REVIEWER

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Instructional Design: Implications from Cognitive Science by Charles K. West, James A. Farmer and Phillip M. Wolff, Englewood Cliffs, NJ: Prentice-Hall 1991. ISBN O-13-488578-3 (CDN $33.67)

Reviewed by Beverley Park

This book is based on the authors' contention that cognitive strategies are the primary contributors of cognitive science to the field of instructional design. The book therefore attempts to instruct the designer in these cognitive strategies so that they can be effectively incorporated into the instructional design model.

The book is organized into twelve chapters. The introductory chapter discusses the theoretical background of the cognitive revolution, or evolution as these authors prefer to name it, and provides an overview of schema theory which is essential to the understanding of the instructional design process. In the first chapter, West, Farmer and Wolff identify a series of cognitive strategies and present them as a repertoire of ways to learn. Each of the nine strategies: chunking, frames-type one, frames-type two, concept mapping, advance organizers, metaphor-analogy-simile, rehearsal, imagery and mnemonics become the subject of the nine subsequent chapters (2 to 10). In each of these chapters the research on that particular cognitive strategy is summarized, and the authors present several ideas about how teachers and designers can activate these strategies to assist learning.

The final two chapters of the book are devoted to what the authors refer to as 'The Instructional Design Template" (IDT), which is a procedural explanation of an instructional design model. The book presents six phases in the IDT: the situational audit, the statement of aims and objectives, the identification of content and uses, the selection of appropriate cognitive strategies, the analysis of the means of instruction, and finally the process of evaluation, This rather complex procedure is presented in a very uncomplicated manner, which even the relative newcomer to the field of instructional design should be able to grasp. Indeed the entire book is an excellent example of the basic design principles it attempts to teach. It effectively incorporates many of the cognitive design strategies throughout and, in the end, challenges the reader to consciously identify them.

Following the discussion of the research each chapter has, a) a designer's guide which specifically directs the instructional designer in incorporating the

ideas presented into the eventual instructional design; b) a set of exercises which allows the reader to evaluate his or her understanding of the information presented; and c) a detailed bibliography. With the exception of chapter one, the text is very readable. While the first chapter provides important background, it is a somewhat difficult introduction to a text which is otherwise very comprehensible.

The book is well organized and, whereas it is best viewed as a coherent whole, it could be studied in segments if one wished to explore any one of the cognitive strategies in chapters 2 to 10. The final two chapters could also be studied independently as a description of the instructional design process. This is perhaps more advisable for those more experienced in the field. Those for whom the instructional design process is new would be best advised to consider the text in its entirety.

The book could be valuable to a very broad spectrum of users. For those uninitiated in instructional design there is a wealth of practical information, soundly backed by theory, which is presented in a non-intimidating manner. For theexperienced instructional designer this book permits afresh look at the advances in instructional design resulting from the cognitive evolution. There is truly something for everyone. The authors, despite their emphasis on cognitive theory, advocate an instructional design approach which is eclectic. It has been said that there is nothing more practical than a good theory; this book proves it.

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