



## CONSTRUCTIVISM IN EDUCATION

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### -----ABSTRACT-----

*Constructivism is an important learning theory that educators use to help their students learn. Constructivism is based on the idea that people actively construct or make their own knowledge, and that reality is determined by your experiences as a learner. Basically, learners use their previous knowledge as a foundation and build on it with new things that they learn. So everyone's individual experiences make their learning unique to them. The article looks into the importance of constructivism in education and educational approaches based on constructivism.*

**KEY WORDS:** *constructivism, social constructivism, cognitive constructivism.*

### INTRODUCTION

Constructivism is ‘an approach to learning that holds that people actively construct or make their own knowledge and that reality is determined by the experiences of the learner’ (Elliott et al., 2000, p. 256). In elaborating constructivists’ ideas Amends (1998) states that constructivism believes in personal construction of meaning by the learner through experience, and that meaning is influenced by the interaction of prior knowledge and new events.

Constructivism's central idea is that human learning is constructed, that learners build new knowledge upon the foundation of previous learning. This prior knowledge influences what new or modified knowledge an individual will construct from new learning experiences (Phillips, 1995).

The second notion is that learning is an active rather than a passive process. The passive view of teaching views the learner as ‘an empty vessel’ to be filled with knowledge, whereas constructivism states that learners construct meaning only through active engagement with the world (such as experiments or real-world problem solving). Information may be passively received, but understanding cannot be, for it must come from making meaningful connections between prior knowledge, new knowledge, and the processes involved in learning.

### MATERIALS AND METHODS

Learning is a social activity - it is something we do together, in interaction with each other, rather than an abstract concept (Dewey, 1938). For example, Vygotsky (1978), believed that community plays a central role in the process of "making meaning." For Vygotsky, the environment in which children grow up will influence how they think and what they think about. Thus, all teaching and learning is a matter of sharing and negotiating socially constituted knowledge. For example, Vygotsky (1978) states cognitive development stems from social interactions from guided. The constructivist theory posits that knowledge can only exist within the human mind, and that it does not have to match any real world reality (Driscoll, 2000). Learners will be constantly trying to develop their own individual mental model of the real world from their perceptions of that world. As they perceive each new experience, learners will continually update their own mental models to reflect the new information, and will, therefore, construct their own interpretation of reality.

Typically, this continuum is divided into three broad categories: Cognitive constructivism based on the work of Jean Piaget, social constructivism based on the work of Lev Vygotsky, and radical constructivism.

According to the GSI Teaching and Resource Center

Cognitive constructivism states knowledge is something that is actively constructed by learners based on their existing cognitive structures.

Therefore learning is relative to their stage of cognitive development. Cognitivist teaching methods aim to assist students in assimilating new information to existing knowledge, and enabling them to make the appropriate modifications to their existing intellectual framework to accommodate that information.

According to social constructivism learning is a collaborative process, and knowledge develops from individuals' interactions with their culture and society. Social constructivism was developed by Lev Vygotsky who suggested that, Every function in the child's cultural development appears twice: first, on the social level



and, later on, on the individual level; first, between people (interpsychological) and then inside the child (intrapyschological).

Constructivism is a theory in education that recognizes the learners' understanding and knowledge based on their own experiences prior to entering school. It is associated with various philosophical positions, particularly in epistemology as well as ontology, politics, and ethics. The origin of the theory is also linked to Jean Piaget's theory of cognitive development.

Various approaches in pedagogy derive from constructivist theory. They usually suggest that learning is accomplished best using a hands-on approach. Learners learn by experimentation, and not by being told what will happen, and are left to make their own inferences, discoveries and conclusions.

## DISCUSSIONS AND RESULTS

Hello-Silver, Duncan, & Chinn cite several studies supporting the success of the constructivist problem-based and inquiry learning methods. For example, they describe a project called GenScope, an inquiry-based science software application. Students using the GenCorp software showed significant gains over the control groups, with the largest gains shown in students from basic courses.

Hello-Silver et al. also cite a large study by Geiger on the effectiveness of inquiry-based science for middle school students, as demonstrated by their performance on high-stakes standardized tests. The improvement was 14% for the first cohort of students and 13% for the second cohort. This study also found that inquiry-based teaching methods greatly reduced the achievement gap for African-American students.

Guthrie et al compared three instructional methods for third-grade reading: a traditional approach, a strategies instruction only approach, and an approach with strategies instruction and constructivist motivation techniques including student choices, collaboration, and hands-on activities. The constructivist approach, called CORI (Concept-Oriented Reading Instruction), resulted in better student reading comprehension, cognitive strategies, and motivation.

Suk Kim found that using constructivist teaching methods for 6th graders resulted in better student achievement than traditional teaching methods. This study also found that students preferred constructivist methods over traditional ones. However, Kim did not find any difference in student self-concept or learning strategies between those taught by constructivist or traditional methods.

Kalender compared science classrooms using traditional teacher-centered approaches to those using student-centered, constructivist methods. In their initial test of student performance immediately following the lessons, they found no significant difference between traditional and constructivist methods. However, in the follow-up assessment 15 days later, students who learned through constructivist methods showed better retention of knowledge than those who learned through traditional methods.

Constructivist classrooms rely on four key areas to be successful:

- \*Shared knowledge between teachers and students.
- \*Shared authority between teachers and students act as a guide or facilitator.
- \*Learning groups consist of small numbers of students.

Constructivist classrooms are often very different from normal classrooms in many ways. Constructivist classrooms focus on student questions and interests, they build on what students already know, they focus on interactive learning and are student-centered, teachers have a dialogue with students to help them construct their own knowledge, they root in negotiation, and students work primarily in groups. Constructivist classrooms often have teachers who do small group work, collaborative and interactive activities, and open dialogues about what students need in order to find success.

## CONCLUSION

The biggest criticism of constructivist learning is its lack of structure. Some students need highly structured and organized learning environments to thrive, and constructivist learning focuses on a more laid-back method to help students engage in their own learning. Grading is often removed from constructivist classrooms and places more value on student progress, which can lead to students falling behind and not meeting standardized grading requirements.

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