

Plaster addresses only three of these listening problems in his book, so clearly supplemental material is necessary to attack the full spectrum of listening problems. Although the book clearly has its limitations, it is a valuable contribution in the area of listening teaching, which remains a vast lacuna in the language arts area.

Footnote

¹Nichols, Ralph G., and Stevens, Leonard A., **Are You Listening?** (New York: McGraw-Hill, 1957), p. 6.

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INTERACTION OF MEDIA, COGNITION, AND LEARNING: AN EXPLORATION OF HOW SYMBOLIC FORMS CULTIVATE MENTAL SKILLS AND AFFECT KNOWLEDGE ACQUISITION. By Gavriel Salomon. San Francisco: Jossey-Bass Publishing, 1979. xxviii + 282 pp. \$14.95

There are some people who are able to look at a painting and see its forms, feel its colors, and sense its composition. Most people, however, do not share this perspective. When they approach a painting, for example, they immediately turn to the printed label beneath it in the hope that the words will somehow grasp the essence of the visual message that they have failed to perceive. Unfortunately, this common reliance on print is endemic to science with its concern for analysis and rationality. People are trained to approach visuals in much the same way as they would read a book. They begin by isolating the components, pulling them apart, and conclude by attempting to reconstruct the whole from the various parts. Marshall McLuhan has convincingly argued that the visual world is consistently distorted by those who look for words when they should be perceiving forms and colors in a Gestalt framework. What Gavriel Salomon brings to this quest for visual literacy is a strong research tradition in cognitive psychology and a concomitant interest in the processing of visual information. He wants to go well beyond the surface forms in order to arrive at a coherent theory of the deep structure of such symbolic systems. But, his search for theory is not isolated from his empirical research nor is it separated from his concern for the classroom practitioner. He presents an integrated model of cognition and mediated instruction.

The basic theme of this book is that symbol systems which are characteristically associated with print culture differ from those dealing with visual information or imagery in that they require disparate kinds of mental processes when they are acquired and when they are retrieved. In the study of cognitive styles, for example, it is known that the left hemisphere of the brain employs a mode of cognition which is linear and analytical whereas the right hemisphere handles information simultaneously and affectively. What Salomon adds to this common knowledge is the claim that each mode of cognition requires a different symbol system and pedagogical approach. Hence, the basic difference between print media and television is not to be found in the kinds of content brought about by technology, but in the disparate forms of meaning which emerge from the ways in which they are structured. They are different systems with different structures and require separate modes of human information processing.

Why should it matter whether or not knowledge is acquired by means of charts, maps, photos, films, scripts, educational television or books? If one believes that all media are the same and merely different methods of conveying the same information, then this question appears ludicrous. But, as Salomon has demonstrated, each medium changes the message it attempts to convey. Each medium requires a different symbol system even when representing the same content. They necessitate separate kinds of mental skills when they are learned. They have separate outcomes. When this is realized, the question of which form of the medium one employs in teaching becomes a very important question. It leads one to ask whether or not all students should be exposed to the same medium. Salomon notes how complex the learning process is because not all symbol systems are equally suited to express and depict information. Hence, no one way of imparting information will be adequate as a means of instruction. Furthermore, the use of media entails more than just symbol systems. It includes differences in technology, contents, instructional situations, as well as symbol systems; and each of these influences the way in which knowledge is acquired, retained, and retrieved. Hence, the ideal solution is to employ a multi-media approach to teaching so that students with different cognitive styles and different socio-cultural backgrounds can benefit from those aspects of the pedagogical situation in which they excel.

This is an important book for those who are interested in how media interacts with the learning process in the classroom or the language laboratory. It provides a full discussion of relevant research in cognitive psychology and uses this knowledge in detailed discussions about how the classroom can be structured for better processing of information through mediated instruction. The range of topics discussed involves an examination of educational research and conceptions of the media, the

various characteristics of symbol systems, the relationships between these systems and cognition, the differential uses of mental skills for learning, and the cultivation of these skills and their impact for processing symbolic forms. There are, in addition, numerous empirical studies from a cross-cultural perspective. Besides being an excellent reference work, this volume could also be successfully employed in classes on cognitive psychology, curriculum instruction courses, laboratory design seminars, and programs of mediated instruction.

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