Chapter V
The Virtue of Paper:
Drawing as a Means to Innovation in Instructional Design

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ABSTRACT

This chapter presents an argument in favor of using paper to conceive, plan, and describe instructional design projects. Such a simple medium has great capability and, as is well known, a tenacious ubiquity; our offices, practices, and lives are filled with paper. We will see how the attributes of paper help us in both social and cognitive ways, particularly as a medium for drawing.

PROLOGUE

It was a peculiarly beautiful book. Its smooth creamy paper, a little yellowed by age, was of a kind that had not been manufactured for at least forty years past. He could guess, however, that the book was much older than that. He had seen it lying in the window of a frowsy little junk-shop in a slummy quarter of the town (just what quarter he did not now remember) and had been stricken immediately by an overwhelming desire to possess it…. Winston fitted a nib into the penholder and sucked it to get the grease off. The pen was an archaic instrument, seldom used even for signatures, and he had procured one, furtively and with some difficulty, simply because of a feeling that the beautiful creamy paper deserved to be written on with a real nib instead of being scratched with an ink-pencil. Actually he was not used to writing by hand…. He dipped the pen into the ink and then faltered for just a second. A tremor had gone through his bowels. To mark the paper was the decisive act (Orwell, 1948, p. 23).

In this passage, Winston is about to engage the simplest, most immediate medium—pen and paper. His creative process will be unencumbered by layers of technology involving complex skill sets, which, even when mastered, place their own restrictions on their user and become to some extent autonomous. Central to this act is his own intellect, and he recognizes the danger and importance, the intent of the mark, and its ability to connect with others.

INTRODUCTION

However we use a notation system, a visible language must build on our human experiences. We choose the media and which technologies we work with, and we make those choices based on our social and cognitive practices. Winston Smith's use of paper embodies human attributes that are politically rebellious: the capacities for private notation and independent thought.

Our current challenges are not so much in the technological systems we use, but in how people conceive, develop, and disseminate ideas through media. The choice is not how to use a new technology or software to visually notate our process of instructional design, but rather how to use visual notation to innovate and improve instructional design and education. Communication, creative thought, and interaction in complex processes must be addressed by meeting the needs of the human element of design.

KNOWLEDGE WORK AND VISUAL NOTATION

The focus of our effort is instructional design, the creation of materials for and the structuring of instruction itself. For our purposes here, instructional design is the knowing use of technology for the assistance of learning, and more recently, specifically the use of computer- and Internet-based technologies in the service of learning.

Instructional design can be described as "knowledge work" as described by Peter Drucker (1999) and others, and this description may help us understand the use of paper in the field by comparison with other professions. Knowledge work is a classification of work that involves the generation, development, and implementation of ideas. It can be described as work where the true means of production is the knowledge of the worker. Other fields engaged in knowledge work include the law, surgery, and architecture. Knowledge work is generally complex, quite often socially grounded, and involves complicated technical issues. Knowledge work often requires significant education or training, and the work is generally done in organizations and/or teams. Designing, including instructional design, is knowledge work.

Many of the activities of knowledge work are verbal and visual. They involve sharing, recording, notating, and creating ideas—most supported by some technology, the most ubiquitous being paper. There remains, as we shall see later, a continued use of paper in this electronic age. Knowledge work, particularly design, is tied to the use of paper because paper allows visual notations more easily than other media. It is faster, simpler, more immediate, and less separated (or mediated) from our thoughts.

Later in this chapter, architecture will provide a good comparison to instructional design for its use of notation systems: it has similarly complex technical issues (of building and construction); it is socially based, often practiced within a firm and with clients; and it addresses theoretical and philosophical issues in application. While architecture may result in visual form more than most instructional design, it still provides a strong analogy for an examination of design methods and tools as applied to instructional design.

The general field of design can be said to have evolved from craft when need arose to separate the work of creation from the work of production. Within design, visual notation is needed to create, direct, and communicate. "It is, above all else,

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