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CONSTRUCTIVISM

In education, constructivism refers to theories of knowledge and learning. These theories state that knowledge is constructed rather than received from an objective world or external reality. For example, knowledge does not exist in a book but rather is produced by the reader in the process of reading. In day-to-day practice, however, constructivism is much more complicated; philosophers, psychologists, sociologists, scientists, and educators approach and understand this "simple" theory of knowledge/learning quite differently. Thus, constructivism perhaps is understood best as an academic construct or metaphor that describes many different ways of thinking about learning and knowledge acquisition, as summarized in this entry.

Theoretical Background

Constructivism does not have a clear beginning: No single person or movement appears responsible for developing or laying the foundation for modern-day constructivist theories. The seeds of constructivist approaches, though, regularly are traced to Vico, Goodman, Rousseau, Kant, Dewey, and Vygotsky. While these early thinkers did not label themselves as "constructivists," their key ideas have constructivist elements.

Constructivism primarily is a synthesis of ideas from philosophy, sociology, psychology, and education. For instance, the philosophy of post-structuralists such as Derrida, Foucault, and Barthes ushered in postmodernism and its skeptical attitude toward objectivity. In sociology,

works like Berger and Luckmann's further support the idea that knowledge is constructed, not given. But it was psychology—Piaget and Vygotsky and later Bruner and von Glasersfeld—that shaped early constructivism.

Constructivism describes a theory of both knowing and learning. Even so, certain fields focus more intently on "knowing" (e.g., philosophy and sociology), whereas others focus more on "learning" (e.g., psychology and education). As a theory of knowing, constructivism is based on the idea that knowledge does not exist in an objective world, outside of the "knower." Instead, knowledge is constructed by people. This epistemology is often understood in relation or opposition to objectivism. While any non-constructivist epistemology is labeled objectivist, objectivism holds that the purpose of the mind or knowledge is to mirror the "objective" real world. But, based on findings in science, philosophy, sociology, math, and psychology, constructivists now hold that knowledge does not exist independently of a knower; rather, it is constructed individually or socially.

Constructivism as a theory of learning, or psychological constructivism, emerged from the work of cognitive psychologists such as Piaget, Vygotsky, and Bruner. With the rise of cultural psychology, two perspectives became dominant: individual constructivism and social constructivism. While these two schools of thought differ, perhaps as ends of a continuum (i.e., one focuses on the construction of meaning inside a person and the other focuses on the construction of meaning among people), others have argued that all learners construct meaning socially as well as individually.

Individual or cognitive constructivism initially evolved from Piaget's work, specifically that on genetic epistemology. Cognitive constructivism developed as a reaction to behaviorist and information-processing theories of learning. It conceptualizes learning as the result of

constructing meaning based on an individual's experience and prior knowledge.

Social constructivism grew from the work of individual constructivists as well as Vygotsky and others who took a social and cultural perspective of knowledge creation. Pure social constructivists believe that learning occurs via the construction of meaning in social interaction, within cultures, and through language. To confuse matters, in the sociology of knowledge, the philosophy of science, and the history of science, social constructionism denotes a field of study that focuses primarily on the social construction of science and scientific facts.

Implications for Education

In education, constructivism emerged formally as a theory of knowledge and a theory of learning during the 1980s with the works of Bruner and von Glasersfeld, which attracted the attention of educators during the early 1990s. While labeling oneself as a constructivist is now in vogue and the idea that knowledge is constructed is accepted widely, the emergence of constructivist learning theories and the constructivist pedagogies that followed created a major paradigm shift in education. Thus, greater emphasis has been placed on learners' prior experience rather than the teacher's and on the active construction of knowledge rather than the passive receipt of information.

As a theory of learning, constructivism focuses on the implications of "constructing knowledge" for learning. Typically approaching constructivism from a psychological or cultural perspective, educators emphasize the role of learners rather than that of knowledge. Generally, educators are interested in implications of constructivist theories for practice and learning (and to a lesser degree of knowing) rather than their ontological or metaphysical implications.

While constructivism is not a theory of teaching, constructivists argue that pedagogy

should be based in theories of learning to ensure that teaching always centers on student learning. Recently, constructivist theories of learning have sparked reforms in teaching practices, suggesting that learning environments focus directly on students, the importance of context, authentic problems and tasks, discovery learning, student's prior knowledge, group projects and discussion, student choice, and authentic assessment.

Explicit strategies or approaches to learning also have been identified that support individual and social learning: Anchored instruction, situated learning, and cognitive apprenticeship are just a few different approaches to teaching and learning that draw from constructivist theories. Anchored instruction involves lodging instruction in an authentic problem-based story, case study, or situation in which students generate and test possible problem solutions. Situated learning emphasizes learning through social interaction and collaboration in authentic contexts. And cognitive apprenticeship, like traditional apprenticeship, relies on pairing a guide or an expert with a learner in an authentic study but focuses on making thinking explicit.

Despite the implications, adopting a constructivist theory of learning does not preclude teacher-centered approaches to teaching and learning because both knowledge and learning are the result of construction regardless of the teaching approach. In education from a constructivist perspective, teachers are encouraged to become student centered because constructivism is first and foremost a theory of learning and knowledge acquisition, and the primary learner is the student.

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See also Active Learning; Behaviorism; Bruner, Jerome; Child-Centered Education; Cognition, Culture, and Education; Cooperative Learning; Critical Thinking; Philosophy of

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