

教育·心理影印版系列教材

学习与教学

影印版

——从理论到实践

Learning and
Instruction
Theory into Practice

(Fifth Edition)

Margaret E. Gredler

210

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内 容 简 介

本书是一部综合介绍学习理论及其流派的著作，被美国高校广泛采用，作为教学论和课程论等学科的专业教材。它系统介绍了学习与教学理论的研究缘起以及它们在教学中的作用，并详细阐述了从行为学派到维果茨基的文化历史发展观等近百年来东、西方学习理论的演进，在总结理论流派的同时提出了课堂教学建议。

In memory of my beloved daughter,
Margaret Lynn,
and for her sister,
Elizabeth Lee

Preface



In the new millennium, both new and continuing developments pose challenges to the design and implementation of events that support learning. Among them are the pervasive influence of television, the questions raised by research on the human brain, and the increasing importance of schooling in advanced technological societies. New in this edition are discussions of the current research on the human brain and the cognitive models and theories of academic motivation, an expanded review of the philosophy known as constructivism, and further clarification of the key concepts in Vygotsky's cultural-historical theory.

I would like to thank the following individuals for reviewing the last edition and suggesting improvements for this one: Frank N. Dempster, University of Nevada; Stuart R. Ellins, California State University; and Robert L. Hohn, University of Kansas.

Margaret E. Gredler

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PART I

Introduction



The human capacity for learning is an important characteristic with far-reaching implications for both the individual and society. Discussed in chapter 1 are the role of learning in human life and the various sources of knowledge about learning. Described are the limitations of traditional wisdom, maxims, and fragmented data in expanding knowledge about learning. Also discussed is the role of theory in developing information about the process of learning, the design of instruction, and the analysis of classroom situations.

By the 1920s, learning had become a major focus of study for American psychology. Until the 1950s, two broad perspectives sought to develop the one theory that would explain all learning. Behaviorism, the dominant perspective during this period, is described in chapter 2. This perspective views learning as behavioral change, and researchers attempt to identify the environmental events and conditions responsible for such change.

A different perspective, discussed in chapter 3, is Gestalt psychology. Initiated in Germany, Gestalt psychology maintains that learning is a sudden perceptual reorganization of a problem situation. Gestalt theorists named this process insight.

CHAPTER 1



The Role of Theory in Learning and Instruction

Man's power to change himself, that is, to learn, is perhaps the most impressive thing about him. (Thorndike, 1931, p. 3)

The human capacity for learning is the characteristic that sets the species apart from all others. Research in neuroscience indicates that only humans have highly developed frontal lobes in their brains, and they are essential for all higher-order purposeful behavior (Goldberg, 2001). Included are identifying objectives, projecting goals, constructing plans, organizing resources, and monitoring the consequences (p. ix).

From the perspective of cognitive development, Lev S. Vygotsky, a well-known scholar, described three unique characteristics of human intelligence. First, humans can learn about the discoveries, inventions, and ideas of great thinkers and scientists of the past (referred to as inherited experience) (Vygotsky, 1924/1979). This capacity enriches one's knowledge and also makes possible the development of new discoveries and inventions that build on prior accomplishments.

Second, humans can develop knowledge about places and events they have not experienced personally through the experiences of others (social experience). That is, an individual can know Berlin or Mars although he or she has neither traveled nor looked through a telescope (Vygotsky, 1924/1979, p. 13).

Finally, humans adapt the environment to themselves, rather than merely adapting to it, and they do so by first building mental models in their heads. Examples include a variety of activities from quilt making to architecture. This creation of products from mental patterns was named repeated experience (Vygotsky, 1924/1979, p. 14).

WHY IS THE STUDY OF LEARNING IMPORTANT?

The study of learning is important for at least four major reasons. One is the importance of learning for the individual. It accounts for the acquisition of a

variety of skills, strategies for functioning in the world, and attitudes and values. It begins in infancy, with the baby's learning to recognize its mother, and continues into adulthood, with the acquisition of knowledge in various subject areas, competencies essential to a chosen profession or career as well as social interaction patterns.

Learning also can contribute to a rich and diverse lifestyle for the individual. Sewing, basic home repair, waterskiing, playing Scrabble, and mountain climbing are only a few of the leisure-time activities acquired through learning. In our society, we are not surprised to find engineers who are gourmet cooks and college professors who grow prize-winning roses.

The capacity for continued learning is particularly important for the individual in today's information age. New developments in technology are increasing both the store of knowledge and the ways that information and knowledge are transmitted. Continued learning is important both for changing job markets and for taking advantage of new opportunities to access information.

Second, for society, the developments produced by individuals that evolve from their learning contribute to new discoveries and inventions by subsequent generations. For example, telescopes, computers, and electronic guidance systems set the stage for unmanned space probes to the outer edges of our solar system, and cell analysis has led to explorations of gene replacement therapy to address debilitating diseases. In other words, the inherited experience described by Vygotsky (1924/1979) is essential for human progress.

Third, learning is essential for societies to preserve the values, language, and developments of the particular culture. Suppose that each new generation would only be able to learn those things that are half as difficult as the things currently learned (Thorndike, 1931). For example, instead of members of the present generation learning calculus, they would learn only algebra. Then the next generation would learn only arithmetic, and so on. The result is obvious. Most of human civilization's accomplishments would be unusable in one generation, and civilization itself would soon disappear from the face of the earth (Thorndike, 1931).

Fourth, the study of learning is important because both the individual and society have a vested interest in the successful management of learning. Individuals who become skilled at self-directed learning are able to acquire expert knowledge in their chosen fields, to change careers, and to endow their lives with creativity and variety.

Society, on the other hand, cannot risk leaving the acquisition of learning to chance. Some system is needed to teach the cultural heritage to the young and to train them to take on productive adult roles. In early societies, the collective wisdom and folklore often were acquired by each member, usually by word of mouth. In technological societies, the available knowledge and information is so vast that no one can begin to learn all of it. Instead, formal educational systems address both broad areas of knowledge and areas of particular expertise that individuals select for further study. This process requires several years and often includes the learning of particular prerequisite knowledge, such as chemistry for pharmacists and music theory for symphony conductors.