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Constructivist Approach to Learning: An Analysis of Pedagogical Models of Social Constructivist Learning Theory

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Abstract

The social constructivist approach is one of the dominant perspective that flourished the learner centered pedagogical model in education. This model of learning aims to imply the learners' autonomy and flexibility in instructional setting. This social constructivist highlights the learners' autonomy, reflective thinking, problem solving, collaborative learning, scaffolding as well as discussion and debates as the major learning principles in education. In the teaching learning discourse, the social constructivist learning model established the critical, problem solving and collaborative learning strategies to enhance the meaningful leaning achievement. And, the intra and interpersonal level of interaction play the crucial role in promoting the meaningful learning for tutoring process. This theory claims that the sign (language), ZPD, MKO and scaffolding are the key variables for the constructivist pedagogical model of learning. In this process, students are in the central place where they play the role of active thinker, co-constructor and active participant in learning process. Another side, teachers are only as the facilitator, guide, and stimulators within the whole instructional process in education.

Keywords: Social constructivist, collaborative learning, scaffolding, pedagogical model

Introduction

The constructivist approach grounded with the intellectual roots of Jean Piaget, L. S. Vygotsky, J. Bruner and Gestalt psychologists as well as the work of educational philosopher John Dewey (Woolfolk, 2008; Edwards, 2005). Through the work of these intellectuals, this approach to learning established the renowned pedagogical model of teaching (Santrock, 2011; Schunk, 2012). The constructivism was emerged after the behaviorist movement especially counteracting the limitations of stimulus response fashion of behavior modification (Jones & Brader, 2002). This approach believes that each individual constructs the own mental or cognitive structure and s/he interprets his/her experiences in particular situations. The learning is an active mental process where the learners construct new ideas, knowledge, and skills on the basis of current knowledge and past experiences (Woolfolk, 2008; Santrock, 2011). This theory emphasis on the individual (within the greater social context) and attention to the prior beliefs, knowledge, and skills of learners. (Jones & Brader, 2002). This approach believes that the knowledge and beliefs have been built over the generations as a member of the community where they gradually accepting the knowledge (Edwards, 2005). However, the nature of constructivism is an individual or group

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meaning making process (Richardson, 2003). This is the theory of learning and forcefully underpinning in the field of education. It raises the personal meaning making process in learning (Hunag, 2010). At present, the constructivism asserts that learning is an active process rather than passively acquiring knowledge. In this process, students are welcome to become active and involved in knowledge construction process (Wolfolk, 2008; Santrock, 2011; Schunk, 2012). The individual or psychological, social and radical constructivism are the popular forms of constructivism. Among these forms, I have only analyzed the pedagogical model of Vygotsky's social constructivism in classroom teaching.

Vygotsky's basic premise is that all knowledge and knowledge-making tools, such as language and symbolism, inherent to a community, actually reside within a socio-historical context (Edwards, 2005). Vygotsky believes that the importance of reciprocal process in meaning making process for learning. For this, the meanings are first enacted socially and then internalized individually where each individuals develop the internal conceptualizations through the process social interactions. Within this process, the culture determine the people's meaning making process. Piaget views the meaning making process differently than Vygotsky where put the value of cognitive schema for the internalization of environmental antecedents (Santrock, 2011; Schunk, 2012). But, the Vygotsky conversely viewed objects in the environment as having a psychological as well as a physical aspect, and so, as being psychologically determined. The objects that are appear in the environment including other people, that are in important ways what we perceive them to be, and their perceived properties are to a great extent culturally determined (Woolfolk, 2008). Though, the people, parents, peers and teachers could play the fundamental role in children's learning. Through their roles, students will develop their understanding by transferring and using their knowledge, skills and ideas (Santrock, 2011). These understanding are considered as higher-level cognitive objectives in a commonly used system of educational objectives. Vygotsky particularly concerned with the role of language in thinking and learning. The language and thought of individual intimately related each other. The child seems to use the language for superficial social interaction and at some point, this language is the tool to structure the child's thinking. Due to these points, the language as the crucial tool for cognitive development process. (Woolfolk, 2008).

In social constructivism, the zone of proximal development is important concept for cognitive development of learners. The zone of proximal development is the distance between actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers. The all learning occurs in this zone, which bridges the gap between what is known and what can be known, through adult/instructor guidance or peer collaboration (Woolfolk, 2008; Santrock, 2011; Schunk, 2012). Similarly, the culture is the prime factors to construct the knowledge and it can determine what skills are important such as computer skills, communication skills, team work skills etc. (Richardson, 2003)

Methods and Materials

This paper have developed based on the different theoretical and conceptual articles, books and research articles and research reports. Reviewing theses literatures, I have analyzed the pedagogical model of social constructivist approach of Vygotsky's theory. This conceptual paper is the product of others ideas findings and conclusions of social constructivist approach to learning. Mainly, I have followed the educational psychology related book of Woolfolk (20080, Santrock

(2011) and Schunk (2012) to prepare the article. Similarly, I have also used the different research articles and reports of scholars in this articles.

Results and Discussion

The results are covered within the three major themes viz. theoretical position of social constructivist approach to learning, learning principles of social constructivism and instructional model of social constructivism. Based on the different literatures, I have discussed the learning principles and pedagogical model of social constructivist approach to learning.

Theoretical Position of Social Constructivist Approach to Learning

The constructivist approach focuses on the attention to the individual in learning. This learning approach respect to student' background in developing understanding in a particular object through the group dialogue, conversion through direct instruction, reference to text, exploration of website or some other means. It expects to create the opportunities for students to determine, challenge, change or add in existing beliefs and understandings (Richardson, 2003). This approach also believes that the learners construct their own meaning; new learning builds on prior knowledge; learning is enhanced by social interaction; and develops through "authentic" tasks. The learning moves from experience to knowledge and not the other way around. In the constructivist classroom, the activities lead to the concepts and students construct their meanings. Through classroom activities, the abstract concepts will become meaningful, transferable, and retained with the help of performance of a concrete activity (Cooperstein & Weidinger, 2004). Similarly, this approach believes that the teachers and peers are play the joint contributors roles in students learning. They both can jointly contribute in students' learning considering with the major methods of learning viz. scaffolding, cognitive apprenticeship, tutoring and cooperative learning (Santrock, 2011).

Scaffolding is the technique of providing changing levels of support over the course of a teaching session by the more-skilled individual such as teacher or more advanced peer of learners. It provides the guidance to fit the students' current performance (Santrock, 2011; Schunk, 2012). It is effective strategies to access the zone of proximal development. The teacher could play the crucial role to provide opportunity for extending the students' existing knowledge and skills in teaching. The teacher need to be engaged for managing the motivated learning environment to the students. In addition, the teacher must look for discrepancies between students' efforts and the solution, control for frustration and risk, and model an idealized version of the act (Hausfather, 1996).

Another learning principle the cognitive apprenticeship is a term for the instructional process that teachers provide and support to the student for developing cognitive strategies (Notari, 2003). It involves a beginner and an expert, who supports the beginner, understands of and use of a culture's skills (Santrock, 2011). This is directly related to situated cognition. In situated cognition, students collaborate with one another and their instructor developing shared understanding. The instructors believe that the culture of learning can be cultivated. In this process, students process the concept and information through their multiple opinions, perspectives and belief across the group. If we allow to express these ideas openly, there will be strengthened their concept, understanding and value. For this, the freedom of speech play the crucial role in meaning making process (Notari, 2003). The tutoring process facilitates the cognitive apprenticeship. It can take place between an adult and child or a more skilled child and a less skilled child. The individual

tutoring is more effective. Classroom aids, volunteers and mentors can serve as tutors to support teachers and classroom learning. For this, the cooperative learning occurs when students work in small groups to help each other learn. This learning strategy is more effective for improving students' achievement, especially when group goals and individual accountability are instituted. It works better for complex than simple tasks. It often improves intrinsic motivation, encourages student interdependence and promotes deep understanding (Santrock, 2011).

The social constructivist approach emphasizes on the reciprocal teaching for cognitive development of learners. The reciprocal teaching allows for the creation of a dialogue between students and teachers. This is a two way communication process that encouraging the students in classroom discourses (Driscoll, 1994). It clears that the constructivism is a theory of learning, not a theory of teaching. Though, it difficult to confine the elements of effective teaching learning activities (Richardson, 2003). The implication of Vygotsky's model for teaching promotes to establish the opportunities for students to learn through social interactions with others- with the teachers and peers- in constructing knowledge and understanding. The Piaget model emphasizes that students construct knowledge by transforming, organizing and reorganizing previous knowledge and information. Both these models saw that teachers as facilitators, not directors (Santrock, 2011, p. 375).

Santrock (2011) explains the Social constructivist programs provide the way to use learners' ideas and techniques in the classroom for meaning making process. The renowned program is fostering a community of learners (FCL) that encourages reflection and discussion through the use of adults as role models, children teaching children and online computer consultation. FCL uses reciprocal teaching, in which students take turns leading a small-group discussion. It can involve a teacher and a student as well as interaction between students. Another program is school for thought. This program combines the activities from three programs such as jasper project, fostering a community of learners and computer supported intentional learning environments. In this program, teacher guide students in becoming architects of their knowledge (Santrock, 2011, p. 375). Through these programs, knowledge is constructed either individually based on what student brings through prior experience or collaboratively by what participants contribute. For this, it needs to establish the student centered classroom environment that must focus on students' learning rather than teachers' traditional teaching approach. The nature fo classroom environment must be democratic as far as sharing of responsibility and decision making is concerned. The role of teacher as a facilitator or guide not as a director where the tutor stimulates learner's in exploration of various ideas. Within this environment student is an active thinker, active co-constructor of knowledge with others rather than a passive listener (Thakur, 2014).

Consequently, constructivist classroom provides an opportunities to the students for developing meaningful understanding as well as helps to understand the nature of knowledge and complex cognitive maps with connecting their bodies of knowledge and understanding (Richardson, 2003). Another side, the constructivist learning dictates that the concept follows the action rather than precede it. The activity leads to the concepts; the concepts do not lead to the activity. In learning, the standard classroom procedure is turned upside down – no lectures, no demonstrations, and no presentations. From the beginning, students engage in activities through which they develop skills and acquire concepts (Cooperstein & Weidinger, 2004). Thus, the learning usually begins with a question, a case, or a problem. In typical constructivist sessions, the student work on a problem; the instructor intervenes only as required to guide students in the appropriate direction. Essentially, the instructor presents the problem and lets the students go in

this constructivist framework (Cooperstein & Weidinger, 2004). Moreover, it focuses on the social context and larger community of learners. This is the major shift from teacher dominated instruction into the individually-based instruction which incorporates and embeds teaching within the larger community of peers, younger students, as well as those who are older. Finally, constructivism's greatest contribution to education may be through the shift in emphasis from knowledge as a product to knowing as a process. This legacy of constructivism will likely prove the lasting and meaningful shift in the structure of schooling (Jones & Brader, 2002).

Learning Principles of Social Constructivism

In sum, based on this synthesis of the literature, the theory of social constructivist learning includes seven major principles: 1) learning personalization, 2) reflective thinking, 3) problem-solving and investigation, 4) relevance to daily-life, 5) collaborative learning, 6) discussion, and 7) teacher scaffolding. These seven principles are presented in the given table with its major description.

Table. 1.

Constructivist Learning Principles

Learning Principles	Description
Learning personalization	- curriculum and instruction designed to match students' learning nature and individual needs
	- autonomy to find their own ways of learning (self-management in their own learning paces and how they learn)
	- impose flexible learning standards, criteria, and judgment system
Reflective thinking	- stimulate thinking skills
	- critical evaluation of knowledge
	- question teachers' instruction
Problem-solving and investigation	- learning by doing (practice)
	- stimulate skills and process of inquiry in solving problems and doing research
	- discovery learning
Relevance to daily-life	- learn in authentic situations, such as in daily life and on the job
	- relevant to students' experiences
Collaborative learning	- a community of learners
	- group-work tasks
	- knowledge (expertise) sharing
	- learn together and help out each other
Discussion	- discourse, debates, ongoing conversation

	- open expression of ideas
	- negotiation
	- verbally (linguistically) social interaction
Teacher scaffolding	- guidance from teachers to achieve tasks
	- challenge difficult tasks
	- learning encouragement and motivation

Adopted from Haruthaithanasan, 2010

Instructional Models of Social Constructivism

The social constructivism offers the learners' autonomy and freedom in learning. It also focuses on the interactive process of learning. Basically, the social constructivist approach highlighted the cooperative learning, problem-based learning, discovery learning, inquiry based learning and cognitive apprenticeships as a major instructional models for classroom teaching.

Cooperative learning

The social constructivist believes that the student-student and student-teacher interaction is an important for efficient classroom teaching. The interaction process is the beginning points of cognitive development of learners. For the effective classroom interaction, the cooperative learning process facilitates to the learners in active participation (Liang & Gabel, 2005). In cooperative learning process, students need to work in mixed-ability groups. After the group works, it needs to reward the students on the basis of succession in group. It produces effective results if we consider the major elements viz. positive interdependence, individual accountability and social skills among the group members. Jigsaw, reciprocal questioning, and learning together are the major strategies for enhancing both cognitive and social learning (Thakur, 2014).

Inquiry based learning

The inquiry based learning origin from the Socratic dialogue. But, at now, it is one of the branch of social constructivist approaches to learning (Lam, 2011). This begins when the teacher presents a puzzling question. And then, the students will formulate hypotheses to explain the event and circumstances. After that, they will collect the relevant data to test the hypotheses and draw conclusions in the inquiry based learning (Thakur, 2014).

Problem/project based learning

This may follow the same procedure as inquiry based learning. But, the students are confronted with a real problem which are meaningful for them. The student engage in the problem or project to find the salutations. From this model of learning, the students able to develop the multiple perspectives in a phenomenon or events. This learning principle adopts the flexibility process for developing thinking and reasoning skills where students compare and contrast various possibilities in order to draw conclusions (Thakur, 2014). In this learning strategy, the tutor need to be considered the elements like the problem/project include the overview, rational, clearly defined objectives, list of materials and resources, set out enabling tasks and assessment criteria and rubrics for effective implementation (Roessingh & Chambers, 2011).

Cognitive apprenticeships

Another instructional model cognitive apprenticeships refers to "a relationship in which an expert stretches and supports the less experienced learner" through "scaffolding" and "tutoring". The less able learners are provided assistance to enhance their competencies and skills. In this model, the both teachers and more skilled peers encourages the students to work independently (Thakur, 2014).

The discussion clears that Vygotsky's socio-cultural learning theory take the learning as a social process that determine by the society and culture of individual learners. It emphasizes the social interaction that plays the fundamental roles for cognitive development of learners. The both intra-personal and interpersonal interaction have the crucial roel in students' learning. Similarly, the potential cognitive development is limited within the zone of proximal development (ZPD). For the exploration of area of development, the teachers and others more knowledgeable peers can facilitate or support for the understanding of different knowledge domains and development of complex cognitive skills. The collaborating learning, discourse, modeling and scaffolding are the strategies for learning. This theory emphasizes the socially rich environments where teachers, students and others outside experts construct the knowledge with collaboratively (UNESCO, 2005). Another side, the social constructivist learning approach also promotes the students' autonomy. If we encourage the learners to adopt critical, problem solving and collaborative learning strategies, they enable to enhance the meaningful learning achievement in assign courses (Karaduman, 2007). Through this approach to teaching, the feedback procedures, negotiated and cooperative activities promotes the students in making their own frame of knowledge (Kesal, 2003). Among the strategies, the cooperative and collaborative strategy are widespread use in the name of teams-games-tournament, student team's achievement division, jigsaw, numbered heads together, and peer-peer tutoring (Jones & Brader, 2002).

Conclusion

The social constructivist approach to learning created the big discourse in education. The opens the door to shift the scientific and mechanical way of pedagogical model into the constructive and cooperative model of learning. This approach established the cooperative and problem based learning principles instead of competitive learning principles. Similarly, the students' autonomy in meaning making process is another crucial dimension that established by the social constructivist approach. Though, most of the classroom activities are still dominating by the mechanical process of learning in our context.

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