Role of Constructivism in Teaching-Learning: A Theoretical Perspective

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ABSTRACT

The National Curriculum Framework 2005 has talked in a great length about learning and knowledge. It advocates situating the entire gamut of our perception and understanding on the process learning and knowledge in a different paradigm. The NCF recognizes the need to recognize the child as a natural and active learner, and knowledge as the outcome of the child's own activity. Thus, the teaching-learning plans need to nurture and build on his active and creative capabilities- his inherent interest in making meaning, in relating to the world in real ways through acting on it and creating and relating to other humans. This is a dramatic departure from the factory-model education of the past. It means a new way of understanding the concept of "knowledge", and a new definition of the "educated person" is required. A new approach to teaching will provide to study different disciplines as exploratory, dynamic, evolving subjects rather than as a rigid, absolute, closed body of laws, theories and theroms to be memorized. Constructivist Pedagogy is abandonment of textbook-driven, teacher-centered, paper and pencil schooling. How many teacher educators are familiar with this approach? Aren't most teachers today freezing, and showing laxity by using the same old, boring and routine style of memorize and delivery? Thus, the paper endeavors to evaluate their changing roles and contributions of Constructivist Pedagogy in the teaching-learning process.

Keywords: Constructivism, Education, Teaching-Learning Process, Constructivist Pedagogy.

"What people gain through sensation and cognition make up the individual's experience and knowledge".

INTRODUCTION

Calling a society a 'knowledge society' has virtually become a fashionable paradigm for speaking about the future society in every nation of the world. Today, from educationists to policymakers, researchers, etc. are found interested to unearth the various seethes of knowledge which if excavated properly may bring unlimited source of intellectual mites to equip one to discover the mysteries of the nature and human potentialities. Today's mutable world is generally recognized as the multi-cultural and multi-perspective in which we all are bound to live with our own multi-coloured realities of the so-called ultimate reality. The production of realities-the production of viable ways of 'world-making and meaning-making' in the sense of both knowing and known-is a process of construction by the people themselves. It is said that a question is the beginning of a quest which has to be more important than even the conquest.

Phobia of Teaching and Learning

Phobia of teaching and learning different subjects is present in both, in the teacher as well as in the learner. The typical student beliefs about the nature of different subjects are:

- Studies are a boring thing.
- Ordinary students cannot expect to get good grades, they expect simply to get pass marks and move ahead.
- The subjects learned in school have little or nothing to do with the real world.
- Dependence on private tutors.

On the other hand the phobia of learning is transmitted by the teachers through the traditional classroom teaching. Some of the belief system unconsciously exhibited while teachings are:

- The main objectives of the studies are getting a good job and settle in life.
- Teachers talk.
- Most of the teachers rely heavily on textbooks.
- Most classrooms ask students to work individually, not cooperatively, and on relatively low-level skills.
- Many children find few opportunities outside of school to practice what they are taught.

Against this backdrop, the National Curriculum Framework (NCF) 2005 has talked in a great length about learning and knowledge. It advocates situating the entire gamut of our perception and understanding on the process learning and knowledge in a different paradigm. The NCF recognizes the need to recognize the child as a natural and active learner, and knowledge as the outcome of the child's own activity.(3) In the past a learner was a young person who went to school, spent a specified amount of time in certain courses, received passing grades and graduated. Today we must see learners in a new context:

1. We must maintain student interest by helping them see how what they are learning prepares them for life in the real world.
2. We must instill curiosity, which is fundamental to lifelong learning.
3. We must be flexible in how we teach.
4. We must excite learners to become even more resourceful so that they will continue to learn outside the formal school day.

Constructivism and Education

The learning plans need to nurture and build on learner's active and creative capabilities- his inherent interest in making meaning, in relating to the world in real ways through acting on it and creating and relating to other humans. The present teacher is found to be weak in epistemology and pedagogy. Thus, the teacher education programme must bank on constructivist approach to teaching and learning of different subjects.

Constructivism is a philosophical position that views knowledge as the outcome of experience mediated by one's own prior knowledge and the experience of others. Constructivism's central idea is that human learning is constructed, that learners build new knowledge upon the foundation of previous learning. Students need to construct their own understanding of each concept, so that the primary role of teaching is not to lecture, explain, or otherwise attempt to 'transfer' readymade knowledge, but to create situations for students that will foster their making the necessary mental constructions. According to the constructivist philosophy, learning is simply the process of adjusting our mental models to accommodate new experiences. Constructivism has a stronger influence of John Dewey's pragmatism, because it is often associated with pedagogic approach that promotes 'learning by doing'. Constructivists believe that prior knowledge impact the learning process. The learners must actively construct new information into his/her existing mental framework for meaningful learning to occur. Constructivists are observers in a way observing reality being formed in daily life **(Jones & Barder Araje, 2002)**

According to **Saunders** (1992) Constructivism can be defined as that philosophical position which holds that any so-called reality is, in the most immediate and concrete sense, the mental construction of those who believe they have discovered and investigated it.(2)

The constructivist view involves two principles:

1. Knowledge is actively constructed by the learner, not passively received from the environment.
2. Coming to know is a process of adaptation based on and constantly modified by a learner's experience of the world.

In both cases what seems crucial is the meaning, and the making of meaning. Perhaps meaning is only possible when what is offered has somewhere to 'fit', so that students can construct something which makes sense to

them. The central principle of this approach is that learners can only make sense of new situations in terms of their existing knowledge. Learning involves an active process in which learners construct meaning by linking new ideas with their existing knowledge **(Naylor & Keogh, 1999).(5)** If the students cannot make sense of the statistical formulae, what does the lesson achieve? Perhaps what is needed to assist this sense-making is the creation of some associated context which the students can appreciate.

What change does Constructivism suggest?

The basic tenets of **Brooks, J. & Brooks, M.** (1993) written in a form a teacher could put into practice as guiding principles are:

1. Encouragement and acceptance of student autonomy and initiative.
2. Utilization of raw data and primary sources along with manipulative, interactive and physical materials.
3. When planning teachers use cognitive terminology such as classify, analyze, create etc.
4. Allowance of student response to drive lessons shift instructional strategies and alter content.
5. Inquiry concerning students understanding of concept before sharing their own understanding of those concepts.
6. Encouragement of students to engage in dialogue, both with the teacher and with one another.
7. Encouragement of student's inquiry by asking thoughtful, pen ended questions and encouraging students to ask questions of each other.
8. Pursuit of elaboration of students' initial response.
9. Engagement of students in experiences that might engender contradictions to their initial hypotheses and then encourage discussion.
10. Allowance for wait time after posing questions.
11. Providing time for students to construct relationships and create metaphors.
12. Nurturing students' curiosity through frequent use of the learning cycle model.(1)

The constructivist perspective on teaching and learning is increasingly being adapted by teachers across the country. It is informing and influencing their curriculum, instruction and ways of working.

Distinction between Traditional Classroom and Constructivist Classroom

Traditional Classroom	Constructivist classroom
Curriculum begins with the parts of the whole	Curriculum emphasizes by concepts, beginning with the whole and expanding to include the parts.
Strict adherence to fixed curriculum is highly valued	Pursuit of students' question and interest is valued.
Materials are primarily text-books and workbooks.	Materials include primary sources of material and manipulative materials.
Learning is based on repetition.	Learning is interactive, building on what the student already knows.
Teacher disseminates information to students; students are recipients of knowledge.	Teachers have a dialogue with students, helping student construct their own knowledge.
Teacher's role is directive, rooted in authority.	Teacher's role is interactive, rooted in negotiation.
Assessment is through testing, correct answer.	Assessment includes students work, observations and points of view, as well as tests. Process is as important as product.
Knowledge is seen as insert.	Knowledge is seen as dynamics, ever changing with our experience.
Students work primarily alone.	Students work primarily in groups.

Constructivist notion of a Teacher

Teachers are considered to be the backbone of learning. They create a context of learning in which students can become engaged in interesting activity that facilitates learning. Teachers learning for constructivist teaching needs to include many opportunities to engage directly in the struggles of learning, the risk-taking and the thrill of generating new ideas; continually investigate the learning process so that teachers gain even deeper

understandings of how disciplines connect and involve different modes of inquiry, become ever more conscious and responsive to the ways in which differences impact on the learning process; communicate clearly what they know and how they teach to support students' growth and development. According to constructivist notion of teacher they may:

1. Prompt student to formulate their own question.
2. Allow multiple interpretations and expression of learning.
3. Encourage group work and the use of peers as resources.
4. Encourage and accept student autonomy and initiative.
5. Allow student response to drive lessons, shift instructional strategies and other content.
6. Inquire about students understanding of concept before sharing their own understandings of those concepts.
7. Encourage students to engage in dialogue both with the teacher and with one another.
8. Encourage students' inquiry by asking throughout, open ended questions and encouraging students to ask question of each other.
9. Seek elaborate of students' initial response.
10. Engage students in experiences that might engender contradictions to their initial hypotheses and then encourage discussion.
11. Allow a waiting time after posing questions.
12. Nurture students' natural curiosity.

Constructivist Pedagogy to Teaching

If our schools are to provide experiences for students that fire their spirit, identity and nurture the capacities as learners, and enable them to be independent thinkers, then new forms of teaching need to be developed that are solidly based on emerging understandings of how human beings engage in learning. These understandings call for changes in the processes, contexts and content of teacher education and professional development programs – changes guided by constructivists pedagogy that educate teachers to be learners themselves. In a constructivist frame work, the following teaching pedagogy may be adopted:

i. Planning: What do I want my student to learn? Identification of specific areas of modification of behaviour.

- Instructional Objectives : General Objectives and Specific objectives
- Content Organization.
- Modes of transactions /Instructional style
- Support system
- Assessment of students' learning/outcome. How will I assess what the students have learnt?

ii. Entry Behaviour

- What do my students already know?
- How will my students make connection with prior knowledge in order to learn new knowledge?

iii. Presentation:

Teaching points	**Specific objectives in behavioural terms**	**Learning Experiences**		**Evaluation**
		Teachers Activity	**Students Activity**	

iv. Summarization

v. Refection

- ***Students***

a. What did I learn?
b. What I did not learn?

c. What helped me to learn the materials?
d. What did not help me to learn the materials?
e. How do I learn best?

- ***Teacher***

a. What worked well?
b. What would I do differently?
c. What will I do if the students have not learnt the material?

vi. Action/Application

vii. Assignment

viii. Blackboard Summary

Changes in teacher education will support teachers to become powerful thinkers. Powerful thinkers make powerful teachers, and it is this kind of educator that is required to provide the students of our nation with an education that supports them to be powerful themselves, developing the skills and capabilities they need to take charge of their thinking and their own lives.

Principles of Learning		
	Traditional View	**Constructivist View**
Students learn because....	...teachers teach.	...they want or need to know.
Learning is influenced by.....	...the school curriculum and instruction.	...learners' experiences and resultant existing ideas.
New knowledge is.....	...attained through exposure to new information.	...constructed upon prior knowledge from personal and social sources.
For better learning....	...focus on better curriculum planning, better teacher preparation, better facilities, and more time for teaching.	...you should focus on what learners want or need to know, based on their self-perceived needs and interests and societal norms.
Students succeed if...	...they study hard and meet teacher expectations.	...their needs are met by the instruction and they become self-sufficient problem solvers.
Feedback is...	...provided through quizzes and tests, which are also used for grading.	...an integral component of all facets of the learning experience and is not used for grading.
The teacher is a...	...content expert who supervises and evaluates learning.	...facilitating partner in learning with a broad content mastery.

CONCLUSION

There is a myth that students learn by remembering what they are taught. In reality students construct meaning as they learn. They use what they are taught to modify their prior beliefs and behavior, not simply to record what they are told. It is students' acts of construction and invention that build their memorization and reasoning power and enable them to solve problems they have never seen before. When the Constructivist approach is properly applied, students should become more involved in their own learning. Group exercises and problem investigations can be fun. Teaching and learning different subjects seeks to understand patterns that permeate both the world around us and the mind within us. Although the language of different subjects is based on rules, it is important that students move beyond rules to be able to express things according the demands of the subjects. This transformation suggests changes in instructional style which will provide students an opportunity to study different disciplines as exploratory, dynamic, evolving subjects rather than as a rigid, absolute, closed body of laws to be memorized.

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