
Review by Rick Kenny

Much of the research and practice in the field of Educational Technology has focused on the practice of instructional design and has been informed by the principles and tenets of educational (learning) psychology. Gustafson and Branch (2002) define instructional design as "a system of procedures for developing education and training programs in a consistent and reliable fashion" (p. 17). This definition is clearly instrumental in nature. Reigeluth's (1999) description seems broader, claiming that instructional design theory is "design-oriented", but defines this as meaning, "focusing on the means to attain given goals for learning and development" (p. 6). What do we mean by the word "design" in instructional design? Is it merely a "system of procedures" to follow or a "means to attain certain goals" or is it something more? To more fully understand this process, those of us involved in the study and practice of instructional design may well benefit from the ideas of other scholarly traditions.

Nelson and Stolterman look at design from the perspective of the philosopher.

The Design Way

is an analytic work that endeavors to define and promote a new philosophical tradition, to encourage a design culture

This culture would apply not only to those fields focused on physical design and traditionally thought of when we consider design (e.g., architecture, graphic design, software design), but would encompass other design areas including "educational systems design". In essence, the authors hope to foster and promote a design way of thinking. With this in mind, Nelson and Stolterman present the reader with a
composition
- their understanding, rather than a "true" description - of design, its concepts and processes. They see design the ability to imagine "that-which-does not-yet-exist" and make it appear in a concrete form as purposeful new addition to the real world. This book is offered as an introduction to these ideas and is not intended as a "how-to" text on design methodology per se. The authors' composition, then, after an introductory section on design as the first tradition

, consists of three main sections: foundations, fundamentals, and metaphysics.

In the first section, the authors describe four conceptual foundations of design: the real, service, systems thinking, and the whole. The concept of the real is intended to clarify what should be the express focus of design inquiry. The "real" world, while including the "true" or natural world, is an artificial world, a created design. The process of design is about moving from the general and universal to a specific design (the ultimate particular) using a compound form of inquiry (design inquiry), composed of the real, the true, and the ideal. Service is the defining element of design that differentiates it from other traditions of inquiry. This chapter explores issues of self-expression, describes design roles and designer _ client relationships, and explains what the authors mean by "being in service" to others. The third chapter will be the most familiar to those who have read the work of Bela Banathy. This chapter discusses the nature of systems thinking and explains the authors' view that it is "the" organizing element in design reasoning. It provides an interesting counterpoint to traditional instructional design theory and practice, which focuses strongly on analytic techniques (needs analysis, task analysis), but those seeking new methods of synthesis will be disappointed. The authors present "palettes" of types of systems and systems behaviours and of approaches to design inquiry, but no specific techniques. This is mainly a philosophical treatment of systems thinking. The 4th chapter in Section 1 argues for the importance of thinking holistically.

The second section, fundamentals, describes the essential skills of design inquiry and practice: desiderata, interpretation and measurement, imagination and communication, judgment, composition, and production and care taking. These chapters come as close as the authors are able to providing the reader with specific techniques, but remain highly theoretical and philosophical in nature.

The chapter on desiderata (those things that are desired) focuses on the process of giving direction and the importance of intention as an initiator of design action. The discussion of interpretation and measurement covers issues of appreciative judgment about what is to be considered and the exploration of possibilities, leading to a compositional interpretation . Imagination and communication presents the authors' ideas about design creativity and describes the phases of the design communication process. The chapter on judgment defines various types of judgments (appreciative, quality, instrumental, framing) in the design process and delineates the differences between judgments made by the client and those made by the designer. Composition describes the phases in the design process from the "parti" (ah-ha experience) through to the design innovation or "ultimate particular". Production and care taking completes this section with a focus on the care of the material of the design and management of the production process.

The final section,

metaphysics
, provides the capstone to the book by attempting to shine a light on the real nature of a design approach to life. As such, it covers such issues as setting boundaries in the design process, determining design excellence, ascertaining the designer's responsibility in the outcome of a design, and confronting the inherent "good and evil" in design.

The first chapter in this section is cleverly titled, the Guarantor-of-Design (g.o.d.) and focuses on the designer's actions and accountability, on reflection on action, and on taking responsibility. One interesting discussion in this chapter was that of "moving responsibility" for a design to the design process itself. This resonated with this writer, as it reminded me of the pre-Constructivist claims of instructional design as a prescriptive, "scientifically replicable" process, one which, if followed appropriately, could guarantee successful instruction (and see the preceding definition by Gustafson and Branch). The last two chapters are the Evil of Design and the Splendor of Design. Design is seen as "evil" when design activity, whether willfully or accidentally, brings an undesired artifact into being or produces something which disrupts balance, harmony, order, and so on. This chapter describes the categories of "evil" and provides examples. The Splendor of Design discusses the possibilities of a design transcending its original purpose and becoming the conveyor of "soul". Here, Nelson and Stolterman, define what they mean by "soul" and talk about value and meaning making in design.

The Design Way concludes with a short section on character and competence. They conclude with the argument that the most important guarantee of design excellence is the presence of design character. By this, they mean that design is always about making judgments, that design situations are complex, rich and replete with tensions and contradictions. Those who engage in design must accept that their role is one of leadership in this process.

In concluding, I have to say that it took me a while to "get into" this book. While very well written, it can be dense at times as the authors attempt to condense a highly complex and wide-ranging process. That being said, The Design Way provides a fascinating look at design as a process and provides a perspective that, in the experience of this writer, Instructional Designers rarely consider or are taught. I would recommend it for an advanced class on instructional design or as a complementary text in a course on systems design.

References


Review by Karen Belfer

This book is very easy to read. The way is presented makes it easy to follow - a good reference for anybody who is developing multimedia systems and has a high level of commitment to quality.

The book is full of useful examples, most of them from companies and educational technology departments that spend thousands of dollars on the development of multimedia products for learning and training.

In the first four chapters, the authors provide the context for the rest of the book. They start (Chapter One) by defining a common language for different terms, types, and processes used in the development and use of interactive learning systems. In Chapter Two they describe the different evaluation paradigms and models that have influenced current evaluation practices.

The authors critique the linearity of typical Instructional System Design models and suggest a model that is more interactive, in which the evaluation process is embedded in the development process, providing stakeholders with the information they need to make informed decisions.

Therefore in Chapter Three, they suggest the implementation of an evaluation activity that will inform each of the development functions: 1) Review - Project Conceptualization, 2) Need assessment - Design, 3) Formative evaluation - Development, 4) Effectiveness evaluation - Implementation, 5) Maintenance evaluation - Institutionalization, and 6) Impact evaluation - Project Re-Conceptualization.

There is a dedicated chapter for each of the evaluation functions, in which the authors present and recommend useful activities, procedures, and tools using a framework that identifies the most common questions and issues that arise while planning, designing, and implementing that evaluation function.

For someone developing and reporting on an evaluation plan or the results of an interactive learning system, I found Chapter 4, Planning and Managing Evaluations, and Chapter 11, Evaluation Reporting, to be the most useful; they present a good guide of the do's and don'ts of these two activities providing a outline that is easy to follow and covering the key factors to support decision-making, planning for a successful implementation and clear presentation of the results.

In the last chapter the authors focus on different research approaches and their linkage to evaluation. One of the most valuable pieces found in this book is based on an article previously written by one of the authors (Reeves & Harmon). He suggests that, in evaluating the effectiveness of interactive learning systems, most evaluators look for the enhancement of cognitive or knowledge abilities using technology, an approach that has not found significant differences. Reeves invites evaluators to look and search for the other benefits that technology provides (e.g., flexibility, lower costs, increased motivation, safety, accessibility). He advocates a move away from an evaluation whose only intent is to provide information in terms of higher and/or lower levels of effectiveness (prescriptive), Rather, he recommends focusing on an evaluation that analyzes each system based on ten pedagogical dimensions and which purpose is to understand (descriptive) where that system falls in the
As much as I liked Chapter Four, because of its richness and the value of the information presented, as I moved forward in the book I found that same information was repeated many times in the description of each of the evaluation functions (the benefits and challenges of using the different evaluation methods remain constant no matter the evaluation function you are presenting), and the only value I could see on repeating the information would be for those people that open this book searching for information related to a particular evaluation function.

There is one trend in evaluation that I felt was missing in this book, the concept of "Authentic" evaluation (ongoing, valid and reliable, comprehensive, communicated, variety of methods). Even though each of these elements are independently well discussed in the book, when the authors decide to have six functions of evaluation for each development phase, instead of an authentic evaluation scheme that is ongoing, they are still working in a framework that is based on systemic approach to instructional design, despite advocating for an interactive-linear model. Since there is no mention of how the information gathered to inform one development function could be otherwise used to inform the following phases, they missed the opportunity for interaction and integration of functions making the valuation more dynamic and less linear.

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