



CONSTRUCTIVISM AND TEACHING STRATEGIES

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Abstract

Constructivism is a theory of how the learner constructs knowledge from experience, which is unique to each individual. In the constructivist learning environment, the students should be encouraged to think and they should be helped to develop solutions way for the problems. The National Curriculum Framework (2005) advocates the constructivist approach for teaching and learning. With the help of constructivist teaching strategies a teacher can enhance academic achievement and creative thinking of students. This paper identifies various types of teaching strategies in the classroom.



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Introduction

Learning without meaningful understanding is valueless in our life. That's why teachers should always teach students by using a fruitful teaching method so that students can learn meaningfully and apply their learned experience in their daily life. But today in teaching, what we do today is only transfer the knowledge from one brain to another which doesn't allow the involvement of all the students. Therefore, students should be provided such learning environment where they acquire knowledge and skills in an interactive way. Constructivism is basically a theory based on observation and scientific study about how pupil learns. It says that pupil construct their own understanding through experiencing things and reflecting on those experiences. Constructivism is the process construction of knowledge. It is the philosophy that views learning as an active process in which learners construct their own understanding and knowledge of the world through action and reflection and by connecting new ideas to the existing on the basis of materials presented to them. Students learn by being actively engaged in doing authentic tasks, not by passively receiving knowledge. Personal knowledge is socially constructed within an active and collaborative learning environment. *Vygotsky (1986)* believes that the learning is meaningful to children when it builds on experiences they have already with them. Children are more likely to retain knowledge that build or generate themselves rather than which simply receives passively. According to Dewey, knowledge is constructed by knower and there is a relationship between

the individual, the community and is mediated by socially constructed ideas. (*Oxford, 1997, pp. 35-37*). Constructivist teaching poses a questions to the students, who then work together in small group to discover one or more solutions (*Yager, 1991*). Constructivism is an epistemological view of knowledge acquisition emphasizing knowledge construction rather than knowledge transmission (*Jha, 2009*). Constructivism's central idea is that human knowledge is constructed, that learners build new knowledge upon the foundation of previous learning. This view of learning sharply contrasts with one in which learning is the passive transmission of information from one individual to another, a view in which reception, not construction is key. The constructivists argue that knowledge does not have an objective or absolute value. Rather, the learner while interacting with his environment constructs and interprets knowledge based on his experiences and perceptions. This construction of new knowledge is mediated through the previous knowledge of the learner. Therefore, constructivism implies that learner are encouraged to construct their own knowledge, instead of copying it from an authority, be it a book or a teacher, in realistic situations instead of decontextualised, formal situation such as propagated in traditional textbooks and together with others instead of on their (*Kanselaar et al., 2001*). Experience is the central point around which learning and knowledge are generally interpreted in constructivism. It is belief that one constructs knowledge from one's experience, mental structures and belief that are used to interpret objects and events. Thus, constructivism is philosophy based on our premise that by reflecting on our experience, we construct our knowledge of the world surrounding us.

The constructivist perspectives are rooted in the psychological works of *Jean Piaget*, *Lev Vygotsky* and *Jerome Bruner* and in the philosophical work of *John Dewey*. In fact, there is no single constructivist theory of learning, rather multiple perspectives and approaches of constructivism of constructivism are there. Two prominent perspectives of constructivism have been psychological constructivism and social constructivism. The psychological or cognitive constructivism, based on the ideas of Piaget visualises knowledge acquisition as a process of continuous self-construction by the child. It is not a process of imparting information for child's understanding and use rather it is a process under which the child constructs his/her own know knowledge through experiences. According to *Piaget*, child's individual action is the starting point of his or her intellectual development. While interacting with his/her surrounding environment he/she begins to form mental constructs or cognitive structures called schemas by Piaget constitute the knowledge of the individual child. Thus, Piaget's psychological constructivist perspective is less concerned with correct representation

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and more interested in meaning as constructed by the individual. Rather than knowing an objective reality, individuals only construct a version of it for themselves (Jha, 2009). On other hand, the social constructivism having its origin in the work of Lev Vygotsky emphasises the significance of social interactions and of the cultural context in understanding and explaining the process of learning. Vygotsky believed that social interaction, cultural tools and activity shape individual development and learning. For Vygotsky, the, cognitive development of children is not an individualised process rather is a result of a dialectical process, where the child learns through the shared problem-solving with someone else (Jha, 2009). The social context, where different people interact with the child from his/her birth onwards thus forms the very basis of his/her cognitive development. Because, it is this social context which provides the child with the cognitive tools like language needed for his/her intellectual development. Therefore, Vygotsky considered an individual's cognitive system to be a direct result of an inseparable from social life. In the field of education, constructivism thus acknowledges the active role of the learner in the construction of knowledge and interpretation of reality. Constructivism also suggests that our constructions and views of the world are not stable, but are in continuous change as we build on past experiences.

Constructivist Teaching Strategies

In the context of constructivist strategy the teacher is a facilitator who encourages learner to reflect, analyze, classify, predict, create and interpret in the process of knowledge construction (N.C.F.; 2005). Constructivist classroom are based on the theory of Collaboration, Cooperation, Interaction and Project based activities. The classroom environment is in such a way that full freedom is given to the learners to think freely in multidirectional ways on single idea. Providing rich experiences to the learner will relatively help him to construct the knowledge and meaning. There are many strategies which can be employed in constructivist classroom.

Discovery Learning

It is an instructional method in which students are free to work in learning environment with little or no guidance. For example, discovery learning is the method of instruction when students are given a math problem and asked to come up with a solution on their own, when students are given a scientific problem and allowed to conduct experiment, or when students are allowed to learn how a computer program works by typing commands and seeing what happens on a computer screen.

Problem-Based Learning

Problem based learning is an innovative learner- oriented instructional strategy. It draws on constructivist principles of learning, advocating student centred engagement with course materials and content as well as students interaction with peers as central to the process associated with learning. PBL is an approach that empowers learners to the conduct research, integrate theory and practice and apply knowledge and skills to develop a viable solution to a defined problem. Problem based learning is focused, experientially based learning organised around the investigation and resolution of messy, real-world problems. In this strategy actively engaging the students to take responsibility for problem with support from a tutor or instructor and creating a learning environment to guide student inquiry at a deeper level of understanding.

Cooperative Learning

Cooperative learning is an increasingly popular instructional strategy. In recent decades, theorists have extended the traditional focus on individual learning to address cooperative, collaborative and social dimensions of learning which focused on students learning than on teachers teaching. Cooperative learning provides an approach to teaching which is conducive to the development of the skills required for changing world and its benefits are well documented. There is extensive research into the effectiveness of cooperative learning as a particular method of structuring this social interaction, which increases pupil attainment. There are three major benefits to cooperative learning: higher achievement and greater productivity, more positive relationships and grater psychological health, social competence and self-esteem. There is a possibility that there may be no other teaching strategy that simultaneously may achieve so many different outcomes. Cooperative learning is an approach to learning and teaching which delivers the key components of formative assessment by offering the opportunity for regular and rigorously designed group work, where children are very clear about the learning intentions and success criteria and are encouraged to work collaboratively while still encouraging individual accountability.

Inquiry Based Learning

Constructivist teaching practice, particularly inquiry based learning, seeks to mediate the learning process and make this kind of cognition an object of classroom instruction. Through inquiry learning, students play the role of scientists, a role that is familiar to researchers, as it is modeled on the authentic inquiry activities of professional scientists. Their tasks include formulating questions, designing informative investigations, analyzing pattern, drawing

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inferences, accessing evidence in responding to questions, formulating explanations from evidence, connecting explanations to knowledge, and communicating and justifying claims and explanations. The focus on inquiry learning originated with the work of Jean Piaget on the development of adolescent reasoning skills, particularly his focus on the discontinuous, or abrupt, transition from concrete to formal operational thought during adolescence.

Brainstorming

Brainstorming is an instructional method that works well when used in combination with the nominal group technique. Brainstorming is most often used to channel a group's collective thoughts through structured group input over a short period of time in ways that invite uninhibited participation. This process can result in fresh solutions to old problems. Brainstorming works well with group sizes that are not larger than eight. When using synchronous technologies, such as video or audio conferencing, one participant should be assigned recorder of the ideas generated while the rest of the group spontaneously contribute their ideas. The time required should range from five to fifteen minutes with an equal amount of time for evaluation and discussion. When using asynchronous technologies, such as computer mediated conferencing software, group sizes should also be limited to eight. Limiting group size with computer-mediated conferencing software is important in that it will ensure that all class participants have an opportunity to generate their ideas, yet will not result in an overwhelmingly large number of message to read as can often happen when group sizes are too large. One to three days is the time frame suggested for brainstorming with asynchronous technologies; longer period of time can often result in the degeneration of fresh ideas. Rather than a final discussion on evaluation, as is suggested with synchronous technologies, the group should work together through a negotiation process and produce a summary of the most worthwhile ideas generated.(Jha,2009).

Case Method

Much of the literature on constructivism learning principles stresses the importance of experiential learning. Case studies provide one such opportunity to enhance learning through the examination of real life situations tailored to raise those issues that are important for learners to consider. A case study provides information about simulated situations; learners respond to predetermined questions or develop an action plan. If cases are developed so as to bring about a questioning of learner assumptions and if learners are also provide with opportunity to examine those assumptions in interactions with others, critical self-reflection will fostered. Case studies can be made effective at facilitating constructivism learning
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principles in asynchronous environments through the use of role play. According to Renner (1997), role playing is experiential learning at its best and can be used to insert a slice of the life into the classroom, connect theory with everyday practice, practice unfamiliar skills in a safe setting and learn to appreciate contradictory viewpoints. Role play can be made even more interesting with asynchronous software that allows for users to have an alias. The alias is where a user can be assigned an alternate user name on the conferencing software. Using the alias, the instructor can assign roles from the case study to class participants where they are a different gender, socio-economic status, ethnic origin or age. In this way, the learners must not only act from an alternative perspective, but also respond to their fellow class mates who will not know the true identity of each class member. This kind of learning activity helps learners to understand that much of what we know to be true is often contextually and culturally situated.

Conclusion

Constructivism in education emerged after the behaviourist movement as a welcome and refreshing view of learning that centres on the active learner within the teaching-learning process. In constructivism, development of understanding requires the learner actively engage in meaning making. Therefore we can say that teaching strategies are of outmost importance in constructivism and it is upon the teachers how they use these strategies in the different context. Keeping in view the above merits of constructivism, there is a very need of constructivism based teaching in our classroom from primary to higher education.

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