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Instructional Technology— A Systematic Approach to Education

F.G. Knirk and K.L. Gustafson
New York: Holt, Rinehart and Winston, 1986, 256 pages.

Time and time again as I read through this book, I had to remind myself that it had been published in 1986. What new contribution did this volume make to the field? What new insights did the authors provide?

In their preface, the authors indicate that the primary purpose of the book "is to present the common base of theory and practice associated with IT [Instructional Technology]....Both theory and practical tools and techniques are described to illustrate how they may be applied in analyzing, designing, producing, evaluating, implementing, and managing instruction." They consider IT to be applicable in a wide variety of settings—in training and at "all levels of education." While the book is clearly written at an introductory level, the authors never explicitly identify their target audience. The book appears to be aimed at teachers in schools and colleges throughout the U.S.A., even though many of the examples are drawn from industrial, commerical, or military settings. Clearly a more widespread use of instructional technology in schools is an important aim of the authors: "to date, the inertia of a large, diversified, and labor-intensive institution like education has restricted its exploration of the potential IT. However, the industrial and military training communities have widely accepted it and sponsor and conduct most of the research in the field" (pp. 10-11).

A brief chapter on the antecedents of instructional technology is followed by an equally brief examination of several definitions and models of IT. The remainder of the book takes the reader through the stages of the authors' Synthesized Model, based upon their definition of IT as "not only the use of hardware or devices and learning theory in instruction [but] also the use of procedures for structuring learning environments for solving instructional problems" (p.10). Chapters follow on aspects of problem definition, instructional design, and instructional development, including evaluation.

All of this should be of value to anyone involved in the practice of distance education—but does it really have anything to offer? I have a number of serious concerns about the content of this book.

Firstly, the "state of the art" as described in this volume is very much out of date. There is little to indicate any significant advances in the scope and concerns of IT over the past 10–15 years. The authors also totally ignore the wealth of research on student learning and distance education undertaken outside the U.S.A.

in recent years. To that extent, nothing is offered that could not be found in a similar text published a decade or more ago (with the exception of some references to relatively recent developments in delivery media, such as computers, video-discs, and so on).

Secondly, the authors have neglected to present a critical appraisal of the prescriptions they present. For example, I could find no mention of the well-documented case against the use of behavioural objectives ("The Cornerstone of Instructional Technology," p. 79) in many educational settings. Next to nothing is done to alert readers to the limitations of the overall approach in helping to achieve what is desired in many aspects of education. I do not expect to find a lengthy discussion of such issues in an introductory text of this kind. However, I would expect to see some acknowledgement that many areas of contention exist in the field.

Thirdly, the actual core activity of the whole process—the preparation of instructional materials or experiences—is hardly discussed at all! In common with most other prescriptive books of this kind, the underlying message is that if teachers follow all the stages outlined—analyzing the instructional situation, identifying learners' characteristics and needs, specifying objectives, selecting appropriate strategies/media, and so forth—then the teaching required will be self-evident and straightforward. However, the experience of many teachers around the world who have prepared instructional materials for distance education and independent study testifies that this is simply not the case.

Finally, there is no explicit discussion of the aims of education nor of the view of learning embodied in the authors' model of IT. What is presented, however, represents a highly mechanistic, "transmission" view of education. It is mechanistic because it implies that successful learning will result if teachers adopt the systematic approach and apply the prescriptions outlined in the text. Education is viewed simply as the transmission of knowledge and even attitudes from teachers, books, and so on to learners: "teaching is primarily an information-handling profession (transfer of knowledge from data sources' to receivers with a need for information)" (p.7). Thus, the major concern of IT is to get the message right and to ensure that as little as possible impedes its reception: "the entire communications chain must be relatively noise-free, being defined as any environmental factor interfering with communication" (p.121).

I cannot accept that this view of learning and teaching is appropriate in many, if not most, educational situations. Learners should not be viewed as passive recipients—but as active participants in an educational enterprise—abstracting, interpreting, and constructing meaning in the context of their individual experience and situation. In distance education, where some form of instructional design and development is generally necessary, it is all too easy to view the outcome of the process as the "package" of materials, rather than the interaction of learners with those materials and other resources.

Instructional Technology, rather narrowly defined in this book, clearly has a

place in certain settings, but it is not as widely applicable as the authors would wish it to be. I am still left wondering how this book came to be published in 1986.

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