

Gagné R M. The conditions of learning.

New York: Holt, Rinehart and Winston, 1977. 339 p. [Florida State Univ., Tallahassee, FL]

This textbook reports and interprets research studies and theories of human learning, drawing implications relating them to instruction. Successive chapters describe in detail the internal and external learning conditions for five kinds of learning outcomes: (a) verbal information, (b) intellectual skills, (c) cognitive strategies, (d) motor skills, and (e) attitudes. [The *Social Sciences Citation Index*® (SSCI®) indicates that this edition of the book has been cited in over 105 publications since 1977. All three editions have been cited in over 875 publications.]

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"While continuing the aims and themes of two previous editions,^{1,2} this book reflects the shift in learning research and theory that has come with the surge of interest in cognitive psychology and information-processing conceptions. An information-processing model of learning and memory derived from that proposed by Atkinson and Shiffrin³ provides a framework for discussion of the conditions of learning as they relate to instruction.

"In following developments in theories of learning and memory during the period of the early 1970s, I could not help being aware of the profound change in conceptualization of the processes of learning, and of the accompanying change in the nature of research questions raised and investigated. At the same time, studies of school curricula and my own observations of classroom behavior convinced me of the need to identify categories of learning outcomes which cut across the traditional

subjects of the curriculum, such as mathematics, language, history, etc.

"The result of these occurrences, and my thinking about them, was the definition of five classes of learning outcomes: (a) verbal information, (b) intellectual skills, (c) cognitive strategies, (d) motor skills, and (e) attitudes.^{4,5} Separate chapters of the book describe learning for each of these outcomes in terms of internal and external conditions. Internal conditions include motivational states and previously acquired knowledge and skills stored in long-term memory that are accessible for new learning. External conditions, when deliberately planned and instituted, make up a set of events collectively called instruction.

"The events of instruction are shown to be derivable from the information-processing model of learning and memory. According to this model, learning processes follow a stage-like progression from sensory registration to long-term storage and learner performance. Events of instruction, conceived as a set of stimuli which give support to internal learning processes, accordingly follow a similar progression. These events begin with gaining attention, followed by informing the learner of the learning objective, and proceed through the stages of stimulating recall of prior learning, presenting the stimulus, providing learning guidance, eliciting performance, providing feedback, assessing the performance, and enhancing retention and transfer. These instructional events form the basis for the design of instruction as described by myself and Briggs.⁶

"The systematic attempt to relate instruction to learning theory probably accounts for frequent references to this work. The two major themes of differential requirements for instruction associated with five different kinds of learned capabilities, on the one hand, and the delineation of instructional events, on the other, are woven together in a couple of ending chapters on analyzing requirements for learning and on designing instruction."

1. **Gagne R M.** *The conditions of learning*. New York: Holt, Rinehart and Winston, 1965. 308 p.

2. *The conditions of learning*. New York: Holt, Rinehart and Winston, 1970. 407 p.

3. **Atkinson R C & Shiffrin R M.** Human memory: a proposed system and its control processes. (Spence K W & Spence J T, eds.) *The psychology of learning and motivation*. New York: Academic Press, 1968. Vol. 2. p. 89-195.

4. **Gagne R M.** Domains of learning. *Interchange* 3:1-8, 1972.

5. Learning outcomes and their effects. *Amer. Psychol.* 39:377-85, 1984.

6. **Gagne R M & Briggs L J.** *Principles of instructional design*. New York: Holt, Rinehart and Winston, 1979. 321 P.