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Phenomenography: A Methodological Approach for Assessing Student Learning in Student Affairs

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Abstract

In this paper, Melissa Rands and Ann Gansemer-Topf introduce the reader to a methodological approach, phenomenography, which can be used to document learning in student affairs. Phenomenography explores the variation in how different people conceive of learning experiences. By exploring this variation, student affairs professionals can design assessments that identify learners whose conceptions are more or less comprehensive, to ultimately evaluate a program's or intervention's effectiveness and tailor programs to address students' learning needs. This brief introduction explores the approach's origins in educational psychology as well as the conceptual foundations of phenomenography as applicable to other disciplines such as student affairs. A detailed description of the rigor of phenomenographic methods, including data collection and analysis, will be discussed. Examples of how phenomenographic research could be utilized in assessment in student affairs illustrate the methodological aspects of the approach and its application. The authors argue a phenomenological approach adds to outcomes-based assessment work by suggesting that meaningful student learning assessments must capture student thinking as well as performance.

With increased pressure to justify their work, student affairs professionals no longer question the need to engage in assessment (Schuh, 2013). Assessment activities within student affairs have increased dramatically in the past decades, but many of these activities focus on measuring participation and satisfaction. Although important, these activities neglect to answer a more important question: How do student affairs professionals contribute to student learning? (Schuh, 2013; Schuh & Gansemer-Topf, 2010). Despite the increased need to do assessment, many student affairs professionals continue to struggle with ways to measure student learning (Blimling, 2013; Bresciani, 2013; Bresciani, Gardner, & Hickmott, 2009). In this paper, we introduce the reader to one approach, *phenomenography*, which can be used to document learning in student affairs.

Phenomenography is a qualitative research approach aimed at studying the variation of ways people experience, conceptualize, perceive, and understand phenomena in the world (Bowden, 2000a; Dall'Alba, 2000; Entwistle, 1997; Limburg, 2008; Marton, 2000; Richardson, 1999). In simpler terms, phenomenography explores the variation in how different people conceive of learning experiences (Marton & Booth, 2007). By exploring this variation, student affairs professionals can design assessments that identify the variation in learners' conceptions of phenomena to ultimately evaluate a program's or intervention's effectiveness and tailor programs to address students' learning needs. This approach adds to Bresciani et al.'s (2009) outcomes-based assessment work by suggesting that meaningful student learning assessments must capture student thinking as well as performance (Micari, Light, Calkins, & Streitweiser, 2007).

This current issue of the *Journal of Student Affairs Inquiry* is interested in focusing on the role student affairs inquiry may play in identifying "where, when, how and what kind of learning is occurring amongst our students" (Journal of Student Affairs Inquiry, 2015, p. 1). We assert phenomenography is a method that can assess student learning in multiple student affairs contexts.

We begin by exploring the origins and conceptual foundations of phenomenography. Rigorous analysis that focuses on outcomes

to discover underlying meaning distinguishes the phenomenographic approach from other methodologies (Entwistle, 1997); therefore, we will provide a detailed description of phenomenographic methods, including data collection and analysis. We will then discuss how this methodology may be used in student affairs to meet the dual demands of accountability for student learning and program improvement (Ewell, 2009). Finally, various limitations of phenomenography are presented so readers can judge the applicability of this approach to their work within student affairs.

Origins of Phenomenography

Returning to the origins of phenomenographic research helps the reader to understand the nature of the approach. The birth of phenomenography is largely attributed to Ference Marton's studies of first-year undergraduate learning outcomes in the 1970's. Marton and his colleagues at the University of Göteborg in Sweden were concerned with the qualitative difference in how individual students understand and experience learning (Dall'Alba, 2000; Entwistle, 1997; Limburg, 2008; Marton, 1997; Richardson, 1999; Svennson, 1997). As Marton (2000) himself describes, the research approach "grew from attempts…to understand academic learning better" (p. 103). The research team knew that some students were better learners than others, so their main concern was to investigate the variation between the students' learning outcomes. Rather than utilizing an experimental design to investigate the phenomenon, focusing on the quantity of material learned and the psychological means, the study investigated the *quality* of the learning process and its implications (Marton & Booth, 1997).

In the initial studies, the team asked students to read an academic text and to prepare to answer questions about the text. The students were later asked interview questions about the author's meaning of the text and how they approached the learning task (Entwistle, 1997). Researchers discovered there were a limited number of qualitatively different ways the students understood the meaning of the text. They also found that students' descriptions of their approach to learning the text demonstrated a range of ways students conceptualized their learning activity, from

'surface-level' processing such as memorization, to 'deep-level' processing such as applying knowledge to a real-world context (Entwistle, 1997; Limburg, 2008; Micari et al., 2007). Marton and his team arrived at the conclusion that the variation in ways learners approach and experience the learning task was fundamental to the variation in differences they saw in students' learning outcomes (Marton & Booth, 1997; Richardson, 1999).

Through these initial studies, Marton discovered that how students make meaning of the experience of learning, was fundamental to his inquiry (Marton, 2000). Therefore, he states he faced an ontological question, "What kind of thing is an experience" (Marton, 2000, p. 104)? It is from this question that the foundations of phenomenography as a research approach were born.

Tenets of Phenomenography

Researchers argued that Marton's original studies lacked a clear theoretical basis (Entwistle, 1997; Richardson, 1999; Svensson, 1997). In the face of such criticism, Marton set out to further explain the rationale for his research approach and distinguish it from other qualitative approaches in the social sciences, such as ethnography and phenomenology that were also being developed during the 1970s (Richardson, 1999). Marton then constructed the basic tenets of the "pure" form of phenomenography: the adoption of the second-order perspective, the centrality of the notion of 'essence', variation and experience, and reflection on lived experience or 'awareness' (Marton, 1981; Marton, 2000). Each of these tenets, and how they constitute a phenomenographic approach to research, will be described in depth.

Second-order Perspective

What became clear to Marton and his colleagues in the original Göteborg studies was the relational character between how students conceptualize their experiences with learning and the variation in learning outcomes (Entwistle, 1997; Marton & Booth, 1997). Variation in learning outcomes can be associated with variation in how students handle and experience the learning

task at hand. In a broader sense, the way one acts on a problem or situation is a reflection on the way they experience or conceptualize the problem or situation (Marton & Booth, 1997). Therefore, phenomenography is concerned with people's conceptions of a certain phenomenon. Marton calls this a 'second-order' perspective to investigating the phenomenon.

For example, as student affairs professionals we may enter a study on students' sense of belonging on campus by asking who feels a sense of belonging and who does not. Marton (1981) states that this approach to our investigation is "a statement about reality" (p. 178); we enter the investigation from the researcher's point of view on what 'belonging' means rather than from the participant's point of view and assess 'belonging' based on our own conceptions. Instead, we may ask: "In what ways do students conceptualize 'belonging' to the campus community?" This alternative question is an example of a second-order perspective. Our concern now is on students' ideas about the world they live in; how they understand, interpret, and conceptualize a sense of belonging on their college campuses.

In his advocacy for the pure form of phenomenography, Marton (1981) situates the approach in a non-dualistic ontological position; the object, or the phenomenon, and the subject, or how one perceives the phenomenon, are not separate. There is a relationship between the two. In our previous example, how a student conceptualizes 'belonging' on campus is intricately tied to their feelings of belonging and how they act upon it. We seek to holistically describe how students conceive of belonging so that the full range of possible experiences help us explain the variation in student behaviors or outcomes. This world-view places phenomenography in the realm of subjectivism (Crotty, 1998). However, Marton linked his work to other constructivist approaches to educational research to create what he termed "individual constructivism" (Marton & Booth, 1997, p. 12). What is clear is that the goal of phenomenographic research is directed toward *experiential description*; the common inter-subjective meaning of an experience and the qualitatively different or variant ways one conceptualizes an experience (Marton, 1981).

Essence

Central to phenomenography is the notion of 'essence', or the inter-subjective meaning made of a phenomenon (Marton, 1981). Phemenography is similar to phenomenology in that the researcher is concerned with defining or constructing the meaning of phenomena, or its 'essence', from the participants' descriptions of lived experience. The truth of the phenomenon is not separate from those who live it. However, unlike phenomenology which focuses on participants' shared experience, phenomenography takes as its unit of analysis the range of different ways learners conceive of the same phenomenon (Micari et al., 2007). Marton (1981) states that repeated investigations found that phenomena and aspects of conceived reality are experienced and described in a "relatively limited number of qualitatively different ways" (p. 181); the number of the different conceptions is finite. Therefore in a phenomenographic approach, the focus of the research is on the variation among the conceptions of the phenomenon to describe its essence (Limburg, 2008).

In our sense of belonging example, we notice there are a limited number of qualitatively different ways students' conceptualize 'belonging'. The descriptions, or ways of experiencing belonging, are grouped into categories of conception. These conceptions are presented in an "outcome space", or a diagrammatic representation of the logical relationships between conceptions (Åkerlind, 2005; Barnard, McCosker, & Gerber, 1999). When taken as a collective, the similarities and differences between experiences and understanding of a phenomenon have a systemic order, which Marton (1981) refers to as the "collective intellect" or "the pool of ideas, conceptions, and beliefs underlying possible interpretations of reality" (p. 198). This collective intellect takes the form of an outcome space, an empirical map of conceptions and the relationship between them presented in a table or figure (Marton, 2000; Marton & Booth, 1997; Barnard et al., 1999).

Variation

The prime interest of phenomenographic research lies in identifying and describing the *variation* between the conceptions as distinctly different categories that, when taken as a whole,

capture the essence of a phenomenon (Limberg, 2008; Marton & Booth, 1997). As will be explained further in the discussion of phenomenographic analysis, these categories of description are drawn from the collective rather than individual experiences, therefore participants' interview transcripts cannot be understood in isolation from the others (Åkerlind, 2005). When the participants' accounts of the phenomenon are analyzed as a whole, the categories represent the different conceptions to which individual responses can be applied. The variation in description presented in the outcome space represents a hierarchy which reflects an increase in complexity in ways participants perceive a phenomenon (Limberg, 2008; Marton & Booth, 1997; Micari et al., 2007).

Returning to our sense of belonging example, the categories of meaning could be arranged from low-complexity to high-complexity in increasing levels of understanding of 'belonging'. By uncovering the students' understanding, as student affairs professionals we gain a more holistic understanding of belonging. We can then create programming aimed at helping students make sense of the various ways they feel they belong or do not belong, or develop instruments to more completely assess students' sense of belonging. This aim of uncovering participants' understanding of a phenomenon demonstrates another tenet of the phenomenographic approach: the emphasis on reflection on lived experience, or 'awareness'.

Awareness

In their book, *Learning and Awareness,* Marton and Booth (1997) state that if the aim phenomenographic research is to capture the object of experience or understanding (the phenomenon), this cannot be separated from the way it is experienced or understood. The phenomenographic approach asks, "What is a way of experiencing a phenomenon?" explored through a framework of the anatomy of awareness (Limberg, 2008).

Marton (2000) states that one individual can have varying ways of experiencing the world, what he terms 'awareness' or consciousness. Therefore the methodology aims to uncover these varying ways through questions which provoke the participant to

unearth their conceptual understanding of a phenomenon. The investigation is directed toward reflection; participants are encouraged to reflect on their own lived experience (Entwistle, 1997; Marton, 1981).

For instance, our phenomenographic investigation on belonging assumes that students' conceptions, or ways of understanding, of belonging and their engagement in campus life are interrelated. In this view, belonging can be conceptualized as having both a 'how' and a 'what'; the actions of belonging cannot be separated from the students' personal concept of belonging. Phenomenography aims to uncover how the student experiences belonging by encouraging reflection during diagnostic questioning in an interview or written reflection prompts on an experience. In this reflective activity, the student becomes fully aware of the context, relationship, and essence of how they experience belonging on campus (Marton, 2000; Marton & Booth, 1997). The phenomenographic researcher presents the full structure of the variation of the essence of 'belonging' in the outcome space (Marton, 2000).

Our sense of belonging example illustrates why phenomenography has the potential to become a popular methodology in higher education research and evaluation (Entwistle, 1997; Micari et al., 2007). By concentrating on the variation in how participants make meaning of an experience, the research focus shifts to holistically capturing the thinking and experiences of the learner as well as the outcome. Phenomenography can be used to evaluate how students think in multiple student affairs contexts, and how students' thinking may change over a period of time (Micari et al., 2007).

Phenomenographic Methods

Rigorous data collection and analysis are hallmarks of the phenomenographic approach to research (Entwistle, 1997). The predominant data collection method is the phenomenographic interview, although other methods can also be used. Data analysis occurs during several steps utilizing abductive and comparative analysis to formulate the various themes and categories of description (Lindberg, 2008) and results in the final categories

being defined in the outcome space. Goodness and trustworthiness are achieved by including full descriptions of the context of participants' conceptions, group analysis, and transparency in the researcher(s) paths through data analysis (Bowden, 2000b; Entwistle, 1997; Lindberg, 2008). These aspects of the phenomenographic research method will be discussed in detail in the sections that follow.

Data Collection

The phenomenographic interview is the primary method of data collection, although other methods such as focus groups, open-ended survey questions, or written reflective statements may be used. Participants are drawn from the population of interest, focusing on either a homogeneous sample or a cross-section of the population, depending on the research question under investigation. It is critical that the interviews reveal a range of perspectives on the phenomenon (Bowden, 2000b). The aim of the phenomenographic interview is to encourage the participants to reflect and fully explain their own views of the phenomenon under study, according to their own way of delimiting the phenomenon (Entwistle, 1997; Lindberg, 2008; Svennson, 1997).

The interview protocol centers around two types of questions. The first questions are very open-ended, allowing the participants to self-select aspects of the phenomenon that are most relevant to them. These first questions are designed to be exploratory, allowing participants' to share personal experiences of the phenomenon in a certain context and how they made meaning of it (Bowden, 2000a). In our sense of belonging example, the first round of questioning may ask students to reflect on situations or experiences where they felt like a legitimate member of, or alienated from, their university or disciplinary community. Observations may also be used, especially if the researcher is concerned with participants' actions within a certain context, although observations are commonly followed by interviews to allow the participants to explain their choice of action (Lindberg, 2008).

The second type of questions are probing questions, aimed at

bringing participants to a deeper level of awareness to unearth conceptions, or ways of understanding, the phenomenon. For instance, the researcher may ask "Could you explain that further?" and "What do you mean by that?" after hearing a concept uttered in the initial questioning. Marton and Booth (1997) advise researchers to bring the participants to a state of meta-awareness to enable them to fully articulate their conceptions. Entwistle (1997) advised that probing questions should move participants from actions to experience, and from concrete to abstract. To get participants to fully explain their conception of the phenomenon, the data collection phase must be very explorative in nature (Svensson, 1997).

Both types of questions are asked in such a way that the participants account for their own conceptions of the phenomenon, rather than those imposed by the researcher (Entwistle, 1997). The researcher takes the role of active listener, as open as possible to the varying experiences that may be unearthed during the interviews (Lindberg, 2008). The interviews are recorded and transcribed for analysis.

Data Analysis

Data analysis occurs during a rigorous, multi-stage coding process to identify categories of description. Researchers have various opinions on where the categories of description initially come from. For instance, Walsh asks if the categories should be constructed by the researcher via a theoretical framework, or 'discovered' by letting the categories initially emerge from the data. Lindberg (2008) states that initial categories of description should be identified during the data collection and interview transcription phase (Lindberg, 2008). Marton (1986, in Bowden, 2000a) states that 'utterances' during the interviews reveal categories of meaning of the phenomenon under investigation within a certain context. In other words, the interpretation of the phenomenon must be made in relation to a specific context, and initial categories are derived from utterances during the data collection phase. The debate between categories as constructed or categories as discovered implies varying views of the role of the researcher, which will be discussed later in best practices to ensure reliability and validity in phenomenographic research.

Initial descriptive, or "draft", categories help guide the next phase of the analysis. After the interviews are transcribed, the transcripts are aggregated and read as a whole to further identify categories and the similarities and differences between the categories. There are varying accounts from phenomenographic researchers on how best to approach this next phase of analysis. Svennson (1997) advises that the transcripts must be aggregated and taken as a whole to further formulate the categories in order to see the connections between the various categories. However, Prosser (2000) states this is very difficult to do in practice; he suggests dividing the transcripts in parts, assigning categories to each part, and then looking for the associations between the categories (see Åkerlind, 2005 for a detailed description of phenomeographic analysis in practice).

Once the initial categories are established, the individual transcripts are read and re-read and their data compared and contrasted with the categories. The categories are tested and retested against the data in a rigorous cycle of analysis, called 'reiteration', until the final categories are determined. Walsh (2000) defines reiteration as "a process of repeated critical scrutiny of categories against the data in order to refine description" (p. 22). Åkerlind (2005) describes the process of refinement of categories of description as "continually [seeking] evidence" (p. 325) within the transcripts that is either consistent with the draft categories or conflicting with them to determine the final descriptions.

A fundamental question phenomenographic researchers ask themselves while conducting analysis is: What does this tell me about the way the participants understand the phenomenon? (Bowden, 2000b). In our example, examining the similarities and differences between the ways various students explain their understanding of belonging allows us to describe the relationships between the various categories of conception. The idea of awareness as having a structure to it is fundamental to Marton's theoretical origin of the 'pure' form of phenomenography. Therefore explaining the relationship between the various categories of description is paramount. Walsh (2000) reiterates this importance of describing the relationship between the categories in creating the structure of the outcome space. However, Walsh also states "the question of whether or not the

expectation that the categories relate to one another may depend on the purpose of the research" (p. 28). Qualitative data analysis computer software, such as Nvivo or Atlas.ti, is a useful tool in conducting phenomenographic analysis (see, for example: Boon, Johnston & Webber, 2007).

Goodness and Trustworthiness

There are various strategies researchers can enact to ensure goodness and trustworthiness in phenomenographic research. Just as Merriam (2002) states that there is no simple answer to what constitutes a 'good' qualitative study, the criteria of what makes a quality phenomenographic study is equally as difficult to answer. Here again, advice from phenomenographic researchers provide ideas for best practice.

As mentioned earlier, there is a fundamental question as to whether the categories of description are constructed from or discovered in the data. In her article considering phenomenographic analysis, Walsh (2000) presents the benefits and disadvantages of both approaches. Her debate of the various approaches weighs the validity and reliability of each approach. Much of the debate, however, centers on the ability of the lone researcher to bracket his or her own perceptions of the phenomenon when creating categories. For this reason, many researchers (Bowden, 2000a; Dall'Alba, 2000; Entwistle, 1997; Prosser, 2000; to name a few) suggest phenomenographic research be conducted in teams.

For instance, Bowden (2000a) describes a study where one researcher in the team was responsible for creating a draft set of categories utilizing an aggregation of the interviews as a whole. The rest of the team then read all of the transcripts individually and assigned the data to the draft categories. The allocations were then compared and discussed in an iterative process until a final group of categories were mutually agreed upon. This group process utilizes multiple investigators to confirm emerging findings, strategies Merriam (2002) calls triangulation and peer review.

There are many instances, particularly for practitioners, when

phenomenographic study must be carried out by a lone researcher. In this case, Walsh (2000) advises the researcher make explicit his or her input into the analysis. Stating the researcher's positionality, or the critical self-reflection regarding assumptions, theoretical orientations, and relationships to the field under investigation, allows for potential biases and preconceptions to be made transparent and lends to the trustworthiness of the findings (Merriam, 2002; Walsh, 2000). This is particularly important in student affairs assessment where the research is carried out by an internal member of the unit; in this case, acknowledgement of positionality is critical.

Other methods of ensuring goodness and trustworthiness in phenomenographic research include presenting the categories of description with sufficient extracts from the data. In this effort, the researcher presents the contextual relationships between the categories with rich, thick descriptions extracted from the transcripts so that the reader can understand the context (Entwistle, 1997; Merriam, 2002). As phenomenographic research involves rigorous, detailed data collection and analysis, an audit trail describing a detailed account of the methods, procedures, and decisions made during the investigation aids in promoting the validity and reliability of the study (Merriam, 2002).

Examples of Phenomenography in Student Affairs Practice

It is helpful at this point to illustrate other ways of how phenomenographic research may be applied to current student affairs practice. In the section that follows, we propose two studies to illustrate the methods utilized in the phenomenographic approach.

Leadership in Student Governance

A student affairs professional who advises and supports the student government on campus may utilize phenomenography as an approach to investigate and develop modules aimed at promoting leadership in student governance. Interviews with diverse groups of students involved in governance would center on three, open-ended interview questions: "What qualities do you

think make a good student leader?", "What do you understand of 'leadership' in relation to student governance?", and "How do you think these skills could be improved in student government leaders?"

Analysis would produce an outcome space that illustrates the variation in the conceptions of leadership across the diversity of those involved in student governance or in different governance settings (e.g. undergraduate versus graduate student leadership, departmental leadership, community leadership). The findings could provide knowledge for the development or revision of learning outcomes that promote a more holistic view of leadership for diverse student populations.

Conceptions of Social Justice in Community Work

A second example of where phenomenographic methodology could be used in the investigation of students' conceptions of social justice. A study would utilize data from students' written reflections on social justice after a community work experience. Utilizing a phenomenographic approach, a researcher would analyze students' written reflections looking for variation in how the students conceptualized what social justice means to them.

The outcome space presented in the findings would focus on the relationship between their concepts of self, social justice, and their experiences with community work. The spaces would center, for example, on how students' understanding of 'self' within the context of social identity and social class privilege. Rather than presenting the outcome space in a hierarchical fashion, which is indicative of many phenomenographic studies, the findings could be presented in a hub-and-wheel model. This alternative model emphasizes the centrality of the sense of being, and the equality of the various categories in relation to the central unit (see, for example Reid & Solomonides, 2007). The findings would inform the development of learning outcomes for future community work experiences.

Limitations of Phenomenology

Despite the popularity and utility of phenomenographic research, authors (Entwistle, 1997; Richardson, 1999; Svensson, 1997;

Walsh, 2000; Webb, 1997; for example) cite various critiques and limitations of the approach. A few of these are presented here in order for the reader to consider the ethics and applicability of the approach for his or her own assessment practice.

Issues of bias warrant close scrutiny of the approach. Great care must be taken to fully reflect the voices of the participants in creating categories of description, including the recognition of how gender, racial, or other social identity differences play a role in participants' conceptualization of an experience (Bowden, 2000a; Entwistle, 1997). Webb (1997) also urges researchers to question who holds power in the larger higher education discourse when creating hierarchies of understanding. In the construction of such hierarchies, Webb warns of allegiance to antiquated notions of 'binaries': deep versus surface learning, male versus female, researcher versus student, us versus other, low- versus high-complexity.

Phenomenographic researchers must also be aware how their own implicit biases enter into the study, coaxing participants into exhibiting the behavior or phenomenon they seek to identify (Richardson, 1999). Säljö (1994; in Bowden, 2000a) cautions researchers could find "ways to construct and structure reality that obviously can be triggered" in the interview setting (p. 16). Stating the researchers' relationship to the study and member checking, or taking data and tentative interpretations back to the study participants to authenticate the findings assures the researcher understood and adequately represented how participants made meaning of the experience (Jones, Torres, Arminio, 2006; Merriam, 2002).

Finally, it is important to note that phenomenographic approaches to assessment are time and resource intensive. Conducting interviews, analyzing not only what and how students think takes significantly more time than simply having students complete a survey, counting attendance, or measuring their satisfaction. The phenomenographical approach to assessment can uncover students' thinking as a result of learning experiences and although difficult, this is powerful information that can be used to illustrate the valuable work of student affairs. Therefore, we would challenge professionals to consider not only the amount

of time and effort but the value and rewards that are possible with this approach.

Conclusion

In the inaugural issue of the *Journal of Student Affairs Inquiry*, Bresciani (2015) challenges student affairs professionals to "disregard the use of the survey and the rubric and invites students to use the deep self-reported data of their own experience" (p. 11). The call for contributions to this edition of the *Journal of Student Affairs Inquiry* asks "how inquiry into Student Affairs can contribute to (re)defining the goals of higher education" (SAAL, 2015, p.1). If the goal of higher education is the promotion of students' learning *and* personal development, as student affairs professionals we should be assessing both (Reason & Renn, 2008).

A phenomenographic evaluation allows student affairs professionals to understand the different ways students make sense of an experience, and the ways students' conceptions and approaches change during the course of an experience or program (Micari et al., 2007). Learning is not easily defined and linear, therefore, student affairs assessments should mirror this complexity (Bresciani, 2013). This paper presents an introduction to phenomenography as an approach for assessing learning in student affairs as distinct from other methodologies. Given the complexity of pressures on student affairs professionals to document student learning, phenomenography moves us beyond measuring performance to measuring students' development in understanding.

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