

Constructivist Paradigm in Teaching-Learning Process

Dr. Kartar Singh, Assistant Professor, Department of TT & NFE (IASE), Faculty of Education,
Jamia Millia Islamia, New Delhi.

Abstract

The latest shift in teaching-learning process is “Constructivism”. The term refers to the idea that learners construct knowledge for themselves in which each learner individually and socially constructs ideas based on his level of understanding. The meaning of constructing is learning through acquired abilities and social awareness. Constructivism in education emerged after the behaviorist movement as an innovative and refreshing view of learning that centers on the active learner within the teaching-learning process. It focuses on the individuality during instruction process that has drawn attention to the prior beliefs, knowledge, and skills that individuals bring with them. The constructivist focuses on the use of learner-centered approaches than use of teacher-centered approaches in teaching-learning process that has resulted a major shift in classroom instruction. Constructivism's greatest contribution to education may be through the shift in emphasis from knowledge as a product to knowing as a process. The teacher's role changes drastically under the constructivist approach if compared to the behaviorist instruction. The teacher under the constructivist approach is a facilitator of learning not a transmitter of information. Similarly, the role of learner also changes from a passive listener to an active participant in teaching-learning process.

The paper first discusses the constructivist approach, its characteristics and theoretical bases of constructivism, i.e. Cognitive Constructivism and Social Constructivism which are majorly based on the works of Piaget and Vygotsky respectively. Then, the paper presents two examples for teaching-learning from economics based on constructivist approach and one example from social science. In the last, the paper encourages the teachers to use constructivist approach in their teaching-learning process.

Keywords: *Constructivism, Constructivist, Teacher, Learner and Economics.*

Introduction

Learning is considered as change in behaviour of students while teaching is designed to influence behaviour by using various behaviour modification techniques. There are various views about teaching but in practical popularly two types of views on teaching that are behaviourist views and constructivist views are applied at secondary and senior secondary levels in schools. The behaviourist views are that teaching can only provide or aware of students about different sources of information but constructivists believe that knowledge is constructed by learners themselves. First believes that teaching consists of transferring knowledge from outside to within learners while other believes that learners construct their own knowledge. External environment can be only a valuable source of knowledge. The child acts on the environment physically as well as socially and internalizes his experiences. If learners constructed their knowledge through actions, then teaching should necessarily be designed and planned with activities individually or in groups. There is a major emphasis in teaching rather than on learning under behaviourism. There were certain fundamental problems of behaviourism that emerged in the teaching-learning process. Some of them are like lack of recognizing uniqueness of every learner, lack of recognizing importance self in learning, emphasis on external, etc. Constructivism in education emerged after the behaviorist

movement as a welcome and refreshing view of learning that centers on the active learner within the teaching-learning process. This emphasis on the individual (within the greater social context) during instruction has drawn attention to the prior beliefs, knowledge, and skills that individuals bring with them. Prior knowledge has been shown to significantly influence the ways individuals make meaning out of instruction. The constructivist focus on the social context and larger community of learners has resulted in a major shift away from individually-based instruction to instruction that incorporates and embeds teaching within the larger community of peers, younger students, as well as those who are older. Constructivism's greatest contribution to education may be through the shift in emphasis from knowledge as a product to knowing as a process. This legacy of constructivism will likely prove to be a lasting and meaningful shift in the structure of knowledge.

In present time, the use of learner-centered methods of teaching-learning is highly recommended by authorities for several purposes. The teachers are also expected to make use of child centered pedagogy in classroom even under difficult situations. According to National Curriculum Framework (NCF)-2005, 'Child-centered' pedagogy means giving primacy to children's experiences, their voices, and their active participation. This kind of pedagogy requires us to plan learning in keeping with children's psychological development and interests. The learning plans therefore must respond to physical, cultural and social preferences within the wide diversity of characteristics and needs'. The NCF recognizes importance of child-centered pedagogy and states the importance of constructivist learning in our school environment. According to National Curriculum Framework (NCF)-2005, "In the constructivist perspective, learning is a process of the construction of knowledge. Learners actively construct their own knowledge by connecting new ideas to existing ideas on the basis of materials/activities presented to them (experience)." After studying two types of views on teaching-learning process, a paradigm shift in teaching-learning process is presented in following table-1:

Table1: Paradigm Shift in Teaching-Learning Process

S. No.	Teaching-Learning Process during Normal Class	Teaching-Learning Process during Constructivist Class
1.	Lesson is introduced by asking questions or in sometime in an unexpected way started by lecturing or problem solving on board.	Lesson is introduced by demonstrating study materials, narrating story and giving content on paper to read and answer the question.
2.	Focus is on description, explanation and completion of topic.	Focus is on to engage learners in learning task either in classroom or in field.
3.	Learners are passive listeners.	Learners are actively involved in exploration of contents.
4.	Learners are asked to complete homework.	Learners are expected to complete tasks and present.
5.	Teacher as informer and explainer.	Teacher as facilitator, guide and manager.
6.	Evaluation is necessary and rigid.	Evaluation is flexible and simple.

The teaching-learning process in constructivist classes focus on learning and the classroom environment becomes flexible which certainly enhance the quality of learners.

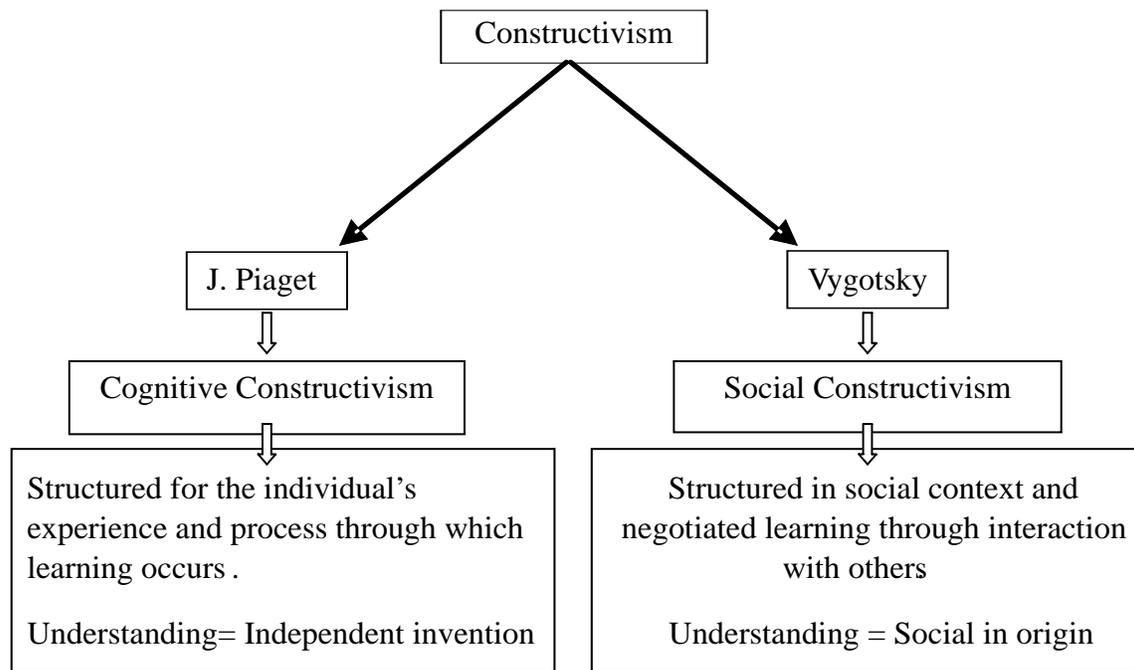
Theoretical Bases of Constructivism

There are various educationists who have presented their great views on constructivism like John Dewey, Maria Montessori, Lev Semenovich Vygotsky, Jean Piaget, Ernst Von Glasersfeld. We shall discuss the two major constructivists here in this paper, Piaget and Vygotsky.

Approaches to Constructivist Learning

The views of Jean Piaget and Vygotsky are based on cognitive constructivism and social constructivism. These two approaches are presented in the form of following figure-1:

Figure1: Jean Piaget and Vygotsky's views on Constructivism



Piaget's Approach to Constructivist Learning: Cognitive Constructivism

Cognitive constructivism is based on the work of Jean Piaget. Piaget's theory has two major parts: Ages and stages, which forecasts what children can and cannot understand at different ages, and a theory of development is the major foundation for cognitive constructivist approaches to teaching and learning.

Piaget believed children were active and intelligent learners who expected the world to make sense. He viewed the child as isolated who develops within himself and upon the environment. Piaget regarded knowledge as a process rather than a state, seeing it as a "relationship between the knower and the known" with what is known changing as and when the knower does.

The child tries to adapt to the world around him by assimilation (what is already known), accommodation (adjusting to what now known), equilibration (the balance between the two) and schemas (mental and physical).

Piaget regarded a schema to be a kind of mental structure that enables an organism to adapt to the environment. A schema is a conceptual framework that exists in an individual's mind that enables

the individual to interpret and assess phenomena and process data obtained from existing conditions. Assimilation occurs when a child incorporates new knowledge into existing schema. Accommodation occurs when a child adjusts to new information by modifying his/her existing schema.

As children experience new information, they use schema to assimilate it in organizing new experiences and making new knowledge. Organization means grouping of isolated behaviors into higher order for smooth functioning of cognitive system. Children shift from one stage of thought to next through a mechanism namely, equilibration which is a consequence of cognitive conflict or disequilibrium in trying to understand the world. As the child resolves the conflict, he/she reaches at cognitive equilibrium which demands a cognitive change due to assimilation and accommodation.

Developmental stages were prominent in Piaget's theory regarding cognitive development as proceeding through a sequence of stages which were progressive and involved qualitative structural changes.

Strengths of Piaget's theory are:

- The recognition of the central role of cognition.
- A rich description of children's thinking.
- It tells us about children's cognitive development in the real world.

Piaget believed that the mind evolves and knowledge develops. Knowledge is generated through interaction with the mind to the external environment. Learners construct knowledge through actions.

Vygotsky's Approach to Constructivist Learning: Social Constructivism

Social constructivism is based on the work of Lev Semenovich Vygotsky. Vygotsky explored the influence of language and social processes on cognitive development as well as the accomplishments a child could achieve when a problem is alone as compared with assistance from the adult. There are two basic principles of this theory:

- Language plays an important role in mental development.
- Importance of social interaction within the context of learning.

According to Vygotsky, the child is able to take the basic cultural ideas and determine his/her own ideas (through language as a tool). The child is a determiner not determined. Vygotsky emphasized the cultural line of development because of social determination of mental activity.

Vygotsky highlighted the importance of interaction of the learner with peers. He also emphasized the importance of imitation and modeling. The importance of interactions with adults and peers in cooperative settings is needed because it provides young children ample opportunity to observe, imitate and model the desired behavior.

Another important concept given by Vygotsky is Zone of Proximal Development (ZPD). ZPD represents the range of tasks that are too difficult for children to perform alone but can be learned with assistance of adults and peers. Therefore, the lower limit of ZPD is the ability of learner to do tasks independently and upper limit is the ability to solve the problems with the help of adults (teachers/parents) and peers. The ZPD is about "can do with help", not as a permanent state but as a stage towards being able to do something on your own. The key to "stretching" the learner is to know what is in that person's ZPD—what comes next, for them.

The second feature is scaffolding, which refers to a change in the social support over the course of a teaching session. If scaffolding is successful, a child's mastery level of performance can change, which means that it can increase a child's performance on a particular task.

Child's Current Achievement	Zone of Proximal Development	Beyond Reach at Present
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Examples for Teaching-Learning from Economics based on Constructivist Approach

The 5 Es that are Engage, Explore, Explain, Elaborate and Evaluation model is used for learning.

Example 1:

Topic: Need of Food Security

Objectives

To enable the learner to:

- List the various factors responsible for their poor socio-economic conditions in society.
- Explain their immediate steps for to improve their socio-economic conditions.
- What should Madhu do to continue school education of her youngest child? Describe.
- Prepare a plan of action which the Government should implement to ensure their food needs.

Classroom Activities

Instruction: Read the following brief story carefully and think over the questions and prepare a plan of actions for their food security:

Madhu has been working as a house maid for last ten years. Her husband is a street vendor who sells sweet potatoes. She has three daughters and two sons whose eldest daughter is of fourteen years who also works along with her mother to support workload. All other kids are also in queue to work in field. The youngest child in the family is of six years male child who is newly enrolled in school but most of the time he remains absent from the school and observes his fathers' activities. They struggle to get fulfilled their daily food requirements on continues basis. They themselves and their children are suffering from malnutrition. Their aim of life is to get fulfilled their daily food related activities. They expect from Government to meet their food related needs completely and secure them.

Procedure: The students should be divided into three groups for following discussion/tasks and preparation an action plan:

- Q1. Should Madhu and her husband do some extra works?
- Q2. Would their youngest child be able to complete his free and compulsory elementary education?
- Q3. Prepare a plan of actions for their food security in society? Also present their reports in class?

Evaluation of progress of work may be done through observation while they will be engage in reading story, exploring study materials for preparing a plan of actions, their presentation of reports and using their experiences. The basis of evaluation can be their involvement in learning tasks, searching of materials, asking questions with the teacher, explaining skills, presentation of real life examples, performance.

Example 2:**Topic:** Subsidy**Objectives**

To enable the learner to:

- State the meaning of subsidy.
- Explain the socio-economic conditions of a marginalized farmer.
- Give examples of goods on which the Government provides subsidy.
- How does the subsidy affect level of agricultural production? Discuss.

Classroom Activities

Instruction: Read the following brief story carefully and think over the questions and identify at least five goods on which the Government provides subsidy:

Bhola is a marginalized farmer who produces crops for self-production and for sale of rest of production. Bhola is having a difficult time as half of his income gets spent on buying manures and fertilizers for production. At the same time, he has come to notice that the Government has announced a 20% subsidy on price of one packet of 20 KG fertilizers. Bhola felt happy and said 'it is done great' and thought that now he will be able to purchase more of fertilizers.

Procedure: The students should be divided into three groups for following discussion/tasks and identification of subsidized goods:

- Q1. Can Bhola purchase more of fertilizers without cut his expenses on other items?
- Q2. What is the impact of subsidy on the price of the good?
- Q3. Why does the Government provide subsidy on certain items?

Evaluation of progress of work may be done through observation while they will be engaged in reading story, exploring study materials for identifying goods which are available on subsidized rate. The basis of evaluation can be their involvement in learning tasks, searching of materials, asking questions with the teacher, explaining skills, presentation of real life examples, performance.

An Example from Social Science**Topic:** Equality.**Objectives**

To enable the learner to:

- Understand and appreciate the nature of Equality.
- Distinguish between equality and inequality.
- Relate the concept to their real life by identifying situations where equality and inequality are applied to day to day lives.
- Prepare a list for actions in behavior towards sensitizing the people and encourage them for practicing equality.

Classroom activities

The teacher had to teach 'Equality' system of India in ninth standard in which he included in teaching-learning process more number of girls' students in class and one hearing impaired student which is the only Children with Special Need (CWSN) in the class. First of all, the teacher demonstrated a scene of a gram panchayat where a sarpanch was handling issues of a village. The sarpanch of the panchayat was a male member and other members of gram panchayat were also the male members. There was no female member in scene of the body of gram panchayat which was demonstrated. Thereafter, the teacher wanted to create the same scene but in a different way. He allotted most of the roles of gram panchayat to female students in which the role of the sarpanch was acted by 'Archana Kumari' and the hearing impaired student 'Javed' was asked to brief the things after observing it. Many students asked to the teacher why a girl and hearing impaired student are given main roles of the act. The teacher responded that all students of the class are equal, so they are to be treated equally in the classroom. As the sarpanch, 'Archana Kumari' handled some issues and 'Javed' described the scene on the basis of his observation. After the act 'Archana Kumari' expressed her confidence and also shared her valuable experiences to the class. Then, the whole class appreciated the decision of teacher for involving 'Javed', 'Archana Kumari' and other girls actively in the teaching-learning process.

Procedure

Exercise 1. The above strategy will be followed in the classroom. After it, the students will form groups of four students each and discuss the situations where equality and inequality are depicted.

Exercise 2. The group leader of each group will present discussed views on equal and unequal situations of the scene and act. Then, the whole class will discuss them with the direction of the teacher. The students will be allowed to ask questions from the other groups.

Exercise 3. The students will be asked to discuss examples of equality and inequality from their daily lives.

Exercise 4. The teacher will then generate the meaning and nature of equality with the students with the help of their experiences.

After the exercises the students will have a good understanding of equality and inequality. They should be able to appreciate the equal situations in their daily lives. They should be willing to take part in discussions and be more confident in speaking in front of the class and in discussions also.

Suggestions to Teachers to use Constructivist Approach in their Teaching-Learning Process

The constructivist paradigm is based on the assumption that knowledge is subjective and learners construct knowledge in their social and cultural environment. Therefore, in a constructivist classroom, the teacher must assume the role of a facilitator and guide and learners take the responsibility of their own learning. The process of constructing knowledge is an active one (going out and interacting with the environment and constructing it yourself). Learning is a function of the natural and continual variability in the world and variable action upon it. Constructivists would argue that in a school class, not all learners learn the same thing. The important thing for teachers is to ascertain what each learner knows and then plan learning programmes for each learner or follow the learner's lead.

- (i) Plan activity
- (ii) Determine modalities for organization of activity

- (iii) Collect and organize material for activity
- (iv) Plan for flexible assessment of learning.

Conclusion

The constructivist focus on the social context and larger community of learners has resulted in a major shift away from individually-based instruction to instruction that incorporates and embeds teaching within the larger community of peers, younger students, as well as those who are older. A teacher under the constructivist approach is a facilitator of learning not a transmitter of information. The teacher's role changes drastically under the constructivist approach if compared to the traditional instruction. A teacher has to act as an investigator and must try to understand how his/her learners are constructing knowledge. He/she must also respect their ideas and understand their alternate solutions. Constructivism's greatest contribution to education may be through the shift in emphasis from knowledge as a product to knowing as a process. This legacy of constructivism will likely prove to be a lasting and meaningful shift in the structure of knowledge.

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