

## **Constructivism: Paradigm Shift from Teacher Centered To Student Centered Approach**

Dr. Md. Mahmood Alam<sup>1\*</sup>

### **ABSTRACT**

Constructivism is a departure in thought about the nature of knowing, hence of learning and thus of teaching. Constructivists believe that knowledge and truth are constructed by people and therefore do not exist outside the human mind. Von Glaserfeld (1984) has written: “...*learners construct understanding. They do not simply mirror and reflect what they are told or what they read. Learners look for meaning and will try to find regularity and order in the events of the world even in the absence of full or complete information.*” 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. Teachers, thus, need to have a sound understanding of what constructivism means to evaluate its promise and to use it knowledgeably and effectively. 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. In the constructivist model, students are urged to be actively involved in their own process of learning, on the assumption that individuals construct knowledge instead of receiving it from others. The way in which knowledge is conceived and acquired, the types of knowledge, skills, and activities emphasized, the role of the learner and the teacher, how goals are established: All of these factors are expressed differently from the constructivist perspective (Christie & Stone, 1999). This paper explicates some of the theoretical background of Constructivism and then presents.

**Keywords:** *Constructivism, Collaborative, Paradigm, Approach*

Constructivism “is the philosophy, or belief, that learners create their own knowledge based on interactions with their environment including their interactions with other people” (Draper, 2002, p. 522). It is based on the idea that learners must construct and reconstruct knowledge, in order to learn effectively. Indeed, this is the assertion in constructionist theories -We take a view of learning as a reconstruction rather than as a transmission of knowledge(and) ... extend the idea

---

<sup>1</sup> Assistant Professor, MANUU College of Teacher Education, Sambhal, U.P., India

\*Responding Author

## **Constructivism: Paradigm Shift from Teacher Centered To Student Centered Approach**

of manipulative materials to the idea that learning is most effective when part of an activity the learner experiences as constructing a meaningful product (Papert, 1989). Constructivism is considered to be a set of epistemological theories which are grounded in the belief that meaning is constructed in the minds of individuals through the cognitive processing of interactions in world. Constructivist theories include the notion that learning is active, social and situated in particular physical, social and cognitive contexts, that it involves the ongoing development of complex and interrelated mental structures, and that the construction of knowledge is, to a greater or lesser degree distributed across individuals, tools and artifacts.

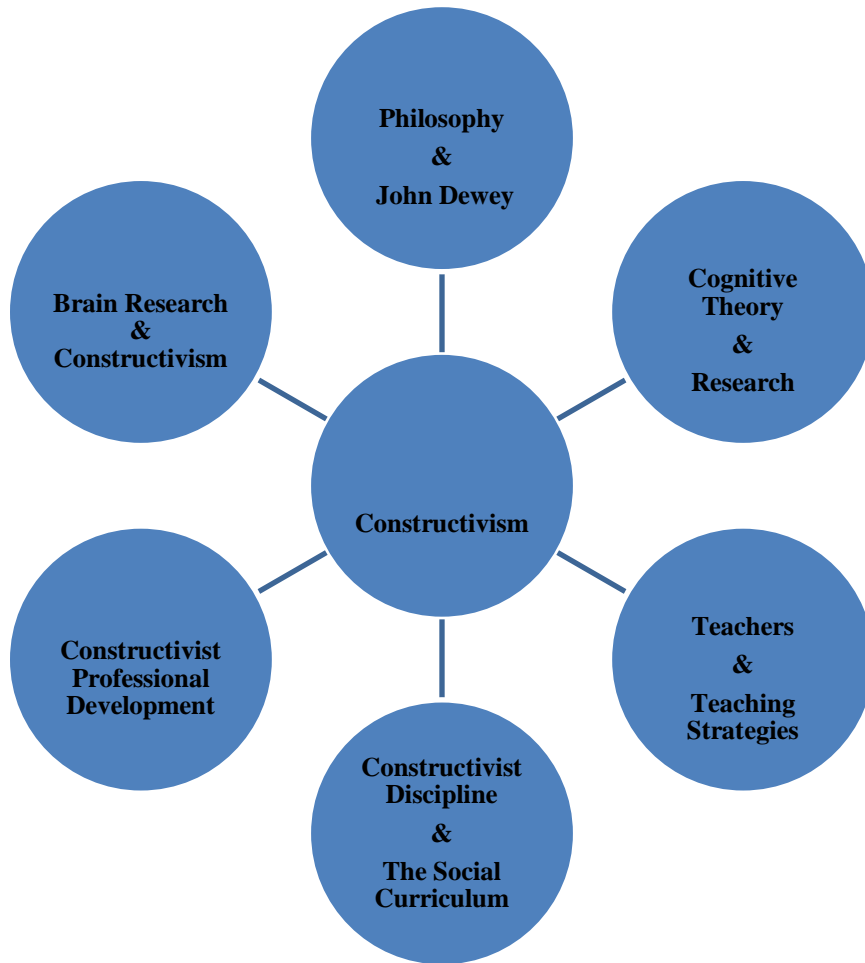
Constructivism is seen to have various implications for instruction, the most significant of which is to shift the focus of pedagogical design away from instruction and toward the design of learning environments that are learner-centered, knowledge-centered, assessment-centered, and community centered. Constructivism shifts emphasis from teaching to learning; focuses on knowledge construction, not reproduction; helps students develop processes, skills and attitudes; uses authentic tasks to engage learners; provides for meaningful, problem-based thinking; requires negotiation of meaning, reflection of prior and new knowledge; extends students beyond content presented to them. In the constructivist approach, the students are in the center of the teaching and learning process. They construct knowledge with stimuli from their surroundings and these constructs are mostly related with the way they perceive the environment. The tenets of constructivism can be summarized as following:

1. Individuals base their knowledge on their already existing conceptual frameworks. A learner's previous experiences with the world and life (physical, social or imaginary) represent a conceptual frame reference for giving meaning to new phenomena (Taylor, 1993).
2. The role of the teacher is mediating learning. Relevantly, the focus needs to be on the learner, and the classroom environment should be much more interactive than a traditional classroom.
3. The teacher as a mediator provides quality experiences to learners for meaningful learning. A constructivist approach involves providing experiences for learning in certain directions (i.e., viable knowledge) impossible without the guidance of a teacher.
4. Constructivism suggests that learning is a social process of giving meaning to experiences in light of the already known (Tobin & Tippins, 1993).
5. In the classroom the teacher should provide the students various opportunities such as writing, drawing, using symbols and the language appropriately to express their previous knowledge. Time for reflection is also essential during the course of a lecture.
6. Generating questions may be a way of initiating conceptual conflict and seeking answers to those questions may start the process of resolving the conflict. Establishing interactions for group discussions, answering questions with peers, explaining a certain scientific content, finding and explaining differences in understanding, generating new questions, designing research and solving problems may play a significant role in learning.

## **Constructivism: Paradigm Shift from Teacher Centered To Student Centered Approach**

7. According to the constructivist approach one of the most important roles of the teacher is evaluating learning. Rather than being in the form of reward or punishment at the end of the teaching, evaluation should be regarded as a part of the teaching process itself.

The development of constructivism in education can be visualized with the following graphic organizer designed by researchers (Ahad, Brockhuis, & Richardson, 2005).



### ***Characteristics Of Constructive Learning***

1. Multiple perspectives and representations of concepts and content are presented and encouraged.
2. Goals and objectives are derived by the student or in negotiation with the teacher or system.
3. Teachers serve in the role of guides, monitors, coaches, tutors and facilitators.
4. Activities, opportunities, tools and environments are provided to encourage meta-cognition, self-analysis, self-regulation, self-reflection & self-awareness.
5. The student plays a central role in mediating and controlling learning.
6. Learning situations, environments, skills, content and tasks are relevant, realistic, and authentic and represent the natural complexities of the 'real world'.

### **Constructivism: Paradigm Shift from Teacher Centered To Student Centered Approach**

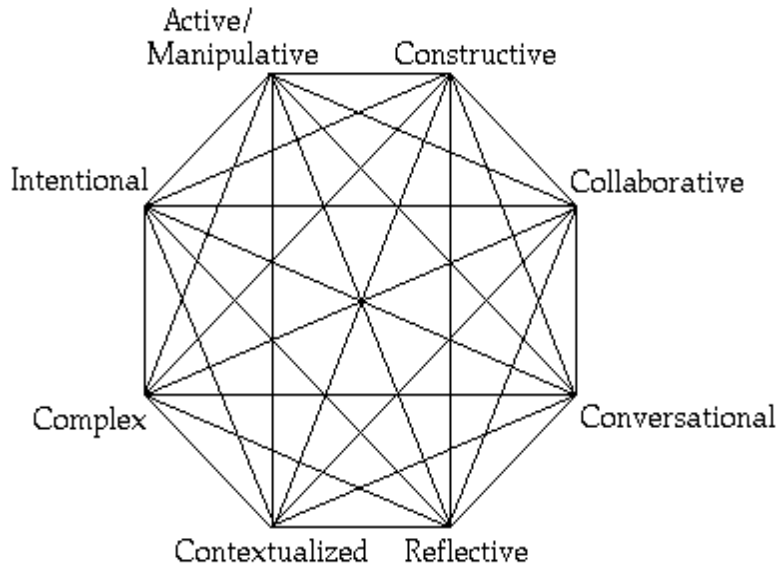
7. Primary sources of data are used in order to ensure authenticity and real-world complexity.
8. Knowledge construction and not reproduction is emphasized.
9. This construction takes place in individual contexts and through social negotiation, collaboration and experience.
10. The learner's previous knowledge constructions, beliefs and attitudes are considered in the knowledge construction process.
11. Problem-solving, higher-order thinking skills and deep understanding are emphasized.
12. Errors provide the opportunity for insight into students' previous knowledge constructions.
13. Exploration is a favored approach in order to encourage students to seek knowledge independently and to manage the pursuit of their goals.
14. Learners are provided with the opportunity for apprenticeship learning in which there is an increasing complexity of tasks, skills and knowledge acquisition.
15. Knowledge complexity is reflected in an emphasis on conceptual interrelatedness and interdisciplinary learning.
16. Collaborative and cooperative learning are favored in order to expose the learner to alternative viewpoints.
17. Scaffolding is facilitated to help students perform just beyond the limits of their ability.
18. Assessment is authentic and interwoven with teaching.

In the constructivist classroom, students work primarily in groups and learning and knowledge are interactive and dynamic. There is a great focus and emphasis on social and communication skills, as well as collaboration and exchange of ideas. This is contrary to the traditional classroom in which students work primarily alone, learning is achieved through repetition, and the subjects are strictly adhered to and are guided by a textbook.

#### ***Constructivist Learning Environment***

The constructivist learning environment theory suggests a set of instructional methods including selecting and providing appropriate problems, related cases or worked examples, learner-selectable information, cognitive tools, collaborative tools, and social/contextual support. Learning occurs most effectively in context, which becomes an important part of the knowledge base (Jonassen, 1991). Instructional activities could involve modeling, coaching, and scaffolding in the constructivist learning environment. In summary, in the constructive learning environment, learning is collaborative, contextualized, and reflective.

## Constructivism: Paradigm Shift from Teacher Centered To Student Centered Approach



### ***Goals For The Design Of Constructivist Learning Environment***

Honebein (1996) describes the following goals for the design of constructivist learning environments:

1. Provide experience with the knowledge construction process.
2. Provide experience in and appreciation for multiple perspectives.
3. Embed learning in realistic and relevant contexts.
4. Encourage ownership and voice in the learning process.
5. Embed learning in social experience.
6. Encourage the use of multiple modes of representation.
7. Encourage self-awareness in the knowledge construction process.

### ***Activities In Constructivist Classroom***

Some of the activities encouraged in constructivist classrooms are:

- ❖ **Experimentation:** students individually perform an experiment and then come together as a class to discuss the results.
- ❖ **Research projects:** students research a topic and can present their findings to the class.
- ❖ **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.
- ❖ **Films:** These provide visual context and thus bring another sense into the learning experience.
- ❖ **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.

### ***Role Of Teacher In Constructivist Learning Approach***

The teacher must understand the students' preexisting conceptions, and guides the activity to address them and then build on them. They encourage students to constantly assess how the

## Constructivism: Paradigm Shift from Teacher Centered To Student Centered Approach

activity is helping them gain understanding. 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.



The teacher in constructive learning act as an expert learner who can guide students into adopting cognitive strategies such as self-testing, articulating understanding, asking probing questions, and reflection. Becoming a constructivist "requires a paradigm shift," as well as "the willing abandonment of familiar perspectives and practices and the adoption of new ones" (Brooks and Brooks, 1993). In constructivist learning, the teacher's function is to "arrange the conditions of learning" in such a way that students will learn what is intended (Gagne, 1985). Brooks and Brooks (1993) conceive of a constructivist teacher as someone who will:

1. encourage and accept student autonomy and initiative;
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. The teachers should keep

## **Constructivism: Paradigm Shift from Teacher Centered To Student Centered Approach**

the following principles in mind while designing and developing the constructive learning environment in the classroom (Jonassen, 1991)

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

### **IMPLICATIONS OF CONSTRUCTIVISM FOR TEACHING AND LEARNING**

Some of the implications of constructivism for teaching and learning are:

- ❖ Teachers act as facilitators, supports, guides and models of learning.
- ❖ Learning concerns in adjusting our mental models to accommodate new experiences.
- Learning concerns in making connections between information.
- Instruction should be built around more complex problems, not problems with clear, correct answers.
- Context and personal knowledge have high significance.
- Students should help in establishing the criteria on which their work is assessed.
- Student learning depends on background knowledge – that’s why teaching facts are so necessary (reversed).
- Student interest and effort are more important than textbook content.
- ❖ It is sometimes better for teachers, not students, to decide what activities are to be done.
- Sense making and thinking are most important, not knowing content.
- Experimentation replaces rote learning.
- Teaching utilizes both skill-based and open-ended approaches.
- Motivation to learn is intrinsic rather than extrinsic (done for its own sake rather than for grades, test scores or rewards).
- Naïve beliefs are used as the starting point for further discussion, exploration and evaluation for development, rather than being discounted as “wrong”.
- Learners learn best through finding and generating their own knowledge.
- Discovery and guided discovery learning are important.
- Exploration and active learning are important.
- Learning is collaborative and cooperative, not just individual.
- Higher order thinking is significant.
- Classrooms become multidimensional, with different activities at different levels taking place simultaneously.

## RECOMMENDATIONS

In order to implement this kind of learning approach, teachers need to be more equipped, skilled and confident to meet the current challenges and to adopt this approach, resources and funding must be provided to the schools, sufficient time and sincerity of teachers about managing independent/ discovery/ project learning along with all other structural demands must be insured, include perspectives in mainstream curriculum relevant to constructivist practices and according to student needs and interests so as to encourage their participation. This make certain maximizing the outcomes such as participation by ensuring the involvement of all stake holders related to the field of education in every stage of development, implementation and evaluation. This guaranteed the constructivist aspirations; preferences and practices take central place.

## CONCLUSION

“Only as you begin to experiment with the new language will you realize just how entrenched and invisible the old paradigm is. But, as you and your faculty begin to speak the new language, you will then also begin to think and act out of the new paradigm.” Constructivist paradigm calls for a change in the classroom culture, attitudes, beliefs and practices. It is seen to have various implications for instruction, the most significant of which is to shift the focus of pedagogical design away from instruction and toward the design of learning environments that are learner-centered, knowledge-centered, assessment-centered, and community centered. Constructivism shifts emphasis from teaching to learning; focuses on knowledge construction, not reproduction; helps students develop processes, skills and attitudes; individualizes and contextualizes students’ learning experiences; considers students’ learning styles; provides for meaningful, problem-based thinking; requires negotiation of meaning, reflection of prior and new knowledge; extends students beyond content presented to them. Constructivism requires that we reflect on all aspects of the teaching in which we engage; as educators, we are learners ourselves. We must examine our planning, our use of external standards, the materials we use, the environment in our classroom, our own attitudes and expectations, and especially, the needs of our students, whether they be children or teachers. (Sparks, 1994).

### *Acknowledgments*

The author appreciates all those who participated in the study and helped to facilitate the research process.

### *Conflict of Interests*

The author declared no conflict of interests.

## REFERENCES

Ahad, S. et al. (2005), “Codifying Constructivist Literature”, Unpublished Power Point Document, Niagara Falls, NY: Niagara University College of Education.



## Constructivism: Paradigm Shift from Teacher Centered To Student Centered Approach

- Brooks, J.G. and Brooks, M.G. (1993), "In Search of Understanding: the Case for Constructivist Classrooms", Alexandria, VA: American Society for Curriculum Development.
- Christie, J. and Stone, S. (1999), "Collaborative Literacy Activity in Print-enriched Play Centers: Exploring the Zone in Same-age and Multi-age Groupings", *Journal of Literacy Research*, 31(2), 109-131.
- Draper, R. J. (2002), "School Mathematics Reform, Constructivism, and Literacy: A Case for Literacy Instruction in the Reform-oriented Math Classroom", *Journal of Adolescent & Adult Literacy*, 45(6), 520-529.
- Gagne, R.M. (1985), "The Conditions of Learning", New York, NY: Holt, Rinehart & Winston.
- Honebein, P.C. (1996), "Seven Goals for the Design of Constructivist Learning Environments", In *Constructivist Learning Environments: Case Studies in Instructional Design*. Brent G. Wilson (Ed.). Englewood Cliffs: Educational Technology Publications: 11-24.
- Jonassen, D. H. (1999), "Designing Constructivist Learning Environments", In C. M. Reigeluth (Ed.), *Instructional theories and models: A new paradigm of instructional theory* (2nd ed., pp. 215-239). Lawrence Erlbaum Associates, Mahwah, N. J. Retrieved from <http://www.ed.psu/insys/who/jonassen/cle/cle.htm>
- Jonassen, D.H. (1991), "Objectivism versus Constructivism: Do We Need a New Philosophical Paradigm?" *Journal of Education Research*, 39 (3), 5-14.
- Papert, S. (1989), "Constructionism: A New Opportunity for Elementary Science Education. A Proposal to the National Science Foundation. (Cambridge, Massachusetts, Massachusetts Institute of Technology, Media Laboratory, Epistemology and Learning Group)
- Taylor, P. C. S. (1993), "Collaborating to Reconstruct Teaching: The Influence of Researcher Beliefs", In K. Tobin (Ed.), *The Practice of Constructivism in Science Education*, Hillsdale, NJ: Lawrence Erlbaum Associates, 267-297.
- Tobin, K. and Tippins, D. (1993), "Constructivism as a Referent for Teaching and Learning", In K. Tobin (Ed.), *The Practice of Constructivism in Science Education*, Hillsdale, NJ: Lawrence Erlbaum Associates, 3-21.
- Von Glaserfeld, E. (1984), "Radical Constructivism", In P. Watzlawick (Ed.), *The Invented Reality*, Cambridge, MA: Harvard University Press.

**How to cite this article:** M Alam (2016), Constructivism: Paradigm Shift from Teacher Centered To Student Centered Approach, *International Journal of Indian Psychology*, Volume 4, Issue 1, No. 79, ISSN:2348-5396 (e), ISSN:2349-3429 (p), DIP:18.01.086/20160304, ISBN:978-1-365-56745-2