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Cognitive-Behavioral Therapy

- ▶ [A Tripartite Learning Conceptualization of Psychotherapy](#)

Cognitive-Code Approach

- ▶ [Cognitive-Code Learning](#)

Cognitive-Code Learning

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Synonyms

[Code-cognition approach](#); [Cognitive-code approach](#);
[Cognitive-code learning theory](#)

Definition

Cognitive-code learning refers to a theory of second language teaching and learning rooted in cognitivist psychology and structural applied linguistics developed in the 1960s. The theory emphasizes the central role of cognition in the conscious and explicit learning of the rules of a language as a code. The cognitive-code approach to learning a second language sees it as a study of language as a complex system with the goal of gaining conscious control of the grammatical, lexical (vocabulary), and auditory patterns.

Theoretical Background

Cognitive-code learning theory was proposed and widely debated in the 1960s. Based on the foundations

of linguistic theories and the findings of psycholinguistic research, cognitive psychologists and applied linguists, such as John B. Carroll and Kenneth Chastain, advocated the cognitive-code approach to the study of a second language as an alternative to the audio-lingual method prevalent at the time. Cognitive-code learning theory (Chastain 1971) proposes that learning a second language requires explicit instruction and a study of the language as a complex and rule-governed system (Carroll 1964). This approach took the view of a conscious study of the language structure as central and placed a great deal less emphasis on the development of a second language as a combination of skills. In the current perspective on second language learning, cognitive-code theory is largely seen as an updated variety of the traditional grammar-translation method, with an attendant goal of overcoming the shortfalls of the audio-lingual approach. At its core, cognitive-code learning represents a theoretical, rather than a pedagogical approach. In part due to the fact that this theoretical proposal met with debate and skepticism, its tangible outcomes in the form of curricula, methods, or teaching techniques did not materialize.

Providing learners opportunities for a great deal of meaningful practice in a second language constitutes the central precept of the cognitive-code approach. The main emphasis on meaningful practice underscored the need for the learner first to understand the language rules and then apply them in the context of practical language use. Thus, the explicit study of language rules, such as in grammar and vocabulary, was not only expected, but strongly encouraged. In the context of structural linguistics and behavioral psychology, cognitive-code learning envisions practice to be meaningful when learners clearly understand and are able to apply language rules in practice. The essential difference between the audio-lingual approach and the cognitive-code approach is that in the former, structural learning without an explanation and pattern drills are seen as leading to modifications in the learners' language behavior, while in the latter, students need to understand the linguistic rules before these can be implemented in practice. According to Carroll (1966, p. 102), "the theory attaches more importance to the learner's understanding of the structure of the foreign language than to the facility in using that structure, since it is believed that provided the student has

a proper degree of cognitive control over the structures of the language, facility will develop automatically with use of the language in meaningful situations.”

Important Scientific Research and Open Questions

To a great extent, cognitive-code learning theory was based on contemporary developments in transformational grammar and the generative theory of language that saw its heyday in the 1950s and 1960s. In this light, the cognitive-code approach did not have much appeal to language teachers whose training rarely entailed a detailed familiarity with grammar rules and abstract concepts of syntax. By the mid-1970s, the cognitive-code approach had all but disappeared among other competing theories of second language learning, and more specifically, due to the prominent rise of communicative language teaching. The influence of cognitive-code learning on the subsequent methodological developments in second language teaching was felt in the evolution of error analysis and the need for contextualized grammar instruction. More specifically, in language pedagogy, the cognitive-code proposal has led to a realization that linguistic structural rules, as, say, in grammar teaching, are not syntactic abstractions but are an integral component of language production and use in writing or interaction. It is important to note, however, that by the mid to late 1970s, the impact of cognitive and general linguistic theories on teaching was greatly diminished and supplanted by sociocultural and interactional views of language learning and teaching.

Cross-References

- ▶ [Cognitive Learning](#)
- ▶ [Cognitive Skill Acquisition](#)
- ▶ [Grammar Learning](#)
- ▶ [Second Language Learning](#)

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Cognitive-Code Learning Theory

- ▶ [Cognitive-Code Learning](#)

Cognitive-Economy Assumptions for Learning

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Synonyms

[Representational assumptions](#)

Definition

- ▶ [Cognitive economy](#) refers to the combined simplicity and relevance of a categorization scheme or knowledge representation.
- ▶ [Representational assumptions](#) are the built-in biases of a representation that give sensitivity to certain features of the world instead of others.
- ▶ [Cognitive-economy assumptions for learning](#) are those representational assumptions that allow a cognitive agent to focus on details that matter, while avoiding the distraction of irrelevant features.

Theoretical Background

Cognitive agents categorize their perceptions in order to avoid overwhelming their bounded cognitive resources with the vast sea of stimuli presented to their senses. The goal is to “provide maximum information with the least cognitive effort,” “conserving finite resources as much as possible” (Rosch 1978, p. 28). This common sense idea has informed our understanding of human perception, learning, and reasoning.

Human perception appears to be categorized according to cognitive-economy assumptions that cause us to see “a qualitative difference in how similar things look or sound depending on whether or not they are in the same category” (Harnad 1987, p. 2). This phenomenon is termed *categorical perception*. It appears to be biologically constrained, at least in part. For example, even though color stimuli vary along