

CONSTRUCTIVISM AS PARADIGM FOR TEACHING AND LEARNING

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Abstract

Constructivism represents one of the big ideas in education. Implications for how teachers teach or enormous, If our efforts in reforming education for all students all to success then we must focus on students. To date, a focus on student's centered learning may well be the most important contribution of constructivism. Constructivist teachers encourage students to constantly assess how the activity is helping them to gain understanding by questioning themselves and their strategies. Students in the constructivist classroom ideally become "expert learners". This gives them ever broadening tools to keep learning. With a well – planned classroom environment, the students learns "HOW TO LEARN". If our efforts in reforming education for all students are to succeed, then we must focus on students. This paper will focus on constructivism as paradigm for teaching and learning

Key Words: *Constructivism, Paradigm, Teaching and Learning.*

INTRODUCTION

Constructivist teaching is based on constructivist learning theory. Constructivist teaching is based on the belief that learning occurs as learners are actively involved in a process of teaching and learning. One of the primary goals of using constructivist teaching is that students learn how to learn by giving them the training to take initiative for their own learning experiences. However our present education system emphasizes on preparing students for tests and don't foster deep learning and is in the midst of a crisis of quality- starting from primary schools to universities, dominant view is that our students are not learning as much as they ideally should and what is more worrisome is that rote learning and memorization seems to be the dominant mode at all levels. Traditional teaching approach (lecture method) commonly adopted by teachers in Indian schools involves coverage of the

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context and rote memorization on the part of the students and does not involve students in creative thinking and participation in the creative part of activities. Most of the time, during teaching learning process, instruction remains unilateral which is considered to be an orthodox activity. The upcoming trends in education changed the present scenario and adopted the constructivist approach which is moral and more focused on innovative activities and knowledge acquisition and therefore, the academic results of the students of constructivist classrooms are better than traditional classrooms.

Constructivism and the Teacher

A constructivist teacher says the following roles.

- (1) Functioning in the form of a facilitator who plans and organises the learning.
- (2) Functioning in the home of a who gives consultation to the student shows is the right direction for solving the problem
- (3) Provider of the cognitive sport to the student by giving suggestions and recommendations.
- (4) Encourage for the creativity and independent thinking among the students.
- (5) Evaluator of the requirements, powers, emotions and probabilities of the students.

Basic characteristics of Constructivist Learning Environments

Tam (2000) lists the following four basic characteristics of constructivist learning environments, which must be considered when implementing constructivist instructional strategies:

- 1) Knowledge will be shared between teachers and students.
- 2) Teachers and students will share authority.

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- 3) The teacher's role is one of a facilitator or guide.
- 4) Learning groups will consist of small numbers of heterogeneous students.
- 5) The Independence and initiation of the student is accepted and encouraged in the constructivism
- (6) Constructivism sports the collaborative learning.
- (7) The learning included the process of psychological construction
- (8) The beliefs and the attitudes of the student are taken into deliberateness
- (9) The learning takes place through the active use of hands
- (10) The student is provided the opportunities of creating innovative knowledge

Pedagogical Goals of Constructivist Learning Environments

Honebein (1996) summarizes what he describes as the seven pedagogical goals of constructivist learning environments as:

- 1) To provide experience with the knowledge construction process (students determine how they will learn).
- 2) To provide experience in and appreciation for multiple perspectives (evaluation of alternative solutions).
- 3) To embed learning in realistic contexts (authentic tasks).
- 4) To encourage ownership and a voice in the learning process (student centered learning).

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- 5) To embed learning in social experience (collaboration).
- 6) To encourage the use of multiple modes of representation, (video, audio text, etc.)
- 7) To encourage awareness of the knowledge construction process (reflection, metacognition).

Benefits of Constructivism

1. Children learn more, and enjoy learning more when they are actively involved, rather than passive listeners.
2. Education works best with concentration on thinking and understanding. Constructivism concentrates on learning how to think and understand.
3. Constructivist learning is transferable. In constructivist classrooms, students create organizing principles that they can take with them to other learning settings.
4. Constructivism gives students possession of what they learn as learning is based on students' questions and explorations, and often the students have a hand in designing the assessments as well. Constructivist assessment engages the students' initiatives and personal investments in their journals, research reports, physical models, and artistic representations. Engaging the creative instincts develops students' abilities to convey knowledge through a variety of ways. The students are also more likely to retain and transfer the new knowledge to real life.
5. By grounding learning activities in an authentic, real-world context, constructivism stimulates and engages students. Students in constructivist classrooms learn to question things and to apply their natural curiosity to the world.
6. Constructivism help in social and communication skills by creating a classroom environment that emphasizes collaboration and free exchange of ideas. Students must learn how to articulate their ideas clearly as well as to collaborate on tasks effectively

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by sharing in group projects. Students must therefore exchange ideas and so must learn to "negotiate" with others and to evaluate their contributions in a socially acceptable manner. This is essential to success in the real world, since they will always be exposed to a variety of experiences in which they will have to cooperate and navigate among the ideas of others.

Traditional and Constructivist Instructional Methodologies

The traditional classroom often looks like a one-person show with a largely detached student. Traditional classes are usually dominated by direct and unilateral instruction. Traditional approach followers assume that there is a fixed body of knowledge that the student must come to know. Students are expected to blindly accept the information they are given without questioning the instructor. The teacher seeks to transfer thoughts and meanings to the passive student leaving little room for student-initiated questions, independent thought or interaction between students. Even the in activities based subjects, although activities are done in a group but do not promote discussion or exploration of the concepts involved. This tends to overlook the critical thinking and unifying concepts essential to true science literacy and appreciation. This teacher-centered method of teaching also assumes that all students have the same level of background knowledge in the subject matter and are able to absorb the material at the same pace. In contrast, constructivist or student-centered learning poses a question to the students, who then work together in small groups to discover one or more solutions. Students play an lively role in carrying out experiments and reaching their own conclusions. Teachers assist the students in developing new insights and connecting them with previous knowledge, but leave the discovery and discussion to the student groups. Questions are posed and student teams work together to discuss and reach agreement on their answers, which are then shared with the entire class. Students are able to develop their own understanding of the subject matter based on previous knowledge, and can correct any misconceptions they have. Both teaching styles can direct to successful learning but it has been shown that students in the constructivist environmental demonstrated more enthusiasm and interest in the subject matter. In fact, repeated research has found that teacher-centered lessons can be less or non-productive, and in some cases, detrimental to the students' learning process .Many teachers

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are hesitant to try the constructivist model, because it requires additional planning and a relaxation of the traditional rules of the classroom.

Constructivist Teaching Strategies

One of the primary goals of using constructivist teaching is that students learn how to learn by giving them the training to take initiative for their own learning experiences.

- 1) the learners are actively involved
- 2) the environment is democratic
- 3) the activities are interactive and student-centered
- 4) the teacher facilitates a process of learning in which students are encouraged to be responsible and autonomous
- 5) Experimentation: students individually perform an experiment and then come together as a class to discuss the results.
- 6) Research projects: students research a topic and can present their findings to the class.
- 7) Field trips. This allows students to put the concepts and ideas discussed in class in a real-world context. Field trips would often be followed by class discussions.
- 8) Films. These provide visual context and thus bring another sense into the learning experience.
- 9) Class discussions. This technique is used in all of the methods described above. It is one of the most important distinctions of constructivist teaching methods.

Constructivist approaches can also be used in online learning. For example, tools such as discussion forums, wikis and blogs can enable learners to actively construct knowledge.

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Role of teachers

In the constructivist classroom, the teacher's role is to prompt and facilitate discussion. Thus, the teacher's main focus should be on guiding students by asking questions that will lead them to develop their own conclusions on the situation

- 1) Grouping of students
- 2) Grouping of material
- 3) Relating present and future knowledge
- 4) Deciding about questions
- 5) Recording of thinking
- 6) Reflection

Paradigm shifts in education over recent decades

The paradigm shifts that we experienced in the 20th century are well known. Some of the prominent paradigm shifts that have taken place in education are discussed briefly.

• Reproductive learning vs. productive learning

Learners' achievements were measured against their ability to reproduce subject content – in other words, how well they could memorise and reproduce the content that the teacher 'transferred' to them. With the emphasis on productive learning, it is rather about the application of knowledge and skills, in other words, what the learners can do after completing the learning process. Achievement is measured against the productive contribution a learner can make, instead of what the learner can reproduce.

• Behaviourism vs. constructivism

According to a behaviouristic view of learning, a learning result is indicated by a change in the behaviour of a learner. According to a constructivist view, learning is seen as the construction of meanings by the learner. Neither of these views can be regarded as exclusively right or wrong. It is, however, important to know that constructivism is presently accepted as the most relevant view of learning and those education policies, education models and education practices focus on constructivism.

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• Teacher-centred vs. learner-centred

In the past, education activities focussed on the strong points, preferences and teaching style of the teacher. That which would work best for the teacher, determined the design of the learning environment and the nature of activities. Teacher-centeredness is also characterised by a view that the teacher is the primary source of knowledge for learners. In a learner-centred environment, the focus is on the strong points, preferences and learning style(s) of the learner(s). The learning environment is designed according to the needs and possibilities of the particular learner group.

• Teaching-centred vs. learning-centred

[At this stage, it is important to indicate that the term education be seen as the macro term which includes the concepts teaching and learning (education = teaching + learning).] Education activities in the past were planned and executed from a teaching perspective. A teacher would plan a teaching session (lecture) based on what the best teaching methods would be to transfer the concerned subject content to the learners. The focus was on how to teach. In the new paradigm, education activities are planned and executed from a learning perspective. The emphasis is now on the learning activity and learning process of the learner. So the focus is on how the learning, which should take place, can be optimised. “In general, there must be a conversion from a teaching to a learning culture.”

• Teaching vs. learning facilitation

Teaching or instruction, as an activity of the teacher, is seen as an activity that relates to the ‘transfer of content’ (an objectivist view) within a teaching-centred education paradigm. The presentation/delivery of a lecture or paper falls into this category. The principle of learning facilitation follows a learning-centred education paradigm. Learning facilitation has to do with the teacher’s activities, which focus on optimising the learner’s learning process. Just as the word indicates, the emphasis is on the facilitation of learning. Teachers cannot be regarded as the only source of knowledge and cannot focus on the traditional ‘transfer of content’ any longer. They need to focus on the facilitation of learning. “Instructional staffs no longer are the fountain head of information since the technology can provide students with

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access to an infinite amount of an array of data and information. The role of the instructor, therefore, changes to one of learning facilitator. The instructor assists students to access information, to synthesize and interpret it and to place it in a context – in short to transform information into knowledge.”

• Content-based vs. outcomes-based

A content-driven approach to education is characterised by curriculum and education activities that focus on subject content. The emphasis is on the content that learners should master and a learner receives a qualification based on the nature, amount and level (difficulty) of subject content he/she has mastered. An outcomes-based approach to education focuses on the learning outcomes to be reached by the learners. A typical process for curricula in an outcomes-based model is characterised by the formulation and selection of learning outcomes that a learner should reach - that which the learner must be able to do on completion of the learning process. The selection of subject content is based on the relevance thereof to enable the learner to reach the learning outcomes.

• Content-based evaluation vs outcomes-based assessment

Content-based evaluation follows a reproductive view of learning where a learner's achievement is measured by the quantity and quality of content that are reproduced. On the contrary, outcomes-based assessment refers to a productive view of learning where a learner's achievement is measured by the mastery learning outcomes.

Constructivism requires a teacher to act as a facilitator whose main function is to help students become active participants in their learning and make meaningful connections between prior knowledge, new knowledge, and the processes involved in learning. Brooks and Brooks (1993) summarize a large segment of the literature on descriptions of „constructivist teachers

“. They conceive of a constructivist teacher as someone who will:

1. encourage and accept student autonomy and initiative;

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2. use a wide variety of materials, including raw data, primary sources, and interactive materials and encourage students to use them;
3. inquire about students' understandings of concepts before sharing his/her own understanding of those concepts;
4. encourage students to engage in dialogue with the teacher and with one another;
5. encourage student inquiry by asking thoughtful, open-ended questions and encourage students to ask questions to each other and seek elaboration of students' initial responses;
6. engage students in experiences that show contradictions to initial understandings and then encourage discussion;
7. provide time for students to construct relationships and create metaphors;
8. Assess students' understanding through application and performance of open-structured tasks.

Hence, from a constructivist perspective, the primary responsibility of the teacher is to create and maintain a collaborative problem-solving environment, where students are allowed to construct their own knowledge, and the teacher acts as a facilitator and guide.

Conclusion

The focus of education needs to be shifted from placing content in students' knowledge building. If the focus of studying could be turned from filling one's mind to producing knowledge products, students wouldn't need to concentrate on memorization and cramming for examinations. These knowledge products could be in form of essays, term papers, project reports, research papers, videos, posters, slides, portfolios, or whatever products that students

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might create. In classroom instruction there is a need of integration of formal, theoretical, practical and self-regulative knowledge. However, in a traditional type of curriculum these different types of knowledge have been treated separately. The aspect of assessment cannot be left untouched while talking of constructivism as constructivist learning requires an entirely different approach to assessment, an approach that is qualitative in nature. Authentic assessment based on real-life tasks and performance assessment requiring students to complete certain learning assignments represent this type of assessment. The emphasis is on students' learning process and on their meaning making as much as (or even more than) on the final product.

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