

The Role of Theory in Design:
Reflections on *Examining Practical, Everyday Theory Use in Design Research*

Danah Henriksen
Assistant Professor of Leadership & Innovation, Arizona State University

“Examining Practical, Everyday Theory Use in Design Research” offers an opportunity to comment on an issue that is fundamental to design scholarship—the use of theory.

Design has had a complicated relationship with theory. The field has traditionally focused on craft—the activities of making and doing. In recent years, the study of design has moved into university settings. This move has brought about the need for what Friedman (2003) has called “reasoned inquiry” (p. 507). It has also positioned design as a research field, which demands the use of theory. A field of research requires systematic approaches, methodological rigor, and theoretical depth. As design scholars improve the structure of their field, more emphasis on how design theory is articulated and used is valuable.

Beck and Stolterman (2016) analyze how theory is used in design research. In this, they take a step toward understanding the basis of design scholarship. The authors point out that others (Friedman, 2003; Love, 2000; Weick, 1989, 1995) have also examined theory to expand our understanding of design research and practice. The focus of their article is to investigate how scholars actually use theory in design research. Though this issue has broad application, it is not often given attention. Scholars treat theory as sacrosanct—or an unquestioned reality of research. In focusing on this area, the authors do an important service to the field.

Yet there are also issues, gaps, and unresolved tensions within the article. I point to some of these as broader considerations for design as a research field. These issues are important to address as design research strengthens its position in universities.

To begin, it is important to be specific and careful with terminology. Here, this is evident in the lack of a strong working definition for theory. Beck and Stolterman note early on, “in this article our aim is not to demarcate or define theory. Instead, our aim is to investigate how researchers present their use of theory in written texts.” This creates a dilemma—in that the article lacks a definition for the key object of study. They state that their goal is not to define, and this statement appears to mitigate the article’s lack. But without clarity about the object of study, the authors never really take a stance on it. It is hard to say if the uses of theory they analyze are appropriate or not. It is uncertain on what terms they deal with theory. Without a baseline, the analysis becomes fuzzy.

For example, it is not clear what the authors mean in saying that a paper is theory-driven, or not. This uncertainty continues to crop up in the discussion. The authors use the word frameworks as similar to theory. But they never explain how these terms relate or differ, so our understanding remains murky. There is a similar problem where the authors speak of developing “models” for using theory. Again we might ask how models are different from theories and frameworks? We could assume the authors see distinctions, but this requires clear treatment in the text. There is a broader point here for design research. It is essential that scholars explain the meaning and relations in their objects of investigation.

There are varied dictionary definitions for the term theory. The authors’ meaning may be similar or different. But the key point is to give a working definition that readers can refer to. A few simple definitions from a dictionary search (Oxford English Dictionary Online, 2015) define theory in multiple possible ways, including: 1.) The conceptual basis of a subject or area of study. 2.) A body of knowledge relating to the properties of a concept. 3.) Abstract knowledge or principles. 4.) Mental view, insight, contemplation. 5.) An explanation of a phenomenon arrived at through examination and contemplation of relevant facts; a statement of one or more laws or principles describing an essential property of something. 6.) A hypothesis or set of ideas. These are only a few possibilities. There are relevant differences among the definitions out there that affect how we work with theory. There are also common foundations that help us understand and analyze it.

Theory gives an explanatory power through use of general principles and abstractions. We can understand how objects in motion behave based on Newton’s second law. We see how errors in memory are explained by knowledge arrangements in the head (schemas). It is a large and abstract concept, but it has robust real-world effects on understanding. Using a definition and a few examples of a concept like this makes the abstract more real. Readers enter the discussion with a common understanding of the object of study.

The same thing can be said about frameworks and models. Frameworks and models are not always interchangeable. They may have different principles, characteristics, and features of causality. It depends on what scholars mean when they use the terms. The point being that it is important to treat core terminology with care, and elaborate through references or literature. This provides context for the ideas, and gives more clarity and meaning to the discussion.

There is a related tension in how the study is framed. For a piece devoted to theory, it is actually somewhat light on theory in its framing. Beck and Stolterman have analyzed how other papers use theory, but it is not clear how it frames their own study. In disciplines such as philosophy of science, social science, and others, scholars have done examinations of theory. Building more extended discussion around diverse work or references in this area would enrich the ideas. The current theory gap in the article actually reveals what theory offers as a framing device. It filters

the work through a lens of meaning, and places it in a broader conversation. Without it, a study lacks connection to existing work or a sense of larger impact. What we get is a list of ways in which theory is used, but without a sense of what this means.

There are a few concerns also, in how methods are discussed. A clear and justified methodology is a rhetorical argument to convince the reader of the researchers' precision. This care in methods supports the findings. Authors must be cautious to avoid assumptions or expect readers to trust without verification. Readers do not know why the researchers did what they did—so details, references and explanation must be transparent. Strong justifications for methods choices help validate the conclusions.

One example from this work reveals how an oversight echoes larger issues in the field of research. The authors state that they engaged in a round of “unmotivated looking” at the texts. But without a reference or theoretical justification for “unmotivated looking,” we may ask if this is a known technique. To an unfamiliar reader, dropping the term and with no reference is insufficient. It misses an opportunity to connect to a recognized approach. There is, in fact, a solid methodological justification. Blumer (1969), Psathas, (1995) and others note “unmotivated looking” as a preliminary step to becoming familiar with the terrain of study. Beck and Stolterman likely engaged in this technique to build an informed position before developing their ideas. The problem is not in their method of approach, but in its cursory mention. This may seem a small point—a single step of detail in the methods. But single steps and details form the pattern of an argument advancing the study's methods. I use this example to point to a bigger problem in the arena of qualitative research.

Scholars know the rationale for their methods and assume others do also. Within their given subject area such as design this may be true. But Anfara, Brown, and Mangione (2002) point out that the worth of a research endeavor is assessed by many audiences. Critics often state that qualitative inquiry is “fiction, not science” (Denzin & Lincoln, 2000, p. 8) in which researchers make up the methods as they go. I have heard similar statements (in direct comments from notable researchers) leveled at the entire field of qualitative inquiry. Methodologists (Howe and Eisenhardt, 1990) suggest this pervasive view derives from a common problem of qualitative work—where researchers unintentionally skip over references, justification or arguments for methods. In a broader pattern, this leads to qualitative approaches seeming to lack empiricism, or being unfairly “tarred with the brushstroke of sloppy methods” (Guba, 1981, p.90). Which is a shame, in cases where reasonable and empirical methods have been applied but not contextualized or referenced.

There are other areas in this piece where gaps in reasoning occur, leaving questions about the coding and analysis. For example, in the coding, “no theory” is given as a code category. This is questionable, because no examples of “no theory” arose in the data. Such a category choice

appears ad-hoc when it defies the data—especially in coding described as emergent or using grounded theory. The justification that “such papers exist” is not enough, because such papers did not show up in the data. Without better justification, it becomes a casual assumption. Again, each methods choice requires a solid rationale.

This relates to a larger point referenced earlier—design research needs clear terms and selection criteria in methods. Without these, it is hard to know how the authors identified theory in the articles. I give a few examples below to show how this can become blurry. There are more examples that could be noted, but these show how concerns arise.

In one instance, Beck and Stolterman (2016) state:

This paper discusses issues and ways of measuring the reliability of segmenting verbal protocols of design activity, a central focus of design research. They identify the theoretical object “design moves” in the abstract, but amplify its role in a subsequent section of the paper. “The present study uses the qualitative concept of ‘design moves’ as the criterion for unitizing/segmenting transcripts of design processes...” (Perry & Krippendorff, 2013).

Statements like this skip past the line of reasoning. Readers might ask, how is this theory? Is a “qualitative concept” an example of a theory? What makes “design moves” a theoretical construct?

In another example, Beck and Stolterman (2016) state:

While Grierson does not necessarily align the different theories she uses in her paper, her paper manifests the use of theory as a methodological tool. She writes, “Blessing, Chakrabarti, and Wallace’s (2009) *Design Research Methodology* was used. It was beneficial in adding rigor to the work through a requirement for a deeper understanding of phenomenon via focused descriptive studies” (Grierson, 2013).

This returns us to the problem of terminology—is methodology the same as theory? Is theory an approach to methodology? Uncertainty with terms weakens the goals of empirical analysis. Design research needs rigor, which means taking care not to leave readers of research with hanging questions, assumptions or conceptual leaps.

Whenever we identify gaps or questions in research, it reveals an area for more attention. Transparency and explanation are at the cornerstone of the defensibility of research. The application of rigor to terms, theory, and methods create a line of reasoning that should validate the work.

My aim in this commentary has been to highlight the potential in this research, but also to

promote broader research discussion based on some of its issues. As design continues to grow as an academic field, investigations into theory are of considerable value. It is a pleasure to be a part of that conversation.

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