

Constructivism as a paradigm for teaching and learning

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Abstract

“Learning is unfolding which has been originally enfolded.”

At a same time what Vivekanand says regarding education is

“Education is the manifestation of the divine perfection already existing in man.”

All the famous saying trends to say that in education through teaching and learning knowledge can only be enlightened within the particular soul. It is not surprising the constructivist has a strong voice in the current dialogue in education A critical aspect of the approach is a decomposition of each concept into developmental steps following a Piagetian theory of knowledge based on observation of, and interviews with, students as they attempt to learn a concept. Constructivism focuses our attention on how people learn. It suggests that knowledge results from people forming models in response to the questions and challenges that come from actively engaging in problems and environments - not from simply taking in information, nor as merely the blossoming of an innate gift. The challenge in teaching is to create experiences that engage the student and support his or her own experiences. Given this explanation, evaluation, communication, and application of the education models needed to make sense of these experiences. I'd like to explore here the theory of constructivism as a new paradigm in education. Constructivism argues that knowledge resides in an individual's internal state, perhaps unknowable to anyone else

KEYWORD: Constructivism, learning, teaching, lesson planning

Introduction

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At a same time what Vivekananda says regarding education is

“Education is the manifestation of the divine perfection already existing in man.”

All the famous saying trends to say that in education through teaching and learning knowledge can only be enlightened within the particular soul. Knowledge cannot be instructed-transmitted by a teacher; it can only be constructed by learner. Constructivism is applied to both i.e. how people learn and the nature of knowledge. It is not surprising the constructivist has a strong voice in the current dialogue in education. But the question arise over here is what is new and relevant and how do we apply it to or work?

A critical aspect of the approach is a decomposition of each concept into developmental steps following a Piagetian theory of knowledge based on observation of, and interviews with, students as they attempt to learn a concept. The root of this theory is in cognitive approach of assimilation and accommodation. Actually it was enunciated by John Dewey and its research in cognitive psychology was accepted and supported in the form of constructivism. Constructivism focuses our attention on how

people learn. It suggests that knowledge results from people forming models in response to the questions and challenges that come from actively engaging in problems and environments - not from simply taking in information, nor as merely the blossoming of an innate gift.

The challenge in teaching is to create experiences that engage the student and support his or her own experiences. Given this explanation, evaluation, communication, and application of the education models needed to make sense of these experiences. I'd like to explore here the theory of constructivism as a new paradigm in education. This one is done by developing a constructive lesson plan. By keeping in mind, that Constructivism argues that knowledge resides in an individual's internal state, perhaps unknowable to anyone else

Constructivist Lesson Plan-A functional way

A teacher may structure a lesson plan in the following format. This one is condensed from current constructivist literature and few other guiding materials. And is not a rigid set of rules. Here principle of 5'E is considered, people may use 7'E concept as well.

- The students are **ENGAGE** on a topic that has a broad concept. This may be accomplished by doing
 - Demonstration
 - Presenting data or showing a short film.
 - Ask open ended questions that probe the students preconceptions on the topic

Here in this stage the student encounter and identify the instructional task. They establish a relation between past and present learning (relevant) experiences. Acting on a problematic situation. As per the market strategy students are motivated to create a need.

- In the next step some information or data that does not fit with their existing understanding are presented i.e. **EXPLORE**.
 - Ideas gets shared and communicated
 - Teacher acts as a facilitator.
 - Students learn by inquiring.

In the Exploration stage the students have the opportunity to get directly involved with phenomena and materials. Involving themselves in these activities they develop a grounding of experience with the phenomenon. As they work together in teams, students build a base of common experience, which assists them in the process of sharing and communicating. The teacher acts as a facilitator, providing materials and guiding the students' focus. The students' inquiry process drives the instruction during an exploration.

- In this stage of **Explanation** students break in to small groups to
 - Formulate their own hypothesis and
 - Perform the experiments that will reconcile their previous understanding with the discrepant information.
 - The role of the teacher is to circulate around the classroom as a resource and probing question so as coming to an understanding of the principle being studied by student.

In this stage the learner begins to put the abstract experience in a communicable form. Communication occurs between peers, the facilitator and within the learners. They communicate their observation, ideas,

questions and hypothesis. The facilitator can determine level of understanding and possible misconception.

- After that every group interact and **Elaborate** their idea with the entire class.
 - Student expand the concept and apply their understanding
 - Their idea get rejuvenated
 - It lead to further inquiry and understanding

The student expands the concept they learned, make connection to related concept and apply their understanding to the world around. This observation can lead to further inquiry as to possible connection between the idea constructed and application to real world events. These connections often lead to further inquiry and new understandings.
- **Evaluation**

It can be done traditionally or a student from the group may be chosen to ask question and assess. The teacher may assess the student by own strategy.

 - The teacher determines whether the learner has attained understanding of concepts and knowledge.
 - Evaluation and assessment occur continuously during instructional process.
 - The tools that assist in diagnostic process are rubric.
 - Concrete evidence are most important among stakeholders.
 - These evidence are most valuable for future development and guidance

This evaluation process is a cyclic process. It is an ongoing process and open ended and open to change.

Here is the Format of Lesson plan based on above five E's. It is a conceptual format.

CONSTRUCTIVIST LESSON PLAN -FORM	
Engage	Capture the students' attention, stimulate their thinking and help them access prior knowledge.
Explore	Give students time to think, plan, investigate and organize collected information.
Explain	Involve students in an analysis of their explorations. Use reflective activities to clarify and modify their understanding.
Elaborate	Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.

Evaluate

Evaluate throughout the lesson. Present students with a scoring guide at the beginning. Scoring tools developed by teachers (sometimes with student involvement) target what students must know and do. Consistent use of scoring tools can improve learning.

Characteristic of constructivist teaching and learning

Characterization of constructivist learning environment presents the challenge of synthesizing a large spectrum of somewhat disparate concept. These approaches have a many facets few of it are here

1. Create real world environment that employ the context in which learning is relevant.
2. Focus on realistic approaches to solving real world problem.
3. The instructor is coach and analyser of the strategies used to solve this problems.
4. Stress conceptual interrelatedness providing multiple representation or perspectives on the context.
5. Instructional goals and objectives should be negotiated and not be imposed.
6. Evaluation should serve as a self-analysis tool.
7. Provide tools and environments that help learner interpret the multiple perspective of the world.
8. Learning should be internally controlled and mediated by the learner.

Constructivism in Educational Practices-issues

The influence of constructivism in education today can be seen in a variety of published curricula as well as instructional practices. Social constructivist applications are commonly found in schools through the widespread use of cooperative and collaborative teaching strategies. The emphasis is on having students working together while sharing ideas and challenging each other's perspectives. As far as Indian educational milieu is concern this concept does not reach at its peak. As I my self related with this field since long what I see is horrible regarding the implication and out put of it. This approach, not similar but it is so, is used in Lesson planning of English language. What I and my colleague experience is that in local context following hurdles arise in implementing it. My remark should be more as an invitation to extend dialogue and a communal reconsideration of practices than a set of fixed and final conclusion.

1. Teacher trainers have no clear idea or base regarding approach, they never have any kind of orientation regarding it. At a same time there is strong need of renovation of time old Syllabus with blasting situation.
2. The level of admitting student get lower and lower raises aching problem.
3. The level of the school student is low-grade in village based school and regional disparity is a worst and sorrowful problem.

4. The teacher never allow two way interaction, they were not encourage or accept autonomous or initiative, so when B.Ed trainee went they just astonished by approach
5. After joining the teaching profession irritating approach from most of the teacher regarding such new concept.
6. Learning requires a change in the learner, which can only be brought about by what the learner does. The activity of a teacher is relevant to the extent that it causes students to engage in activities they would not otherwise engage in.
7. The task is to design a series of experiences for students that will enable them to learn effectively and to motivate them to engage in the corresponding activities, not all but major teacher are afar from it.
8. When students cannot construct the knowledge for themselves, they need some instruction. There is very little positive evidence for discovery learning and it is often inferior. In particularly, it may be costly in time, and when the search is lengthy or unsuccessful, motivation commonly flags.
9. People are sometimes better at remembering information that they create for themselves than information they receive passively, but in other cases they remember as well or better information that is provided than information they create.
10. Real competence only comes with extensive practice. The instructional task is not to "kill" motivation by demanding drill, but to find tasks that provide practice while at the same time sustaining interest. It is found to be a great lacking of it in the sector of education.

Here, are some remarkable issue that arise and found to be of utter importance. In NCF-2005, it is pointed out that every syllabi designer raises the burden and increases the size of the content on the name of Knowledge explosion. It's a great hindrance in the success. B.F. Skinner in his classic novel *Walden II* pointed that

“Since our children remain happy, energetic, and curious, we don't need to teach "subjects" at all. We teach only the techniques of learning and thinking. As for geography, literature, and the sciences--we give our children opportunity and guidance, and they learn for themselves. In that we dispense with half the teachers required under the old system, and the education is incomparably better. Our children are not neglected, but they're seldom, if ever, taught anything.”

Outcome

Concern outcomes of the entire lesson plan with its above discussion are pointed out in the following format

1. Constructivist teachers encourage students to constantly assess how the activity is helping them 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 learn HOW TO LEARN.
2. When they continuously reflect on their experiences, students find their ideas gaining in complexity and power, and they develop increasingly strong abilities to integrate new information. One of the teacher's main roles becomes to encourage this learning and reflection process.

3. Constructivism does not dismiss the active role of the teacher or the value of expert knowledge. Constructivism modifies that role, so that teachers help students to construct knowledge rather than to reproduce a series of facts.
4. Constructivism transforms the student from a passive recipient of information to an active participant in the learning process. Always guided by the teacher, students construct their knowledge actively rather than just mechanically ingesting knowledge from the teacher or the textbook.
5. It triggers the student's innate curiosity about the world and how things work. They become engaged by applying their existing knowledge and real-world experience, learning to hypothesize, testing their theories, and ultimately drawing conclusions from their findings.
6. Student autonomy and initiative are accepted and encouraged.
7. The teacher asks open-ended questions and allows wait time for responses.
8. Higher-level thinking is encouraged.
9. Students are engaged in dialogue with the teacher and with each other.
10. Students are engaged in experiences that challenge hypotheses and encourage discussion.
11. The class uses raw data, primary sources, manipulative, physical, and interactive materials.

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