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### Review

## Phenomenographic perspectives on the structure of conceptions: The origins, purposes, strengths, and limitations of the what/how and referential/structural frameworks

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#### ABSTRACT

Phenomenographers have developed two frameworks to enhance the study of conceptions. The first framework creates a distinction between what and how aspects; the second level of this framework also includes the act, direct object, and indirect object. This framework allows the conception to be analysed separately from the actions and intentions related to it. The second framework creates a distinction between referential and structural aspects which allows the parts and contexts of the conception to be identified; its second level includes the internal and external horizons.

This article traces the origins of these frameworks and reviews 56 studies that have utilised them, examining similarities and differences in their usage. The review found heterogeneous definitions and usages of these frameworks, often with weak links to theory. It concluded by evaluating the utility of these frameworks, identifying that while they may not be strongly grounded in theory, when clearly defined, they can provide a method to 'think apart' important distinctions within conceptions.

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#### 1. Introduction

Within the phenomenographic research approach, conceptions are the central unit of description about people's experiences (Marton, 1996; Svensson, 1997). They can be defined as "different ways of understanding" (Marton & Pong, 2005, p. 335). Marton (1981) first coined the name phenomenography to describe the research approach he developed with Säljö, Svensson, and Dahlgren through empirical investigations into learning from the learner's perspective. Although described as a 'research approach' (Marton, 1986), implying a focus on the process of research over theory, this early work was influenced by the theories and assumptions of the researchers, even if these were not explicitly stated. Early studies (e.g., Marton, 1981; Marton & Säljö, 1976; Säljö, 1979) used the conception as the smallest unit of analysis, drawing loosely on Husserl's interpretations of phenomenology and Gestalt psychology, although lacking "... any elaborated theoretical stance" (Uljens, 1996, p. 103).

Phenomenographers continued to draw on phenomenological theory when creating "more versatile and elaborate conceptual tools" (Marton, Dall'Alba, & Beaty, 1993, p. 279). These distinctions (e.g., what/how, referential/structural) facilitated the breaking of conceptions into smaller parts for the purpose of analysis. These what/how and referential/structural distinctions will be referred to as frameworks (Cope, 2004) within this article as they are used to inform and 'frame' the research design and process of analysis (i.e., what/how framework and referential/structural framework). When these four parts (i.e., what, how, referential, structural) are discussed individually, they will be referred to as 'aspects' (i.e., what aspect, how aspect, referential aspect, structural aspect) as this is the nomenclature commonly used within phenomenographic work. Marton and coworkers (e.g., Marton, 1988, 1994, 1996, 2000; Marton & Booth, 1997; Marton et al., 1993) provided much of the early explanation of these frameworks. Marton and Booth (1997) noted that while both frameworks drew on phenomenological principles, phenomenographers "... use them [the principles] somewhat differently, stretching them to meet our own approach" (p. 87).

This 'stretching' has made it difficult to relate these frameworks back to phenomenological concepts. The what/how framework is said to draw on Brentano's understandings of intentionality (Marton & Booth, 1997), but it remains unclear exactly how intentionality relates to the how aspect. The referential/structural framework is said to draw on Gurwitsch's (1964) theory of awareness and appears to have clearer links to the stated theory than the what/how framework. These frameworks have been drawn on separately (e.g., Edwards, 2005; Pramling, 1983) or together (e.g., Cope, 2000; Irvin, 2006; Marton et al., 1993) to analyse a range of conceptions.

Additional complexity is also derived from the fact that some authors also choose to draw on a second level of analytical parts from each of these frameworks, either in addition to the first level (i.e., what and how aspects, referential and structural aspects) or independently of these. The what/how framework has a second level that includes the act, direct object, and indirect object. The referential/structural framework's second level includes the internal and external horizons (see Fig. 2 for a visual representation of these levels).

This paper was born out of this author's own struggle to understand these frameworks and how they can be appropriately applied to various types of data. This review examines the terminology of these frameworks. It first explores the origins of these frameworks within phenomenographic research, examining their theoretical underpinnings. Next, it reviews fifty-six studies which use one or both frameworks to analyse data, describing how these studies were selected and examined. The review points out anomalies and inconsistencies within applications and concludes by pointing out strengths and weaknesses of these frameworks. It finishes by discussing ways these frameworks can and cannot contribute to knowledge about phenomena.

#### 2. Origins of the what/how and referential/structural frameworks

Both the what/how and referential/structural frameworks had their origins in studies about learning. Pramling's (1983) study of children's conceptions of learning was the first officially "phenomenographic" work to use the what/how framework to analyse data. This initial usage did not appear to be based on previously articulated theoretical principles. Instead, Pramling (1983) used logic to argue that within a child's conception of learning there was a what aspect "dealing with what the children perceive as learning" and a how aspect "dealing with the children's ideas of how particular learning comes about" (p. 88).

Pramling's (1983) final outcome space included three categories relating to the what aspect and three to the how aspect. Children in her study saw themselves as learning to do, to know, or to understand. Correspondingly, they saw learning as occurring by doing, perceiving, or thinking. When discussing the correlation between what and how aspects, Pramling (1983) explained:

Theoretically, all these combinations are possible (i.e., any of the "what" categories can be combined with any of the "how" categories).... But there is some trend towards a certain correlation i.e., learning TO DO takes place primarily by DOING; learning TO KNOW takes place primarily by PERCEIVING. Logically, learning to UNDERSTAND comes about in the first hand by THINKING. (p. 107)

While these relationships were logical, she specified that they could not be proved empirically using phenomenographic data; however, "... all categorization of the *how* aspect of learning has been made from a particular *what* aspect" (p. 105).

The next major development in these frameworks came when Marton (1988), also exploring conceptions of learning, created a framework which related structural and referential aspects to Pramling's (1983) what and how aspects (see Fig. 1).

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