



UNDERSTANDING CONSTRUCTIVISM IN THE SECOND LANGUAGE LEARNING CONTEXT

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Abstract

This paper studies Constructivism as a learning strategy in the context of second language acquisition. There is an attempt to trace the history of the varied strategies of second language learning while understanding the need to develop a different approach for learner facility. Constructivism, in this regard, provides space for the learner to develop his understanding and strategies in acquiring language ability and effectiveness in its usage. The active participation of the learner is its core strength while stressing learner autonomy. The researcher explores its varying facets and the transaction in classroom discourse through the classroom activities, describing in detail their rationale and procedural aspects.

Keywords: Collaboration, facilitator, active participation



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The “Chipko Movement” is a commonly found chapter in the language textbooks used in Indian classrooms. Given below is a summary of how two different methods were used by my student teachers or interns to cover the subject.

The Chipko Movement_ A movement related to conservation of trees

The teacher-intern read out some significant paragraphs aloud, followed by silent reading by the students. The teacher then explained and discussed a gist of the chapter, making sure students had understood the text by asking the students explicit questions. This was followed by discussing the exercises given at end of the chapter. They were then asked to write the answers to the comprehension and grammar exercises at home.

The other intern had divided the class into groups of five students. A week earlier, they were told to collect material pertaining to this environmental movement in Gharwhal, using any resources available – the internet, magazines, newspaper accounts, etc. Some students had gone ahead and actually met people who lived in that area during that period. Each group then discussed the material collected by its members, and then emphasized different facets of the movement as the collated material was diverse, and even similar material was perceived differently by each individual. Some groups saw it primarily as a harbinger of environmental

movements like ‘say no to plastics’ or ‘no to crackers’, some brought in a link it to the Narmada BachaoAndolan (A social movement involving farmers, environmentalists, tribal people who worked together, against the building of a dam across the river Narmada). Others saw it as part of a continuum – from Gandhi’s Satyagraha Movement during the British rule to Anna’s Lokpal movement of today. Still others saw it as involvement of women in social activism, and others wondered how social movements like these could be organized without social media like Facebook!

Each group had **constructed** their understanding of the issue. This diversity of thinking was the natural outcome of how their individual minds interacted with their social environment, helping form their individual thought processes. They shared their understanding in different formats like role play, biography of a woman satygrahi(A person who converts rather than coerces the opponent to change his line of thought and action) , and one group wrote it as a biography of a tree that was saved.

This approach gave students space to explore, think and reflect. This Introspection or reflection is key element which distinguishes learning from memorization. The sharing of their work with other groups helped the class garner a wider perspective of the subject, while the language skills of the whole class improved automatically in the process.

Harappan Civilisation

In another case, teacher-interns discovered that there was a chapter on the Harappan civilisation, both in the History and Language texts, and decided to use the opportunity. The history class could cover the Harappan civilization in a more factual manner, with more data, bulleted items and its context in relation to other River Valley civilizations, while the language class could cover it in a more creative manner, dealing with the daily lives of people, their culture, etc. For example, asking students to imagine themselves as traders from Mesopotamia visiting this city, and writing a report on the kind of life they came across. Use of material from the history text was encouraged. The teacher interns shared notes on the progress in their individual classes and found that the method helped crystallize the students’ understanding and retention of both subjects.

The two approaches to language learning described above reveal the diversity in schools of learning rather than diversity in language learning. In one case, learners are recipients in their role of language learners, they are not actively involved in the process, and the stress is on active interventions to make sure the words in the texts are understood. The other method

presents a picture of an 'active' classroom, where the students are involved in clarifying the concepts, thinking and reflecting on the text through the meaningful use of language in different formats.

Perspective:

Schools have existed in society to promote learning in a formal and structured environment. It was believed that students learnt from their teachers and it was the teacher's responsibility to ensure that. This traditional method of teaching is based on this objectivist view of knowledge. Within this framework, it is believed that the teacher has the knowledge and is THE source of right knowledge and all the right answers. Knowledge is believed to be objective, universal and complete, and it can be imparted by those who have it to those who don't. In other words, the teaching-learning process entails transmission of authoritative knowledge from teachers to passive learners. Is transmitting and receiving this given knowledge the real purpose of education? For how long is this knowledge relevant, or does it have a sell by date? Is the burden that the students carry in the form of transmitted knowledge beneficial to them? Is it relevant to their lives? Are we, as teachers, justified in loading the minds of students with "knowledge"? Developments in the field of psychology have, however, resulted in a paradigm shift - from 'teaching the student' to 'helping the student to learn'.

Current state

Knowledge and learning acquired in this structured manner can be limiting in its scope as well as its translation in practice. Knowledge which is memorized, recalled and transferred on paper at the time of examinations becomes a commodity. It ignores individual differences of the learner in terms of inquisitiveness as well as needs. Surveys conducted by various NGO's (ASER, Pratham) and NCERT in India over the past two decades reveal that the quality of education in schools is not satisfactory. Since the implementation of RTE Act in 2010, school visits in ASER have included indicators of compliance with the norms and standards specified in the Right to Education Act that are easy to measure. ASER(2016) reports that though, school enrolment has increased, overall reading levels in Std 7 show a slight decline since 2014. The decline in upper primary grades continues, till 2009 60% of children std 8 could read simple sentences in English; in 2016 this ability has declined from 46.7% to 45.2% . Even today most children find it difficult to comprehend a simple but previously unknown text. Answering of comprehension questions based on an understanding

of the text was very unsatisfactory - almost no child could correctly answer questions that did not have a ready answer in the given text. The deterioration is largely attributable to the pedagogical technique employed in the schools. Even at the secondary stage the status of learning is below par, with high failure rates at examinations.

These observations bring out the urgent need for proactive action to stem a possible whiplash caused by these deteriorating conditions. Once the futility of such learning is accepted, the need for change in the curriculum, the transaction of knowledge and the education of the teacher has to be studied with a fervent and incisive focus on bringing about radical change. Serious efforts have to be made at the primary level to improve the understanding and linguistic ability of students while at the middle school level, more efforts have to be directed towards the teaching of informational texts.

This analysis of the education system reveals the need for understanding the changing needs of the learner at various stages of learning. The National Curriculum Framework (NCF 2005) in India, has recommended that the curriculum should help learners become constructors of knowledge and emphasizes the active role of teachers in relation to the process of knowledge construction. 'Learners actively construct knowledge in the process of learning' is the crux of the constructivist theory and the basis of the NCF 2005. NCF-2005 further stresses that the school must provide opportunities and space to students to enquire, debate, reflect and arrive at conclusions and create a new theoretical paradigm.

The following sections cover the concept in its historical perspective, definitions and translation into practice.

What is Constructivism

Meaning construction is based on experiences of the learner. They acquire knowledge through inquiry, research, and their own investigation. As they construct their knowledge, they enhance their ability to think critically and analyze information. The goal of constructivism is not to memorize and regurgitate information (Sharma, 2006). Even though we hear and receive information, it does not mean that we have learned it. New learning is assimilated into the learner's mental schema by connecting the new learning to the knowledge that is already present. New information that does not fit into the learner's schema is hard to understand. Meaning must be made by connecting the new learning to old experience. This requires reflection, questioning, evaluating and exploring what is known, as well as personal investigation on the part of the learner. The goal of constructivism is not

memorization of information. In a truly constructivist classroom the learner will be more likely to retain and apply information. Students learn more by discovering their own answers as opposed to passively listening to a lecture.

Origins of Constructivism

Constructivism is not a new concept in education. Early thoughts about a learner centered methodology in teaching can be traced back to the writings of Greek philosophers such as Plato and Socrates. Plato had theorized that learners contain a belief system that has the ability to be challenged by their own investigation and research as to what is true about their previous knowledge and what is false. In a similar way, Socrates believed in the role of the teacher as questioner. The idea of the instructor as questioner can be found today as instructors pose essential questions to students in preparation for further investigation rather than to recite definitive answers (Adams and Burns 1999). Even the works of Immanuel Kant (1724 - 1804) indicate his alignment with the belief that knowledge is based on a person's own viewpoint. Kant supported the notion that humans have the ability to gather information through perception, organize it within their cognitive structures, reflect on and analyze what happens to them, and then apply meaning to those situations.

Historical Background

Prior to the 20th century, in the West, language learning basically meant learning of classical languages. The main objective was scholarship and gaining reading proficiency rather than developing oral and aural communication. There was very little theoretical research on the subject and foreign languages were taught like any other subject. Modern languages came to be taught in the same way – as another subject. The method employed for language teaching was the Classic Method or as it is now known as the Grammar-Translation method, a method still used worldwide.

Starting in the 1900s, the Structural /Behavioral Approach (Skinner) was born. It perceived language learning as a process of habit formation resulting from input and positive reinforcement of correct habits, negative reinforcement of mistakes. The learner learnt a language as a set of habits through imitation. Mistakes were viewed as manifestations of unwanted interference from the habits of the learner's first language. At the same time there was an increasing emphasis on learning languages as oral and aural communication tools, and the audio-lingual method became the primary teaching method. However, with further

research in psychology of learning, and specially language learning, language acquisition as habit formation process came into question, and we became more tolerant of errors.

The Rational/Cognitive Approach

Noam Chomsky (1959) tried to show that human language cannot be scrutinized simply in terms of observable stimuli and responses (Lightbown and Spada, 1999). Rather, he sees language acquisition as the gradual, creative build-up of knowledge systems, resulting in improved general competence not just 'performance of habits in isolated incidents'. Chomsky used rational logic, reason, extrapolation and inference to explain language acquisition, rather than empirical observation to describe it. For example, he pointed out that although two children in different families would have different inputs, they will both develop a sound grasp of English grammar by the age of 5 or 6. Moreover, they do this despite 'degenerate' input, that is, the messy nature of spoken language - hesitations, unfinished sentences, ungrammatical phrases, false starts, fillers, etc. Children develop knowledge of underlying rules through internal processes - innate creativity, not merely through habit formation. He pointed towards the existence of a Language Acquisition Device in the brain that takes care of this, and a Universal Grammar underlying all languages. This theory is ridden with controversy. Chomsky concentrated on first language acquisition, but his theory is relevant to second language acquisition too. The most important thing to remember is the idea of innate creativity in language learners' bases on internal cognitive processes.

Educationists continued to concentrate on teacher competencies, instruction, and teaching content as the focus of their research and practice despite the path-breaking works of Piaget, Montessori and Dewey. During the 1970s, the focus was on teaching strategies or teacher activities in the classroom. The teachers were the main actors in the classroom and scant attention was paid to how students thought, and how experiences and learning strategies contributed to learning. By the 1980s, it was recognized that the student is not a passive recipient of knowledge. Moreover, to understand the effects of classroom teaching upon a student's attainment, it was now considered essential to understand the pupil's thought process. During this period, though studies were conducted on pupils' thought processes, the major thrust was still on the influence of the teacher and the effectiveness of instruction upon the student's perceptions, achievement, attitudes, cognitive processes, motivation and meta-cognition.

The Constructivist Approach

The most widely known constructivist to deal with second language acquisition is Krashen (1982) whose Monitor theory is very influential among language teachers, largely due its intuitive nature and its immediate practical implications. It is made up of 5 hypotheses (Lightbown and Spada, 1990): the acquisition-learning hypothesis, the input hypothesis, the monitor hypothesis, the affective filter, and the natural order hypothesis

1. The Input Hypothesis asserts that language is acquired only through comprehensible input - understanding others. If the input is just a little beyond the level of the learner, both comprehension and acquisition will occur i.e. incremental learning, or gradual steps.
2. The Acquisition Learning hypothesis, which states that 'acquisition' and 'learning' are distinctly different processes. Language is 'acquired' through meaningful interaction in the target language with no attention to form, whereas it is learned through a conscious study process with great attention to form. Krashen perceives acquisition as by far the more important of the two and also asserts that learning cannot turn into acquisition. They are completely separate.
3. The Monitor Hypotheses asserts that while the acquired system controls the learner's fluency in the target language, the learned system acts as an editor or monitor to change and polish the learner's accuracy. This requires time, focus, rule learning, and is more conducive to written than spoken language. It can only be used to polish what has been learned through communication, which should remain the main priority,
4. The Affective Filter Hypothesis points to an imaginary barrier in the learner that prevents acquisition from taking place due affective factors such as self doubt, motives, needs, attitudes and emotional states. Tense, anxious or bored learners will screen out input, making acquisition impossible. Alert, motivated learners are far more likely to use input for acquisition as their affective filter is lowered.
5. The Natural order Hypothesis states that we acquire the rules of a language in a natural order that is not necessarily the order in which rules are taught at school. Research on the acquisition of grammatical morphemes has shown that learners pass through similar learning stages.

Krashen's theory appeals to a large number of linguists, language learners and teachers, but is also controversial not merely because of his lack of empirical evidence but also because of his complete separation of acquisition and learning.

During the 1990s the constructivist movement gained momentum and a number of studies stressed the active role of the learner and the role of the teacher as facilitator or catalyst, a number of studies on how children construct knowledge and how teachers can provide interventions to help children construct their concepts were conducted during this period.

They emphasized the active role of the learner in the teaching –learning process.

There are two streams of constructivism - cognitive and social. Though these are two different streams of constructivism, they are founded on a similar understanding that knowledge is:

- constructed through reflection;
- can be processed through the learner's cognitive structures and processes;
- constructed through active and participative learning;
- not fixed or inert, but is continually developing.

Cognitive constructivism

Cognitive constructivism owes its genesis largely to Piaget. Piaget stressed the belief (derived from his technique of clinical observation) that knowledge is constructed (1936, 1977). It does not originate in innate programming, or in the environment. He believed this constructive process to be universal, i.e. fundamentally the same in all human cultures. He argued that from birth, human beings actively select and interpret information taken from the environment. The knowledge store in humans is not built through passive accumulation. Piaget believed that babies are born with the ability to adapt to and learn from the environment. They don't have to be taught to crawl or walk, and later, they don't have to be taught about the permanence of objects, or other physical laws. Unlike Behaviourists like Skinner, who believed that children learn through imitation and repetition, or Nativists like Chomsky, who believed in innate capacities, Piaget believed that cognitive development is the result of the interaction between the individual and the environment. Children construct higher levels of knowledge from elements contributed both by innate capacities and by environmental information. The child plays an active role in developmental change by deriving information from the environment and using it to modify existing mental structures, which he called schema. These mental structures are foundations of knowledge on which

more sophisticated mental structures are built. Unlike Chomsky's innate LAD, these mental structures change continually as a result of the child's interaction with his environment, and intellectual development is the resultant qualitative change.

According to Piaget there are two aspects to knowledge, the figurative and the operative (Piaget, (1936,1977)). Figurative, in this case implies how it appears to our senses, while operative means bringing about qualitative change through mental activity. As the discussion above has shown, Piaget believed the latter to be more important in the context of learning and language. His theory evokes the image of an active child, using information to constantly adjust his understanding. Like Kant, Piaget sees the child as being born with processes that help him to make sense of and understand the world around him. These processes or schema allow the child to organize initial experiences.

The traditional classroom described at the beginning of the chapter is an example of the figurative aspect of learning. In such classrooms, the learner is listening and looking but is not actively involved in the learning process. In a constructive classroom, it is essential that the learner uses the textual information on the Chipko movement as a basis to learn about the relevance of mass movements or sensitivity and responsibility to one's environment. There should be space for learners to present their views, reflect and discuss. During this process, he will take the help of various aspects of language to choose ideas, discuss, analyse, evaluate and express his views. In language learning, it is more important to think independently and creatively. We can bring about change in the way a child speaks and writes if we can create a learning environment that fosters independent and reflective thinking. To aid this kind of learning, it is essential that we create space for use of language in meaningful contexts. This type of activity leads to effective language learning and helps foster the operative aspect of knowledge.

Social constructivism

The theories that we discussed till now have been based on the surmise that development arises from two sources - biology and the environment. The difference lies in the weightage they assign to the two sources and how they interact to produce development. Piaget emphasises the interaction between the two, but focuses on the construction of internal mental schema. Social Constructivists argue that the same biological or environmental factors have different effects on different individuals. The major proponent of this approach is Lev Vygotsky. His theory is influenced by Marx and Engels. Marx (as cited in Rikowski,

2004) believed that human nature cannot be described in the abstract, independent of its social and historical environment. The image of human nature differs from society to society, e.g. when we think of human nature as productive, its interpretation is different when we talk of stoneage or when we refer to industrial age workers.

Vygotsky(1980) emphasised the role of social environment, stressing its role in human cognitive development. Vygotsky proposed that just as humans developed physical tools to deal with their physical environment, they also developed psychological tools to aid their thinking and behaviour – tools such as speech, writing, numbers, etc.

Vygotsky, like Piaget saw children as active organisers of their own knowledge. He argued that Piaget had overlooked the major impact of cultural sign systems on development by focusing on the child as a solitary thinker. Moreover he looked at development as a result of maturation or the child's spontaneous discoveries. Vygotsky accepted this as important for cognitive development, till a certain age group. However, after this, the growth of mental structures is heavily influenced by culture sign systems. For Vygotsky, human thinking is impossible without speech etc. In turn concepts, language, voluntary attention and memory are mental functions that result from interaction between the child and another individual (social) as well as within himself (psychological). For Vygotsky, the process of development involves internalising social interactions. This process characterises the development of all higher order mental thinking.

Vygotsky further stresses that although children might develop some concepts on their own through everyday experience, they could not develop purely abstract modes of thought without instruction in abstract sign systems. The child has a zone of proximal development which is achievable only with the help and support of an adult. This emphasis on the role of adult as 'teacher' in Vygotsky's theory stimulated research on teaching on development. Children learn a lot by simply watching their parents, or participating in adult activities from an early age. Psychologists in this area stress the importance of guided participation in activities, shared problem solving, and the interdependence of the child and adults.

It is important to compare the Piaget and Vygotsky's images of children. The Piagetian child interacts with the environment, makes its discoveries and is independent. The social world is important but not as much as the independent development of the child's schemas. On the other hand, Vygotsky argued that Children's minds are not simply the products of their own discoveries. Children rely a great deal on their cultural heritage in the form of knowledge.

This helps them develop ideas that they could not on their own. In his view teachers provide the necessary scaffolding to help develop the students ability to think on their own, that is fit for their zone of proximal development. Scaffolding in educational terms means that the teacher or any other facilitator not only supports learning but also encourages the development of students as independent learners capable of thinking for themselves. Teacher's can provide this scaffolding in a myriad of way's, for example by asking questions, prompting and probing or demonstrations. Small groups of students can also provide scaffolding to each other.

Following the thoughts of Piaget, **Bruner** postulated that students come into the educational system with their own beliefs and ideas. At the same time, he acknowledged that children need assistance with their learning to build on what they already know. Bruner reasoned that children should understand the skills and knowledge that go into understanding a concept rather than focusing on categorizing a concept by name. The "how and why" are more important than the "who and what". Bruner took the stance that children need to be involved with their learning.

Based on the foregoing discussion, we can see that there is a major shift from instructivism to constructivism. The primary outcomes of this shift are:

- Situated learning;
- Metacognition;
- Higher order thinking;
- The social base of learning;
- Move away from didactic approaches to teaching;
- Emphasis on the process of learning;
- Breaking of subject boundaries and development of real world learning and authentic assessment;
- Student based learning;
- Intrinsic motivation;

The Constructivist Classroom

The hallmark of a constructivist classroom is the use of active techniques of learning. This may sound ambiguous but if we delve deeper, the subtext becomes clearer. Students learn through experiments, solving real life problems, reflection and discussion. While a traditional classroom is characterized by the teacher transmitting knowledge that the students

need, here the teacher guides the students in their learning. The students are encouraged to ask questions, discuss and then reflect. They not only learn new things but also how to learn.

Hands-on learning is the basis of a constructivist classroom.

Constructivist Classroom - Guiding Principles:

New learning builds on prior knowledge:

Both schools of constructivism believe that new learning is built on prior knowledge.

Constructivists believe that learning occurs because each of us uniquely creates or builds on our own knowledge, what we already know. This takes on a significant new dimension in the case of second language learning classroom since in this context the teacher not only has to respect the students' cultural background but also use it as a learning resource and facilitate learning. This also implies that in this context there can be no predetermined curriculum - the student's background that will shape the curriculum.

Learning and Action Orientedness:

One of the most important principles in constructivist approach to language teaching is action orientedness. Cooperative learning (such as pair work, group work or any other social forms of learning), creative and active participation in classroom activities, learning by preparing various projects as well as learning by teaching (when learner is asked to take upon the teachers role) have been treated as the major tasks referring to the action oriented method.

Learning and Individualisation:

The second principle is individualisation of learning which is centered on the learner. Dieter Wolff, a German researcher claims, that learning can only be influenced by teaching in a very restricted way. It is the learner who is allowed to decide about the fragments and sections of materials provided by the teacher during the lesson. This possibility to make choices fosters learner's autonomy, thus taking into account their preferable style and type of learning. However, the crucial thing is that learner should be instructed on how to become aware and take responsibility of his/her learning. What is important is that learning awareness should be complemented with language awareness as well as intercultural awareness.

Learning is mediated through social interaction:

Both culture and language play a part in how students learn. De Kock, Slegers, and Voeten (2004), suggest that though language is individually constructed, it is mediated through social interaction and cultural contexts. Social interaction provides necessary scaffolds for students as they process content. But it is essential that groups and social activities are purposefully

planned, keeping in mind the fact that collaboration and competition cannot be combined. Students should feel safe in groups rather than threatened. The goal is to learn from each other rather than defeat the others. As students are encouraged to discuss and share their experiences they are also encouraged to relate to their culture. The most important goal of education is problem solving, reasoning, critical thinking skills, the active and reflective use of language and self regulation skills.

Learning and problem solving:

This principle relates to disequilibrium and Zone of Proximal Development (ZPD). *Students must struggle appropriately with content; if it is too easy, motivation will suffer; if too difficult, they will lack the context in which new cognitive structures can be formed.*

Moreover, acquiring the second language is more effective in authentic and complex learning environment or situation, consequently project instruction is a viable medium. Content oriented language teaching is extremely beneficial for second language learning. It is also important that teachers and students talk openly about choice of new information as well as the way of introducing it during classroom transaction. The negotiation of the curriculum should also incorporate the students contribution to the educational program. It benefits the students sense of their investment both in the process ,content and outcome of learning.

Language Practices:

English language learners who are already literate at the appropriate developmental level in L1, the native language serves as a springboard to literacy in L2. These students already understand letter-sound relationships. They understand that meaning comes from the printed page and must be negotiated with the knowledge of the reader. They have already developed meanings and strategies that transfer over to literacy in L2. For younger and more immature literacy learners, use of an emergent literacy perspective can be effective in promoting L2 literacy since its emphasis is on immersing students in meaningful, functional uses of reading and writing.

Reading aloud to students accomplishes a variety of purposes, since it provides the learners an opportunity to hear fluent reading with proper intonation and inflection in L2. In addition teachers can try some of the following:

- Select books to read aloud that reflect the cultures represented in their classrooms, to help students to build upon their backgrounds;
- Ask students what they already know about topics being covered in the books;

- Develop vocabulary and understanding within the context of stories as the teachers facilitate discussion and questions;
- Use scaffolding in combination with instructional strategies such as cooperative group work, thematic instruction, problem solving activities or project- oriented learning
- Individual and small group reading and writing
- Dialogue journals
- Writing portfolios
- Writing Conference papers
- Student made books rather than published texts
- Story writing
- Integration of reading, writing, and other skills

Constructivist Activities

A constructivist classroom is based on actively engaging students in situations that involve their own explanations to phenomena, resolutions to problems, or formulation of questions. Teachers organize the situation and then provide encouragement and questions to groups of students trying to construct and propose their own explanations. For example, teachers can ask students to explain the motives of a character, or to construct sentences and compare structures. Students can also be asked to engage in conversational immersion without resorting to English translations. Constructivist approach can be adapted to any area by involving students as active participants in making meaning instead of being passive recipients of information given to them by the teacher

Learning activities at the primary level can be organized around themes appropriate for the learner's age group. Assessment can be an ongoing process. At the secondary level curriculum, content can be converted into a problem or challenge to be tackled by the student. It is beneficial for the students to work in groups and each group makes necessary efforts to solve the problem. This method equips them with relevant skills and brings out their innate potential. The students develop their self learning ability. Examples presented show that self learning, peer help, group activities under a group leader and facilitated by the teacher hold the key to an effective integration of such endeavors within a classroom. The teacher is given training for organizing such learning activities in a classroom according to the learning level, background and the needs of the learner.

Some ideas that have been adopted by teacher-interns at the primary and secondary level are presented in the following paragraphs. The writings below are based on the intern's journals and the author's interactions with them.

Classroom Interaction:

Example 1:

In an MCD primary school, a topic called 'seeds' was taught. The theme was taught with the following rationale, objectives and procedure in mind:

Rationale

The learners will get to know about a variety of seeds and also obtain an understanding of various concepts that are part of their academic and non academic curriculum, for example, the concept of growth, difference between living and non-living things, counting, measurement, etc. By germinating seeds and looking after their own plants they will develop sensitivity towards plants, understand their importance in our lives, etc.

Objectives

- To help the learner talk and share their views regarding their surroundings
- To talk about the plants they see in their surroundings
- To create awareness regarding seeds
- To learn how to plant seeds, and appropriate conditions for their survival and growth:
- To understand the importance of seeds and plants in their lives

Procedure

The teacher will begin the lesson by reciting a poem 'My New Baby Seed'. This will be followed by inviting students to talk about all the fruits they know that have seeds. This will be accompanied by display of a variety of seeds by the teacher. The students will be given the seeds after they have been divided into groups. After sharing their knowledge regarding the seeds given to them, the students will plant some seeds in dishes on moist cotton wool. Now it will be the responsibility of each group to tend to the basic needs of the seeds given to them. It will be their duty to provide optimum conditions for growth - water, sunlight and whatever else they think is essential for growth. Each group will keep a log of their daily duties and their observations. The teacher will also read another poem to the class regarding a small plant and its growth. The students will then compare the details related in the poem with the observations in their daily log. The students will write a report, story or poem in their own words about what they have observed and the conclusions they have drawn. This

will help them consolidate their understanding of the concept of growth and development.

The teacher can then initiate a discussion on how a seed's growth is similar to or different from the growth of a child. Taking care of the seed while it grows develops sensitivity in the children. As the students work in groups they learn through peer interaction. As they tend to the needs of the seed required for its optimum growth, the children learn to see life from a different perspective altogether. During the procedure, the teacher's role is that of a facilitator, moving from group to group, scaffolding their learning and activating the appropriate schema so that effective learning takes place.

Example 2

At the secondary school level, students can gain from using a basic understanding of the English language to topics concerned with society. For example, pupils can use their knowledge and experience of social problems such as old age, poverty, urbanization or migration to stimulate creative work which can take on a new meaning and interest as a result. Topics such as island, water, conservation, pollution and problems of the individual and society may be the especially useful. Text books in themselves, and when studied in isolation, can be very limiting; but when approached collaboratively, they can lead to debates and discussions which widen the thinking of the learner.

A topic like islands can be integrated with literature and social studies for students studying in class eight, for example. Students can be motivated to read Daniel Defoe's 'Robinson Crusoe', R.L. Stevenson's, 'Treasure Island' and William Golding's 'Lord of the Flies'. The reading of the books can be done any time except in the classroom. They can then write a report or story of a shipwreck or plane crash and the subsequent marooning. The story should cover a long time period. To facilitate their writing, students can be encouraged to use various sources and research:

- Tropical, volcanic and coral islands
- Climate, vegetation, wildlife
- Isolated societies on the islands like Malta, Cyprus, Andaman and Nicobar
- Formation of islands
- Maps of a real or imaginary island
- Making a model of an island using readily available materials and simple techniques - papier-mâché, sand tray, cardboard.

Discussions can be organized on any aspect of the work involving the whole class, or in small groups.

Problem solving activities can be assigned in pairs or small groups for math, social studies as well as science activities. Project- oriented learning activities work well in all content areas. The social studies curriculum offers infinite possibilities for bridging the gap between content and language. Oral histories, for example, allow students to make connections between their lives and the broader discipline of history. Not only can it strengthen both oral and written language development, but engaging students in oral history projects with members of their own families and communities holds other pedagogical benefits: building on prior knowledge, broadening the knowledge base by engaging with families and communities and structuring project- oriented experiences within cooperative groups.

Example 3

Jabberwocky - From “Alice in Wonderland”, by Lewis Carroll

This is a nonsense poem that can be used with many levels of students, and in a variety of ways.

Objectives:

To decode unfamiliar words, using contextual clues:

Procedure:

The poem will be read dramatically by the teacher

The class will be asked to suggest what the whole poem is about and why do they think so.

The first verse will be read again and the students will be asked to note down their meanings of the given nonsense words.

Discuss the words not suggested by them.

With the whole picture of the setting in mind the students discuss their interpretations with their partner's.

They will then write the revised interpretation of the poem. Though there are infinite ways of interpreting a poem, their translations should make sense.

To understand that a poem can be interpreted in different of ways:

1. Students write out their interpretations of the poem
2. All the students read out their interpretations and discuss.

3. They enact their interpretations in groups and analyse the differences that occur in the various role plays. This will help them understand that literature can be understood in a variety of ways.
4. After the performance by the groups, the class can discuss the different performances. They can select the performances that were the most successful and what made these interpretations come alive.

To write a story inspired by Jabberwocky:

1. Elicit from the students that the poem follows the pattern of many stories, beginning with a setting, introducing the characters of the hero, and heroine before the arrival of the villain, the monster and resolving the eternal conflict between good and evil.
2. Using two alternative storyboards - one for beginners, while the other is for advanced students, the students can be asked to plan their stories.
3. Student peers edit each other's stories.

To second draft a story for younger reading partners:

After the draft stories have been edited, the students will be asked to write the story neatly so that it can be read by students of another class.

The second draft is written neatly and carefully. If there is spare time they can prepare illustrations to accompany the story as well as an attractive back and main covers with blurbs at the back.

Example 4

Anne Frank- "The Diary of a young Girl" (1942)

Secondary level students can use their knowledge and experience of problems of society such as old age, poverty, urbanization, migration or social and political revolutions to stimulate creative work which can take on a new meaning and interest as a result. Textbooks, when studied in isolation, can be very limiting, but when approached from a different angle, can lead to debates and discussions which widen the thinking of the learner.

Any entry from Anne Frank – A Diary of a Young Girl, makes a very interesting example of adopting an integrated approach in teaching a literary work in the context of the social political upheaval of the times in which it is set. The diary is to be read by the students anytime other than in the classroom. It can be read at two levels, that of:

1. A teenager who is forced to leave her familiar surroundings and seek refuge in a hidden annexes, to escape the atrocities meted out to Jews. The ensuing travails are first person accounts written as journal entries.
2. The entries in the diary, while describing the life and emotions of a teenage girl, also critique the socio- political upheaval caused by World War and the political lasions between the countries at war.

The two levels of reading and analyzing the Diary provides ample scope for discussing the development of character, especially that of Anne and the factors contribute in making Anne the person that she is. There is opportunity to discuss interactions between the various characters, how the extenuating circumstances intervene in the development of relationships. The students will be encouraged to read the newspaper reports of that era on the internet as well as historical accounts of the holocaust. They can also e encouraged to read fictional and factual accounts of similar events eg. The Indian and Pakistan partition as described in BapsiSdhwa's Ice candy Man, or Khushwant Singh's, "A Train To Pakistan". Book club readings and presentations can be organized to activate the students schema. The students can thus be encouraged to form opinions, and articulate them in varied formats. Discussions can be organized on any aspect of the work involving the whole class or smaller groups.

Conclusion

While we can see that constructivism is not new, it has had very limited success in formal education, specially in countries like India. The rationale and effectiveness of constructivism are not the subject of debates. The challenges lie in its practical implementation, and making implementations scalable. How do you make it work in our world of prescribed curricula, our love of grading and slotting students and churning out manufactured workers for the manufactories? There are multiple examples of experimental schools adopting these methods especially in the primary classes, but the transition from experiment to mainstream remains a challenge.

That said, the new wave of educationists in the country have taken up the challenge. The formulation of NCF-2005 is a great leap forward and the country can look forward to a more effective approach to the teacher-learner interaction.

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