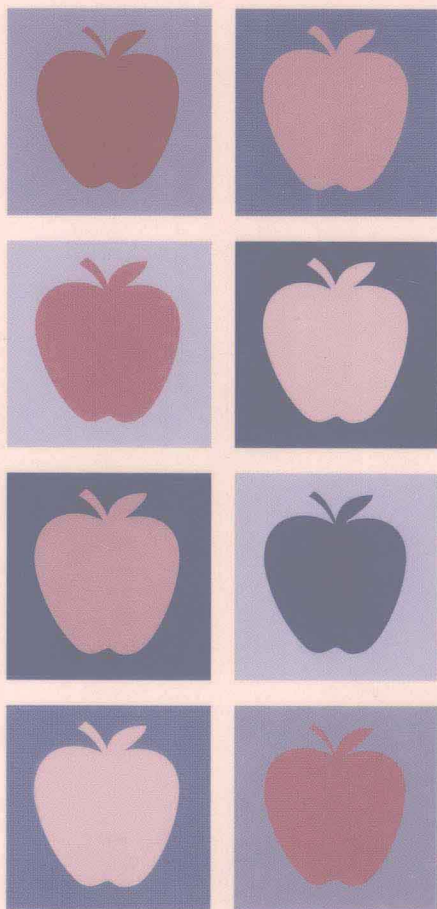# LEARNING THEORIES FOR TEACHERS

Fifth Edition

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Learning Theories for Teachers, Fifth Edition

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Preface

This book is designed for use as a text in both graduate and undergraduate courses in *learning theory, educational psychology,* or *psychological foundations of education.* It should also prove useful as a supplementary text in other courses that emphasize the nature of contrasting psychologies of learning. The objective of the volume is to provide both prospective and in-service teachers, as well as other school personnel at all levels, with a comprehensive picture of modern learning theories in as readable a style as possible without oversimplifying the basic tenets, similarities, and differences of most of the important contemporary learning theories.

The text describes learning theories in such a way as to guide readers in critically constructing and evaluating their outlooks regarding the nature of the learning process and formulating their optimum roles in its promotion. Thus, it is written with the intent to contribute to a long-range sense of direction that will be conducive to more effective teaching.

We do not claim complete impartiality; our sympathy lies with the cognitive-interactionist theories of learning. Nevertheless, every effort has been made to provide a balanced treatment of learning theories. Consequently, the book should be equally usable by professors and students with various theoretical commitments. Actually, each theory is presented much as if we were adherents of that point of view. The volume contains occasional critical comments, but evaluations are usually weighted toward supporting the theory being presented. In most cases it is left much to the readers to discern the weaknesses of each theory in relation to contrasting ones.

Because a truly comparative approach to learning theory is necessarily semihistorical, this volume treats respective learning theories semihistorically as well as comparatively. The historical analysis is developed so as to help readers grasp and clarify points of confusion in modern education. Many contemporary educational principles and practices are rooted in frequently incompatible premises about the nature of humankind and its relationships with its physical-social environment. By recounting how psychological assumptions and theories arose and have evolved over time,

the book helps readers see why the theories exist and the directions in which they point. Since some earlier theories of learning continue to influence today's teaching, they, as well as contemporary learning theories, are also considered.

Because psychological study centers on individuals, it is often necessary in its pursuance to use the generic third person pronouns. Yet, unfortunately, to date, no truly generic singular third person pronoun has been established. Since the use of *he, him,* and *his* for this purpose has been customarily and grammatically sanctioned, usage of these words seems to contribute to easy comprehension. Nevertheless, such usage definitely has its faults. In light of these facts, we have established the following ground rule: *In each sentence throughout the book, the first time a generic* he *is used it is to be followed by a diagonal slash and* she, *as follows:* he/she. *This indicates that the pronoun is used in a completely generic sense to mean a person, not a particular sex. In all other parts of the book as well, the pronouns* he, him, *and* his *are also intended to refer to a person in a generic sense. The reader should constantly bear this in mind as* he/she *reads the book.*

The general plan of the book is as follows: Chapter 1 lists the learning theories that are to be treated and introduces readers to various possible assumptions about the basic nature of humankind that underpin learning theories. Chapter 2 presents the more prominent representatives of learning theory originating before the twentieth century—mental discipline, natural unfoldment, and apperception—and develops their implications for current school practice. Chapter 3 introduces the two major contrasting twentieth-century "families" of learning theory—stimulus-response conditioning and cognitive interactionist theories. It also provides background by explaining how the families arose and how each relates to mechanistic and relativistic outlooks. Chapter 4 focuses on the specific explanation of learning that each contemporary family offers.

Chapters 5 through 9, written to give readers a "feel" for how psychologists think and work within their respective points of view, are more technical and specific than are Chapters 3 and 4. Chapter 5 describes the leading systematic, contemporary version of S-R conditioning theory or neobehaviorism: B. F. Skinner's *operant conditioning.* Professor Skinner presented his psychology as the great hope for improvement of current instructional techniques.

Many contemporary educators hold eclectic positions in regard to the nature of the learning process; they do not adhere to any one position. To represent this approach, in Chapter 6 we describe Jerome S. Bruner's cognitive-oriented eclectic learning theory. In Chapter 7 we develop Albert Bandura's systematic linear cognitive-interactionist social cognitive learning theory. Then in Chapters 8 and 9 we develop a contemporary, systematic cognitive field interactionist psychology as a leading current representative of the cognitive-interactionist family and apply its concepts to learning situations.

Chapter 10 describes the outlook in regard to *transfer of learning* that harmonizes with each learning theory. Its content grows directly from, and thereby constitutes a summary of, the content of earlier chapters. Chapters 11, 12, and 13 develop the relationships of the various learning theories to classroom practices. Chapter 11 centers upon the role of teachers in relation to the culture and

their students, and the four levels of learning and teaching: autonomous development, memory, explanatory understanding, and exploratory understanding. It then treats the first two levels in some detail and develops the psychological meaning of the term *understanding*. Chapter 12 offers concrete directives for explanatory-understanding level teaching. A section of the chapter is devoted to Benjamin S. Bloom's and James H. Block's currently emphasized "mastery teaching."

Chapter 13 introduces the exploratory-understanding level of teaching and learning and its two basic investigative and reflective processes. It next reviews cognitive-interactionist psychology as presented in Chapter 7, on linear cognitive interaction, and Chapters 8 and 9, on cognitive-field interaction. Chapter 13 then shows how these psychologies underpin an exploratory-understanding level of teaching and learning. It next gives examples of both investigative and reflective teaching. It then develops the five aspects of reflective teaching and applies them to teaching the meaning of *race* and relates different evaluation procedures to the reflective level of teaching and learning.

Chapter 14 first describes how computers work and how their use may underpin different psychological approaches to teaching and learning through relating specific learning theories to computer education. The last section of the chapter specifically relates computer use to the exploratory-understanding level of teaching and learning.

There are so many people to whom we are indebted for their contributions that any attempt to name all of them would be futile. These include our former professors, especially the late Dr. T. L. Collier of Washburn University and the late Dr. Ernest E. Bayles of the University of Kansas, and former students, both graduate and undergraduate.

Dr. William B. Lieurance has contributed significantly to the explanation of reflective teaching in Chapter 13. Dr. June Lee Bigge, Professor Jeanette Bigge, and the late Dr. Maurice P. Hunt have made unique contributions to the development of this manuscript. Also, Lulla Shermis and Ruth Lehnert Bigge have greatly enhanced the quality of this book—Mrs. Shermis by reading and refining the meanings of expressions within the manuscript and by her indexing, and Mrs. Bigge by checking the grammatical accuracy and structure of sentences and by typing the additions to this fifth edition.

Although considerable assistance was received from all these individuals, we assume complete responsibility for the quality of the finished product.

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Chapter
1

Why Is Classroom Learning a Problem?

*L*asting changes in persons occur within the processes of maturation, learning, or a combination of the two.

Maturation is a developmental process within which a person from time to time manifests different traits whose "blueprints" have been carried in the person's cells from the time of conception. *Learning*, in contrast with maturation, is an enduring change in a living individual that is not heralded by genetic inheritance. It may be considered a change in insights, behavior, perception, or motivation, or a combination of these; learning always involves a systematic change in behavior or behavioral disposition that occurs as a consequence of experience in some specified situation.[1]

> Learning is basic to the development of athletic prowess, of tastes in food and dress, and of the appreciation of art and music. It contributes to ethnic prejudice, to drug addiction, to fear, and to pathological maladjustment. It produces the miser and the philanthropist, the bigot and the patriot. In short, it influences our lives at every turn, accounting in part for the best and worst of human beings and for the best and worst in each of us.[2]

Since teachers can do little to influence the maturational patterns of students except, perhaps, to accelerate or retard them to some degree, their most effectual area of endeavor always centers upon learning. Furthermore, because of humans' unique traits and capacities, learning is far more crucial to them than it is to the lower animals.

Human beings have some distinguishing characteristics that give a unique quality to a study of them. First, they talk and are *time-binding* individuals; *time binding* means that both a past and a future enter into their present perception of things. Second, they have a highly developed imaginative capacity. Also, they are cultural beings, building on their past in a peculiarly selective fashion. Then, people have a unique capacity for social interaction with their fellows, which enables them to transcend concrete situations and to live in a more or less imaginative realm. And most significantly, human beings, in their percep-

tual processes, may view themselves simultaneously as both subject and object, as knower and as known.

Whereas in the lower animals much behavior is instinctive, human children, benefiting from their high degree of plasticity, learn their many patterns of human behavior. The relatively long period of children's dependency upon adults, following their complete helplessness at birth, contributes to their acquisition of the culture of their group. Using their relatively high potential for intelligence and their capacity for communication through use of articulate speech and other symbols, members of each generation build upon the achievements—artifacts, ideas, customs, and traditions—of the preceding generation. A culture—social heritage—of a society is the result of many generations of cumulative learning.

People share with other mammals some primary organic drives, such as hunger, thirst, sex, and cravings for oxygen, warmth, and rest, and possibly a few primary aversions such as fear and rage. The first expression of these drives and aversions is primarily a maturational process, but in some way human beings seem to transcend these hereditary drives and aversions. Largely, this transcendence is centered in the human capacity to deal with a complex past, present, and future world so as to develop abstractions or generalizations that organize mazes of particulars into sensible patterns. Perhaps a desire to perceive, understand, imagine, and deal with ideas is just as much a part of people's basic nature as are the specific organic drives and aversions. Biologically, *Homo sapiens*—the human being—is a species of mammal characterized by superior knowing and discerning abilities.

Apparently, there is no group of human beings that has not, through learning, developed some devices for enriching its contacts with its surrounding world. In the development of these devices, people have attempted to derive satisfactions from understanding and manipulating their world as well as through merely touching, smelling, and tasting its various aspects. Moreover, contrasted with the capacities of less advanced animals, people's potential for becoming human lies largely in their capacity for extension of experience to a world of symbolism—to operate on an imaginative level of reality.

Animals seem to derive satisfaction from using whatever abilities they have. Accordingly, human beings derive satisfaction from using both their innate and acquired abilities. Thus, the very process of learning, both concrete and abstract, can become satisfying to them. In their social, aesthetic, economic, religious, and political life they show a tendency to explore. Not all people develop sophisticated ideological outlooks. But rarely if ever are there groups of people who subsist solely on a vegetative level with no imaginative or mentalistic endeavors. Even the most primitive cultures have developed some symbolistic folklore and ideology.

Not only have people wanted to learn, but often their curiosity has impelled them to try to learn *how* they learn. Since ancient times, at least some members of every civilized society have developed, and to some degree tested, ideas about the nature of the learning process. Thus, they have developed their respective learning theories.

WHAT IS A LEARNING THEORY?

A learning theory is a systematic, integrated outlook in regard to the nature of the process whereby people relate to their environments in such a way as to enhance their ability to use both themselves and their environments more effectively. Everyone who teaches or professes to teach has some sort of theory of learning. However, teachers may be able to describe their theories in explicit terms or they may not—in which case we usually can deduce from their actions the theories that they are not yet able to verbalize. Thus, the important question is not whether a teacher has a theory of learning but, rather, how tenable it is.

Quite often in our scientific age we erroneously think of theory as indefinite or indefensible conjecture that existed prior to the use of scientific method and evidence. Consequently, although we might not object to using the term in a description of the historical development of modern concepts of learning, we would expect the word *fact* rather than *theory* to be used in describing the current scene. After all, are we not now on solid enough ground for the term *theory* to be discarded? This, however, is not the case; theory definitely should not be abolished.

Any sharp distinction between theoretical, imaginative knowledge and the action that stems from such knowledge is faulty. Action, whether a part of teaching or any other activity in life, is either linked with theory or it is blind and purposeless. Consequently, any purposeful action is governed by theory. Learning theory is a distinct area within theoretical psychology.

Since the seventeenth century, many psychologists have concentrated upon developing systematic learning theories supported by experimentation. During this period more or less systematic theories of learning have emerged periodically to challenge existing theories. In recent years, much research of educational psychologists has centered upon problems relevant to cognitive, motivational, perceptual, memory, coding, and psycholinguistic processes within prevailing theories of learning. Now however, there is a growing interest in developing learning theories that are more comprehensive than earlier ones. After reviewing the current psychological scene, W. K. Estes recently wrote:

> I anticipate that the strongest current of opinion will swing back toward the main line of continuing sustained effort toward general theory, but perhaps with better perspective as to the ways in which this goal may be realized in psychology as compared to other sciences. For example, . . . there is in fact more generality in cognitive theory than we ordinarily appreciate, commonality of ideas often being obscured by variations in labels.[3]

Typically, a new theory of learning is not translated into educational practice until 25 years or more have elapsed. Then, as a new theory eventually comes to affect educational policy and procedures, it usually does not replace its predecessors; it merely competes with them. Thus, as new theories have been introduced, they have been added to the old, and the educational scene has become more and more complex. Many teachers, from time to time, have

adopted conflicting features from a variety of learning theories without ever realizing that they were basically contradictory in nature and could not be brought into harmony with each other.

WHY ARE THERE THEORIES OF LEARNING?

In most life situations, learning is not much of a problem. Most (lay) persons take it for granted that we learn from experience and let it go at that; they see little that is problematic about learning. Throughout human history, people have learned, in most cases without troubling themselves as to the nature of the process. Parents have taught children; master workers have taught apprentices. Both children and apprentices learned, and those who taught them felt little need for a grasp of learning theory. Teaching was done by "teachers" telling and showing students how, complimenting the learners when they did well, and scolding or punishing them when they did poorly. Teachers simply taught the way that they had been taught as children, youth, or apprentices.

When schools were developed as special environments to facilitate learning, teaching ceased to be so simple. The subjects taught in school were different from the matters learned as part of routine life in a tribe or society. Mastering school subjects, whether the three R's, foreign languages, geometry, history, or other study, appeared to children as an entirely different sort of learning task from those taken for granted in everyday life. Often their relevance to the problems of daily living seemed unclear. Hence, they struck a learner as quite different from the crafts and skills needed to carry on day-by-day social, economic, and political life.

Ever since education became formalized in schools, teachers have been aware that learning is school is frequently highly inefficient. For example, material to be learned may be presented to students innumerable times without noticeable results. Many students may appear uninterested; many may become rebellious and make serious trouble for teachers. Consequently, classrooms have often seemed like battlegrounds in which teachers and students made war against each other. Such a state of affairs may come to be taken for granted by teachers, students, and parents. Consequently, they may consider it "natural" that youngsters dislike school and try to resist school learning.

From the colonial period through the nineteenth century, most people in the United States probably made such placid assumptions concerning formal education. However, as soon as the professions of psychology and education developed, it was inevitable that professionals would begin asking questions. When teaching moved from the mother's knee to a formalized environment designed to promote learning, it was inescapable that some persons would begin speculating about whether schools were getting the best possible results. Then, professional psychologists and educators who critically analyzed school practices found that development of more or less systematic schools of thought in psychology offered a handy tool for crystallization of their thinking. Each of these schools of thought has contained, explicitly or implicitly, a theory