Compare and Contrast of Constructivism and Community of Practice

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Abstract

Constructivism and Community of Practice are two theories of in education. Constructivism can be seen in Dewey, Piaget or Vygotsky’s work. The concept of Community of Practice was not be clearly defined until Wenger’s 1998 work. This thesis is going to compare and contrast the two educational theories through learning, knowledge, role of learners, role of teachers and environment.

Key Words: Constructivism; Community; Practice

1 Introduction

In the past decades, constructivism has been quite an influential theory in education. It can be traced back to the works of Dewey (1929), Piaget (1952), Bruner (1966), and Vygotsky (1962, 1978). Constructivism is a theory about how people learn and understand the world around them on the basis of observation and scientific study. Constructivists believe that people construct their understandings and knowledge through experiencing the world by themselves. The concept of constructivism has roots in Socrates’s dialogues, which is still one of the important tools for constructivist to help students’ learning. Piaget (1952) and Dewey (1929) developed theories of education known as Progressive Education, which led evolution of constructivism. Piaget (1952) assumed that human beings have the innate desire to learn. People learn knowledge through constructing one logical structure after another. Piaget’s cognitive constructivism became dominated learning theory of the education discourse and many followers viewed the construction of knowledge as in individual’s personal activity, giving little consideration to the influence of the social context on cognition. Vygotsky (1962) brought the social aspect of learning into constructivism. He argues that children need to be helped to learn and they would learn better under the guidance from adults or more capable peers. Vygotsky’s brand of constructivism is called social constructivism because he emphasized the importance of the social context for cognitive development. Social constructivism is becoming more commonly accepted because increasing attentions have been paid to the environment basis of learning.

By contrast, the term community of practice is a relatively new theory but once brought into the discussion, it has been used diversely. Sometimes it is used to test the social construction of meaning; sometimes it refers to a virtual community or informal group that is sponsored to help share or learn knowledge. A clear definition of communities of practice has not been supplied until Wenger’s 1998 work. It was defined as a group of people who share “mutual engagement” within a “negotiated enterprise” with “repertoire of negotiable resources” (1998, p. 126). Here, practice refers to an analysing and experiencing level which

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reflects shared learning. Communities of practice can exist without being reified, which may lead people within it not thinking about their identities, therefore, communities of practice are an analytical category which refers to structures that are “within the scope of our engagement” (Wenger, 1998). Four years later, the definition of communities of practice was shifted by Wenger, McDermott and Snyder (2002) into “Groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Wenger, McDermott and Snyder, 2002, p. 4). Knowledge management (KM) was proposed. The focus shifted from problem-solving ability gained through routine office work to the value of the community of practice as a tool to manage knowledge.

Although Vygotsky (1962, 1978) and Lave & Wenger (1991, 1999, 2002) share the same emphasis on the context which people are staying in and they all believe that environment is an important element in learning progress, they have different perspectives and assumptions. Therefore, within different theories, the definition for learning and the process of learning differ.

2 Learning

Traditional learning theories, behaviourism, cognitivism, or constructivism, share the same assumption of viewing learning as a progress happen within individual’ head. By contrast, Lave and Wenger (1991) and followers of social learning theory place human being in social relationship and argue that learning involves participation in a community of practice.

2.1.1 Learning in Constructivism

Although defined in several different ways, one wide-accepted definition for learning from the constructivism view was offered by Duffy and Cunningham (2003, p.143):

- Learning is an active process of constructing rather than acquiring knowledge; and
- Instruction is a process of supporting that construction rather than simply communicating knowledge.

They also described the processes appropriate for supporting learning by paraphrasing Rogoff’s three approaches (Rogoff 1994 in Duffy and Cunningham, 2003):

1) adult-run (transmission from experts to novices)
2) children-run (individual or collaborative discovery) or
3) community of learners (transformed participation in collective sociocultural experience) (p.143)

These approaches covered three key elements of constructivist learning: the learner (active children as learning centre), the assistant adult (or helpful peers) and the context. Skinner (1984) suggests that learning involves activity and a context. Social constructivists view learning as the activity in context (Duffy and Cunningham, 2003) and argue that learners construct ideas from their own experience in the context. Vygotsky (1978) described the learning process by “Zone of Proximal Development” (ZPD). 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). There are two levels within ZPD, the actual development level and the potential development level. The actual development level is the upper task limit one can perform independently. The potential development level is the upper task limit one can perform with the guidance and assistance from adults or more capable peers. According to Vygotsky (1978), ZPD is the most sensitive zone that instructions or assistance could happen and it allows a learner to develop skills and knowledge. Scaffolding, a concept never mentioned literally by Vygotsky himself but developed by his followers, is directly related to ZPD. It is a support mechanism which helps a learner to perform successfully within his or her ZPD. The assistance adults or peers, scaffolding form an environment which contains individuals to learn and the learner himself constructs knowledge within help from the outside.

2.1.2 Learning in Community of Practice

Communities of practice adopted a totally different perspective which place learning in the context of the social world. The premise for the theory is that learning is a part of human nature which is life-sustaining and inevitable in an experienced, lived-in context. Wenger (1998) assumes that learning is a fundamentally social phenomenon and it is our social nature as human beings capable of knowing and understanding. Based on these assumptions, the primary focus of communities of practice is on learning as social participation. For Wenger (1998), participation refers to a process that an individual being an active participant in the practice of social communities; by participating in activities, individuals develop their own (new) identity within the community.

Wenger’s 1998 work applied the four necessary components of social learning theory which characterize social participation as a process of learning: meaning, practice, community and identity, shown in the following Figure 0.1 (Wenger, 1998, p. 5):

![Figure 0.1. Components of a social theory of learning: an initial inventory.](image-url)
These four components are interconnected and mutually defining. *Meaning* is a way of talking about learner’s ability to experience their life and the world as meaningful. *Practice* refers to a way of taking about the shared information that can sustain mutual engagement in action. *Community* means a way to talk about the social configurations in which “enterprises are defined as worth pursuing and participation is recognizable as competence”. And *identity* refers to a way of talking about how learning changes the way we are and shapes learner to fit in the context of our communities. If any of the four components is switched with learning and placed in the centre as the primary focus, the figure will still make sense. So for Wenger (1998), communities of practice are not a concept but a constitutive element of a conceptual framework.

As an academic work, Wenger’s 1998 book also offers a clear explanation of what it takes to understand and support learning which is similar with Vygotsky’s (1978) idea of how ZPD functions:

- For *individual*, it means that learning is an issue of engaging in and contributing to the practices of their communities.
- For *communities*, it means that learning is an issue of refining their practice and ensuring new generations of members.
- For *organization*, it means that learning is an issue of sustaining the interconnected communities of practice through which an organization know what it knows and thus become effective and valuable as an organization. (p.7)

According to Wenger (1991, 1998, 2002), learning has never been a separate activity. There are times when learning is intensified or gels. “Situations that bring learning into focus are not necessarily those in which we learn most, or most deeply” (Wenger, 1998, p.8). Even failing to learn something expected in a given situation, we still learn something else instead, without being aware of it.

### 2.1.3 Discussion

Constructivism and communities of practice differ from the starting point of the basic assumptions for learning. For constructivists, as Piaget (1952) described, learning process starts with individual’s observation and imitation of others. Learning is a process happens in an individual’s head, while according to Vygotsky (1962) this process may be aroused by the outside environment, people or the social context. By contrast, in a community of practice environment, learning happens and only happens within social context. Served as a start point and basis, Lave and Wenger (1991) state that social phenomenon constituted in the experienced, lived-in-world, thus learning should not just be gaining knowledge but a process of becoming a member of a sustained community of practice. Therefore, learning is about a change in identity rather than knowledge acquiring. They believe that learners inevitably take part in communities of practitioners and learning happens in participation, not in the heads of individual leaners. Through the way from “peripheral participation” to “central participation”, newcomers participate in new activities, perform new tasks, master new understandings and become old-timers (Lave and Wenger, 1991).
Both constructivism and communities of practice admit that social context is a key element for learning process. Constructivists view environment as an influential element of learning while in a community of practice, learning only happens within social context as the place and precondition.

3 Knowledge

Based on different assumptions of the nature of learning, what we believe about knowledge may be different. Vice versa, the view on knowledge decides mostly what we believe about learning, then determines how we approach learning and teaching.

3.1.1 Knowledge in Constructivism

To social constructivist, knowledge is a human product which is socially and culturally constructed (Ernest, 1999). John Zahorik (1995) defines knowledge in a more specific way: “Knowledge is constructed by humans. Knowledge is not a set of facts, concepts, or laws waiting to be discovered. It is not something that exists independent of a knower. Humans create or construct knowledge as they attempt to bring meaning to their experience” (p.36). To cognitive constructivists, knowledge is constructed in individuals through a personal process. To social constructivist, knowledge is constructed through interaction with others and the world around them. Knowledge construction happens when learners are actively engaged and they take charge of not only their own but also others’ learning. Knowledge building is “collective knowledge of a group through social discourse” (Hmelo-Silver and Barrows, 2008, p.48). Jonassen, et al. (1999) list constructivist assumptions about knowledge, including the following (p. 3-5):

- Knowledge is constructed, not transmitted.
- Knowledge is embedded in activity.
- Knowledge is embedded in and indexed by the context in which the learning activity occurs.

3.1.2 Knowledge in Communities Of Practice

In communities of practice theory, knowledge is seen as the most important resource for a community because it represents intangible resources and operational routines that can’t be imitate (Spender, 1996). Individuals in a community improve their capacity to create and use knowledge (Wenger et al, 2002). Knowledge creation and individual learning happen when people combine and exchange their personal knowledge with others (Kogut and Zander, 1992). Wenger et al. (2002) state that knowledge is both social and individual. Knowledge is not static but dynamic. Individuals generate and share the knowledge they need, the communities provide a social forum to support the “living nature of knowledge” (p. 12). Unlike traditional knowledge structures, communities of practice are considered as the ideal social structure for managing knowledge. One example of knowledge management model is KMS.

Knowledge management system (KMS) refers to any IT system that stores knowledge or locates knowledge sources. It has been seen as effective tool to support knowledge sharing. Alavi and Leidner (1999) define KMS as “information systems designed specifically to facilitate the sharing and integration of knowledge”
Research suggests that there are three perspectives underlying the design of KMS: knowledge as object (Walsh and Ungson, 1991), knowledge embedded in people (Grant, 1996b, McDermott, 1999) and knowledge embedded in community (Schultze, 1999). In the current knowledge management environment, organizations view knowledge as a private property which is owned by the organization or by individuals as organization members. The ideal situation is that knowledge should be considered as a public property which is owned and maintained by communities. When knowledge is viewed as a public good, knowledge would be exchanged because of moral obligation and community interest instead of personal interest. Research showed that group of people working as focused communities is more innovative (Judge et al., 1997). People in communities of practice are behaving pro-socially and the knowledge sharing activity is out of a sense of moral duty or outside pressure. People in these communities feel it is ‘the right thing to do’ to share knowledge and help others. What’s more, people have the desire to better the community as a whole instead of gaining personal benefits. (McLureWasko and Faraj, 2000)

3.1.3 Discussion

From my point of view, the biggest difference for conceptualizing knowledge is related with different views on learning. Constructivism believes that learning happens within individual’s own mind, in another word, although influenced by the context, it is the individual who takes in charge of the knowledge construction. Learners are conscious of the existence of knowledge and they have the capability to choose and to filter the knowledge they want to get or they don’t. Individually, learners are well aware of that they are responsible for knowledge construction. In contrast, knowledge in a community of practice doesn’t exist for any specific individual. Even a view is that knowledge is embedded in people (Grant, 1996b, McDermott, 1999); it still exists within a community which contains the people with knowledge. Therefore, knowledge does not exist to be constructed by individuals; knowledge exists in a community of practice only to be shared. Individuals give priority to the good of community as a whole instead of self-interest, thus they share knowledge for moral pressure and they feel right to share. While knowledge is shared within communities, learning happens.

4 The Role of Learner

4.1.1 A Learner’s Role in Constructivism

There is a metaphor that behaviourism views a learner as a blank box to be fulfilled, cognitivists acknowledged the importance of the learner’s ability to think independently and to open “the blank box”. Constructivism, especially its social form suggests that a learner should be actively involved in the fulfilling activity. Piaget (1952) and Papert (1980) both view children as the builders of their own cognitive tools and their external realities. For them, knowledge and the world are constructed and reconstructed through personal experience. The world gets progressively shaped and transformed through the learner’s personal experience. In a constructivist classroom, learning is an active process. Students are active learners and take charge of learning. According to Grennon Brooks and Brooks (1999), the learners help to develop their own
goals and assessments, create new understandings via coaching and suggesting. Constructivist learners collaborate among colleague learners, learn in a social experience and they have their own voice in learning process. Piaget (1952) states that when a person takes material from the environment into his mind, he may change intrinsic knowledge to understand new things and make it fit. Students in a constructivism class are not blank box waiting knowledge to be poured down. They enter learning situation with formulated knowledge, ideas and understandings. The intrinsic knowledge is the raw material and basis for learners to create new knowledge. The learners in constructivism environment are responsible for their own learning. They control what they want to learn and how they gain the knowledge. The others around them and the context they are staying in can all be tools for them to construct knowledge.

4.1.2 A Learner’s Role in Communities of Practice

In contrast with constructivists, Lave and Wenger (1991) do not view learning as an individual cognitive process but a process of participation in communities of practice. A learner therefore should be involved as a “whole person” who participates in “legitimately peripheral” at the beginning and as the learner increases engagement with the practices, he or she moves to the centre of the community through practice. “Learning within the socio-cultural community therefore involves becoming a different kind of person; it involves the construction of identities.” (Lave & Wenger 1991 cited in Maynard 2001, p. 41). Fuller and Bown’s research (1975) shows three discrete stages for newcomers to become old-timers in a community of practice: survival, mastery and a stage whether settle into routines or become consequence oriented (p. 40). Survival means newcomers have to convince others with their intrinsic knowledge and skills. As moving towards full participation in the community of practice, learners go through the stage of acting like an old-timer to becoming an old-timer and an identity of expert is built. At the final stage, learners are placed in the centre of the community. They are familiar with routines and act as professionals. During the whole process, learners may be passive and unaware of knowledge sharing or exchanging.

4.1.3 Discussion

A learner’s role in communities of practice, by contrast with constructivism, is identity construction through participation instead of active knowledge construction influenced by context. Fuhrer (1993) states that newcomers in a community of practice tend to observe how ‘significant others’ behave, treat them as models and improve their own performance. For constructivists, students may also learn by observing and imitating more capable others, but they do these for gaining information and for personal growth, not for sharing knowledge. What’s more, self-improving for constructivist students is an individual activity while in a community of practice, individual learns to build a new identity to fix the enterprise for the good of the whole community. Maynard (2001) states that as an important way of learning, talking provides the learner with particular information in the community of practice. Similarly, Allen (2005) states that conversation is a useful approach for constructivist students. Learners in communities of practice talk to share information, searching for help. Constructivist learners talk to peers or adults aiming at assistance or showing their own
ideas. In a community of practice, individuals may be passive or even unconscious to learn while constructivist student only gain knowledge when they perform actively.

5 The Role of Teacher

5.1.1 Teacher’s Role in Constructivism

Vygotsky’s (1962) ideas of ZPD and MKO apply much area for teacher to be function. The “more knowledgeable other” (MKO) refers to someone who has better understanding or more capable level than the learner, who can offer assistance or guidance to a particular task, process or concept. The MKO can be a child’s peer or an adult with more knowledge or experience, or with modern help, it even need not to be a person -- electronic tutors have been used in education settings to assistant and guide students in some schools. Although the MKO is not necessarily a teacher, school teaching is still the most common way to offer education and it is the teachers who often influenced by dominated learning theory and adjust their way to instruct the class. Therefore, in many cases, the MKOs are still school teachers and many teaching pedagogy have been developed on the basis of constructivism by those teachers. Because constructivist learners are active and responsible for their learning, the teachers’ role is to create environments which allow students to take charge of their learning. Teachers do this by “encouraging self-initiated inquiry, providing the materials and supplies appropriate for the learning tasks, and sensitively mediating teacher/students and student/student interactions” (Brooks, 2001, p. 49).

Constructivism offers a big gap for teachers to be effective. Tam (2000) states that one basic characteristic features constructivist learning environment is that the teacher plays a guide role as a facilitator. Educators develop classroom practices and negotiate the curriculum to facilitate students’ learning. But it is impossible for the teacher to control what students learn. The most common situation is that teacher structure classroom lessons and curriculums to make all students learn the same course at the same time, each individual student still conduct his or her own cognitive progress. Teachers have great control over what they teach, but little control of what students learn (Marin and Brooks, 1999).

5.1.2 Teacher’s Role in Communities of Practice

I can barely find the word “teacher” in communities of practice literature. This is related directly to the assumptions for the nature of learning in social learning theory. In a community of practice, there is no specific person who plays the role of a teacher, or, I suppose that it is the context or the social world that does the so-called teacher’s job. However, social world is made up of people, culture, workplace and many other elements. If a teacher is only supposed to be a person, I would say that every member in a community of practice is a teacher, as well as a learner. From Lave and Wenger (1991), the initial teacher in a community of practice is an authority master to an apprentice. Yet, the master is not anyone specific. Viewing master as pedagogue moves the focus from analysis teaching to “the intricate structuring of a community’s learning resources” (p.94). Here, Lave and Wenger hint that the key to communities of practice is resources construction, not individual. Koskinen and Pihlanto (2006) state that the notion of
situationally connects an individual to his or her “environment” and thus makes an individual a complex
three-dimensional phenomenon (p.8), which again, follows the idea that environment functions to shape
individual in communities of practice.

I still feel holding one part of the whole to say that the members of communities of practice are teachers
because people are only one factor of the context to learn and it appears paradoxical with the social nature
of learning in communities of practice theory. The only statement I can offer is that the context itself, as a
place and basis where learning happens, plays a similar role of teacher in communities of practice.

5.1.3 Discussion

Constructivist teachers are not givers of information or managers of behaviour but mediators of students
and environments. In a constructivist classroom, the teacher doesn’t and is not able to control the
construction process of knowledge, but he/she designs and creates an environment together with students
and guides them to learn. This is important because environment is also an influential factor for social
constructivist study. By contrast, in a community of practice, the environment is the basis for learning to
happen. As Coburn and Stein (2005) states: “Communities of practice are neither intrinsically beneficial nor
intrinsically harmful. Rather, they constitute the places in which organizational and individual learning
unfolds.” (p.28) In communities of practice, while newcomers are observing old timers’ behaviour, making
effort to minimize the distance between their own performance and the model behaviour and adjust
themselves in the environment, old timers learn from newcomers with respect. Consciously or
unconsciously, they are influenced by the knowledge brought in by newcomers, as well as the changing
environment or culture when newcomers join in a community of practice. Neither newcomers nor old
timers are able to control others’ learning process. They offer help and influence each other by taking part
in mutual activities and negotiating approaches. Similarly, a constructivist teacher doesn’t control the
learning of students but facilitate them by offering and negotiating the curriculum, the facilitating activities
can be formed as participation and creating a microculture within the class.

6 Environment

Evolved from but being different with behaviourist instructional strategies, the constructivist theories place
less emphasis on the sequences of instruction and more emphasis on the design of the learning environment
(Jonassen, 1994). Wilson (1996) defines a constructivist learning environment as “a place where learners
may work together and support each other as they use a variety of tools and information resources in their
guided pursuit of learning goals and problem-solving activities” (p. 5). As one of the key elements, learning
environment is seen as a major goal in constructivism. Learner need a context in which “prime emphasis is
placed on the unique interests, styles, motivations and capabilities of individual learners so that learning
environments can be tailored to them” (Reeves, 1992). Environment is a factor so influential that it is one of
teachers’ main responsibilities to create or design an appropriate environment and facilitate learning. In
contrast, environment in communities of practice is a precondition or a factor pre-existing for learning to
happen. People within the communities influence or develop the environment by participating activities/practice but no one can control it, let alone create or design an certain environment for communities of practice. However, the participating activity may influence or change the environment of the community. As a form of communities of practice, organizations or companies can also function to lay influence. “Just because communities of practice arise naturally does not mean that organizations can’t do anything to influence their development” (Wenger, 1998. p. 9). Organizations can offer support by giving time to the members to participate in activities, or by developing an environment in which people acknowledge the value that the community brings.

On the other hand, environment creating or designing is done by constructivist teachers while the development of environment in communities of practice is also done by group members. The same as many other aspects, consequences of human activities lead to the change of environment but again, because environment plays different roles in the two learning theories, the changing of environment may lead to different results of learners. Constructive learners, due to his/her initiative, consciously have the ability to choose to accept the influence or escape from the environment. By contrast, members in communities of practice, due to his/her social nature, can only change his/her identity actively to fit the environment, or passively influenced by the environment without being aware of it.

7 Conclusion

Learning theory has a long history and to some extent, constructivism was built on previous theories such as behaviourism and cognitivism. Those learning theories had dominated education discourse and directed education even in a world-wide range. Although Lave and Wenger and others who follow the idea of communities of practice claimed that the starting assumption and the perspective were totally different from previous theories, it was still difficult for organizations to weave the influence of treating learner as individual. What’s more, I believe that constructivism, especially its social form, built a solid foundation for the development of communities of practice. It may not directly be the reason for social learning theorists view learning from a social perspective, but it was Vygotsky (1962) who first brought social context into consideration and gave us the possibility to view learning procedure from a new angle. Constructivism locates learning at acquisition while communities of practice locate learning at participation. Constructivism view knowledge as a constructed fruit results within learner’s mind while communities of practice view knowledge as valuable resources shared by group members. Constructivist teachers work as scaffolding to facilitate students via co-creation of microculture while environment itself does teacher’s job in communities of practice. One-to-one conversation appears in both theories as a tool for negotiation and participation but learners do this because of different reasons. Knowledge sharing is also an important approach for learning but learner share for different interest. All in all, the similarities between constructivism and communities of practice emerge at the expression forms of learning process, while they differ with each other from the starting assumption of nature of learning. This leads to the different functions of elements in learning process. However, it is possible if we take a view of social learning with
an acquisition perspective (Stard, 1998) and we may find new perspectives to understand human beings and their learning.

References


