International Journal of Research in Social Sciences
Vol. 8 Issue 5, May 2018,
ISSN: 2249-2496 Impact Factor: 7.081
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gage as well as in Cabell's Directories of Publishing Opportunities, U.S.A

A CONSTRUCTIVIST PERSPECTIVE TOWARDS COLLABORATIVE LEARNING

Dr SONAM BANSAL *

ABSTRACT

Today's classroom no longer has four walls and students no longer sit in a row to learn from a subject expert. Learning now happens everywhere and anytime through collaboration, sharing and reflection between the peers. These changes have connected the students, educators, learning resources and activities into a collaborative learning environment that allow students to personalize the learning process, and change the sole determining role of the educators. Therefore, it builds the student-centred learning experience and makes the classroom learning to be less teacher-dependent. This study aims at studying constructivist perspective of students towards collaborative learning. In constructivist learning, environment which is designed based on Jonassen's constructivist learning principles (Jonassen, 1999) that plays a major role in student's better learning. In addition, benefits of collaborative learning are to engage the students in this learning approach to promote participation, collaboration, communication and implications of constructivism towards teaching and learning.

Key Words: Constructivism, collaboration, collaborative learning

* **Assistant Professor.Rao Lal Singh College of Education, Sidhrrawali(Gurgaon)**

INTRODUCTION

The concept of collaborative research is based on social constructivist theory (Dale, 1997). Collaborative research employ on constructivist strategies such as pursuit of student questions, activities rely heavily on primary sources, students are viewed as thinkers with emerging theories about the world and students mainly work in groups and collaboratively solve problems which might be unsolved individually (Hurley, 1999). According to Erickson (1997), constructing something that has a purpose contributes an element of authenticity to a task and that provides the motivation, criteria and justification for students to critique and improve the construction. Through collaborative learning, students focus on developing and improving skills such as locating information, creating new information, analyzing and organizing information, sharing information with others, reflecting and its connection with others (Erickson, 1997). Main emphasis of constructivist beliefs is the need to embed learning in real-world situations where learners function as a community helping to solve real-world problems (Jonassen, Davidson, Collins, Campbell & Haag, 1995). Trent (1996) believes that collaborative learning strategies are most effective when students and teachers work together and learn from each other and student needs to learn how to collaborate effectively because the real world workplace is competitive and cooperative in nature. In collaborative learning activities the teacher's responsibility is to become a member, along with the students of a community in search of knowledge (Barkley, Cross & Major, 2005).

In the constructivist classroom, the focus tends to shift from the teacher to the students. The classroom is no longer a place where the teacher ("expert") pours knowledge into passive students, who wait like empty vessels to be filled. In the constructivist model, the students are urged to be actively involved in their own process of learning.

In the constructivist classroom, both teacher and students think of knowledge as a dynamic, ever-changing view of the world we live in and the ability to successfully stretch and explore that view - not as inert factoids to be memorized.

KEY ASSUMPTIONS OF THIS PERSPECTIVE INCLUDE:

1. What the student currently believes, whether correct or incorrect, is important.

2. Despite having the same learning experience, each individual will base their learning on the understanding and meaning personal to them.

3. Understanding or constructing a meaning is an active and continuous process..

4. Learning may involve some conceptual changes.

5. When students construct a new meaning, they may not believe it but may give it provisional acceptance or even rejection.

6. Learning is an active, not a passive, process and depends on the students taking responsibility to learn.

The main activity in a constructivist classroom is solving problems. Students use inquiry methods to ask questions, investigate a topic, and use a variety of resources to find solutions and answers. As students explore the topic, they draw conclusions, and, as exploration continues, they revisit those conclusions. Exploration of questions leads to more questions.

There is a great deal of overlap between a constructivist and social constructivist classroom, with the exception of the greater emphasis placed on learning through social interaction, and the value placed on cultural background. For Vygotsky, culture gives the child the cognitive tools needed for development. Adults in the learner's environment are conduits for the tools of the culture, which include language, cultural history, social context, and more recently, electronic forms of information access.

In social constructivist classrooms collaborative learning is a process of peer interaction that is mediated and structured by the teacher. Discussion can be promoted by the presentation of specific concepts, problems or scenarios, and is guided by means of effectively directed questions, the introduction and clarification of concepts and information, and references to previously learned material.

PRINCIPLES OF CONSTRUCTIVIST LEARNING

1. The learner uses sensory input and does something with it, ultimately making meaning of it.

2. Learning consists of both constructing meaning and constructing systems of meaning. Learning is layered.

3. Learning occurs in the mind. Physical activity may be necessary, but is not sufficient alone.

4. Learning involves language. Vygotsky believed that language and learning are inextricably

intermeshed.

5. Learning is a social activity.

6. Learning is contextual. We do not isolate facts from the situations and environments in which they are relevant

7. Knowledge is necessary for learning. It is the basis of structure and meaning-making. The more we know, the more we can learn.

8. Learning takes time; it is not spontaneous. Learners go over information, ponder them, and use them, practice, experiment.

9. Motivation is a necessary component, because it causes the learner's sensory apparatus to be activated. Relevance, curiosity, fun, accomplishment, achievement, external rewards and other motivators facilitate ease of learning.

Benefits of Collaborative Learning

Over the past two decades, a number of researchers have examined the effect of collaborative learning on children's performance. Generally, reviews of research have suggested that collaborative learning motivate students to develop positive attitudes towards learning and enhance student thinking. Some benefits are summarized as follows:

Academic Achievement

Academic achievement has been positively related to the essentials of collaborative learning. Research examining the academic impact of collaborative learning has provided mostly positive results on achievement of students. Slavin (1995) examined 99 studies in which cooperative team groups were composed with individual instruction and found that 63 reported a significant increase in achievement levels for students participating in cooperative learning groups, with only 5 showing significant differences in favor of individual instruction. In a second meta-analysis, Slavin analyzed studies that compared the effects of cooperative learning on achievement of students in individual learning situations. Of the 38 studies reviewed, 33 reported significant increase in academic achievement for students participating in cooperative learning situations. Similar positive achievement effects were reported in other researches also (Gabbert, Johnson, & Johnson, 1986; Johnson & Johnson, 1992; Qin, Johnson, & Johnson, 1995 & Zammuner, 1995).

Enhanced Decision Making

Students learning in small groups had greater opportunity to regulate their own collaborative learning activity and use decision making process to resolve the conflict constructively. A high degree of self-regulation and decision making could make them feel to do learning task being themselves and enhance high level motivation & thinking, in respect of carrying out the learning tasks (Sharan & Shanlov, 1990; Gokhale, 1995).

Improve Problem-Solving

Many studies revealed that collaborative learning experiences not only had positive effects on students' achievement but also had promotion of critical thinking, higher level of reasoning and meta-cognitive thought. Collaborative group work was more favorable than independent practice to the learning of some problem-solving strategies. Students practiced in cooperative group's demonstrated greater long-term memory of problem-solving strategies (Duren & Cherringtoii, 1992).

Promote Critical Thinking

The motivational aspect of collaborative learning stresses on the cooperative goals that change the students' incentives to master the academic goals. In cognitive theories, students' face-to-face interaction to promote critical thinking, higher level of reasoning and meta-cognitive thought is emphasized. Many studies revealed that cooperative learning experiences had positive effects on student achievement and promotion of critical thinking, higher level of reasoning and meta-cognitive thought (Johnson, Skon, & Johnson, 1980; Skon, Johnson, & Johnson, 1981; Gabbert, Johnson, & Johnson, 1986; Johnson & Johnson, 1992).

Enhance Motivation

Rewarding groups based on group performance or sum of individual performances as well as created an interpersonal reward structure in which group members would withhold social reinforces such as encouragement and praise in response to group mates' task-related efforts. Such interpersonal reward structure would motivate the students to put more efforts in learning (Johnson, Maruyama, Johnson, Nelson, & Skon, 1981; Slavin, 1990). Moreover, positive interdependence and individual accountability also had positive effects on individual's

motivation. When individuals perceived that their efforts were dispensable for the group success, they might put less effort (Kerr, 1983). In contrast, if group members felt their contributions were valuable, they would increase their efforts (Harkins & Petty, 1982). Individual accountability would motivate students to put more efforts due to their sense of personal responsibility towards the success of whole group.

Social Status

There were different social consequences for student's collaborative learning and competitive learning. Slavin (1990) found that students in cooperative groups who gained achievement had improved social status in the classroom, whereas in traditional classes such students lost their social status. In competitive groups, learning became an activity that got students ahead but they lost favorable behavior and attitudes from their classmates in their peer group. On the other hand, students who worked in collaborative learning groups significantly agreed that their classmates wanted them to do their best than those in competitive learning groups (Madden & Slavin, 1983; Slavin, 1990, 1992).

Be1onging

Positive interdependence stressed positive social relations among classmates through peer collaboration and mutual assistance in small groups. It would cultivate students' sense of acceptance with each other and they would be free from competition. Under such harmonious learning environment, students would be motivated to work and learn together to reach towards a common goal (Sharan & Shanlov, 1990).

Social Behavior

In terms of effects on social behaviors, Mesch, Lew, Johnson, & Johnson, (1986) placed students in cooperative learning situations and provided them with framing on effectively interacting in those situations. They found that, as a result of the training and cooperative group experiences, the students who previously intended to be isolated and withdrawn, interacted significantly more with their peers both within and outside the collaborative learning activities.

In an analysis of five studies, Lloyd, Crowley, Kohler, & Strain, (1988) concluded that group learning had significant positive effects particularly on social behavior in comparison to

competitive and individualistic procedures. Several studies have formed that cooperative learning improves relationships between students from different ethnic and racial backgrounds (Slavin, 1983) and between disabled and non-disabled peers (Slavin, 1995). Research (Mulryan, 1995) has also shown that group learning lead to a decrease in behavior difficulties such as talking out and not paying attention in the classroom.

Positive interdependence & Interpersonal Interaction

Positive interdependence was considered to be a very important element in increasing student achievement by Johnson & Johnson, (1992). They found that positive goal interdependence within collaborative learning not only motivated students to work hard but also enhanced their primitive interpersonal interaction. In their research, they conducted a study to test the importance of positive interdependence against group membership without positive interdependence. The results indicated that positive interdependence was necessary to make every member feel responsible for working hard to ensure that both they and their teammates were successful. Individuals in the cooperative condition had strongly belief that they should study because classmates expected them to. Positive interdependence had to be structured to increase student achievement. Lanyard (1992) studied that teamwork under collaborative learning had increasing importance and popularity in vocational education because it could enhance students learning as well as their interpersonal skills.

IMPLICATIONS OF CONSTRUCTIVISM FOR TEACHING AND LEARNING

• Teachers act as facilitators, supports, guides and models of learning.

• Learning concerns adjusting our mental models to accommodate new experiences.

• Learning concerns 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 establish the criteria on which their work is assessed.

• Teachers know more and shouldn't let students muddle around.

• Student learning depends on background knowledge – that's why teaching facts is 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).

• Learners often produce unique and personal knowledge.

• Naïve beliefs are used as the starting point for further discussion, exploration and evaluation for development, rather than being discounted as 'wrong'.

• Learning for transfer is important.

• 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.

CONCLUSION

Constructivism is a new approach in education that claims humans are better able to understand the information they have constructed by themselves. According to constructivist theories, learning is a social advancement that involves language, real world situations, and interaction and collaboration among learners. The learners are considered to be central in the learning process. Learning is affected by our prejudices, experiences, the time in which we live, and both physical and mental maturity. When motivated, the learner exercises his will, determination, and action to gather selective information, convert it, formulate hypotheses, test these suppositions via applications, interactions or experiences, and to draw verifiable conclusions. Constructivism transforms today's classrooms into a knowledge-construction site where information is absorbed and knowledge is built by the learner. Constructivist learning environments promote the learner to gather, filter, analyze, and reflect on the information provided and to comment on this

knowledge so that it will result in individualized comprehension and private learning.

This type of group learning will reduce the dissemination of false data, prejudice, and atrocities among diverse groups and help build a moral, scientific, information society in the new millennium. Be it developmental or social as suggested by Piaget and Vygotsky respectively, learning is the central activity for humans in search for understanding the causes and effects of natural phenomena, the progress of social events, and the meaning of life. By using such learning approaches we can better introduce our children to the world that God has created for us, and lead them to think about the miracles that are all around us.

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