

## CONSTRUCTIVISM AND ITS IMPLICATIONS TO TEACHING LEARNING PROCESS

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### ABSTRACT

*Constructivism is a paradigm shift towards learning in present scenario. The role of a teacher has shifted from 'transmitter' of knowledge to 'investigator' and 'explorer' of knowledge. Role of a student changes from knowledge acquisition to knowledge construction. Most importantly emphasis has been shifted from teaching to learning. The students can be facilitated to perform just beyond the limits of their abilities through constructivist approach*

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### INTRODUCTION

The verb to construct comes from the Latin word "construere", which means to arrange or give structure, on going structuring (organizing) process are all the conceptual heart of constructivism. Constructivist believes that the process of actively engaging in building new knowledge structures is created.

Constructivism proposes that people create their own meaning and understanding by combining what they already know and believe to be true with new information and experiences that have confronted.

Constructivism is a theory of learning where it is postulated that activities followed by a learner in a particular context helps him/her construct knowledge.

"Constructivism proposes that learning environments should support multiple perspectives or interpretations of reality, knowledge construction, and context-rich, experience-based activities." (David H. Jonassen)

Constructivism is basically a theory-based on observation and scientific study about how people learn. It says that people construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences. When we encounter something new, we have to reconcile it with our previous ideas and experience, may be changing what we believe, or may be discarding the new information as irrelevant. In any case we are active creatures of our own knowledge. Wide range of beliefs fall under the general label of constructivism.

Constructivism is the latest catchword in the educational circle. It refers to the idea that students come to class with a range of existing beliefs or conceptions of the physical world which differ in important ways from the view of the world that scientists have constructed or simply given in the text books. Learners construct and internalize new concepts, ideas and knowledge based on their own present and past knowledge and experience. In this way knowledge is constructed rather than received.

### BACKGROUND AND GUIDING PRINCIPLES OF CONSTRUCTIVISM

1. Learning is a search for meaning. Therefore, learning must start with the issues around which students are actively trying to construct meaning.
2. Meaning requires understanding whole as well as parts. And parts must be understood in the context of whole. Therefore, the learning process focuses on primary concepts, not isolated facts.
3. In order to teach well, we must understand the mental models that students use to perceive the world and the assumptions they make to support those models.
4. The purpose of learning for an individual is to construct his or her own meaning, not just memorize the "right" answers and regurgitate someone else's meaning. Since education is inherently interdisciplinary, the only valuable way to measure learning is to make the assessment part of the learning process, ensuring it provides students with information on the equality of their learning.

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**CONSTRUCTIVISM A NEW APPROACH IN EDUCATION**

1. According to constructivist approach, learning is an interaction between the learner and the learning environment.
2. Prior knowledge is used as a basic to interpret and construct new understanding.
3. Knowledge is constructed through experience.
4. In a constructivist class room the teacher gives the child an opportunity to construct knowledge and skills through interaction and with adult support.
5. The highlight of this classroom is the free flow of thoughts that creates a healthy classroom atmosphere.

**PIAGESTIAN CONSTRUTIVIST Assumptions**

1. Learning is an individual enterprise.
2. Students come with ideas, beliefs, opinions that need to be altered, modified, by teacher by devising tasks that create dilemmas leading to construction of knowledge.
3. Discover knowledge and critically analyse own beliefs.
4. Development is ingrained process regardless of gender, class, race, social-cultural contexts.

**NEED OF THE STUDY**

Constructivist paradigm calls for a change in the classroom culture, attitudes, beliefs and practices. Role of teacher in this paradigm shifts from 'transmitter' of knowledge to 'investigator' and 'explorer' of knowledge. Role of student changes from 'knowledge acquisition' to 'knowledge construction.'

In today's scenario the emphasis has been shifted from teaching to learning. Learning occupies a very important place in our life. Learning provides a key to the structure of our personality and behaviour. Learning stands for all those changes and modifications in the behaviour of the individual which he undergoes during his lifetime. Learning is facilitated by social interaction.

1. Meaningful learning occurs within authentic learning tasks.

2. Learning is not a passive receptive but required to solve meaningful problems.
3. Learning involves metacognition which reflects on one's learning process.

**Table-I : A Summary of Goals, Conditions of Learning and Instructional Methods Consistent with Constructivism**

Instructional Goals	Conditions of Learning	Method of Instruction
Reasoning Critical thinking	Complex, realistic and relevant environments that incorporate  Authentic activity	Micro-worlds, problem – based learning.
Retention Understanding and use	Social negotiation	Collaborative learning Bubble Dialogue
Cognitive flexibility	Multiple perspectives and multiple modes of learning.	Hypermedia
Self-regulation	Ownership in learning	Open-ended learning environments, collaborative learning, problem based learning.
Mindful reflection, epistemic flexibility	Self-awareness in knowledge construction	Bubble, Dialogue, role plays, debates, collaborative learning

Source: Driscoll, M.D. (2000), Psychology of Learning for Instruction, Allyn & Becon. P-391

**SIGNIFICANCE OF THE STUDY**

In the body of NCF (2005), after an elaborate description of the problems of a memory and examination based system of education, the constructivist approach is stated explicitly: Child-centered pedagogy means giving primacy to child's experiences, his voices, and his active participation (p. 13). Learners actively construct their own knowledge by connecting new ideas to existing ideas on the basis of materials/activities presented to them through experience (p. 17). Active engagement involves enquiry,

exploration, questioning, debates, application and reflection, leading to theory building and the creation of ideas (p.18).

The first principle of true teaching is that nothing can be taught. The teacher is not an instructor or task-master, he is a helper and a guide. The second principle is that the mind has to be consulted in its own growth. The idea of hammering the child into the shape desired by the parent or teacher is a barbarous and ignorant superstition. It is he himself who must be induced to expand in accordance with his own nature. The third principle of education is to work from the near to the far, from that which is to that which shall be.

#### **IMPLICATION OF CONSTRUCTIVIST APPROACH IN TEACHING LEARNING**

Learning is a process of internally representing the external world which is primarily acquired through sensory experience. As this experience grows broader and deeper, knowledge is represented in the individuals' mind as an ever closer approximation of how the world "really" is. It is, therefore, assumed that knowledge exists independently of learners and learning, or for that matter even teaching, consists of transferring that knowledge from outside to within the learners.

In the classroom, the constructivist view of learning means encouraging students to use active techniques such as experiments and real-world problem solving using authentic data if possible, and to create knowledge and reflect on their understanding. Teachers have a dialogue with students, helping students construct their own knowledge. Teacher's role is interactive and rooted in negotiation. Students work primarily in groups and knowledge is seen as dynamic, ever changing with our experiences. The constructivist teacher uses raw data and primary sources, along with manipulative, interactive and physical materials, encourages and accept students autonomy and initiative and uses cognitive terminology such as "classify", "analyze", "predict" and "create" when framing tasks. A constructivist teacher allows student responses to drive lessons, shift instructional

strategies, and alter content. He inquires about students' understanding of concepts before sharing their own understandings of these concepts and encourages students to engage in dialogue, both with the teacher and with each other. A constructivist teacher encourages student enquiry by asking thoughtful, open-ended questions and encouraging students to ask questions to each other and allows wait time after posing questions. Constructivism modifies the role of the teacher so that teachers help students to construct knowledge rather than reproduce a series of facts. The constructivist teacher provides tools such as problem-solving and inquiry-based learning activities so that students can formulate and test their ideas, draw conclusions and inferences, and convey their knowledge in a collaborative learning environment. The teacher must understand the students' preexisting conceptions and guide the activities to address this knowledge and then build on it. Constructivist teachers encourages students to assess how the activity is helping them gain understanding. By questioning themselves and their strategies, students become expert learners as they learn how to learn. The students then have the tools necessary to become life-long learners.

#### **CONCLUSION**

A constructivist teacher can play the role of guide, monitor, coache, tutor and facilitator. Activities, opportunities, tools and environment are provided to encourage metacognition, self-analysis-regulation, reflection and awareness within the students. The students plays a central role in mediating and controlling learning and the learning situations, environment, skills, content and tasks are relevant, realistic, authentic and represent the natural complexities of the 'real world'. The learner's previous knowledge constructions, beliefs and attitudes are considered in the knowledge construction process and also problem solving higher-order thinking skills and deep understanding are emphasized.

Collaborative and cooperative learning are favoured in order to expose the learner to

alternative viewpoints and also scaffolding is facilitated to help students perform just beyond the limits of their ability. The constructivist propositions outlined above suggest a set of instructional principles that can guide the practice of teaching and the design of learning environments. Constructivist theories are of great value of teachers in their efforts to help students grasp the substantive and syntactic components of the subject they are teaching.

**I conclude by a line which reflects the constructivist paradigm:**

“Udega to saaton aasmanano ki khabar le aayega.  
Udaaoge to chat pe jaakar baith jayega.”  
(Were she to fly she would bring tidings from across the infinite skies;  
Were you to make her fly, she would but confine herself to sitting on the rooftop).

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