

Constructivist Approach to Teaching and Learning

Abstract

This paper focus that constructivism is a big idea in teaching learning process as the structure of education has evolved, so the method of teaching and learning should also evolved with it. All the psychologist and educational reformer say that traditional teaching is insufficient which give students only passive education, and teacher can't engage students in the subject. The main purpose of using constructivist teaching is that students learn how to learn by giving them training to take initiative for their own learning experiences. All the psychologist who have influence on constructivism felt that teacher play very important role for active learning in constructivism theory. A constructivist teacher sets up problems and monitors student's exploration, guides the direction of student's inquiry and promotes new ideas. Structure of learning environment should be democratic that encourage and support the process of understanding. The constructivist learning theory says that children learn best when they construct a personal understanding which based on experiencing things and reflecting on those experiences.

Keywords: Teaching and Learning, Constructivism.

Introduction

Constructivism is an epistemology, learning or meaning making theory. which offers an explanation of the nature of knowledge and how human beings to learning it maintains that individuals create or construct their own new understanding or knowledge through the interactions of what they already know and believe and ideas events and activities with which they come in contact (Canella and Deiff, 1994)

Constructivist learning is based on student's active participation where they are constructing their own knowledge and experiences, applying to new situation and integrating the new knowledge gained with pre-existing intellectual constructs. Constructivism often utilizes collaboration and peer criticism as a way of provoking students to reach a new level of understanding. Active practice is the key of any constructivist lesson.

Seymour Papert defined constructionism in a proposal to the national science foundation entitled constructionism: a new opportunity for elementary science education as follows: "the word constructionism is a mnemonic for two aspects of the theory of science education underlying this project. From constructivist theories of psychology we take a view of learning as a reconstruction rather than as a transmission of knowledge. Then we extend the idea that learning is most effective when part of an activity the learner experiences as constructing a meaningful product."

Theoretical Background of the Constructivist Approach

The constructivist approach has emerged from the theories of learning by psychologist like Piaget, Dewey and Vygotsky.

Dewey (1916) American philosopher and educator who is the father of progressive education he says that learning is combined with concrete activity and practical relevance. Piaget who is the best known for his research on the development of cognitive functions in children laid the foundation for constructivism. He says that learning occurs through adaptation to the environment.

Vygotsky (1978) is a Russian psychologist whose theory is that social interaction plays a fundamental role in the development of cognition. He believed that everything is learned at two levels first through interaction with others then integrated into individual mental structure.

Skinner (1948) an American psychologist who was the primary exponent of behaviourist. Approach explored the application of operant conditioning. His theory is that humans are trainable with stimulus



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response techniques changes in behaviour are the result of an individual responding to events in the environment.

Types of Constructivism

Constructivist approach has emerged from theories of learning. There are two types of constructivism cognitive constructivism and social constructivism are different in emphasis but both share many common perspectives about teaching and learning.

Characteristics of constructivism

1. Learning is not a passive process but an active meaning making process.
2. Meaningful learning occurs when authentic learning tasks given to the learner.
3. Teacher facilitates a process of learning in which students are encourage to be responsible and autonomous.
4. New learning depends on previous knowledge.

Constructivist Teaching

As the structure of k 12 education has evolved the methods of teaching is also evolved. Today reform minded teacher are focusing active learning over passive learning. In traditional teaching teacher focus on completing text books and taking memorization driven tests but psychologist argue that this teaching was insufficient. This is not active teaching and teacher fails to engage the students with in given subject. This same problem hold true for all areas of education whether primary education or higher education. In class room constructivist view of learning can point towards a number of different teaching practices .For this teacher should encourage students to use active techniques such as experiments real world problem solving method which create more knowledge about what they are doing and how their understanding is changing.

Constructivist Teaching Strategies

In the traditional classroom in which students work alone learning is achieved through repetition and the subjects are strictly adhered to and are guided by a text book. But in constructivist class room student's work primarily in groups and learning and knowledge are interactive and dynamic. There are great focus and emphasis on social and communication skills as well as collaboration and exchange of ideas. Some strategies should be used in constructivist class room such as:

1. Experimentation: students individually perform an experiment and then come together as a class to discuss the result.
2. Research projects: Student's research topic and can present their findings to the class.
3. Field trips: this allows student to put the concepts and ideas discussed in class in a real world context. Trips would often be followed by class discussion.
4. Films: these provide visual context and thus brings another sense into the learning experience.
5. Class Discussion: This technique is used in all of the methods described above.

Role of Constructivist Teacher

The teacher role in constructivist classroom is not so much to lecture a students but to act as an expert learner who can guide students into adopting cognitive strategies such as self-testing articulating understanding and asking proving questions. The role of the teacher in constructivist class room is to organize information around big ideas to new insights and to connect them with their previous learning. According to Komf (1996) constructivist teacher allow student response to drive lessons, shift instructional strategies and alter content. He should do different activities in the class room such as:

1. Engagement: capture the students attention, stimulate their thinking and help them access prior knowledge.
2. Exploration: give student time to think plan, investigate and organize collected information.
3. Explanation: involve students in an analysis of their explorations and use reflective activities to clarify and modify their understanding.
4. Elaboration: give students the opportunity to expand and solidify their understanding the concept and for apply to real world.
5. Evaluation: evaluate throughout the lesson to check for understanding.

Constructivist Learning

Constructivist learning is inspired by constructivist theories of learning. Learning is an active process where in learners are actively constructing mental models and theories of the world around them. As if a student is able to perform in a problem solving situation a meaningful learning should then occur because he has constructed an interpretation of things work pre-existing structures.

Constructivist Learning Environment

In the constructivist classroom the focus tends to shift from the teacher to the student. The class room is no longer place where the teacher pours knowledge into passive students, who wait like empty vessels to be filled in the constructivist model the students are urged to be actively involved in their own process of learning. in the constructivist class room both teacher and students think of knowledge as a dynamic , ever changing view of the world we live in and the ability to successfully stretch and explore that view not as inert factoids to be memorized. The main activity in the constructivist class room is solving problems Students use inquiry methods to ask questions, investigate a topic and use variety of resources to find solutions and answers.

Benefits of Constructivism

1. Children can learn more when they actively involved in learning.
2. In constructivist class rooms students create principles that they can take with them to other learning situations thus the constructivism is transferable.
3. In constructivism learning is based on student's questions and explorations so the constructivism gives students ownership of what they learn.
4. Constructivism concentrates on learning how to thing and understand so education works best

when it concentrates on thinking and understanding rather than on rote memorization.

Conclusion

The Constructivistic approach to teaching and learning is based on:

1. A combination of a subset of research within cognitive psychology.
2. A subset of research within social psychology
3. Behaviour modification techniques are based on operant conditioning theory within behavioural psychology.

The main purpose of constructivism is that an individual learner must actively build knowledge and skills and that information exists within these built constructs rather than in external environment.

If the focus of studying could be turned from filling one's mind to producing knowledge products, students would not require to concentrate on memorising and cramming for examinations. These

knowledge products should be in the form of Project Reports, Research Papers, Videos or whatever student can create.

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