

While phenomenographic studies focus on the concepts people possess for a given phenomenon, the researcher tries to have as neutral an impact as possible on the opinions of the participants (Orgill, 2000).

The chief conclusions of a study are categories of different descriptions of a phenomenon. But phenomenographic research is more than that. Because it involves defining concepts, investigating their underlying meanings and their relationships with each other (Enswiste, 1997: cited in Orgill, 2000).

The most characteristic feature of Husserl's phenomenology is intentionality; The object comes into existence only when consciousness directs towards it; in this sense, the object is something that occurs as a result of and through experiences. In a sense, the things themselves are not independent of the subject; understanding the nature of the thing is possible by understanding the subject itself (Gönç Şavran, 2013: 120).

According to phenomenology, meanings are formed by classifying experienced phenomena through the mind (Haralambos and Holborn, 1995: 898), and in this classification process, the things experienced are perceived as universal (Tatlıcan, 2011: 118). In other words, people generally assume that there is a natural order and act as if they are experiencing the same things. For this reason, Husserl suggests that reality can only be reached by purifying it from common sense and experience, that is, by transcending these classification processes, which is called phenomenological reduction and/or bracketing (Craib, 1992: 98).. Accordingly, a researcher who wants to study any phenomenon aims to reach the essence of reality through experiences, leaving aside all his assumptions - that is, bracketing the categorization processes made - and thus tries to reach reality by purifying his consciousness (Swingewood, 1998: 315).

In a sense, phenomenology uses a philosophical method that does not treat the learned ideas as absolute realities, but focuses on the essence of things, questions them, and examines the functioning of consciousness and, accordingly, human experience, as if it were an extraterrestrial visitor, moving away from prejudices and dogmas. As a matter of fact, according to Husserl, although science can deal with natural realities, it cannot reflect the world of experience, that is, daily and social life, as it is, and in this respect, Husserl deeply influenced many social science disciplines, especially sociology (Tatlıcan, 2011: 113-117).

## SIMILAR AND DIFFERENT ASPECTS OF PHENOMENOGRAPHY WITH OTHER RESEARCH METHODS

A phenomenon consists of two divisionss. The structural aspect of the event is the first. The structural aspect of an event is the fragmented part of it that is perceived by everyone (Åkerlind, 2012). The other is the reference way, which is the universal sense of an event (Åkerlind, 2012). All structural aspects are covered by the universal aspect (Pherali, 2011). In fact, the universal/reference aspect regarding a phenomenon is the last point or the outermost conceptual periphery, the point reached by the human mind in experiencing that phenomenon and transforming it into a concept in that historical process (Orgill, 2012; Stolz, 2020).

Phenomenographic research is interested in what people perceive, understand and experience about the events they come across in the universe they live in. In phenomenographic study, individuals' definitions of an event are not evaluated as true or false. The definitions put forward by individuals regarding the phenomenon to be investigated (for example teaching and learning) are divided into categories. Dividing definitions into categories clearly reveals what individuals think (Koballa, Graber, Coleman and Kemp, 2000).

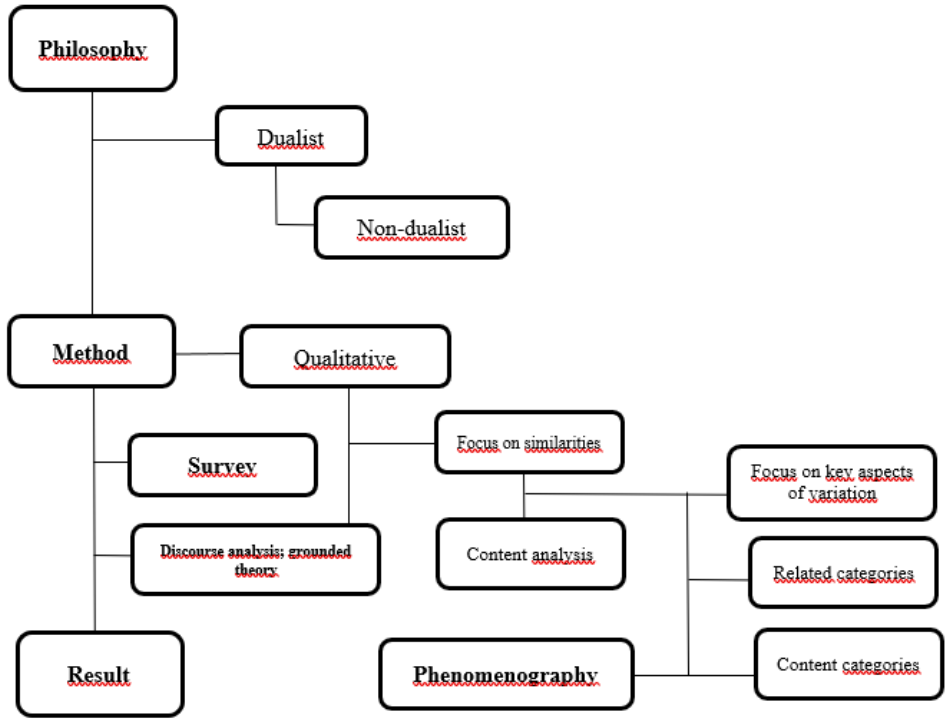


**Figure 1:** Definition of Phenomenography
**Source:** Trigwell (2006, s. 369-370), summerises the definition of phenomenography as shown below

In this definition made by Trigwell, attention is drawn to five features of phenomenography.

Trigwell explained these features as follows:

1. Phenomenography rejects the dualist approach. Because the düalist approach sees the individual seperate from the object and the phenomenon. Reality is not "out there somewhere". Reality is established by creating relationships between the phenomenon and the individual.

2. Phenomenography is within the qualitative research tradition.

3.Not the perceptions of the researcher about a phenomenon in phenomenographic research (1st row approach) but the perceptions of individuals participating in the research (2nd order approach) are taken into account.

The research of phenomenographic method is basically built on two views: First; The ways that individuals follow in the process of making sense of phenomena are not located in their minds, and the second is that describing perceptions and describing reality are different (Dahlin, 2007). At this point, the phenomenographic method adopts the second order approach.

Research that adopts a first-order approach examines a specific phenomenon, in other words, reality itself.

Research adopting the second-order approach investigates how a certain phenomenon is perceived by individuals. As justification for the method developed by Marton (1978) in his study; He stated that previous studies on learning adopted a first-order approach, therefore they did not take into account the relationship between the learning phenomenon and the learner (as cited in Richardson, 1999).

**Method Of Phenomenographıc Research Approach**

Phenomenographic studies attempt to explore different ways people learn. Although there are many sources of information that explain the ways people understand or conceptualize, the dominant method for collecting data in this approach is individual interviews conducted in the form of dialogue (Trigwell, 2000).

Phenomenographic researches try to understand and describe the lived experiences of a small group of individuals via long-term collaboration and repeated talks (Bell, 2001). Interview participants are encouraged to reflect on aspects of the phenomenon given in the question (Trigwell, 2000).

Orgill (2000) describes these interviews as "open and deep". What is meant by clarity is that the question list can be prepared as desired. There are also spaces for unexpected but useful answers from the interviewee. What is

meant by depth is to continue asking questions until you get tired and come to a common understanding. However, the researcher does not influence the opinions of the interviewee, they try to reveal her ideas.

**Selection Of The Theme To Be The Subject Of A Phenomenographical Research**

There are phenomenographic studies conducted in different areas that include a varified presentation of an experienced case. One of these is the concepts that nurses form thanks to their experience with medicinal technologies (Barnard et al., 1998).

When presented in a logical and hierarchical order, nurses perceived medical technology, in its shallowest format, as the total of several tools. Another group of nurses (taking part in the same research) conceptualized and experienced technology as a hoist to improve their operational and medical skills and knowledge. Another group of nurses (in the same study) conceptualized and experienced medical technologies as a means of autonomy, a set of tools that enable control of medical practices, and a way to better express the results of medical processes to patients and their loved ones. In the study in question, nurses who have the highest conceptual experience in medical technology expressed this event as the source of free will of the nurses in medicinal decisions. As it can be seen, experiences regarding medicinal technology have concentrated and crystallized from the lowest conceptual environment to the highest conceptual environment.

Essentially, considering FP in a narrow specimen, for example just a study design, casts a shadow over the capacity of FP to uncover the concept experience duo. FP could essentially be thought of as a method of teaching (or even philosophy). Because when considering in-class and out-of-class teaching activities in the modern sense, the thesis that learning or conceptual acquisition occurs when the organism is active is a more confirmable thesis. The activity of the organism, that is to say, the learning mind, means initiating and continuing the teaching activity through existing mental constructs or schemas regarding any topic. Nevertheless, one of the most important issues in this contexture is this: What is the conceptual, epistemological or ontological distance between “what is intended to be taught” and “what is supposedly learned”? This distance is so important that it profoundly affects the design of an in-class or out-of-class teaching activity. It will be suitable to express this abstraction with instances. The teacher asks in a classroom, "Is there a difference between temperature and heat?" When asked, the student may answer: "Warmth is wearing a thick wool jumper..."

In this regard, in the context of the concept that characterizes the teacher's question, the teacher must compare her own FP with the FP of the student or other students who gave the answer, compare and determine the perceived conceptual distances. Because according to the teacher, to wear a jumper that will keep the body warm might mean "to place the jumper as a material of thermal insulation between the outer world of the environment and the inner world of the body." This indicates the conceptual difference between the mental structure of the students and the mental structure that the teacher wants to achieve, and in order to define or concretize this best, the teacher must conduct an analysis of phenomenography at least at the start of the lecture. That’s why, FP is a research design and it is an appropriate method of thought and research design for all topics, themes, concepts etc. that could cause perceived, conceptual, ontological, axiological or epistemological differences.

For example;

- ✓ the depth/shallowness of learners' conceptualizations of the atomic phenomenon in science education,
- ✓ the depth/shallowness of candidate doctors' conceptualizations of patient rights in the education of medicine,
- ✓ the depth/shallowness of the conceptualizations improved by participants in a science and research ethics course on moral and ethical phenomena,
- ✓ Various experience-concept pairs can be the subject of a phenomenographic research, such as examining the depth/shallowness of the conceptualizations improved by a psychologist who works in the field of industrial psychology on the phenomena of solidarity and altruism of factory workers.

Several phenomenographic questions of study can be stated as follows:

1. What is the diversity in the experience-based conceptualizations of doctors working in a hospital regarding the use of medical technology and what are their depths?

2. What are the dimensions and depths of primary school students' moral replies to the Heinz dilemma?

3. How and at what hierarchical levels have physics department students' conceptualizations of the relationship between energy and matter diversified?

4. What are the experiences of preschool teachers regarding the concept of play, and in which methods and degrees are they different from the play and the literature of preschool?

**Applıcatıon Of Phenomenographıc Research Method**

Marton et al. (1993) claims that a singular mind cannot approach the universal limits of any event. conceptualizing and experiencing is collective, not individual. For instance, Blindfolded people try to understand, experience and explain what an elephant resembles. The phenomenon of an elephant is a whole and every mind can experience one part of the elephant. To one mind, an elephant could be something solid, most likely light-coloured, made of bone. Because this person has only touched the ivory.

According to another mind, an elephant is something that is soft, long, through which liquid could pass, and that can be bent and twisted. This mind touched the trunk of the elephant. Neither experience has the capacity to define the whole itself. The important point in this example is this: minds who have an experience with the phenomenon of an elephant and conveying it could not express the phenomenon of an entire elephant (universal aspect). Nevertheless, the sum of these, or a collective conceptualization, brings those who experience the elephant experience very close to the whole event. None of the minds' definitions of an elephant reflect an elephant, but all of them could reflect an elephant and allow it to be conceptualized and experienced more fully.

The way bio-psycho-socio-cultural people experience human phenomena involves either universal or structural aspects. For instance, the phenomenon of teaching is experienced by a teacher over many years. There are a lot of parameters that would shape the teaching experiences of a teacher and define the depth or shallowness of their concept of teaching. In this context, the main purpose of FP is not to pay attention to these parameters. The main purpose of FP is, for instance, to depict the experience and expression depths that teachers mentally navigate regarding the phenomenon of teaching (Feldon and Tofel-Grehl, 2018).

A teacher could have experienced the moments of teaching as info transfer from more sources to less sources while carrying out instructional activities with students at a certain level of development in a school, through a certain curriculum. This refers to a structural/fragmented aspect of the teaching event and, as comparatively well-known teaching theories say, indicates a shallower degree of experiencing and comprehending. When the teacher experiences and expresses the phenomenon of teaching as the info transfer from a mind to another, they operate her instructional activity in a monologic manner. The monologic approach refers to a single voice in the classroom environment; because this voice belongs to the teacher, it is not inclusive. The main principle in FP is the data-driven definition of the comprehensiveness of conceptual awareness (Barattucci and Bocciolesi, 2018).

For this reason, it could be said that the experience form expressed above is far from the depth of concept that the universal dimension produced in the name of teaching can convey. Because the experience-expression duo that emerges as knowledge transfer includes only the teacher, not the presence/voice of the student (Souleles, 2012).

Another teacher could perform the knowledge transfer by supporting it with different visuals and utilizing facilitators and pre-organizers. This teacher could think that she needs to utilize some advance facilitators and organizers as they are carrying out instructional activities with a students group who have individual differences. Because their experience is in this direction. This teacher may have enriched the subject knowledge of the course with various instructional ideas instead of sharing it directly with the students. Therefore, although the experience of transfer of knowledge and its conceptual expression is essential in this teacher's experience repertoire, this teacher was able to experience the phenomenon of teaching more deeply to a certain extent, compared to the teacher mentioned above. The most important point here, in terms of FP, is the shaping and determination of the conceptual shallowness or depth of "an experience" according to "another experience" (Hajar, 2021).

Likewise, expressed in FP discourse, in order for the researcher to decide that the second teacher's experience-based concepts regarding teaching have a higher comprehensiveness, it is necessary for another mind’s verbal expressions expressing the teaching concept, which has a lower conceptual comprehensiveness (Hasselgren and Beach , 1997).

A third teacher could have the concept and experience that teaching could occur with students’ intentional cognitive contributions. According to this teacher, pedagogical actions must be performed in order to form meaning together with students in the classroom. According to this teacher, students have the right to have a say or a dialogic speaking space in the classroom. This teacher also advocates: students have rights, or pedagogically speaking, responsibilities, such as evaluating what is said by their peers, contributing to the determination of the acceptance criteria of a claim, and being a decision-maker or an authority etc.. When considered from the perspective of the third teacher, the comprehensiveness of the awareness created in the teacher's mind by teaching experiences has increased. Since the teacher could have a set of instructional experiences related to involving not

only their own mind/will but also other minds in the instructional flow, the voices of the class members have become visible.

Moreover, since the teaching flow can be considered in a format that goes beyond the student-teacher relationship and includes the third experience-concept pair, student-student interaction patterns, both dialectical and dialogic space has been opened for alternative forms of reasoning. It is seen that the teacher is more diverse, deeper and closer to the universal aspect regarding the phenomenon of teaching than the experience-concept pair of the other two teachers.

In summary, phenomenography is a research approach used to qualitatively map the different ways people experience, their conceptualization of various aspects of the world and the events they experience, considering the basic concepts, functioning, epistemological and ontological assumptions of the phenomenographic approach, (Marton, 1986).

Uncovering a logically comprehensive structure that associates these different meanings, and viewing the collective human experience as a whole, this approach involves perceiving the same event variously by people in different circumstances, (Åkerlind, 2012). In this context, some prominent operational steps in conducting a phenomenographic study are presented to the reader's attention in the second chapter and criticism in the light of the basic foundations and assumptions of the study approach shared above.

## CONFİGURİNG THE TOOL OF DATA COLLECTİON

In studies using FP, the most common data collection tool is person-to-person interviews (Åkerlind, 2005a, Green, 2005; Hajar, 2021; Marton, 1986). Neverthless, Åkerlind (2005a) states that written reflection forms could also be used as a data collection tool and that their use makes data management much easier. Interviews in phenomenographic research are different to a certain extent from interviews used in other approaches of qualitative study (Green, 2005).

Data collection occurs within the framework of a conversational partnership where the participant assists in the phenomenon-oriented expression process in FP (Ashworth and Lucas, 2000). In phenomenographic studies, the data set is obtained from interviews where the participant is invited to express all aspects of his experiences regarding the phenomenon under investigation. In phenomenographic study, interviews do not need a question-answer process where the participant replies the questions imposed on him, but a flexible basis (all experiencing processes related to the phenomenon) on which the participant can make explanations according to his own frame of reference (Entwistle, 1997).

That’s why, how the questions are directed to the participant is also important, in addition to the content of the questions which are going to be asked in phenomenographic interviews. Asking open-ended questions without any restrictions as much as possible can ensure that the participant reflects his or her level of interest in the phenomenon under investigation thoroughly (Marton, 1986).

Phenomenographic interviews have a structure that includes a comparatively small number of interview questions which are predetermined. Because most interview questions are dynamic and organic, or the questions of interview follow or develop from what the participant says (Hajar, 2021).

Besides, the questions of interview are sticky. Sticky refers to: The researcher structures the next follow-up or probing question built upon the participant's answers or asks additional questions strategically utilizing the conceptual content of the participant's reply. For this reason, whreas there is a certain question sets at the beginning of the interview process, some differences may arise in the interview (Marton, 1986).

Scenarios specially selected and shared with participants in phenomenographic interviews can also enable in-depth data to be obtained. As scenarios which could be utilized as chat openers (e.g., Soysal and Radmard, 2019) could direct the data the researcher will obtain, they should be convenient to the focus of the research and focused on producing the needed data, and the probability of the researcher putting his own ideas and concepts to the interview should be avoided with scenarios (Green, 2005).

In this sense, pilot interviews are the most important control mechanism. In pilot researces, interview questions and scenarios could be carefully checked to see if they provide the researcher with sufficient and necessary information about the phenomenon under investigation from the perspective of potential participants (Åkerlind, 2005a; Åkerlind et al., 2005).

### The Collection Of Data And The Position Of The Researcher

As the data collection of phenomenograpy targets to uncover the conceptual/experiential diversity created in the minds of the phenomenon under investigation, the interview process is one where the participant is invited to make explanations and the variety in their ways of seeing (Green and Bowden, 2009). Within that period, it is important for the researcher to put himself in the shoes of the participants and to bracket (imprison) his own thoughts in order to access their point of view (Green, 2005), Care should be taken not to allow personal beliefs and assumptions to guide the interview process (Ashworth and Lucas, 2000). Bowden (2005) called attention to the significance of certain points regarding the researcher's roles in obtaining data in phenomenographic studies;

1. In all interviews, If the interview process will start with a scenario, this opening scenario must be the same.

2. But for directing the participant to give a more detailed description of the incident under investigation, the researcher/interviewer should not introduce any intervening elements or expression into the process of the interview,

3. Prior to proceeding with analysis of data, it is important that the researcher limits and convinces himself/herself about using only the participant discourses in the written transcripts and avoiding overinterpretation.

In order to avoid a negative impact on the set of data in the process of the interview, the researcher might require to check their connection with both the phenomenon and the attendant. In one sense, this checking needs that all interviews provide only descriptions relevant to the phenomenon under investigation. These meetings could be conducted by having a flexible yet planned schedule for all attendants and by not allowing elements that are unrelated to the phenomenon to get into the process (Bowden, 2005; Green, 2005).

In conducting a phenomenographic interview, it is essential that the researcher incessantly check their strategies of the interview. Checking out the first several interviews is useful for improving interview processes (Ashworth and Lucas, 2000).

If the researcher introduces new and different topics into the process in some interviews or takes a position in his/her relationship with the participant that will undermine the research findings' value (praising or criticizing the attendant), this can lead to deviations in the relationship between the "participant" and the "phenomenon under investigation" in interviews. (Bowden, 2005).

During their first meeting, researchers can usually find themselves making comments or arguing something said by the attendant. For this reason, it is important to conduct pilot interviews in order to both acquire the necessary interview talents and to enable that the research outcomes reflect the case being examined at the highest level (Åkerlind, 2005a; Bowden, 2005).

**Data Processing And Management**

The verbal content recorded and transcribed in phenomenographic studies is the focus of data analysis (Åkerlind, 2012; Marton, 1986). The meanings or categories which are attempted to be shortened in the analysis of data could only be uncovered from the data through the interaction of the researcher with the data (Åkerlind, 2012).

Therefore, it is a controversial issue at which stage of the research process data analysis should begin. Starting data analysis before all interviews are completed or analyzing the first interviews could lead to the researcher to alter or redirect the content of the interview without noticing in the remaining processes of the interview (Green, 2005).

For this reason, the logic of analysis is centered in qualitative research; In phenomenographic analysis, induction or the logic of the particular (part; code) and the universal (whole, theme) could suffice to some extent. It may be more functional to use hypothetico-deductive data processing logic. This logic contains inductive verification and deductive verification. As the logic of basic function in phenomenographic analyzes is "the way to depict the depth or shallowness of an individual's discourse in terms of phenomenon X is to continuously compare one personal verbal expression with another verbal expression.", only a part-to-whole analysis is functional up to a certain point.

In addition, to focuse on the meanings in a particular transcription can cause ignoring a deeper pool of meanings where multiple meanings are embedded when it is considered in isolation from the rest of the data. For this reason, in terms of data management and processing, it is decisive that the researcher maintains a consistent and focused stance throughout the analysis process, abstract/meaning, concepts and forms by taking advantage of the similarities/differences in the entire verbal data set, and that the meanings to be uncovered include all verbal expressions (Walsh, 2000).

In summary, data analysis refers to a zigzag process which targets to continuously compare and contrast data with its own internal existence, then terminate the resulting conceptual differences or reach saturation in semantic differences. In this sense, the phenomenographic analyst must continuously inquire themselves the following

question: Once I utilize the conceptual categories I have got as a perspective and have a look at the data I have not processed yet, is there a piece of meaning which goes beyond my categories of concept?

A holistic or collective approach is essential in phenomenographic data analysis. Nevertheless, it is hard for the researcher to keep the whole verbal set of data clearly in mind at one time. Fort his reason, the researcher should discover suitable ways to handle a great deal of data without compromising the data integrity. The "iterative approach" ensures effective management of data by ensuring that data is examined from different perspectives at different times (Åkerlind, 2005a; Åkerlind, 2012; Bowden and Walsh, 2000).

Additionally, more than one case could be addressed in any phenomenographic research. As the verbal outputs are being processed, the researcher could notice that there are also ways of experiencing phenomena other than the phenomenon under investigation in verbal expressions. What is important in this context is that the researcher keeps the logic of continuing their analyzes focusing upon one unique phenomenon (the phenomenon under investigation). The inclusion of other phenomena in the comprehending of the phenomenon under investigation can bias qualitative interpretations (Åkerlind et al., 2005). In this sense, the existence of harsh external auditors has the speciality of deterring possible interpretative deviations mentioned above (Bowden, 2000b; Walsh, 2000).

**Analysis Of Data**

Ponte (1990) stated that, unlike other frequently used research perspectives, phenomenography is flexible enough to allow for a variety of analytical methods. In his 1993 study on educational meanings, Stalker says that phenomenography is "a process of data analysis rather than an ultimate goal of revealing conceptualization" (Ponte, 1990).

Throughout data analysis, the researcher attempts to identify categories of qualitative differences. These categories describe how various people experience various concepts. Phenomenographers think that there may be a limited number of categories for every concept in study and that these categories could be found out by collecting data. What is meant here by collecting data is copying the interviews (Marton and Booth, 1997: cited in Orgill, 2000).

Interviews are copied verbatim and the analysis is done through repeated behaviors on these copies (Trigwell, 2000). The researcher begins to create categories by comparing the similarities and differences between the statements of individuals participating in the interview. Orgill (2000) called these categories leading categories. Keeping the leading categories in mind, the researcher examines the interview transcripts again to check whether there are sufficient categories that describe and clearly illustrate the data. A second data review leads to either removing or adding description categories or modifying existing categories. The third data examination was for internal persistancy of definition categories. The process continues until the modified categories are compatible with the interview data (Orgill, 2000).

Determining categories is tested and corrected based on data, tested again and corrected again. Each time the change decreases and eventually the interview becomes static (Marton, 1986).

In a talk at the 2nd Human Science Research Conference in Pittsburgh in 1983, Lennart Svensson and Janb Theman, who are interested in phenomenography, described the interview analysis needed to achieve the goals of phenomenography. Analysis of interview transcripts, which are identical word for word, is carried out in two main ways:

1- By selecting important cases that reflect the phenomenon under investigation,

2- By determining the meaning or meanings of closed concepts.

In the approach of the phenomenographic research, the researcher categorizes people's descriptions, and categorization is the first product of phenomenographic research. When the researcher reads and classifies descriptions of a phenomenon, they not only classify the information, but also try to find the most different from this information. Because phenomenographers try to find important structural differences by explaining how people describe certain parts of the world or, as Svensson and Theman (1983) say, objective phenomenography is not to describe the information in more local and abstract expressions, but to group the information, relate it and reveal its difference, and thus categorize the result into definition categories (Sánchez and Llinares, 2003).

Orgill (2000) said that the basic rules in category development are internal consistency and creating a product pool that accounts for all the diversity in the data and includes a minimum number of categories. Additionally, if the interview includes many subjects or many aspects of a phenomenon given, the researcher develops a separate product pool for each topic (Orgill, 2000).

The various ways of experiencing the phenomenon clearly debated in the interview form the analysis units and do not belong to a single person. The definition categories that match these various comprehensions and the relationships between them are the major outcomes of phenomenographic research (Marton, 1992: cited in Trigwell, 2000).

In phenomenographic study and analysis, categories are not attempted to be predicted, and the analysis process, both individually and collectively, does not push the research to prove or disprove a hypothesis or link the findings to a specific theoretical point. On the contrary, the categories that come out from individuals' real concepts in the first analysis phase are used for the analysis and synthesis of the data in the second phase of the analysis, and the findings immediately become research results. That is, the researcher does not analyze the data with pre-established categories or the theoretical structure in her head. It even enables categories and themes to come out from the first analysis (Bell, 2001).

In presenting phenomenographic analyses, it is aimed to share an increased conceptual comprehensiveness in a schematic way with the external reader. This process is different from main qualitative analyzes (possible flow: open coding, axial coding, selective coding), which are descriptive and generally targets to uncover a simple thematic-conceptual form (Trigwell, 1994).

In basic qualitative analyses, the categorization of participants' verbal expressions is a priori. In phenomenographic analysis, a process is carried out that includes the meanings that improve through the bringing together (collectivization) and continuous comparison of the forms of experiencing expressed through participant discourse (Marton, 1986). One of the important points is how the researcher's experience and conceptualization of the phenomenon being studied will be reflected in the data analysis process.

**Validity**

Validity refers to how well a study investigates the intended phenomenon or how accurately the research findings reflect what is being investigated. (Åkerlind, 2012). For this reason, validity in phenomenographic researches involves not only the findings of the research but the whole process of the research (Collier-Reed et al., 2009). Particularly for phenomenographic study, criteria for instance the following must be centralized as validation strategies:

- ✓ The researcher is supposed to be able to capture the whole aspects of attendant discourse regarding the phenomenon under investigation,
- ✓ The researcher is supposed to be open to the whole possible meanings,
- ✓ The researcher is supposed to know and use strategies to bracket his own assumptions,
- ✓ Purposeful participant selection,
- ✓ Describing the context of the interview,
- ✓ Enabling that a process appropriate for phenomenographic study is followed in the form and content of the interview and the processes of data analysis (Ashworth and Lucas, 2000; Collier-Reed et al., 2009; Cope, 2004).

The validity of the results could be checked by sharing the outputs taken in a phenomenographic research with the attendants of the study. The purpose of this control, which is mostly carried out via the debates of focus group, is to ratify if the definitive categories structured as a result of the participant's phenomenographic analyzes reflect his or her point of view (Bowden, 2005, p. 30).

Prevalently, two kindes of validity could be referred in phenomenography studies: communicative validity and pragmatic validity (Åkerlind, 2012; Kvale, 1996). Communicative validity is the checking of the internal persistancy of general meaning categories that are abstracted from the discourses of participants in a phenomenographic study via dialogism. This process occurs via the constant social negotiation of abstract meanings by members who perform the study or could inform it (Kvale, 1996). Åkerlind (2012) points out that in the communicative validity strategy, the researcher can convincingly argue any interpretation he puts forward. It can also validate a phenomenographic study if researchers with similar research/interests legitimize the proposed interpretations (Collier-Reed et al., 2009).

## RELIABILITY

In qualitative research, reliability suggests the permanence and stability or between the responses of more than one data coder (Creswell, 2007). Åkerlind (2012) suggests two kinds of reliableness checks: inter-coder reliableness

and dialogic reliableness, which include the involvement of some researchers in the process to balance or evaluate the affect of one researcher's perspective about the data. Inter-coder reliableness includes coding all or a certain part of the data by various researchers and comparing the concluding choices (Miles and Huberman, 1994).

In phenomenographic research, the participant's statements about his or her own experience could involve more than one aspect of that phenomenon. These could be hierarchical aspects that can be more prevalent in each other. Nevertheless, because the external coder has not got as much knowledge of the data as the main researcher, they might not be able to notice this distinction and could classify attendant concepts variously (Sandberg, 1997).

Another way for reliableness checks is to express all steps in detail, detailing the entire process for the external reader, as used in other qualitative research approaches (Guba, 1981; Kvale, 1996). It is also important for the researcher to make a qualified audio recording of the interviews, to include detailed field notes, to transcribe attendant pauses or interruptions during the interview process and include them in the analysis, etc. (Creswell, 2007).

Sandberg (1997) improved the concept of interpretive awareness as an alternative to the reliableness of intercoder. Because inter-coder reliableness could also mean disregarding the deliberate relationship the researcher establishes with the attendant's comprehension of the event. For this reason, interpretive awareness contributes to the researcher accepting their own subjectivity throughout the entire research process and keeping her position as a researcher in the process in accordance with the principles of phenomenographic research (Sandberg, 1997; 2005).

**Maın Dıfferences Between Phenomenologıcal And Phenomenographıc Research**

Whereas phenomenography and phenomenology share the word “phenomenon” as a collective stem, the suffixes -logos and -graphy discriminate the approaches both (Stolz, 2020). Phenomenographic research methods hierarchically chart how a phenomenon is experienced and conceptualized, including the depth/shallowness of these conceptualizations (Marton, 1981). Phenomenology, on the other hand, targets to uncover the essence which describes the event, rather than the individual who experiences the event (Giorgi, 2008).

Whereas the conclusion field taken when a phenomenon around us is approached from a phenomenographic perspective and the phenomenological essence of that phenomenon share certain commonalities and relationships, both the approaches have various aims, methods and thus different outcomes (Larsson and Holmström, 2007).

Unlike phenomenology, phenomenography is not interested in the phenomenon itself directly, but in the difference in the ways people comprehend, experience and conceptualize the relevant phenomenon. This second-order perspective allows providing explanations about people's experiences or thinking ways on a phenomenon (Marton, 1981).

But phenomenology targets to capture the transcendent, significant or inherent aspects surrounding subjectivity utilizing its first-order perspective along with phenomenological reduction and bracketing. Fort his reason, it suggests intersubjective meaning regarding a certain reality aspect. How the subject experiences and conceptualizes the phenomenon is more significant than the reality in phenomenography. Therefore, phenomenographic research is the name of a methodology of knowing where various aspects of phenomena are experienced and explained qualitatively in many and various contexts (Marton, 1981; Stolz, 2020).

**Crıtıcısms About Phenomenographıcal Research**

Orgill (2000) mentioned three important criticisms of the phenomenographic research approach: The first of these is that student experiences are not the same. That is, there is a discrepancy in how the student describes their experience and how the researcher observes it. One student's number of experiences with the phenomenon may be greater than the number of experiences of another student. This affects the researcher's observations. To solve this problem, Saljö (1997) recommended examining different applications of a general and accessible phenomenon rather than examining people's experiences.

The second criticism mentioned by Orgill (2000) is Webb's (1997) criticism that "it is very logical that the experience and theoretical knowledge of the researcher using phenomenography affects the categories and data analysis." Webb (1997) said that as a solution to this, the researcher's background and knowledge should be clearly revealed so that those who use or read the research will be informed about the variables that may affect the study. Agreeing with Webb, Ashworth and Lucas (1998) said that the researcher should set aside the following so that their own information does not affect the research (as cited in Felix, 2004):

- ✓ Findings of scientific theories and previous research,
- ✓ Other evidence from reputable sources,

- ✓ The researcher's personal information and beliefs,
- ✓ Prior structure of hypotheses or interpretation of categories,
- ✓ Assumptions that dictate certain specific methods,
- ✓ Ranking of experiences,
- ✓ Reason questions,
- ✓ Objectivity in response to questions of experience.

Ashworth and Lucas (1998) argued that literatures should not be scanned until the analyzes are completed. They explained the drawback of reviewing the literature before conducting the interview as the possibility that the researcher's warnings may obscure the subtlety of the participant's expressed experiences.

Another criticism mentioned by Orgill (2000) is the reliableness and repeatability of phenomenographic researches. Regarding reliableness, Marton (1986) said, " For two different researchers it is possible to describe various categories when they work in an individual way on the same data." As a solution, “When the categories are determined, these categories should be defined in a way that all other researchers could comprehend and utilize.” he said (Quoted in Orgill, 2000).

Ashworth and Lucas (1998) additionally questioned the claim that there are a limited number of logically related and qualitatively different ways where people experience or understand the situation or phenomenon they encounter (Marton, 1994). Ashworth and Lucas (1998) asked why there are a limited number of definitional categories regarding a phenomenon. They also described it as regrettable that the factors affecting the boundaries of the study were not determined in existing phenomenographic studies and stated that certain criteria should be established for the research to be successful (as cited in Felix, 2004).

**Conclusıon And Recommendatıons**

This research exhibits the central characteristic components of FP's philosophy, methodology and theoretical framework to the external reader. The aim of this study is to lead up to the research where FP is centralized to be comprehended and improved correctly, both in a theoretical and practical way, and to be utilized in various disciplines on a national basis. As mentioned, FP is characterized by three components ("experience", "explaining experience with concepts" and "conceptual diversity"), and these shape phenomenographic thinking and knowing.

Similarly, as the basic FP function as an instrument of knowing is shaped around these three components, a phenomenographic research involves the following three stages: (i) identifying ways of experiencing as an analytical process, (ii) development of descriptive categories as a holistic process, (iii) depicting a structural-hierarchical-inclusive diagram (output space/outcome space) that includes collective human cognition. In conclusion, FP provides researchers with a framework of thinking that helps them grasp the nuances of experience-based conceptualizations of their relationship with the experienced world via semantic, systematic, database and reasoning approaches. Essentially, As a research approach FP is a type of conceptual "literature review" of "collective human cognition" and could provide the opportunity to know the blanks or shallows in the literature, if not the depths.

Phenomenographic research attempts to investigate and explain the relationships between the individual and what they try to comprehend or learn. If the conclusions of these studies are comprehended well, significant steps could be taken on issues regarding individual learning (Çepni, 2007). Because if the teacher is aware of students' understanding of a special phenomenon, they will probably be more effective in preventing their misconceptions and better structuring their understanding (Marton, 1986).

The teacher's awareness of what their students could comprehend as to a concept helps the teacher in designing the activities they will do. Particularly in the educational environment, students' perceptions of concepts could be defined by utilizing a phenomenographic research approach. This may enable students' misconceptions to be identified and teachers to prepare activities to eliminate their students' misconceptions. Additionally, the results obtained from phenomenographic research can also be used by curriculum developers (Neuman, 1998).

While phenomenological research aims to provide a detailed description and interpretation of a phenomenon, ethnographic research is conducted from a much broader perspective (Cresswell, 2018).

Although daily life is centered in both approaches, phenomenological research generally focuses on a limited phenomenon. On the contrary, in ethnographic research, daily life is examined holistically in the synthesis of relationality (Can, 2017: 155).

To the extent that their aims differ, the field research processes of both designs also differ. Researchers who adopt the phenomenological design design their field studies with small groups of people that experience the phenomenon and/or phenomena they problematize in all aspects (Cresswell, 2018: 78).

In this regard, they use data collection techniques that take a relatively long time (and sometimes more), such as in-depth interviews or semi-structured interviews, to understand the relevant phenomena in depth and reach the essence of the phenomena. Unlike phenomenological research, ethnographic research involves a longer field process and researchers directly contact the field and live in the context themselves, thus making a stronger and more intense description.

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