RETHINKING MIND-SET IN ADULT SECOND LANGUAGE LEARNING (ASLL): CONSTRUCTIVIST PERSPECTIVE

Nasir Mahmood* & Muhammad Hameed Nawaz*

Abstract

This paper will specifically focus on the scope constructivism holds for the improvement in learning of adult second language. As human language is basically, a combination of sounds leading to the formation of words, grammatical rules, and meaningful structures enabling meaningful communication among users. Meanings attributed to words are usually result of mutual agreement of the users and understanding of the language is measured by observing the compatibility of constructs held by individuals in number of given situations. But severe differences can be found, when a construct is discussed in depth, even among the highly learned linguists. All human brains are unique; same is the way of perception. The argument is based on assumption that learners do not accept the knowledge as presented instead verify by their own experience, experiment or any other tool before assimilation or adaptation. Thus learning should be dealt as negotiation between teacher and students to reach socially acceptable meanings. Provision of suitable environment, room for active participation, accommodation of student's ideas, facilitative teacher, etc. are logical pedagogical per-requisite.

Introduction

Galileo in 17th century quoted to say that "you cannot teach a man anything; you can only help him to find it within himself" (Reinsmith, 1992). This is not only Galileo but also many other scientists, philosophers, and teachers who can be traced to have expressed the similar opinion about the nature of teaching and learning. People like Socrates (470-399 B.C.) were punished for persuading their students to think intrinsically. The only thing we can say about people of such unique caliber is that they were far ahead of their time. For sure they never used the word constructivism but their opinion and practice is what we call constructivism now. Teaching has always been a reflection of teacher's understanding of the learning process.

*IER, University of the Punjab, Lahore-Pakistan

Linguistics and psychological movements aiming at explaining the processes of thinking and learning among students at various stages of their lives can be traced back as working twined to each other. Like *structural school* in linguistics and *behaviorist's* in psychology dominated 1940's and 50's. Structuralists applied the principles of behaviorism to the *Observation* of human language in order to describe the structural characteristics of the language. Most commonly, both advocated the dismantling of knowledge into smaller units and that these units can be scientifically described, contrasted and added up again to form the whole. In response to the deficiencies in the approach of behaviorists and structuralists to address the questions like whether just focusing on the stimulus- response connections mechanically is sufficient to understand learning or just learning behaviors, meaning, and understanding and knowing is all that learning is about, there came to forth cognitivists in psychology and generative school of thought in linguistics. They advocated that study of learning processes should also focus on principles of organization and functioning. Cognitivists, like generative linguists, have sought to discover underlying motivation and deeper structures of human behavior; going beyond descriptive to explanatory power has taken on utmost power. The following table summarizes the common characteristics of both linguists and psychologists belonging to different school of thought.

Table 1
Linguistic-Psychological Parallels

School of Psychology	School of Linguistics	Characteristics
Behaviorist	Structural Descriptive	Repetition and reinforcement learning, conditioning Stimulus-response Publicly observable responses Empiricism Scientific method Performance Surface structure Description- "what"
Cognitive	Generative Transformational	Analysis and insight Acquisition, innateness States of consciousness Rationalism Process Mentalism, intuition, Competence Deep structure Explanation- "why"

Source: Principles of Language Learning and Teaching, pg-11

In late 1980's psychologists focused on the non-linear nature of learning and emphasized that what students know is consisted of internally constructed

Understanding of how their worlds function. New information either transforms their old beliefs or offers challenges to their thinking skill. Brooks and Brooks (1999) report that most of the teachers they met, regardless of the approaches they used in the past, viewed constructivism as something they have known from the beginning. But they were restricted from using it because of rigid curriculum, unsupportive environment or any other factor. The factors mentioned by the teachers still exist in most of the learning environment and that is why despite of wide spread acceptance as theory, constructivism has not been completely accepted as teaching pedagogy. Especially in the field of arts like language learning still there is lot to be explored. The reason may be that somehow thinking developed that constructivism is applicable to learning of science subjects better than arts subjects. But in fact it has no relation to reality, it is equally applicable to any field of learning. This paper will focus on applying constructivist principles to the learning of second language among the adult learners. That would be more appropriate, if we briefly look into the constructivist theory of learning before coming to the topic directly, to develop the understanding of theory itself and then build ASSL approach based on the theoretical assumptions put froth in the theory.

Constructivist Theory of Learning

Constructivism is most of the time viewed as direct opposite to both behaviorist (structural school in linguistic) and cognitive (generative school in linguistic), because it describes learning as something to be focused on the development of deep understanding by making personal constructs by the learners rather than development of behaviors and skills only. As a psychological construct it stems from the burgeoning field of cognitive science, particularly the late work of Jean Piaget, the socio-historical work of Lev Vygotsky, and the work of Jerome Bruner, Howard Gardner, and Nelson Goodman, among others (Fosnot, 1996).

Constructivist learning theory has two basic premises; (1) learning takes as its starting point the knowledge, and interests students bring to the learning situation, and (2) learning results from the interaction between these characteristics and experience in such a way that learners construct their own understanding, from the inside, as it were (Howe & Berv, 2000). So from the constructivists view knowledge is part of the knower and it is argued that knowledge and reality don't have an objective or absolute value or, at the least, that we have no way

of knowing this reality. The knower interprets and constructs a reality based on his experience and interaction with his environment and go through the processes of *assimilation* and *adaptation* to get to the stage of *equilibration* suggested by Piaget (*in Vygotsky's social constructivism environment is described in broader term as some what parallel to society or social environ*). To Glasersfeld, truth only means the knowledge proved viable to the test of a the time rather than the actual truth in terms of match to reality for example the theories or laws proved good in the past are not true today and the truths of today may not prove valid tomorrow. He describes it in his own words like

> "… to constructivists, concepts, models, theories, and so on are viable if they prove adequate in the contexts in which they were created" (Glasersfeld, 1987).

Thus, to him knowledge is being actively received through cognizing subject and cognition is adaptive and allows one to organize the experiential world, not to discover an objective reality (Glasersfeld, 1989). On the other hand constructivist looking from Vygotsky's (Later developed by Gergen) standpoint believe *truth* or *reality* is accorded only to those constructions on which most people of the social group agree. Researchers and theorists have developed variants of constructivism reflecting their standpoint and influenced by the context of their thinking. Despite these various shades many common themes can be found in the literature on constructivism, which permits derivation of principles, instructional models and general characteristics. As this paper is not aiming at presenting various types of constructivism but it's application to the field of second language learning. So, further discussion will be limited to general principles common in all variants of constructivism.

As a principle of paradigm, constructivist teaching is based on twelve principles suggested by Caine and Caine (1991) about how learning occurs.

1. "The brain is a parallel process" i.e. it can process thoughts, emotions, cultural knowledge or any kind of information simultaneously. So, teaching must include variety of teaching strategies.
2. "Learning engages the entire physiology". Teachers cannot address just the intellectual.
3. "The search for meaning is innate". Teachers should recognize that meanings are personal and unique, and the students' understandings are based on their own unique experiences.
4. "The search for meaning occurs through 'patterning' ". Effective

teaching connects isolated ideas and information with global concepts and themes.

5. "Emotions are critical to patterning". Learning is influenced by emotions, feelings and attitude.
6. "The brain processes parts and wholes simultaneously". Students learn the concepts as whole; presenting knowledge in fragments does not help them in understanding.
7. "Learning involves both focused attention and peripheral perception". Learning is influences by environment, culture and climate.
8. "Learning always involves conscious and unconscious processes". Students need time to process 'how' as well as 'what' they have learned.
9. "We have at least two different types of memory; a spatial memory system, and a set of systems of rote learning".
10. "We understand and remember best when facts and skills are embedded in nature, spatial memory". Experiential learning is most effective.
11. "Learning is enhanced by challenge and inhibited by threat". Classroom climate should be challenging but not threatening to the students.
12. "Each brain is unique". Teaching must be multifaceted to allow students to express preferences.

As a direct implication of the stated principles, classroom teaching should briefly incorporate; (1) instruction that take as its starting point the knowledge, attitudes, and interests students bring to the learning situation, and (2) instruction that can be defined as to provide experiences that effectively interact with these characteristics of students so that they may *construct* their own understanding (Howe & Berv, 2000).

Similarly, the real task of the teacher is to probe into the learner's process of constructing meaning or process of making sense of one's experience. In this process student's errors are viewed as the source of gaining insight about what is inside the student's mind. So, the direct derivation of constructivist learning on the teacher's role demands him/her not to be the dispenser of knowledge only but a source for providing students with opportunities and incentives to build their meanings. Mayer (1996) described teachers as "guides" and learners as "sense makers", Von Glasersfeld (1995) views teachers as "midwife in the birth of understanding" as opposed to being "machines of knowledge transfer".

In the following section an effort will be made to briefly apply these principles to ASSL in view of the importance of language as the basic unit of communication and thinking. True ("viable" in words of Glasersfeld) understanding of language is the basic tool for building further understanding and thinking ability in any discipline. For example the meanings constructed and linked to any unit of vocabulary by the learners potentially affect the whole course of further thinking and understanding (meaning-making)

Theories of Second Language Learning in Adults and Constructivism

Second language learning is enormously complex field in linguistics because of the number of factors put to work at the same time. Despite the controversies among various theorists, ideas like effect of *critical period, lateralization* of the brain, and *intellectual maturity* remained in discussion as effective physical and cognitive factors. Ausubel (1964) hinted at the relevance of such a connection and identified that adults, learning a second language could profit from certain grammatical explanations and deductive thinking that obviously pointless for children (Douglas, 1980). The superior intellectual capacities of the adults should, logically, facilitate the acquisition of second language. Mature-cognition is also recognized by Douglas (1980) as contributing factor as he wrote,

> "Anecdotal evidence shows that some adults who have been successful language learners have been very much aware of the process they were going through, even to the point of utilizing self-made paradigms and other fabricated linguistic devices to facilitate the learning process".

In view of the complexities involved in ASLL, theorists have offered facile solutions to the problem in the form of number of theories and hypotheses. In the following lines, an effort is made to review some of them, which received considerable attention of the ASSL theorists and practioners.

On the extremes of the spectrum, we can find assertions like *identity hypothesis* and *contrastive hypothesis.* Wode's (1974), idea of 'identity hypothesis' claims that it is irrelevant for language acquisition whether or not any other language has been learned before; in other words, first and second language learning is basically one and the same

process governed by same laws. This hypothesis was never accepted seriously because of the radical idea it put forth, but many authors accept an "essential identity" of the first and second language acquisition. Klein (1988) analyzed the idea of essential identity quite comprehensively and writes, "Although less impressive, the 'essential identity' version is definitely more plausible, but it all depends on what one would regard as the 'essential', as opposed to the non-essential elements of the language acquisition". Further, he examined following points in this connection; 1) first language is acquisition is intrinsic component of child's overall cognitive and social development whereas in case of second language learning this development has already been more or less completed 2) correct pronunciation cannot be acquired in second language learning 3) the notion of essential identity as based on the acquisition order of structures as interrogative, negation or certain morphemes. Despite of much dissimilarity, two modes have some features as common 4) and, from the methodological point of view, it is possible to develop a uniform theory for both modes of learning. (For further reading Klein, 1988)

On the other end, contrastive hypothesis claims that the learning of second language is largely determined by the structure of an earlier acquired language. Those structures of the second language that coincides with corresponding structures of the first language are assimilated with great ease as a result of 'positive transfer'. Contrasting structures, on the other hand, present considerable difficulty and give rise to errors as a result of 'negative transfer', or 'interference' between the two contrasting languages. But, some other researches showed that in fact it is not the structures itself but the way, how the learner deals with these structures while comprehending and producing them, is of real importance. At present, no one seriously entertains the contrastive hypothesis as viable explanation of ASLL but it cannot be denied that learner's knowledge of his first language influences the way in which he approaches and eventually learns a second language (Klein, 1988).

The two hypotheses stated attempted to explain second language learning by comparing and contrasts the processes involved in both first and second language acquisition. Krashen (1988) addressed the issue from another angle and described it in terms of *spontaneous* and *guided* learning in his "*Monitor Theory*". He identified subconscious acquisition and conscious learning as two ways of adult second language learning. In subconscious acquisition, the learning happens as a result of communication with the speakers of target language and the learner focuses on the content of the message rather than linguistic rules and structures in use. To Krashen, learning is result of internalization of

explicit rules under conscious control. "Monitor" controls the learning and by monitor he meant the conscious effort by the learner to control his/her language output and to self-correct where necessary. Although, this theory explained the way in which conscious awareness can influence the language acquisition but does not speak about the process of the activity.

Another direction, which attracted theorists in order to develop the understanding of the second language acquisition, can be grouped as the "*Theories of learner varieties*". They are based on the idea that whatever is the mode of the language acquisition; the learner must employ those means that are available to him/her at the time, whether it be for purpose of real-life communication (in spontaneous learning) or for dealing with exercises or simulated conversations (in guided acquisition). However imperfect from the normative point of view, these means represent the learner's current repertoire and as such form a learner variety of the (target) language. The first explicit proposal for constructing the acquisition process and its intermediate stages as a sequence of transition from system to system was made of Corder in 1967 (Klein, 1986).

There are quite a number of researchers who believe in "*Lexical Approach*" as one of the best way of learning language. The approach is based on a perception of language and learning as essentially holistic or organic. They take lexical items rather than words and structures as the units of language. Lexical items to think are one that have the characteristics; 1) meaning is not totally predictable from form, 2) each of it is a minimal unit for certain syntactic purposes, 3) each of it is a social institution (Lewis, 1993). First two points are self-evident but third can be restated to make clearer as "lexical item are socially sanctioned independent units". The approach says that in language acquisition the learners pass through a stage in which they use a large number of unanalyzed chunks of language in certain predictable social contexts. They use a great deal of 'prefabricated' language. These prefabricated chunks were distinct and some what peripherals to the main body of the language and this formulaic speech is at the very center of the language acquisition and is basic to the creative rule- forming processes which follow.

It is thus evident from that language acquisition is the ability to produce lexical phrases and unanalyzed 'whole' or chunks, and that these chunks become the raw data by which the learners begin to perceive patterns, morphology, and those other features of language traditionally thought of as 'grammar'. Within such a model, phrases acquired as

wholes are the primary resource by which the syntactic system is mastered (Lewis, 1993).

Overview of the different theories surely open horizons of understanding but at the same time confuses the reader with its variety of collateral descendants. The following lines will try to cut a path or two through those offshoots. Wolfgang Klein in his book *Second Language Acquisition* mentioned six basic dimensions of language acquisition (first three are *determinants* of language acquisition and the later three characterize the *process* of acquisition) extracted through the study of theories of second language acquisition. The main ideas presented can be briefly enlisted in the sequence he proposed, as:

1. *Learner should feel the urge or propensity to make progress*. The speed at which language takes place is a direct function of strength of propensity. Elements like social integration (not so applicable in case of ASLL), communicative needs and attitude towards target language contribute in determination of propensity. Some of the needs are more pressing than other.
2. The learner must possess the capacity for language learning i.e. language faculty. It refers to the ability to adapt the language processing capacities like human brain, motor system, and perceptual apparatus that are tuned to language processing. *Its specific application to SLA is the capacity to reorganize the language processor to cope with the other language, a capacity than can be exercised provided there is a sufficiently strong urge in this direction.*
3. A language processor cannot operate without *access* to the raw material of language. Access here includes the amount of 'input' available and opportunities for communication.
4. Determination of the structure of the acquisition process. Answers to two main questions are important to inquire process; (a) how are various skills and elements of knowledge that make up language proficiency *synchronized*? (b) What kind of *variations* across learners and learner categories can be observed in the acquisition process? Language comprises of varied yet interrelated elements; in what way and to what extent learner can single out the elements he needs to acquire is a problem for the learner because each successive stage of acquisition requires the maintenance of a delicate balance among various aspects of linguistic knowledge like phonology, morphology, syntactic and lexical knowledge. Variations across the learners here points towards two warnings against the two misconceptions that (a) learner can be manipulated at will in the process of instruction (b) second language acquisition is essentially a

uniform process with only superficial variations.

5. The pressure of communicative needs is likely to accelerate the learner's progress, whereas limited access to linguistic material or communication opportunities is likely to slow it down. This characteristic is referred as *Tempo* of acquisition.
6. Ideally, the *End State* represents a full command of the second language but indeed, a second language learner may succeed in outstripping the average native speaker in his mastery of language, in domains like vocabulary or syntax. As a rule, however, the process of language acquisition ceases at a point long before the true mastery of the language can be claimed.

(For detailed reading *Second Language Acquisition* by Wolfgang Klein)

The review given above by no means claims to cover the whole horizon but gave a glimpse of the ideas, which are mostly researched, talked and used by the people in the field of linguistics. Some of the ideas (like lexical theory's understanding of learning as a result of continuous symbiotic relationship between experience, reflection of experience, and eventual holistic internalization of it) discussed above definitely conform to the constructivist theory of learning but basically are purely in context of second language learning. Truly speaking, constructivism is a broader perspective of learning in general, based on the understanding of learner's process of learning and means of knowledge making at the disposal of the students. The review above is thus presented with the aim of locating various factors involved in the second language learning. An understanding of these factors and determination of the extent to which they really contribute in the ASLL will thus be utilized in development of constructivist classroom design. The next section will answer the question of "How constructivist approach can be used for better ASSL?"

Applying the Principles of Constructivism to ASLL Classroom

Even though there has been volumes or research conducted and numerous theoretical grounds were given to understand the variables involved in the learning of second language but still in reality, second language classrooms are locus of excessive rote activity, rote drills, pattern practice and rule reciting. In general Present-Practice-Produce is the only widely used paradigm under many different names. This practice may have many reasons lying within or outside the theory but the most rudimentary reason is that it is not the theory it-self or theorist, who can turn the theoretical assumption into classroom practices but it is the language teacher who can implement any change suggested by

various theories. Unless teachers realize the insufficiency of the present classroom methods, no change can occur in the real sense. As a matter of practice, teachers always liked the recipes handed over to them as well-baked ready-made material to use as such, like direct instruction is attributed to behaviorist theory or cognitive apprenticeship to cognitive theory in the past. In fact, they need awareness about the deficiencies and limitations of such material and realization of how important it is to know explicit basis of their classroom procedures. In fact it has rarely been a teaching method but always the approach of the users that gives new meaning to the usage of the already existing methodologies and it is the change of the approach, which brings new outcomes. For example, it is not the new ingredients, which create a new dish but almost the same ingredients used in different proportions with the innovative outlook, imaginative power of the cook, and many more alike factors. In case of the constructivist teaching, it is same like making a new dish with the difference of approach and variety of combination of already existing teaching strategies, which will bring a totally new outcome. Constructivism empowers the teacher with the empirical understanding of the tools used by the learner to develop his/her understanding and creating his/her own language.

In fact, it is very difficult to plead a new teaching methodology especially in a situation where learning is assumed to be happening even in its absence. For that case, we need to think what learning means to us? And what is the expected outcome of the learning activity? Do the practices carried out with the hope of producing learning are sufficient for generating meaningful learning? It is true if learning just means memorizing some words, storing sentence structures and remembering grammatical rules. But there is general consensus that learning is much more than that and also, our present teaching methods are hardly able to produce learning characterized by traits like creativity, originality and critical thinking. Constructivist pedagogies address these issues by explaining the learning processes going on inside the mind of the learner and putting him in the center of the activity. Intellectual maturity and experience are taken as the main sources of knowledge construction and refinement. Although constructivists strictly believe in the active construction of knowledge by the learners as mind-engaging activity but it is also true that we all take some information passively (Like subconscious learning, which is later 'monitored' in Krashen's theory or the concept of 'prefabricated language' in Lexical Approach), the constructivist perspective suggests that even this information must be mentally acted upon in order to have meaning for the learner (Brooks & Brooks, 1999). For example, students some time receive information

from their teacher or directly from interaction with the speakers of the target language, which at the time of reception makes little or no meaning to them but they still memorize it for the sake of completing successfully the activity they are going through and at some later stage of their life when they come across some experience which makes the meaning of that piece of information clear to them by making their own understanding. To constructivist, although the individual possessed that information for long time but it could only be called a part of his/her body of knowledge when it is really understood by him/her. Similarly, in language learning we learn a number of words with a limited use in the beginning but with wider knowledge and understanding of the language at later stage we can use the same set of words in different contexts beyond the one taught by the teacher. These kinds of constructions are learned by assimilation to the already existing knowledge through *Experience* and *maturity* of intellectual faculties. This "*maturity*" is quite developed in the case of ASL learners because they already possess experience and have comparatively higher level of intellectual maturity and it makes the case for applying constructivist methodologies to ASLL stronger.

As mentioned earlier, constructivism is an approach rather than a method. It can only work efficiently if, supported by overall school context. It includes, curriculum developed in same context, supportive learning environment in the classroom, and teachers having full understanding of using this approach as its pre-requisites. In sum, we can say it is a mind-set (totality of attitudes and values: Lewis, 1993) rather than a mere change of method of teaching. In the following lines an effort has been made to develop a case for constructivist mind-set for second language classroom.

Curricular Context

Language is a source expressing one's opinion, sharing meaning, knowing each other through communication and language teaching obviously aims at facilitating the development of faculties related to acquisition of language and obviously course includes various activities and material helpful in accomplishment of pre-set objectives. A review of the practices shows that mostly language is subdivided into 'four skills', speaking, listening, reading and writing for this purpose. This division is based on the behaviorist belief of breaking knowledge into small parts to make it easy to understand. But there is variety of evidence that this is not the optimal division as Krashen reports,

> "In every program I have been associated with, teachers who are asked to focus on just one of the four skills or two, complain that such divisions are artificial. They find it impossible to focus on just one skill and ignore the others (Krashen, 1988)."

For example, if we buy some electrical kit of any device from the market which needs assembling of various parts before use. While, assembling, we always refer to the figure drawn in the guidance book, although the description for the method and placement of each part is often given in words. We prefer to look at the whole diagram to see the direction, place and position of each of its parts because it is easier for us to assemble when we have the image of the whole thing in front of us. Probably, looking at the whole thing puts our mind in the context of the complete activity. The purpose of the example is to make clear that naturally we feel comfortable to look at the things from whole to parts rather than vice versa. Krashen mentioned the limitation of dividing language into parts for better learning in context of the language acquisition suggested in his monitor theory but in constructivist perspective, such divisions are discarded because of the basic principle that "the brain is a parallel processor and it processes parts and wholes simultaneously". The direct implication of this idea on curriculum is that it should be based on conceptual wholes rather than topics. These conceptual wholes should directly challenge the students' suppositions and include the capacity to comply the students' cognitive demands. For example, in a lesson engaging students to compulsorily talk to the native speakers in a real-life task e.g. at a railway station trying to find the way to a certain pre-decided place to join the other classmates for going to a trip, may push them to use the learned vocabulary and grammatical structures and also help them to comprehend the varied usage by listening the known language form the native speaker. The problem posed to him/her has the potential of making the students read some guidance map, write some notes on his diary to remember the important train transfer junctions, speak to the people around him for making sure his direction, and listen and comprehend to the people. Although he went through, may be, all of these sub-divisions but there proportion cannot be exactly determined. Also, the learning occurred cannot be subdivided into the traditionally accepted categories of listening, speaking, reading and writing because the brain does not operate on any such division. At the end of the activity, student will find himself/herself gone through several in-mind changes, both conscious and unconscious, relating to all aspects of language learning. The care should be taken to make sure the

existence of relationship between the demands of the curriculum (conceptual whole) and the supposition that learners bring to the classroom.

Literate Environments

The idea of learning environment holds the central position in the constructivist teaching and learning. It refers to 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 (Wilson, 1996). Gould (1996) used the term literate environment in his paper "*A constructivist perspective on teaching and learning in the language arts*" as parallel to Constructivist learning environment (CLE) used in constructivist literature. Collaborative talk, dialogue, interaction and questioning are main characteristics of such literate environment. At this point the focus is the learning environment itself; role and rationale of above stated elements will be discussed in the later part of the paper.

Jonassen (1998) presented a conceptual model of learning environments, which is equally applicable to any subject area. His model comprises of problem/project space, related cases to explain problem, information resources to support investigation of the problem, cognitive (Knowledge-building) tools, conversation and collaboration (knowledge-negotiation) tools and supports. The main traits of the model are enlisted in the figure 1.

(a) Problem/Project Space: Presentation of problem is the single most important phenomena, which determines and helps the development of student's interest, urge, involvement and approach to deal with the problem. In sum determines the course of the activity and to large extent the nature of output. In constructivist setting, posing a problem comprises of three inter-related components i.e. problem context, problem presentation and problem manipulation space. For example not all the students come to class with interest in learning verb construct use of particles, or composition writing but most of them can be helped to understand the importance of such topics through teacher mediation. Relevance can emerge through creating context for the problems. Once the student realizes the relevance of the problem for him/her, then it provides sufficient ground for teacher to present the problem such that it appeals, interests and engages student thoroughly. Researchers are focusing on the design of virtual worlds (high quality videos etc. etc.) and environment for representing phenomena to the students. Thus the purpose of the problem presentation is to stimulate the problem in the context in

which it is normally and naturally encountered.

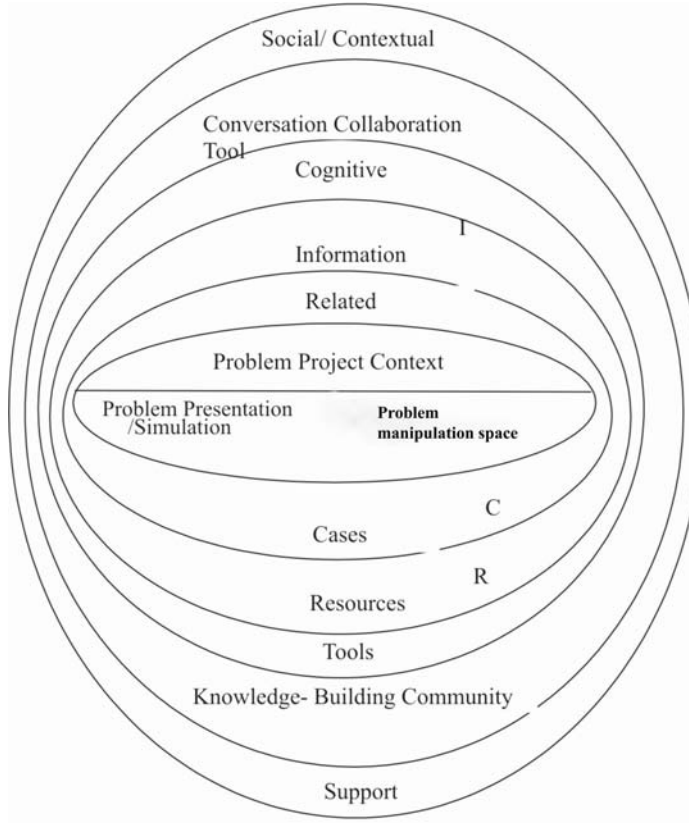

Figure 1: Jonassen's conceptual model of learning environment
Source: *Learning with Technology: A constructivist perspective* pp-195

(b) Related Cases: Better understanding of the world is conditioned to the wide experiencing and knowing the functioning of its various parts. The things we understand the best are probably those in which we invested the greater amount of effort. For a beginner, facing any language learning task like writing a piece of composition or narrating any occurrence to the fellows can be better performed if supported by study of the related cases before presenting solution to his/her own task. Related cases provide them with set of experiences to compare to the current task or issue and in turn helps learner to assess the complexity and multiple perspectives of the issue.

(c) Information resources: Constructing one's own knowledge involves a lot of investigation into whatever activity learner is performing.

Sometime the complexity of the problems calls for the skills that learners don't possess. So, it is essential to support them with abundant resources to keep up with the continuity of the construction. These information resources may range from simple text to interactive multimedia resources or limitless world of World Wide Web (www). A student having difficult time in understanding the new sentence structure or word can access to resources like text, CD, a www newspaper edition, etc. etc. presenting various uses of the word or structure in discussion.

[For details read "Implementing Technology for language learning", (Bush, 1997)]

(d) Cognitive Tools: When we present problems with there real complexity, as proposed in constructivist learning, sometime it requires higher order skills to solve such tasks and students don't possess that level of skill. In order to enable them to complete the task, we need to equip them with cognitive tools. Cognitive tools can range from paper pencil maps to highly sophisticated Mindtools like semantic networks or database. For example a student writing the script of drama may need to know the structure of writing or general mode of the activity, which he can learn by using Mindtools like reading commentaries from experts or directly reading or watching video of some actual drama.

(e) Conversation/Collaboration Tools: Learning cannot happen in isolation. Sharing of information and inter-flow of knowledge among the community of learner is essential for development. CLE's must provide this kind of opportunity through inter-class communication, native speaker and learner peer grouping etc. etc. It is more relevant in case of second language learning when it happens in the native country like learning Japanese in Japan. Peer grouping, diffusion in cultural activities, Internet collaboration are other such activities among the learner groups at various stations.

(f) Social/Contextual Tools: CLE is an overall atmosphere for the language/any classroom, which cannot work in isolation to the activities in the entire school. For better implementation, it is essential to harmonize the classroom, school (organizational) and social environment in line with cultural environment and demands or expectations of the community.

Teachers Role

"What a constructivist teacher should do?" This is a big question and usually not very clearly answered in term of activities to be

conducted in the real classroom situation. In literature we can usually find guiding principles, which are easy to understand and very appealing to most of the teachers and other readers but not possible for every teacher to apply without proper feedback and guidance. For that reason I have tired to make clear the role of constructivist teacher by quoting the example of a constructivist teacher, who applied the approach in her class and wrote her experience for the benefit of others, Susan Cowey, a teacher of English Language, who applied constructivist approach in her rationale for the student's state of mind essential for meaningful learning to happen as:

> "Learners must write from a need to communicate and therefore have a choice of their topics. My student would need an environment that invites and stimulates discussion, and plenty of time to reflect, not only on any given piece of writing but also on the process of writing.
> What would I do? I would immerse my students in rich literature and I would help them construct what they need to communicate and model that struggle with my own work. I would provide time to write and read and an audience with which to share. I would ask them to constantly reflect on the process. I do this daily. But how would I begin?" (Cowey, 1996)

Still the extract above from the direct experience Cowey, just tells what to do? But not how to do? This is very important to decide how to start an activity, because whole mode of the activity depends on this. For that she wrote further:

> "It was my first introduction to the children and an opportunity to evaluate their writing schemes. I chose a wall that was visible from the entrance to the room and mounted their writing on colored paper under the sign that read, "The Writing on the Wall". It was my way of saying; "I am already your audience- I celebrate your writing" (Cowey, 1996).

As a next step she established a classroom resource corner with the help of parents and students containing biographies, reference materials, magazines, fiction, anthologies of poetry, and multiple copies of age-appropriate for material groups. Further she wrote that she selected themes for her teaching rather than topics like her first theme

was “China” selected with the help of students by asking them what interests them most. She described the reason for selecting thematic teaching as this kind of teaching provides more opportunity for integration of knowledge in a common context and enhances the community of discourse.

In specific case of her class, she spent long time to talk to the students or reading their writings to examine their ways of thinking and developing ideas. Then she used that information to manipulate events in the class for effect, incorporating dialogue, suspense, and effective paragraphing. Also, this enabled her to see a different writer in every student with different needs. This made her realize the liability of devising some means to cater the individual needs. She coped with it like:

> “I felt that many of the issues were best addressed in a one-to-one conference with the students, but some were clearly topics for mini-lessons to benefit the whole group. (Cowey, 1996)”

The experience quoted above is not presented as the best and ideal to follow but it covers a lot of the aspects of constructivist teaching and the role a teacher should play in the constructivist classroom. As every class is different and every teacher is different too, so is the approach to conduct a classroom. But this example can be taken as a “related case” to make new ideas spring out in the mind of the constructivist teacher.

Conclusion

Despite of the varied standpoints among researchers, there is hardly any disagreement on the viability of the constructivism as teaching learning approach. But still it is quite demanding task to make it a widely applied approach as far as classroom usage is concerned because capturing another person’s understanding is a paradoxical enterprise. The act of process of construction or transformed concept is a phenomenon that can only be visualized but cannot be seen. In concrete terms we can only see what students generate, demonstrate or exhibit but cannot see the processing mechanism, which is the focus of the constructivist learning. But for sure a more practical and viable movement for helping learners to create their own understanding of the world around them is in the process of development. There are many second language teaching approaches like lexical and monitor theory, which partially conform to the concept of knowledge and learning

forwarded in constructivism but believe in different philosophical grounds. Following table is an extended version of the Table 1 (Given in Introduction of this paper) and is meant to give a summarized but comprehensive comparison of constructivism with the other two schools of thought on the same parameters used in the original version of the table by Brown (1980).

Table 2
Linguistic-Psychological Parallels

School of Psychology	School of Linguistics	Characteristics
		Repetition and reinforcement learning, conditioning
		Stimulus-response
		Publicly observable responses
	Structural	Empiricism
Behaviorist		Scientific method
	Descriptive	Performance
		Surface structure
		Description- "what"
		Analysis and insight
		Acquisition, innateness
		States of consciousness
	Generative	Rationalism
Cognitive		Process
	Transformational	Mentalism, intuition,
		Competence
		Deep structure
		Explanation- "why"
		Experience, urge to learn, and meaning-making
		Equilibration, individual's error
		Creation, individual thinking
Constructivist	-	High degree of interaction, context, environment
		Kantian Empiricism
		Construction
		Viability of constructs
		Deep understanding,
		Generation- "How"

References

Brooks, G. J. & Brooks, G. M. (1999). *In search of understanding: the case for constructivist classrooms.* Alexandria: Association for Supervision and Curriculum Development. pp. 26-27

Brown H. D. (1980). *Principles of language learning and teaching,* New Jersey: Prentice-Hall, Inc., pp, 10-15.

Bush, D. M. (1997). Implementing technology for language learning. In *Technology-enhanced language learning.* ed. Bush, D. M. Chicago: NTC publishing group. (pp. 287- 349)

Caine, R. N. & Caine, G. (1991). *Making connections: teaching and human brain.* Alexandria. pp 80-87

Cowey, S. (1996). A first–year teacher implements a literature – based/whole-language program in a fourth-fifth grade. In *Constructivism: theory, perspectives, and practice.* ed. Fosnot, T. C. (pp.153-171). New York: Teachers College Press.

Fosnot, T. C. (1996). Constructivism: A Psychological theory of Learning. In *Constructivism: theory, perspectives, and practice.* ed. Fosnot, T. C. (pp.3-7). New York: Teachers College Press.

Howe R. K. & Berv, F. (2000). Constructing constructivism, epistemological and pedagogical. In *Constructivism in education: opinions and second opinions on controversial issues.* ed. Phillips, D.C. Chicago: National Society for Study of Education. pp 19-40.

Jonassen, H. D. (1998). Designing case-based constructivist learning environment. In *Instructional design theories and models.* ed. C. M. Reigeluth. Vol.2. Mahwah, NJ: Lawrence Erlbaum Associates.

Jonassen, H. D., Peck, L. K. & Wilson, G. B. (1999). *Learning with technology: a constructivist perspective.* New Jersey: Prentice-Hall, Inc.

Klien, W. (1988). *Second language acquisition.* Cambridge: Cambridge University Press.

Krashen, D. S. (1988). *Second language acquisition and second language learning.* London: Prentice Hall, Inc.

Lewis, M. (1993). *The lexical approach: the state of ELT and a way forward.* London: Language Teaching Publications

Mayer, R. (1996). Learners as information processors: legacies and limitations of educational psychology's second metaphor. *Educational psychologist,* 31(3/4), 151-161

Nattinger, J. & DeCarrico, J. (1992). *Lexical Phrases and Language Teaching.* Open University press

Reinsmith, A. W. (1992). *Archetypal forms in teaching; a continuum.* Westport; Greenwood Publishing Group, Inc. pg-104-105

Von, G. E. (1987). Learning as a constructive activity. In *Problems of representation in the teaching of learning of mathematics.* ed. C. Janvier, pp. 3-17. New Jersey: Lawrence Erlbaum Associates, Inc.

Von, G. E. (1989). Constructivism in education. In *International encyclopedia of education* [Suppl.]. ed. T. Husen & N. Postlewaite pp. 162-163. England: Pergamon Press.

Von, G. E. (1995). Sensory experience, abstraction, and teaching. In *Constructivism in education,* ed. L. Steffe & J. Gale. pp. 369-384. New Jersey: Lawrence Erlbaum Associates, Inc.

Wilson, B. G. (1996). Introduction: What is constructivist learning environment? In *Constructivist learning environments* ed. B. G. Wilson. pp, 3-8. Englewood Cliffs, NJ: Educational Technology Publications.