Journal of Social Sciences, Literature and Languages

Journal of Social Sciences, Literature and Languages

Available online at jssll.blue-ap.org

©2015 JSSLL Journal. Vol. 1(1), pp. 9-16, 30 April, 2015

Review of Constructivism and Social Constructivism

Roya Jafari Amineh[1*] and Hanieh Davatgari Asl[2]

1. Ph.D. Candidate in TEFL, Department of English Language Teaching, Ahar Branch, Islamic Azad University, Ahar, Iran
2. Ph.D. in TEFL, Department of English Language Teaching, Ahar Branch, Islamic Azad University Ahar, Iran

Corresponding Author: Roya Jafari Amineh

Received: 20 March, 2015 *Accepted: 11 April, 2015* *Published: 30 April, 2015*

ABSTRACT

Although constructivism is a concept that has been embraced recently, a great number of sociologists, psychologists, applied linguists, and teachers have provided varied definitions of this concept. Also many philosophers and educationalists such as Piaget, Vygotsky, and Perkins suggest that constructivism and social constructivism try to solve the problems of traditional teaching and learning. This research review represents the meaning and the origin of constructivism, and then discusses the role of leaning, teaching, learner, and teacher in the first part from constructivist perspective. In the second part, the paper discusses the same issues, as presented in the first part, from social constructivist perspective. The purpose of this research review is to make EFL teachers and EFL students more familiar with the importance and guidance of both constructivism and social constructivism perspectives.

Keywords: Constructivism, Social, Constructivism.

INTRODUCTION

1.1. Origin of Constructivism

Although it has become popular only recently, the origins of constructivism are believed to date back to the time of Socrates, who claimed that teachers and learners should talk with each other and interpret and construct the hidden knowledge by asking questions (Hilav, 1990, cited in Erdem, 2001). Gruber and Voneche (1977) also state that the term constructivism most probably is derived from Piaget's "constructivist" views (1967), as well as from Bruner's (1996) "constructivist" description of discovery learning.

Furthermore, Perkins (1992) points out that constructivism has multiple roots in psychology and philosophy of this century: the developmental perspective of Jean Piaget (1969) and the emergence of cognitive psychology under the guidance of figures like Jerome Bruner (1966).

1.2. What is constructivism?

Constructivism is a synthesis of multiple theories diffused in to one form. It is the assimilation of both behaviorialist and cognitive ideals. The "constructivist stance maintains that learning is a process of constructing meaning; it is how people make sense of their experience" (Merriam and Caffarella, 1999, p. 260).

Mvududu and Thiel-Burgess (2012) state that constructivism is widely touted as an approach to probe for children's level of understanding and to show that that understanding can increase and change to higher level thinking. Thus, constructivism refers to how of learning and thinking .Constructivism describes the way that the students can make sense of the material and also how the materials can be taught effectively. With Constructivism as an educational theory in mind, the teachers should consider what students know and allow their students to put their knowledge in to practice.

Kanselaar (2002) stated that there are two major strands of constructivist perspective, (a) constructivist perspective and (b) social-cultural perspective (Socio-constructivist perspective).

a.Cognitive constructivism, an individualistic perspective is based on the work of Swiss developmental psychologist Jean Piaget. Piaget's theory includes two major parts, a"ages and stages" component that predicts what children can and cannot understand at different ages, and a" theory of development" that describes how children develop cognitive abilities. Piaget (1977) asserts that learning does not occur passively; rather it occurs by active construction of meaning. He explains that when we, as learners, encounter an experience or a situation that challenges the way we think, a state of disequilibrium or imbalance is created. We must then alter our thinking to restore equilibrium or balance. For this purpose, we make sense of the new information by associating it with what we already know, that is, by attempting to assimilate it into our existing knowledge. When we are unable to do this, we use accommodation by restructuring our present knowledge to a higher level of thinking. b.social-cultural constructivism (Socio-constructivist perspective)

Lev Vygotsky's (1986-1934) main relevance to constructivism comes from his theories about language, thought, and their mediation by society. Vygotsky holds an anti-realist position and states that the process of knowing is affected by other people and is mediated by community and culture.

An important part of Vygotsky's work (1986) is critical upon Piaget's contribution to constructivism. While Piaget believes that development precedes learning, Vygotsky believes the opposite. On the topic of the development of speech, Piaget said that the children's egocentric speech goes away with maturity and is the transformed in to social speech. On the contrary, Vygotsky stated that the child's mind is inherently social in nature and so speech moves from communicative social to inner egocentric. Therefore, since the development of thought follows the development of speech, Vygotsky claims that thought develops from society to the individual and not the other way.

1.2. Constructivism in practice

Constructivism as an educational theory holds that teachers should first consider their students' knowledge and allow them to put that knowledge in to practice (Mvududu & Thiel-Burgess ,2012) .In other words, Mvududu and Thiel-Burgess represent constructivist view as one of the leading theoretical positions in education. Since there is no universal definition of constructivism, some consider it as a theory of learning, others as a theory of knowledge; although some other scholars and theorists consider it as a theory of pedagogy. Additional views are theory of science, educational theory or an all-encompassing worldview.

Cooper (1993) states that like psychology, there has been a paradigm shift in the designed instruction which can be described as a shift from behaviorism to cognitivism and then from cognitivism to constructivism. This paradigm shift indicated that the field of education itself has undergone a significant shift in the nature of human learning and the conditions that best promote the different conditions of learning. Cooper also proposes that constructivist perspective on learning have become so influential in the past twenty years that they represent a paradigm shift in the epistemology of knowledge and theory of learning.

Phillips (2000) writes about a number of constructivist traditions. He proposes that educational constructivism itself includes a number of variations and the two most popular types of these variations are:

1) Jean Piaget's personal constructivis
2) Lev Vygotsky's social constructivism

Piaget and Inhelder (1969) suggest that discovery is the most important and fundamental basis of learning. While Vygotsky (1978) believes that Piaget's emphasis focuses too much on internal processes of individuals. Vygotsky considers cognitive development primarily as a function of external factors such as cultural, historical, and social interaction rather than of individual construction. Vygotsky believes that people master their behavior through psychological tools and he introduces language as the most important psychological tool.

Many educators such as Bailey and Pransky (2005) agree with Vygotsky (1978) about the importance of culture in construction of knowledge, yet Bailey and Pransky (2005) emphasize that pedagogical theories such as constructivism don't consider the deep impact of culture on learning and knowledge.

However, the following parts show whether knowledge is viewed as individual construction has implications for the ways in which learning is conceptualized, it has implications for the ways in which learning is conceptualized (Mvududu & Thiel-Burgess , 2012).

1.3. Constructivist view of learning

Due to complexities and diversity of perspectives on constructivism, Hoover (1969) introduces a common set of principles for these perspectives that can be operationalized. Hoover expressed two important notions which encompass the simple idea of constructed knowledge. The first notion is that learners construct new understandings using their current knowledge. In other words, the learners' prior knowledge influences their new knowledge.

The second notion is that learning is not passive. Instead learning is an active process in which learners negotiate their understanding in the light of what they experience in the new learning situation. If what learners encounter is not consistent with

their current understanding, their current knowledge can change in order to accommodate new experience. Thus learners cannot be passive and they remain active throughout this process.

Cook (1992) also advocates the use of negotiation in the curriculum .When learners negotiate, ask questions, and try hard to find the answers themselves, what they learn will be more meaningful to them (Cook,1992).It this curriculum, a sense of ownership in learners for their work and a commitment to their learning can occur.

Bruner (1992) comments on negotiating the curriculum as Negotiating the curriculum means deliberately planning to invite students to contribute, and to modify, the educational program, so that they will have a real investment both in the learning journey and the outcomes. Negotiation also means making explicit, and then confronting, the constraints of the learning context and the non-negotiable requirements that apply. (p. 14)

Twomey Fosnot (1989) defines constructivism according to four principles: (1) learning depends on what individuals already know, (2) new ideas occur as individuals adapt and change their old ideas, (3) learning involves inventing ideas rather than mechanically accumulating a series of facts, (4) meaningful learning occurs through rethinking old ideas and coming to new conclusions about new ideas which conflict with our old ideas.

In constructivism, learning is represented as a constructive process in which the learner is building an internal illustration of knowledge, a personal interpretation of experience. This representation is always open to modification, its structure and linkages forming the ground to which other knowledge structures are attached. Learning is then an active process in which experience has an important role in understanding and grasping the meaning. This view of knowledge does not necessarily reject the existence of the real world, instead it agrees that reality places constrains on the existing concepts, and contends that all individuals' knowledge of the world is the interpretations of their experiences. Furthermore, conceptual growth is the result of various perspectives and the simultaneous changing of individuals' internal representations in response to those perspectives as well as through their experience (Bednar, Cunnigham, Duffy, Perry, 1995 cited in Duffy and Jonassen,1991).

Christie (2005) point out that constructivism is a learning theory in which learning is both an active process and a personal representation of the world. In this theory, knowledge is constructed from the experience and is modified through different experiences. Problem solving and understanding are emphasized in this theory. Authentic tasks, experiences, collaboration, and assessment are among other important factors in this view of learning.

Hare , (2005) state that learner-centric instructional classroom methods are emphasized in the constructivist learning approach. Also Hare , argue that educators who follow this approach must build their school curriculum around the experience of their students. Hare state that there is a trend for incorporating technology into the classrooms in order to support instructional learning methods. However recent studies have revealed that technology is not efficiently integrated with the constructivism and constructivist leaning.

Piaget's constructivism which is based on his view of children's psychological development insists that discovery is the basis of his theory. Piaget (1973) argues that to understand means to discover or reconstruct by means of rediscovery. Piaget discusses that children go through stages in which they accept ideas they may later change or do not accept. Therefore, understanding is built up step by step through active participation and involvement and learners cannot be considered as passive in any of the steps or stages of development.

Contrary to Piaget, Bruner (1973) states that learning is a social process, whereby students construct new concepts and knowledge based on their current knowledge. In this view of constructivism, the student selects information, constructs hypotheses, and makes decisions, with the aim of integrating new experiences into his existing knowledge and experience. Bruner emphasizes the role of cognitive structures for providing meaning and organization of experiences and suggest learners to transcend the boundaries of the given information. For him, learner independence lies at the heart of effective education and he argues that this independence can be increased when the students try to discover new principles of their own. Moreover, curriculum should be organized in a spiral manner so that students can build upon what they have already learned.

1.4. Constructivist view of teaching

According to Prawat (1992), most of the interpretations of the meaning of constructivist theory agree that it involves a dramatic change in the focus of teaching and puts the students' own efforts to understand at the centre of the educational enterprise.

Gray (1997) proposes that constructivist teaching is based on the learning that occurs through learners' active involvement in construction of meaning and knowledge. Constructivist teaching just promotes learners' motivation and critical thinking, and encourages them to learn independently.

Hoover (1996) argues that constructivism has important implications for teaching. First, teaching cannot be viewed as the transmission of knowledge form enlightened or known to unenlightened or unknown. Constructivist teachers are not monologue teachers who just teach completely new lessons. Rather constructivist teachers have the role of guides for the students and provide their students with opportunities to test the adequacy of their current understandings.

Second, constructivist teachers consider the prior knowledge of their learners and provide learning environments that exploit inconsistencies between learners' current knowledge and their new experiences (Clements, 1997; Hoover, 1996). The difference

between learners challenges the teachers and does not allow them to use the same method or the same materials while teaching to these students.

Third, since learners' involvement is emphasized in the constructivism, the teachers must engage students in learning, and bring their students' current understanding to the forefront (Hoover, 1996). Constructivist teachers can ensure that learning experiences include problems that are important to the students, and are not just related to the needs and interests of teachers and the educational system.

Fourth, Hoover (1996) reminds that sufficient time is needed to build the new knowledge actively. During this time, the students reflect on their new experiences and try to consider the relationship between these experiences and the previous ones in order to have an improved (not "correct") view of the world.

Similar to the effect of negotiation as an important aspect of a constructivist classroom on learning, negotiation also unites teachers and students in a common purpose. Smith (1993) confirms that negotiating curriculum means "custom-building classes every day to fit the individuals who attend" (p. 1). Bruner (1992) reminds that teachers must talk openly about the new knowledge and constraints in the negotiations.

1.5. Constructivist view of the learner

Constructivism believes that learner's conceptions of knowledge are derived from a meaning-making search in which learners construct individual interpretations of their experiences. The learners' constructions during the examination, questioning and analyzing of tasks and experiences yield knowledge whose correspondence to external reality may have little verisimilitude. However, most of the learners' constructions is filtered through a process of social negotiation or distributed cognition (Brown, A.L., Ash,D., Rutherfored, M., Nakagawa, K., Gordon, A., and Campione, J.C., 1995).

Applefield, Huber, and Moallem (2000) point out that the role of the learner in constructivism is conceived as building and transforming knowledge. Although Applefield, Huber, and Moallem remind that there are different notions of the nature of knowledge and knowledge construction process, Moshman (1982) identifies three types of constructivism as exogenous constructivism, endogenous constructivism and dialectical constructivism.

Exogenous constructivism, which is related with philosophy of reality, proposes that the learner constructs and reconstructs mental representations which reflect the organization of the world. In this view, the learners' schemata and networks of information are based on the external realities of the environment that they experience.

Endogenous or cognitive constructivism is based individual construction of knowledge (Cobb, 1994; Moshman, 1982).This type of constructivism is derived from Piagetian theory (1977, 1970) and describes how individuals can resolve mental disequilibrium when they encounter internal cognitive conflict. Learners' negotiation on the meaning of their experiences and use of individual or socially mediated discovery-oriented learning activities are emphasized in this perspective.

Furthermore, Applefield, Huber, and Moallem (2000) introduce the importance of collaborative social interaction and context in social or dialectic constructivism. Social constructivism represents the most general extant perspective of constructivism with its emphasis on social exchanges for learners' cognitive growth and role of culture and history in their learning.

1.6. Constructivist view of teacher

In constructivism, teachers and peers support and contribute to learning through the concepts of scaffolding, cognitive apprenticeship, tutoring, and cooperative learning and learning communities (Brown, 1994 & Rogoff, 1998).

In a constructivist classroom, teachers create situations in which the students will question their own and each other's assumptions. So a constructivist teacher needs to create situations that challenge the assumptions of traditional teaching and learning. Belenky, Clinchy, Goldberger, and Tarule (1986) cited in Gray (1997) report that at the constructivist level of knowing and thinking, we always reevaluate our assumptions about knowledge; our attitude towards "the expert" is transformed; we do not have any problem by ambiguity but are enticed by complexity; and we take on a never-ending quest for truth and learning where truth is seen as a process of construction in which the knower participates. A constructivist teacher's perception of expertise in the classroom is based on the experience of his or her students in interaction with each other and with their teacher, and his or her tolerance of ambiguity is high as evidenced in the tendency to create complexity

Lester and Onore (1990) indicate that teachers' personal beliefs about teaching (their construct systems) are important and determine the kinds and extents of changes they are able to make. Also Lester and Onore state that teachers view teaching and the situation through the lens of their personal construct system. Thus the main construct affecting a teacher's ability to teach in a transactional, constructivist way is the belief that knowledge is constructed by human beings. Further, teachers would need to make a shift in thinking and change what they believe about knowledge in order to really change their teaching.

According to Mezirow(1990) cited in Gray(1997), reflecting on teaching practice contributes to the teacher's ability to cross the bridge in terms of how he or she thinks and believes about teaching. This enables the teacher to move, for example, from a transmissional instructional practice which is common in the traditional teaching to a constructivist and transactional one which

is the purpose of constructivism).Reflection also involves a critique of the assumptions on which the teachers' beliefs have been built, and through reflection, their perspectives are transformed

Lester and Onore (1990) propose that genuine learning or change does not comes from ignoring all prior learning in order to relearn, but "from questioning or reassessing our existing beliefs about the world" (p. 41):

Change can occur through having experiences that present and represent alternative systems of beliefs and trying to find a place for new experiences to fit into already held beliefs (p. 41).

Giroux (1986) notes that teachers are often trained to use various models of teaching and evaluation, yet are not taught to be critical of the assumptions that underlie these models. He advises that teachers must be more than technicians but transformative intellectuals engaging in a critical dialogue among them.

Lester and Onore (1990) note that holding a constructivist view of knowledge can enable a teacher to explore and form new ideas about teaching and learning. But the teacher's job in holding this view may need more attention when he or she has to consider all that impinges on teaching such as the existing school system and its policies, and the school culture.

As one of the instances of the effect of constructivism on teaching, Carpenter and Fennema (1992) in their Cognitively Guided Instruction (CGI) of mathematic program stated that elementary school teachers were given extensive training in constructivist methods such as complex problems, modeling, group problem solving, and teaching of metacognitive strategies and these teachers have improved in higher level thinking skills as well as solid achievements in traditional computational skills. Neale, Smith,and Johnson (1990) declare that in addition to positive outcomes of constructivism in science (Neale, Smith, & Johnson,1990), similar successes have been reported in reading (Duffy & Roehler, 1986) and in writing (Bereiter & Scardamalia, 1987).

2.1. What is Social constructivism?

Social constructivism is a theory of knowledge in sociology and communication theory that examines the knowledge and understandings of the world that are developed jointly by individuals. This theory assumes that understanding, significance, and meaning are developed in coordination with other human beings. The most important elements in this theory are (a) the assumption that human beings rationalize their experience by creating a model of the social world and the way that it functions and, (b) the belief in language as the most essential system through which humans construct reality (Leeds-Hurwitz, 2009).

Vygotsky (1978) states that cognitive growth occurs first on a social level, and then it can occur within the individual. To make sense of others and construct knowledge on such a social level allow learners to relate themselves to circumstances. (Roth, 2000).Roth also states that the roots of individuals' knowledge are found in their interactions with their surroundings and other people before their knowledge is internalized.

According to Derry (1999) and McMahon (1997), culture and context in understanding what occurs in society and knowledge construction based on this understanding are emphasized in social constructivism.

Kim (2001) point out that social constructivism is based on specific assumptions about reality, knowledge, and learning .All of the mentioned assumptions is described in detail below:

a. Reality: The first assumption of social constructivism is that reality does not exist in advance; instead it is constructed through human activity. Kukla(2000) argues that members of a society or group together (and not individual) invent the properties of the world or group. Furthermore, social constructivism believes that since reality is not made before social invention, it is not something that can be discovered by individuals.

b. Knowledge: Social constructivism represents knowledge as a human product that is socially and culturally constructed (Ernest, 1999; Gredler, 1997; Prat & Floden, 1994, cited in kim,2001). Individuals can create meaning when they interact with each other and with the environment they live in.

C. Learning: This assumption of Social constructivism stresses that learning is a social process. Learning does not take place only within an individual, nor is it a passively developed by external forces (McMahon, 1997). Social constructivists state that meaningful learning occurs when individuals are engaged in social activities such as interaction and collaboration.

2.2. Strong social construction versus Weak social construction

Smith (2010) critically analyzes various trends in sociology and distinguishes between "weak" and "strong" forms of social construction. Smith proposes that the former "need some maintenance" but the latter are "simply bankrupt" (134). Strong constructionism is ultimately self-stultifying but managed to take hold in late modern thought because "conditions were ripe in the last decades of the twentieth century for many people in particular knowledge class positions to want to believe it" (147).

Against the strong theory and for the weak theory, Searle (1995, p.62) insists, "it could not be the case, as some have maintained, that all facts are institutional [i.e., social] facts, that there are no brute facts, because the structure of institutional facts reveals that they are logically dependent on brute facts. To suppose that all facts are institutional [i.e., social] would produce an infinite regress or circularity in the account of institutional facts. In order that some facts are institutional, there must be other facts that are brute [i.e., physical, biological, natural]. This is the consequence of the logical structure of institutional facts."

2.3. Social constructivist view of learning

Social constructivism, strongly influenced by Vygotsky's (1978) work, suggests that knowledge is first constructed in a social context and is then internalized and used by individuals (Bruning , 1999; M. Cole, 1991; Eggan & Kauchak, 2004). Social constructivists believes that the process of sharing individual perspectives-called *collaborative elaboration* (Meter & Stevens, 2000)-results in learners constructing understanding together and this construction cannot be possible alone within individuals (Greeno , 1996). Woolfolk (2010) represent a few strategies such as reciprocal questioning, jigsaw classroom, and structured controversies for cooperative learning.

Social constructivist scholars view learning as an active process where learners should learn to discover principles, concepts and facts for themselves, hence they encourage and promote the guesswork and intuitive thinking in learners (Brown 1989; Ackerman 1996). In other words, social constructivist highlights that reality is not something that individuals can discover because it does not pre-exist prior to their social invention of it. Other constructivist scholars agree with this and emphasize that individuals make meanings through the interactions with each other and with the environment they live in.

Moreover, Vygotsky (1978) believes that learning is a continual movement from the current intellectual level to a higher level which more closely approximates the learner's potential. This movement occurs in the zone of proximal development (ZPD) as a result of social interaction. The zone of proximal development (ZPD) has been defined as "the distance between the actual developmental 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" (Vygotsky, 1978, p. 86).Vygotsky emphasizes that human mental activity is a particular case of social experience. Thus, an understanding of human thinking and knowledge depends on an understanding of social experience and the force of the cognitive process derives from the social interaction.

2.4. Social constructivist view of teaching

According to Shunk (2000) , social constructivist teaching approaches emphasize reciprocal teaching, peer collaboration, cognitive apprenticeships, problem-based instruction, web quests, anchored instruction, and other methods that involve learning with others .Instructional models based on the social constructivist perspective highlight the need for collaboration among learners and with practitioners in the society (Lave & Wenger, 1991; McMahon, 1997). Lave and Wenger (1991) assert that the relations among practitioners, their practice, and the social organization and political economy of communities of practice are all important and effective in a society's practical knowledge. For this reason, learning should involve such knowledge and practice (Lave & Wenger, 1991; Gredler, 1997).

2.5. Social constructivist view of learner

According to Wertsch (1997) , social constructivism not only like constructivism acknowledges the uniqueness and complexity of the learner, but actually encourages, utilizes and rewards learner as an integral part of the learning process .Social constructivism or socioculturalism encourages the learner's own version of the truth that is influenced by his or her background, culture or knowledge of world. Social constructivism also stresses the importance of the learner's social interaction with knowledgeable members of the society. Wertsch suggests that acquisition of social meaning of important symbol systems and learning how to utilize them are dependent to social interaction with other more knowledgeable people. Also he adds that young children develop their thinking abilities through interaction with other children, adults and the physical world. From the social constructivist viewpoint, it is thus important to take into account the background and culture of the learner during learning process. The learner's background also helps to shape the knowledge and truth that the learner creates, discovers and attains in the learning process.

2.6. Social constructivist view of teacher

According to the social constructivist approach, instructors in this approach are introduced as facilitators and not as teachers (Bauersfeld, 1995). Whereas a teacher gives a didactic lecture that covers the subject matter, a facilitator helps the learner to get to his or her own understanding of the content. The learner plays a passive role when the instructor just teaches, however the learner plays an active role when the instructor facilitates the learning process and helps learners to learn. Gamoran, Secada, & Marrett(1998) state that in social constructivism the emphasis turns away from the instructor and the content, and towards the learner. This significant change of instructor's role indicates that an instructor as facilitator needs to display a completely different set of skills than that of an instructor as a teacher (Brownstein , 2001). To compare the role of teacher and that of facilitator, Rhodes and Bellamy(1999) propose that a teacher tells, a facilitator asks; a teacher lectures from the front, a facilitator supports from the back; a teacher gives answers according to a predetermined curriculum, a facilitator provides guidelines and creates the appropriate environment for the learner to arrive at his or her own answer and conclusions; a teacher mostly gives a monologue, a facilitator is in continuous and interactive dialogue with the learners (Rhodes and Bellamy, 1999).

According to Di Vesta (1987), the designed learning environment should both support and challenge the learner's thinking. While it is advocated to give the learner ownership of the problem and solution process, the instructors should consider that not any activity or any solution is adequate. The critical and most important goal is to help the learner in becoming an effective thinker. This goal can be achieved when instructors have multiple roles, such as consultant and coach.

Conclusion

The research review suggests that the constructivist theory can reveal facts about education which were not represented in traditional theories. Contrary to rote learning in the past, Merriam and Caffarella(1999) point out that constructivist learning is a process of constructing meaning and people themselves make sense of their experience. According to Piaget (1977), the role of learners from passive in the past has changed to active in the constructivist theory.

Social constructivism which assumes that cognitive growth first occurs on a social level and later on individual level ,emphasizes the role of ZPD (Zone of proximal development) (Vygotsky, 1978).Thus instructors who are facilitators in social constructivism first provide support and help for learners, the little by little this support is decreased and students learn independently.

Thus in social constructivist classrooms, students are actively involved, the environment is democratic, and interaction becomes crucial in learning (Gray, 1997).

The researchers suggest that with the importance given to collaboration, knowledge, and creativity through both social constructivism and constructivism; the learners can start learning in pair work, group work, and teamwork, and later make their own contributions to the world of knowledge.

Finally, the researcher agrees with Vygotsky (1978) about cognitive growth from social to individual level, and the researcher proposes that learning can be considered on a continuum from social constructivism to constructivism.

REFERENCES

Applefield JM, Huber R & Moallem M. 2000. Constructivism in theory and practice: Toward a better understanding. *The High School Journal*, 35-53.

Bailey F & Pransky K. 2005. Are" Other People's Children" Constructivist Learners Too?. *Theory into Practice*, *44*(1), 19-26.

Bauersfeld H. 1995. "Language Games' in the Mathematics Classroom: Their Function and Their Effects", in P. Cobb & H. Bauersfeld (Eds.), *The emergence of mathematical meaning: Interaction in classroom cultures*, Hillsdale, US-NJ: Lawrence Erlbaum: 211-292.

Belenky MF, Clinchy BM, Goldberger NR & Tarule JM. 1986. Women's ways of knowing: The development of self, voice, and mind. New York: Basic Books.

Bereiter C & Scardamilia M. 1985. Cognitive coping strategies and problems of "inert" knowledge. In S. Chipman, J. Seagal & R. Glaser (Eds.), *Thinking and learning skills*. Hillsdale, NY: Erlbaum.

Brown AL. 1994. The advancement of learning. *Educational researcher*, 4-12.

Brown AL, Ash D, Rutherford M, Nakagawa K, Gordon A & Campione JC. 1995. Distributed expertise in the classroom. In G. Salomon (Ed.), *Distributed cognitions.* New York: Cambridge University Press.

Brown JS, Collins A & Duguid P. 1989. Situated cognition and the culture of learning. *Educational researcher*, *18*(1), 32-42.

Brownstein B. 2001. COLLABORATION: THE FOUNDATION OF LEARNING IN THE FUTURE. *Education*, *122*(2).

Bruner JS. 1966b. Toward a theory of instruction. Cambridge, MA: The Belknap Press of Harvard University Press.

Bruner J. 1973. *Going Beyond the Information Given*. New York: Norton.

Caffarella RS & Merriam SB. 1999. Perspectives on adult learning: framing our research. In *40th Annual Adult Education Research Conference Proceedings*. Northern Illinois University.

Carpenter T & Fennema E. 1992. Cognitively guided instruction: Building on the knowledge of students and teachers. International Journal of Educational Research 17: 475-470.

Christie A. 2005. Constructivism and its implications for educators. *Retrieved April*, *20*, 2013.

Clements DH. 1997. (Mis?) Constructing Constructivism. *Teaching children mathematics*, *4*(4), 198-200.

Cobb P. 1994. Constructivism in mathematics and science education. *Educational Researcher* 23: 4.

Cooper PA. 1993. Paradigm Shifts in Designed Instruction: From Behaviorism to Cognitivism to Constructivism. *Educational technology*, *33*(5), 12-19.

Cook J. 1992. Negotiating the curriculum: Programming for learning.*Negotiating the curriculum: educating for the 21st century*, 15-31.

Derry SJ. 1999. A fish called peer learning: Searching for common themes.*Cognitive perspectives on peer learning*, 197-211.

Di Vesta FJ. 1987. The cognitive movement and education. In J. A. Golver & R.R. Ronning (Eds.), *Historical foundations of educational psychology* (pp. 37-63). New York: Plenum Press.

Duffy TM & Jonasse DH. 1991. "New Implications for Instructional Technology". *Educational Technology*, May 1991.

Duffy G, Roehler L & Radcliff G. 1986. How teachers' instructional talk influences students' understanding of lesson content. *Elementary School Journal* 87: 3-16.

Ernest P. 1999. Social Constructivism as a Philosophy of Mathematics: Radical Constructivism

Erdem E. 2001. *Program gelistirmede yapilandirmacilik yaklasum*. (Constructivist approach in curriculum development). Unpublished master thesis. Hacettepe Univerisity, Ankara.

Gamoran A, Secada WG & Marrett CB. 2000. The organizational context of teaching and learning. In *Handbook of the sociology of education*(pp. 37-63). Springer US.
Giroux H. 1986. The politics of schooling and culture. *Orbit, 17*(4),10-11.
Gray A. 1997. Contructivist teaching and learning. *SSTA Research Centre Report*, 97-07.
Gredler ME. 1997. Learning and instruction: Theory into practice (3rd ed). Upper Saddle River, NJ: Prentice-Hall.
Gruber HE & Voneche JJ. 1977. *The essential Piaget*. New York: Basic Books.
est donc le vrai Piaget Q & Papert S. 1982. An interpretation of Piaget's constructivism. *Revue internationale de philosophie*, *36*(4), 612-635.
Hare D, Howard E & Pope M. 2005. Enhancing technology use in student teaching: A case study. *Journal of Technology and Teacher Education*, *13*(4), p. 573+.
Hoover WA. 1996. The practice implications of constructivism. *SEDL Letter*, *9*(3), 1-2.
Kanselaar G. 2002. Constructivism and socio-constructivism. *Article published on July*, *16*, 2002.
Kim B. 2001. Social constructivism. *Emerging perspectives on learning, teaching, and technology*, 1-8.
Kukla A. 2000. *Social constructivism and the philosophy of science*. Psychology Press.
Lave J & Wenger E. 1991. *Situated learning: Legitimate peripheral participation*. Cambridge university press.
Leeds-Hurwitz W. 2009. Social construction of reality. *Encyclopedia of communication theory*, 892-895.
Lester NB & Onore CS. 1990. Learning Change: One school district meets language across the curriculum. Portsmith, NH: Boynton/Cook Publishers.
McMahon M. 1997. Social Constructivism and the World Wide Web - A Paradigm for Learning. Paper presented at the ASCILITE conference. Perth, Australia.
Mezirow J. 1990. How critical reflection triggers transformative learning. *Fostering critical reflection in adulthood*, 1-20.
Moshman D. 1982. Exogenous, endogenous, and dialectical constructivism. *Developmental Review* 2:371-384.
Mvududu NH & Thiel-Burgess J. 2012. Constructivism in Practice: The Case for English Language Learners. *International Journal of Education*, *4*(3), p108-p118.
Neale D, Smith D & Johnson V. 1990. Implementing conceptional change teaching in primary science. *Elementary School Journal* 91: 109-132.
Perkins DN. 1992. Technology meets constructivism: Do they make a marriage. *Constructivism and the technology of instruction: A conversation*, 45-55.
Piaget J & Inhelder B. 1969. *The psychology of the child.* New York: Basic Books.
Piaget J. 1970. *Structuralism.* New York: Basic Books.
Piaget J. 1973. To understand is to invent: The future of education.
Piaget J. 1977. The development of thought: Equilibration of cognitive structures. (A. Rosin, Trans). New York: The Viking Press.
Phillips DC. 2000. *Constructivism in Education: Opinions and Second Opinions on Controversial Issues. Ninety-Ninth Yearbook of the National Society for the Study of Education*. University of Chicago Press, Order Dept., 11030 South Langley Avenue, Chicago, IL 60628.
Prawat RS. 1992. Teachers' beliefs about teaching and learning: A constructivist perspective. *American journal of education*, 354-395.
Leeds-Hurwitz W. 2009. Social construction of reality. *Encyclopedia of communication theory*, 892-895.
Rhodes LK & Belly GT. 1999. Choices and Consequences in the Renewal of Teacher Education. Journal of Teacher Education, 50(1), 17.
Rogoff B. 1998. Cognition as a collaborative process. In W. Damon, D. Kuhn& R.S. Seigler (Eds.), *Handbook of child psychology (5th ed., Vol.2)*.New York: Wiley.
Roth WM. 2000. in McCormick, R. and Paechter, C. (eds), "Authentic School Science: Intellectual Traditions", *Learning & Knowledge*, London, UK: Paul Chapman Publishing: 6-20.
Searle JR. 1995. *The construction of social reality*. Simon and Schuster.
Shunk DH. 2000. *Learning theories: An educational perspective* (3rd ed). Upper Saddle River, NJ: Prentice-Hall.
Smith C. 2010. *What is a person?: Rethinking humanity, social life, and the moral good from the person up*. University of Chicago Press.
Twomey Fosnot C. 1989. Enquiring teachers, enquiring learners: A constructivist approach for teaching. New York: Teachers College Press.
Vygotsky LS. 1978. *Mind in society*. Cambridge: Harvard University Press.
Vygotsky L. 1986. *Thought and Language*. Transl. and ed. A. Kozulin. Cambridge, MA: The MIT Press. (Originally published in Russian in 1934.)
Wadsworth BJ. 1996. *Piaget's theory of cognitive and affective development: Foundations of constructivism* . Longman Publishing.
Wertsch JV. 1997. Vygotsky and the formation of the mind. *Cambridge, MA*.