Chapter III
The Power of Design Drawing in Other Design Fields[1]

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ABSTRACT

This chapter is a survey of the literature of design studies, where the various characteristics of a phenomenon called design drawing*, are considered. Included in this review is an exploration of the roles and attributes design drawing plays in those design fields outside ID, as an important design language. Its importance to those design fields suggests that design drawing might have much to teach us about visual instructional design languages (VIDLs). In reviewing these attributes of design drawing and how they are implemented in those other fields of design, we hope to inspire a dialogue on how these important characteristics will aid in creating or nurturing VIDLs.*

INTRODUCTION

In this chapter, we will explore the roles and attributes of design drawing, which serves as an important design language in design fields outside of ID. Its importance to those design fields suggests that design drawing might have much to teach us about VIDLs, if we knew more about it.

We will show that, due to the similarities between ID and other fields of design, we might expect that tools, skills, and methods important in those fields—such as design drawing—might also be valuable to ID. The basis of design drawing's importance in those fields lies in the common characteristic of all design fields' need for models and representations, which design drawing per-

forms capably. In fact, we will show that there are a number of characteristics of design drawing which make it attractive to designers in those fields: its close association with design thinking, its language-like characteristics, the fact that it can adroitly represent all stages of design with a number of expressive forms. Design drawing can also be as concrete or vague as it needs to be to support the design at hand—there being a real advantage to a definable level of vagueness. This characteristic also makes it ideal for working with ill-defined problems, which design is usually characterized to be. Design drawing plays a crucial role in a dialectic (called "the dialectic of sketching"), which some authors (Arnheim, 1995) suggest is essential to design. Drawing, which is often accompanied by some kind of narrative, forms the basis of a shared vision of the design: a catalyst for the social agreement necessary for design to move forward.

In reviewing these attributes and their application in those other fields of design, we hope to expose to ID practitioners to the characteristics of this important design language. This might, in turn, begin an important dialogue on some important characteristics to consider when creating or nurturing a VIDL.

IS ID DESIGN?

Murphy (1992) asks, "Is instructional design truly a design activity?" After comparing ID to the general practice of design (as found in architecture, industrial design, engineering, etc.), he concludes, "…it can be argued strongly that instructional designers are truly involved in design activities" (p. 281). And, further, "…instructional designers need to recognize their links with the wider world of design" (p. 282). Rowland (1993) conducted a similar analysis and similarly concluded, "Designing instances of instruction, or more generally, planning and preparing to instruct, can be considered a subset of designing, and the

defining characteristics…for all types of design appear to hold true for ID" (p. 87). Speaking of the literature on ID, Rowland adds that the results of his study, "…match studies of design processes in other fields, but contradict views in the literature on ID, especially those representing a purely rational perspective" (p. 90). Murphy is emphatic: "Thus far, it appears that not much has been done on the design skills of instructional designers," and warns, "All you instructional designers out there, look and learn from the design world. You ignore it at your peril" (p. 282).

In that larger design world, as in ID, design takes place in the gap between the mind of the designer and how the problem and solution are represented—design is the bridge between the conceptual world within and the physical world without. Simon (1996) puts it this way: because the gap is, "…centered precisely on this interface between the inner and outer environments; [design] is concerned with attaining goals by adapting the former to the latter" (p. 113). Bridging this gap requires a process of externalizing the designer's conceptual world. This externalization may be expressed verbally, visually, or physically—with words, drawings, or models.

For many fields of design, the fundamental bridge is drawing. Archer observes, "It has sometimes been said that drawing is the language of design. There has certainly been an intimate relationship between drawing and design from time immemorial… All the design professions today rely heavily upon drawings of various types for both the development of ideas and the communication of findings." Arnheim reports, "The function and nature of [drawing] is inseparable from that of the design it serves. The creative process of designing, being an activity of the mind, cannot be directly observed. The [drawings], done for the eyes and being directed by them, make some of the design plans visible," which makes drawing the perfect bridge across "Simon's gap" (see also Goldschmidt, 1991).

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