

Introduction

This section consists of five journal articles published between 1968 and 1990 that briefly capture the core of Robert Gagné's theoretical contributions to the knowledge base and the practice of instructional design. These articles were published during the middle and later portions of his career, and although they are not research reports in themselves, they reflect his lifelong dedication and involvement in research. Many of the ideas presented here are rooted in Gagné's early basic research on animal and human learning, as well as the more applied research he completed in both military and civilian research environments. The later work was especially directed toward practical instructional applications, most notably in school learning and curriculum development.¹

Each of these articles demonstrates Gagné's extraordinary ability to present complex ideas in a very simple fashion, frequently aided by his skillful use of everyday examples which "strike home" to most educators. The articles demonstrate his expertise as a scholar and his sensitivity to common concerns of teachers. They show evidence of his knowledge of the current literature of the time, and demonstrate the originality of his thinking. His frequent use of italics for emphasis and highlighting of critical ideas guides the reader, as learner, through his logic. Reading Gagné is *hearing* Gagné talk to you.

The theses of these five articles—cumulative learning theory, learning hierarchies, domains and conditions of learning, events of instruction, and enterprise schema—represent the critical dimensions of Gagné's instructional theory. The first two articles, "Contributions of Learning to Human Development" and "Learning Hierarchies," are related and were both published in 1968. They speak to the notion of how we learn, especially with respect to transfer of training. Their key contributions to instructional design are a recognition of the impact of previous learning and prerequisite skills upon the sequencing of instruction, and provide the rationale for determining the most appropriate content for a given piece of instruction.

Chapter 3, the reprint of "Domains of Learning," summarizes Gagné's taxonomy of learning outcomes and the different conditions that facilitate each kind of learning. This classification scheme has been expanded in the four editions of his important book, *The Conditions of Learning*, that were published between 1965 and 1985. The central idea, however, did not change substantially during these 20 years.

¹ For a complete examination of Gagné's research, one should see Gagné, R. M. (1989). *Studies of Learning: 50 Years of Research*. Tallahassee, FL: Learning Systems Institute, Florida State University. This volume is a nearly complete collection of Gagné's publications with his introductory remarks that put the work into historical perspective.

These first three articles deal with over-all orientations to the task of designing instruction. The fourth article, “Mastery Learning and Instructional Design” deals with what is often called micro-design, or the design of individual lessons. It presents Gagné’s nine Events of Instruction as a framework for selecting and creating effective instructional strategies and relates them to the general notion of mastery learning, a concept originally proposed by John Carroll (1963) and then operationalized by Benjamin Bloom. These nine steps, while introduced in *The Conditions of Learning*, subsequently were discussed in detail in *The Principles of Instructional Design* with Leslie Briggs and Walter Wager, and were addressed in a practical guide for classroom teachers, *Essentials of Learning for Instruction*, with Marcy Driscoll.

Finally, Chapter 5 presents the last major conceptual innovation of Robert Gagné, that of the enterprise schema. The article, “Integrative Goals for Instructional Design” written with David Merrill (1990), reflects the dominance of the cognitive psychology orientation in modern instructional design. It accommodates the more complex types of learning tasks more typical of a field that is de-emphasizing content broken down into many small component objectives. This last contribution has implications for re-thinking the nature of the events of instruction, especially the stage in which the learner is informed of the objective. Now there is the suggestion that a larger “enterprise schema” should be described.

These five articles were written during a period of nearly 25 years and present an important facet of the intellectual history of not only instructional design, but of the larger field of Instructional Technology. The ideas are still challenging to educators today, even though the first articles in this series were published in a day when programmed instruction and behaviorist psychology were seen as the answer to educational innovation and reform.

References

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