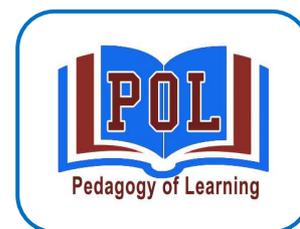


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Creating a Meaningful Learning Process: A Constructivist Framework and Strategies for the Teachers*

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Abstract: *The acquisition and construction of knowledge through cognitive development as an adaptive process is mediated by teaching and learning process. For learning to be meaningful and effective, the pedagogic process has to be child-centered which entails giving primacy to the child's own experiences, voices and active and reflective participation in the classroom. Emphasizing on the need to link learning process with children's lives in an organic way so as to promote creative thinking and insights with capacity to create new knowledge, the National Curriculum Framework, 2005 makes a case for doing away with established notions and prevalent teaching practices. The framework lays ground for making learning a much more dynamic and exciting experience by moving towards more interactive and dialogic methods of teaching through constructivist approach. This paper attempts to make sense of Jean Piaget's cognitive constructivist perspective and Lev Vygostky's social constructivist perspectives on the process of knowledge construction and the implications of these ideas for creating a meaningful learning process in actual classroom situation.*

Keywords: *Child Centred Pedagogy, Cognitive Constructivist Perspective, Social Constructivist Perspective, Meaningful Learning Processes*

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Introduction

The National Curriculum Framework (NCF)-2005, in its chapter on 'Learning and Knowledge' recognizes the child as a natural learner, and knowledge as the outcome of the child's own activity. A natural learner is one who gets the liberty and freedom to express, to

share, to contribute the thought processes and experiences to the learning processes, and thus, the learner becomes actively involved in the process of learning. Such learning gives a sense of ownership to the body of knowledge constructed by the learner and also becomes very meaningful and helpful to the learner. Such a process of learning is possible through a pedagogy which the NCF, 2005 states as the ‘child centred pedagogy’ gives ‘primacy to the child’s experiences, voices and active participation in the classroom’.

Just as it took time for the contributions of Jean Piaget and Lev Vygotsky to influence the learning process, so also many valuable years have passed by in our country where we have not been able to incorporate their ideas in the learning processes. Through all these years our educational system has been able to bring out graduates at each level of education who lack in bringing out their best thought processes and hence there is a deficiency in their qualitative development. In fact, we have been successful in infusing knowledge and information and exposing children to the vast repertoire of knowledge, and by doing so we feel that we are giving the best to them. This process has helped and will help only those (a small percentage) whose mental abilities will permit them to ‘reproduce knowledge’ or ‘create knowledge’ without churning it and helping the learner to internalize that body of knowledge. The majority of the learners sail through it without understanding and eventually the knowledge dies out from them making education to be of no value to the learner. The move therefore is to help the learners value the knowledge gained by making it meaningful and this is possible only if the learner becomes a part of that learning process. Such a learning process is known as the Constructivist approach to learning.

To make the learner a part of the learning process entails making him/her ‘active’ in the process of learning. This however is not a new concept which has just cropped up only in this century, but has its roots in the educational thoughts of John Dewey who brought up the concept of an ‘active learner’. The Zone of Proximal Development introduced by Lev Vygotsky in the late 1930s is also closely linked to the writings of William James which featured in his book, ‘Principles of Psychology’ published in the year 1890 where he mentioned that teachers should ‘start the lesson at a point just beyond the child’s knowledge and understanding, in order to stretch the child’s mind.’ (Santrock W John, 2006:4).

What is constructivism?

Constructivism refers to a set of views about how individuals learn. It can also be thought of as a “theory of knowledge” because it examines the way in which people know and learn. It is of the view that “learners actively construct their own sets of meanings or understandings; knowledge is not a mere copy of the external world, nor is knowledge acquired by passive absorption or by simple transference from one person (teacher) to another (a learner). It refers to the idea that learners construct knowledge for themselves—each learner individually and socially constructs meaning—as he/she learns or constructs knowledge. In sum, knowledge is made/created/constructed not acquired. Based on the work of developmental psychologists, constructivism contends that people/individuals construct meaning through their interpretive interactions with and experiences in their social

environments. It presumes that prior knowledge and experiences play a significant role in learning and form the basis for knowledge constructions (Knight as cited in Reys S Adelman & Vallone T Lynn, 2008:27) It focuses the learners' attention to the "why" of learning and opens the door to critical thinking and intellectual development. Constructivist approach to teaching is child-centered in which learning becomes a dynamic process. It proposes that learning environments should support multiple perspectives or interpretations of reality, knowledge construction, context rich, and experienced based activities with authentic learning tasks. In constructivist approach, the focus of teaching is on the empowerment of the learners to be engaged in discovery of knowledge by providing them with opportunities to reflect upon and test theories/hypothesis through real-world applications of knowledge. For example, instead of only giving lectures on Urban/Rural Administration, (from Social & Political Life-A textbook for class VI) children can be given a project work to go and visit the Municipalities or Panchayats with their own queries so as to find out the truth roles and functions of these institutions. It moves learners away from the rote memorization of facts to metacognition and self evaluation. It promotes an 'examined life' and encourages critical reflection of values, ideas, beliefs and assumptions. The Constructivist perspective can be broadly divided into two types—cognitive and social constructivist perspectives (Reys S Adelman & Vallone T Lynn, 2008:31).

Cognitive Constructivist Perspective

Central to the constructivist perspective point of view is the idea that all learning is born out of what we already know (ibid). Jean Piaget, known as the father of constructivism suggested that we construct knowledge when we experience new information that is incongruent with our prior knowledge. In this perspective, learning is an individualistic enterprise in which knowledge is internalized by the learners during specific stages of cognitive development through processes of *accommodation* and *assimilation* based on their individual experiences. When individuals assimilate, they incorporate the new experience into an already existing framework without changing that mental structure (schema). This may occur when individuals' experiences are aligned in consonance with their internal representations of the world which may also occur due to faulty understanding or failure to understand inputs from others as intended or correctly. In contrast, when individuals' experiences contradict their internal representations, they may change their perceptions of the experiences to fit their internal representations. According to this view, accommodation is the process of reframing one's mental representation of the external world to fit new experiences. Accommodation can be understood as a mechanism by which failure leads to learning—when we act on the expectation that the world operates in one way and it violates our expectations, we often fail, but by accommodating this new experience and reframing our model of the way the world works, we learn from the experience of failure.

Social Constructivist Perspective

The basic tenets of the social constructivist perspective is that knowledge is also a human product which is socially and culturally constructed and learning is a social process of

meaning making through interactions with each other and with the environment we live in. It emphasizes the importance of culture, language and social interactions in the process of constructing knowledge. This school of thought is based on the idea of Lev Vygotsky, a Russian psychologist who believed that the process of knowledge construction is socially mediated as meaning is socially negotiated within the context of one's cultural background. The concepts of Zone of Proximal Development (ZPD), More Knowledgeable Other (MKO) and Scaffolding are understood to be integral components of social constructivism. The ZPD refers to the distance between what a student knows and what she can learn with the help of a knowledgeable adult (other); it is within this zone that optimal and/or proximal development takes place. Implicit in the ZPD is the importance of social interaction as the process by which students learn. Scaffolding refers to temporary support given to students by more knowledgeable persons, most probably teachers, until they can be independent with learning task. The MKO needs to have an excellent grasp of the content being covered and must develop skills in processing content as she/he simultaneously provides scaffolds students need as they construct new knowledge. An important consideration regarding the ZPD is that the learning task should not be too difficult but challenging enough or too easy for the learner (Reys S Adelman & Vallone T Lynn, 2008:33-35)

Constructivist Framework and Instructional Strategies for the teachers

According to The Reader's Digest Great Encyclopedia Dictionary, 1974, the word 'construct' means 'to fit together', 'to build' 'to combine' pieces or elements to form a unified whole. It is on this basis that the meaning of constructivist approach to learning is built upon. In constructivism therefore the learner actively constructs knowledge and understanding and in actively constructing their world, the learner uses 'schemas'. A schema is a mental framework that helps the learner to organize and interpret information. In building up schemas the learner usually progresses from near to far; concrete to abstract; and from a simple one to a more complex and advanced one through contextually relevant and authentic learning tasks.

Given these understanding about how learning takes place, what then should be the role of the teacher? Is the teacher also actively engaged in the process of learning? Or does the teacher take back seat and leave it to the learners to construct their own knowledge. As mentioned earlier meaningful knowledge is that which comes out from the learner and the teacher's role is not undermined. The role of the teacher here then changes from being authoritative and commanding in the learning process to that of a facilitator, a mentor, a guide and a friend. Let us ponder at these words for some time - a facilitator, a mentor, a guide and a friend. For example enhancing Self Esteem and Confidence of the learner, the teacher may give those questions for Self-Reflection: like

- I am valuable and important because.....
- My family, friends and teachers are valuable and important because....

In simple words a facilitator is one who makes it easy, who promotes, who helps forward, a mentor is an experienced and trusted counselor, a guide is one who shows the way and a friend is one who understands and encourages. Thus if our intention is to make learning meaningful to the learner, it will call for a major shift in our approach and attitude towards learning.

Another aspect that we need to remind ourselves as teachers is the concept of ‘scaffolding’, a term introduced by Lev Vygotsky’s in his theory on constructivism. Scaffolding means temporary structure of wooden poles (metal tubes) and planks providing platform(s) for workmen to stand on while erecting or repairing building. When erecting a new building, initially it would require a lot of support, but as the building is able to stand the level of support given to it will be reduced and ultimately no support will be given to it at all. This is also what is required from us as teachers. For each lesson we will have to think and plan on the kind of scaffolding required for enhancing learning. Initially maybe the learner would be requiring much support but as the learner makes progress in learning, gradually withdraw the amount of scaffolding. Thus, scaffolding now is a technique of changing the level of support to the learner. It is highly individualized as it would depend on the learner’s abilities and capacities (Santrock W John, 2006:52).

Thus, constructivism as a theory of knowledge about how people know and how learning takes place has implications for teaching learning process to be designed as a very meaningful exercise. An attempt is made here to offer certain broad guidelines for the teachers based on the principles of constructivism to create meaningful learning situations by using appropriate and constructive strategies.

- i. Teachers should take the time to learn about students' background, interests, and learning style .This will enable him/her to create an enabling environment for learning. Motivate them to learn about each other .At the same time tell them how boring it would be if we were all alike. However never tolerate bullying, teasing, in the classroom for anything that is disrespectful, hurtful to any student.
- ii. It is mandatory for the teacher to be well verse in the subject matter—clarity of concepts and keeping abreast with the content is the key for creating a meaningful learning situation. This is important so that good guidance and mentoring can be given to the learner at each step of learning.
- iii. Identify the theme, concepts, objectives and the expected learning outcomes which should serve act as a guiding framework for the teaching learning process;
- iv. Learning is an active process. Teachers must work hard to encourage students to think on their own and construct their own explanations. Frame some essential questions for the theme/lesson/chapter to be raised before the teaching learning process starts so as to arouse interest and motivation them to think about the issues and concerns related to the content;. For example asking questions that begin with words like "What if," "Explain," "Analyze," "Create," and "Compare and contrast,"

seek out the evidence, etc encourage students to think critically about the concept/idea. Avoid asking question that has "yes" or "no" answer

- v. Define the criteria and indicators for success: how would you know that the students have gained the understandings of the concepts and have achieved the objectives you have set for a particular chapter/theme/lesson? Encourage students for self- evaluation. It helps them to become an active participant in the teaching learning process. Students start recognizing their own strengths and weaknesses. They will be able to set goals and search new knowledge themselves. As a teacher you can empower them to assess and try to identify their learning level or prior knowledge of your students by using appropriate tools such as observation, test, open discussion, questionnaire or question and answer method, etc;
- vi. Identify resources: what are the resources you and your students will use? These resources include not only the material resources and teaching Learning materials, such as video films, Audio-visual aids, pictures, maps, charts, text books, other TLMs, encyclopedias, maps, news paper clippings, real objects, models and replicas, etc. Resources also include places such as Museum, factories, historically important sites, buildings etc. It also includes human resources such as teachers, experts in different areas/fields, students etc;
- vii. Decide and identify the methods, activities and instructional strategies to be employed for transacting a topic/theme/chapter in the actual classroom situation. The transactional methods and strategies could include such as role play and dramatization, project work, inquiry/discovery method, quiz, debates, demonstrations by teachers or students, field trips, group discussion, home assignment, cooperative learning, lecture method, problem solving methods etc;
- viii. The teaching learning activities should be planned in such a manner that it is neither too easy nor too difficult but challenging enough for the students;
- ix. Decide on where the teaching learning process will take place—in the classroom, in the laboratory, in the playground, in the library, resource room or anywhere depending on the lesson—and who will do what and how the available resources will be used? The teacher has to be ready with the kind of scaffolding that will be provided to the learner or groups of learners. Teaching is all about communicating, and communicating includes listening as well as speaking and writing. You are probably aware that one of the most important things in any healthy relationship is communication.
- x. For each task, Plan beforehand how the activities will be given to the learners. It could be in the form of activity charts, group discussions, developing projects and investigations for students to carry out, or presenting students with a problem and asking questions relating to it, or any activity which would suit best the learning process;

- xi. How the learning process will take place will have to be looked into. Will the students work in pairs, in groups and if so how many groups will be formed and what will be the criteria for choosing the group members.
- xii. Having done these plans and strategies of how to take the students through the various learning situations, the teacher has to transact her lesson accordingly. She has to reflect on how the teaching learning process goes, evaluate it and review the whole process and identify the strength, weaknesses, the gaps in teaching learning process and the inputs she will need to improve it. Remedial measures have to be planned out on the basis of these reflections, evaluation and review.
- xiii. Liberty of thought and expression should be given to the learner at all times. When a task is given to the learner(s) the learner should be given the freedom to solve it, and it is important here to observe and mark till which level the learner can proceed on his/her own in the learning process. This helps the teacher to know the lower limit of the Zone of Proximal Development of the learner. Once this is identified, then scaffolding on the part of the teacher should take place, till the point that the learner will reach the maximum limit of the Zone of Proximal Development.

Conclusion

Such learning is not only meaningful to the learner but will also help the teacher in identifying the learning gaps and assisting the learner accordingly. It is also a technique which can also cater to all learners in the learning process. Not only that liberty of thought and expression is given to the learners but it also ensures equality of status and opportunities to them. Our effort is to produce students who will become independent learners, creators and producers of knowledge rather than mere consumers of knowledge as passive recipients of information. No single method or strategy can adequately fit all learning situations. There is no best method nor can one give a definitive method of teaching learning as constructivist approach believes in providing contextually relevant and authentic learning tasks. What is authentic and relevant in one context will not be so in another context. A constructivist teacher has to use her own creativity and imaginative ideas to design teaching learning process keeping in mind the general curricular issues and concerns, the objectives of teaching a particular theme/chapter/lesson and the expected learning outcomes as her broad framework for direction. Creating such a meaningful learning process calls for a holistic integration of the curriculum standard, the pedagogical practices and assessment as a whole. The focus of the teacher must be to take students through an open-ended and yet guided process of constructing knowledge through understanding of issues or phenomena backed by logical arguments, facts and evidences within a flexible, creative, constructive and critical framework.

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