CHAPTER 2

INTRODUCTION: SCOPE AND OBJECTIVES

SCOPE AND RESEARCH STRATEGY

The principal goal of this book is to present a comprehensive theory of how human beings learn and retain large bodies of organized subject matter in classroom and similar learning environments. Its scope is limited to "reception" learning and retention of potentially meaningful instructional material. "Reception" learning refers to the situation where the total content of the learning task (what is to be learned) is presented to the learner rather than independently discovered by him. That is, the learner is merely required to comprehend the material meaningfully and to incorporate (internalize) it and make it available or functionally reproducible for future use.

An ancillary goal of this work (and of its 1963 precursor as well) is to produce a commonsensical and relatively jargon-free theory of meaningful learning and retention that teachers, psychologists, and scholars in other related disciplines could non-tortuously perceive and comprehend as recognizably and intrinsically related to the actual psychological processes whereby modern human individuals are able to acquire and retain for extensive periods of time substantial bodies of knowledge. Such a theory would presumably have explanatory potential both for a toddler's primitive conceptualizations of his physical and interpersonal worlds as well as for the scholar's more stable and sophisticated organization of knowledge in the discipline of his specialization. Introductory and simplified versions of subject matter that are embodied in the cognitive structures of elementary, secondary, and undergraduate students, would, on the other hand, occupy an intermediate position in this continuum. Now almost forty years after the publication of the first of these two books, the theory is currently being applied in a practical way by Third World governments to the organization of the curriculum and to classroom instruction in their schools and universities and by the management of large American corporations to employee training programs.

Other Theoretical Approaches to Meaningful Reception Learning

In the absence of such a theory of reception learning and retention, inappropriate explanatory principles have been uncritically extrapolated from experimental findings on nonverbal or on short-term, fragmentary, and rote verbal learning. As a result,
not only have advances in the more efficacious programming of subject-matter materials for classroom learning been impeded, but teachers have also been misled into perceiving potentially meaningful verbal materials as rote in character. The upshot of this situation has been that many teachers have persisted in using rote teaching methods, in rejecting didactic verbal exposition as unsuitable for meaningful classroom instruction, and in perceiving expository teaching as fostering rote learning.

It is true, of course, that the school is also concerned with developing the student's ability to use acquired knowledge in solving practical problems, that is, in enhancing his ability to think systematically, independently, and critically in particular fields of inquiry. This latter function of the school, although partly inseparable in practice from its transmission-of-knowledge function, is less central in terms of the amount of time that can be reasonably allotted to it, the objectives of education in a democratic society, and what can be realistically expected from most students. Furthermore, since the transmission of knowledge largely requires a form of reception learning, other types of learning (e.g., discovery learning, problem solving, concept formation, etc.), that are based on very different explanatory principles, cannot be definitively treated in this volume that is devoted to theoretical aspects of meaningful reception learning and retention.

Thus, it should be evident that meaningful verbal learning constitutes the principal means of augmenting the learner's store of knowledge both within and outside the classroom. The rote learning of lists of nonsense syllables or of arbitrarily paired adjectives is representative of few defensible tasks in modern classrooms. It is difficult indeed, therefore, to find supportive evidence for Underwood's (1959) assertion that "much of our educational effort is devoted to making relatively meaningless verbal units meaningful." Some representational classroom learning, to be sure, such as that of the letter symbols (graphemes), foreign language vocabulary, and the symbols used to represent the chemical elements, although meeting the minimal criteria of meaningful learning, does, of course, approach the rote level. Such low-level, rote-like meaningful learning, however, tends to form a very small part of the curriculum, especially beyond the elementary school years once children have mastered the basic letter and number symbols.

Furthermore, unlike the rote learning of paired associates, the associations formed under these circumstances are not wholly arbitrary but involve the learning of representational equivalence. In other words, they involve learning that particular symbols are equivalent in meaning to already meaningful concepts in cognitive structure (i.e., an individual's prevailing organization, clarity, and stability of knowledge in a given subject-matter area).

From a process standpoint, the scope of the theory of learning elaborated in this book is limited to various principles of cognitive organization and interaction and also to various mechanisms of cognitive accretion and decrement. It deals (1) with systematic changes in the emergence, identifiability, and availability of new meanings as presented ideational materials interact initially and repeatedly with (and are incorporated into) existing cognitive structure; (2) with factors increasing and decreasing the assimilation of these materials, as well as with their subsequent long-