Activity-based Learning in Primary Classrooms Through the Lens of Philosophical Assumptions

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Abstract

It is often seen that children's voices and experiences do not find expression in the existing subject-centred classrooms. Whenever they speak, they generally answer the questions being asked by the teacher. Most of the time the students simply repeat and rote memorise the prescribed course content. They have no active role to play in the teaching–learning process and they act as mute spectators. But considering the fact that children are active learners, we must encourage them to talk about what they are learning. At the same time, they should be able to relate it with their previous experiences. Critical thinking and reflections should be an integral part of their process of knowing. In classrooms, if we allow the students to choose a topic of their choice and learn how a thorough understanding of this topic can be applied to solve a practical problem, then their engagement level in the task will increase. Learners may have a deeper understanding of the topic and can assess their skills as well. This paper talks about the nature of active learning from the philosophical perspective of Dewey's theory of progressive education, Vygotsky's theory of social context, and the theory of constructivism. The theoretical framework has been substantiated by the examples explained in the boxes. These examples are based on the observations of teaching–earning practices in the classrooms of MCD Schools.

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Introduction

Learning is the process of making meaning. Active learning in the classroom can be understood as an approach that acknowledges the fact that learners are active in the learning process, that by understanding and building knowledge in response to the learning opportunities provided by their teachers. Students learn more when they participate in the process of learning, whether it is a discussion, practice, review or application. This kind of exercise helps students develop analytical skills and they also learn how to apply theoretical knowledge in real-life situations. Learning takes place inside, as well as outside the boundary walls of the school, it is enriched if the two areas interact with each other.

National Education Policy, 2020 proposes the revamp of many aspects of the educational structure. The policy states "...with the quickly changing employment landscape and global ecosystem, it is becoming increasingly critical that children not only learn, but more importantly learn how to learn. Education thus, must move towards less content, and more towards learning about how to think critically and solve problems, how to be creative and multidisciplinary and how to innovate, adapt and absorb new material in the novel and changing fields. Pedagogy must evolve to make education more experiential, holistic, integrated, inquiry-driven, discovery-oriented, learner-centred, discussion-based, flexible and of course enjoyable' (NEP, 2020).

Objectives

1. To analyse the philosophies and assumptions of different theories of learning in the context of activity-based learning in classroom situations.
2. To highlight and understand the examples from actual classroom situations in the context of above mentioned theoretical and philosophical assumptions.

SAMPLING: Purposive sampling technique is used for data collection in this research. In this technique, participants are selected based on the need of the study. For the present study, students of Classes IV and V from four MCD schools in Rohini and neighbouring areas (in North Delhi) were observed as a part of data collection using purposive sampling technique. Each Class/Section contains 45–50 students. Sampling includes both boys and girls students in the class.

Methodology

Both participatory and non-participatory observations were done for data collection. Observation parameters include students' participation in any of the given activities, their responses towards it and how they use their daily life experiences in solving a particular problem. Some checklists were also prepared to know their feedback regarding a particular theme. These checklists were

further analysed in the context of the theoretical framework. Interaction of teachers with students in teaching–learning process was observed and taken into consideration to substantiate the findings.

Discussions

Constructivism as a paradigm for teaching and learning

Constructivism is an epistemology or a theory, which talks about how people know what they know. Problem solving is at the centre of learning, thinking and development in this approach. According to the constructivist perspective, learners actively construct their knowledge by connecting new ideas to the already existing ideas based on activities being conducted. This further indicates that each learner constructs meaning at the individual and social levels as and when they learn. This approach provides strategies for promoting learning. Students are encouraged to use constructivist techniques such or analysing questionary, debating to create more knowledge and then to reflect on and talk about what they are doing and how their understanding is changing. 'The teacher's own role in children's cognition could be enhanced if they assume a more active role in relation to the process of knowledge construction in which children are engaged'. (NCF, 2005).

Constructivism allow students to think, rethink, analyse, cross question and debate before coming to the conclusion.

John Dewey (1933) is known as the philosophical founder of this approach. Bruner (1990) and Piaget (1972) are considered the major theorists, while Vygotsky (1987) is the leading theorist among the social constructivists. Constructivism and Social Constructivism are two learning theories, sharing many underlying assumptions and an interpretive epistemological position. Piaget's work got blended with the research of Dewey and Vygotsky during the 1980s in developmental psychology under one broad spectrum of constructivism. All the approaches help students use their previous knowledge in a new learning situation, in which they can check and re-examine their understanding. This whole process of interpretation and re-evaluation goes on until they can demonstrate their understanding of the subject in a new light.

Role of teacher: In a constructivist classroom, the role of a teacher is not just to give lecture to the students but also has to act as an expert who can guide students into adopting cognitive strategies, such as articulating, understanding, asking questions and reflecting.

The teacher must understand the pre-conditions for learning, and guide and help the learner to unfold one's inner-self as well as utilise one's potential to the maximum. By questioning themselves and their strategies, students in the classroom become expert learners. Becoming a constructivist teacher seems a difficult job as it 'requires a

paradigm shift,' as well as 'the willing abandonment of familiar perspectives and practices and the adoption of new ones' (Brooks and Brooks, 1999)

Dewey's theory of progressive education

Dewey's theory of progressive education emphasised active learning. He criticised traditional education as 'passive and receptive learning'. He talked about active learning principles in his discussions and motivated students to be more active in the learning process. The teacher would model democratic ideals and the students would learn by experiences (Dewey, 1933). His scientific method of problem solving or the project method is an effective alternative to the subject-centred method.

According to Dewey, learning is the acquisition of knowledge and skills through individual experiences, teaching is facilitating the learning environment to allow students to acquire knowledge. He believed that students should feel connected to the classroom material, in order to retain information and adapt it for personal use. Further, in order to process their learning experience into knowledge. Something learned in one situation will help in understanding and taking action in future situations, it is always reconstruction and reorganisation of experiences (Dewey, 1897).

Dewey also believed in a democratic classroom and teachers shall act as mentors, guides and facilitators. Rather than remaining behind the desk, teachers must try to interact directly and actively with students (Dewey, 1933).

Observations from Classrooms Examples

In a mathematics class, the objective was to make students aware about the line of symmetry and symmetrical shapes. During Diwali, students made a lot of designs to decorate their class. Now the teacher tried to connect their daily life activities to make them understand the concept of symmetry. She folded the design in half and asked if it looked the same. The students instantly identified and recognised this design as the design they made during Diwali decorations in school. All of them made various designs and in this process, they found the line of symmetry by themselves. The teacher prompted the students to ivestigate further asked them whether a design can be made by folding from more than one place to divide it in half. Students further folded their designs to check. They were working in as per the discovery method. Dewey suggested that students learn by doing and when they work, they use trial and error method. They explore and try to utilise their potential to the maximum. It is his way that they construct their own knowledge. The work of those students who successfully completed the task of symmetrical lines were shown to other students so that they could also observe and learn.

In the language classroom, students were to make a story with the words selected by themselves only and then had to present it in the class itself. Many diversities could be seen during the presentation, where some of them presented the story through acting, while someother were seen listening and narrating only. The whole class was involved in this process, especially those who never came forward on their own, they also performed well. The activity was really helpful as it brought a kind of transformation in the behaviour pattern of some students.

Vygotsky's Theory of Social Learning

Vygotsky views learners as active organisers of their experiences and suggested that the direction of the right development of thinking is not from the individual to the social but from the social to the individual. The major theme of Vygotsky's theoretical framework is that social interaction plays a fundamental role in the development of cognition. 'Scaffolding' in Vygotsky's theory, is 'the guidance and interactional support given by a tutor in the zone of proximal development' (Vygotsky, 1978). The zone of proximal development refers to the difference between what a learner can do without help and what he or she can achieve with guidance and encouragement from a skilled partner. Thus the term 'proximal' refers to those skills that the learner is 'close' to mastering (Vygotsky, 1978). Bruner explains scaffolding as permitting children to do as much as they can by themselves, while what they cannot do, is filled in by their mother, peer or tutor's activities (Bruner, 1985).

Vygotsky believed that when a student is in the zone of proximal development for a particular task, providing the appropriate assistance at that time will give them the motivation to complete the task. Teachers must act as a facilitator and they need to know their learners well so that they can provide guidance. They shall withdraw it as the child comes to understand and perform the task alone. Teachers have to be aware of students' process of guidance behaviour. They should be attentive while evaluating their work to head the process of guidance a relevant and meaningful conclusion (Vygotsky, 1978).

Examples

In EVS class, the topic to be discussed was on packed food and its expiry date. The teacher divided the students in small groups of four to five. Then she gave empty packets of food and drink items to each group. In the beginning of the activity, the teacher made them aware about 'FSSAI' sign as well. Students were trying to find out the dates on their packets. In one group, a particular student was not able to identify the expiry date. Another student from the same group immediately helped

him by briefing him about expiry date on the packet. The same student shared that now a days, dates are imbibed in packets as told by his elder brother. Then all the students touched the packet to discover the imbebed tenure. In this way, students got an impression that they can learn by sharing their information. There were wrappers of some snacks which did not have any manufacturing dates. It was not FSSAI marked and no expiry date was mentioned on it. Students themselves said that we should buy things after seeing these dates. This activity was important in terms of social awareness as well. Students have to be aware of such issues so that they make their families aware as well. Peer instruction and collaborative learning is a very important technique in enhancing active learning in schools.

In the next class, discussion on farming was going on. It was found that the students who came from rural background were quite vocal about sharing their experiences. They were also discussing the impact of using machines in farming. Some students shared the common practices followed in their villages. At the same time, they were sharing and telling all this to their classmates also. Students who had never visited a farm or even heard about it were getting first-hand information from their own peers. Had it been told by the teacher or through textbooks, things would have never been so easy and interesting for learners. Peer learning is one of the very important and enriching ways of learning.

Bruner's Constructivist Theory

Discovery Learning

For Bruner, learning is an active process in which learners construct new ideas or concepts based on their previous knowledge. Bruner saw discovery learning taking place in the hypothetical made rather than expository mode, In the expository mode, 'decisions concerning the mode pace style of exposition are principally important players in the hypothetical mode, on the other hand, 'the teacher and students are in a more cooperative position' (Bruner, 1961), in which the student, at times, plays the principle role. Guided discovery, problem-based learning and learning by chance factors are some of the methods based on the discovery learning method.

Bruner (1961), like Vygotsky, emphasised the social nature of learning, citing that other people should help the child develop skills through the process of scaffolding. Through the concept of the spiral curriculum, he explained that complex ideas can be taught at a simplified level first, and then revisited at more complex levels later on. Therefore, subjects should be taught in the order of gradually increasing difficulty levels. By teaching this way children would be able to solve problems by themselves. Bruner views symbolic representation as crucial to cognitive development, and since language is our primary means of symbolising the world, he attaches great importance to language in determining cognitive development (Bruner, 1961).

Constructivism: Piaget's Cognitive Development Theory

Piaget's ideas state that people produce knowledge and form meaning based upon their experiences. A key element in Piaget's work is that children are born with reflexes that control behaviour, which are called 'schemas'. He was deeply influenced by the notion of constructivism. It derives from the idea that knowledge is not something fixed and stable, but rather it is constructed step-by-step, and it is changed frequently, as individuals and groups continually try to make sense of the complex world around them (Piaget,1964).

Piaget's model assumes that learning takes place from the 'inside out' based on these innate developmental stages (Rose, 2005, p.140). Two of the key components which help in the construction of an individual's new knowledge are accommodation and assimilation. Assimilating causes an individual to incorporate new experiences into the old experiences. This causes the individual to develop new outlooks, rethink and evaluate what is important, ultimately altering their perceptions. Accommodation is reframing the world and new experiences into the mental capacity already present. Individuals conceive a particular fashion or pattern in which the world operates. When things do not operate within that context, they must accommodate and reframe the expectations with the outcomes (Piaget, 1964).

Examples

Classroom is an important resource for learning. The teacher made a learning corner in the class where she attached a newspaper for reading on a chart paper. After every week, she put them in a container placed in the corner itself. It contains riddles, maths puzzles, stories, poems, question answers and various other reading articles. The teacher kept 'Podhon Ki Parvarish' article with reference to the E.V.S. chapter done in the class. One afternoon, at the time of leaving the class, students were keeping their plants in shadow, which they had sown yesterday. The researchers asked them the reason behind this. Students responded that they have read in the article that plants should not be given sunlight for longer time during early days. They used the information given in the article and for practical application. It could be seen that students paid attention to the article and noted down the specific points related to planting seeds. Further relating it with the classroom activity, they performed the action of putting their container in shade. So, we can say that students not only learn from textbooks but also generate knowledge through observation and understanding of their daily life experiences.

During mathematics class activity, students had to make their own weighing machine. While making it, they used the material which they already had. In this processed, they helped each other and whenever any problem arose, they consulted their teacher. By using and applying their own creativity, students made different things from papers and added hanging material using rubberband. Students were

happy while showing their creation to the teacher. They all showed and shared it with others as well. Students should be given the freedom to express their ideas and use their potential. Teachers must believe in their power of creativity. In one of his article subject, "Teaching and Learning of Mathematics", Rohit Dhankar said that maths is an abstract subject and to teach maths, we need to a make a connection between the child's surrounding environment (real-life objects) maths then it will not remember abstract for them any longer. So through this example, we can interpret that by connecting any subject to children's surroundings, the process of learning becomes easy.

During one of the EVS classes interesting inputs about digestive system came from student's side. Students had to draw a picture of the digestive system with their own imagination. They were asked to draw a steps of food digestion process after we eat the food when we eat it. Answer like 'it disappears somewhere inside the stomach, rats are present inside the stomach so they finish the food there', were shared. After listening t all this, the teacher provided them with basic information about digestive system. After this, the students got a direction for further thinking which was more knowledge based. Listening to the students with great patience is one of the most important qualities a teacher must have.

In Hindi class, the teacher integrated the skills of writing with the concepts covered in E.V.S. as both the lessons were on 'migration'. Students were indulged in the writing process approach in which their idea was shared in the class. They shared many reasons of migration as the had witnessed them but they were not sure how to proceed with writing them. At this stage, the teacher provided them a structure to write in sequence. This is very important. These are scaffolds on which students build their knowledge. After getting the clues from teacher, some students wrote lengthy paragraphs, some just highlighted the main points. Students were able to bring the emotion of migrants. They shortlisted some of the difficulties faced by migrants at new places, like facing difficulties in getting admission in a new school, etc.

Piaget proposed that whenever a new concept is to be developed, it is developed through accommodation and assimilation. In the EVS period, teacher started the class on the concept that heavy objects sink in water which she had already discussed in earlier days. So now she asked them, 'Why do ships float in sea? Are they light?' This question created a situation and gave students a direction to think. To give them more clarity, the teacher demonstrated an activity where the lemons was seen floating on salty water. Further, to make them aware about the world around them, the teacher showed them a video on the dead sea where everything floats. They all were very excited. The video helped students to look at places where they cannot go in their real life.

Analysis of the Activities done by Students in the Classroom

Woking the lines of the 'discovery method' students discovered many ways to make different designs in their mathematics class. During Diwali decoration, students unfold their hidden potential. Students used

the trial and error method to complete their tasks. Dewey (1938) rightly said that students learn maximum when they participate actively.

Similarly, in the story-telling session, students themselves chose the words, made the story and presented it in their own innovative way.

The effectiveness of collaborative learning can be seen clearly during EVS activity on packed food and its expiry date. Sharing information about FSSAI among each other was important and it further enhanced active learning in the classroom. While discussing farming, students got first-hand information from their peers.

In the activity 'Podhon ki Parvarish' in EVS Class, students generated knowledge about plants through observations and their daily life experiences. Similarly, in teaching and learning mathematics, they applied their creativity in making different things from paper. Their overall response was good too.

The role of teachers is very important as they provide the right platform to the pupils. While teaching about the digestive system when the teacher gave dues the students, due to they immediately got a direction for further thinking which was more knowledge based.

Similarly in the conceptual learning of the fact 'why do ships float on the sea; when the teacher demonstrated it with the help of an activity, students understood the concept easily.

Conclusion

Learning is essentially a process based on self-experience, in which the learners construct knowledge in their own ways through absorption, interaction, observation and reflection. While observing the students in actual classroom practices, it is evident from examples cited in the boxes that they learn in a variety of ways—through experience, learning by doing, reading, discussion, asking, listening, thinking, reflecting and expressing oneself through speech or movement or writing.

Dewey's theory helps in improving student's experiences in the classroom. Students learn to participate actively and develop personal interests in the classroom. Examples provided in the boxes are self-explanatory, if given an opportunity students have so much to speak on various issues. So, as teachers we should always respect their right to ask questions and allow them to share their concerns.

According to Vygotsky, much important learning by the child occurs through social interaction with a skilful tutor. The more knowledgeable other in Vygotsky's theory can be a teacher or a child's peer who has a better understanding or a higher ability level than the learner with reference to a particular task (Vygotsky, 1978). As evident from the examples attached, assistance is most effective when support is matched to the needs of the learner.

Bruner and Vygotsky emphasise on the child's environment and

classrooms. Constructivism, is the study of learning, is about how we all make sense of our world, and that really has not changed' (Brooks, 1999). Examples from the actual classroom practices reflect that constructivism transforms the students from passive recipient of information to active participant in the learning process.

Further Suggestions to Improve Active Learning in Classrooms

- Children have a voice at home, the school should also secure their active participation in classroom processes. Discussion on any given topic may help them develop their communication skills and increase the awareness of the classmates as learning resources.
- Asking students to reflect on a theme, paired with peer-to-peer discussion is also a very effective teaching technique. The teacher can discuss or tell the answer once the time allotted to finish the task is over. Then the teacher can further explain to the students why a particular answer is correct and others are misleading.
- Brainstorming is an important part of active learning process. By inviting students in the process of development of classroom activities, we can make them more responsible.
- In the overall process of experiential learning, the teacher must facilitate independent, critical and creative thinking in classroom. Successful implementation of these techniques in the classroom depends on the pedagogical skills of the teachers.

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