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AN INTERSECTION OF COGNITIVE LINGUISTICS, SECOND LANGUAGE ACQUISITION, AND SOCIOCULTURAL THEORY

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Abstract

The first part of the study deals with emergence, development and guiding principles of cognitive linguistics (CL) and how it (CL) has impacted other fields of knowledge. The first section discusses various tenets of cognitive linguistics, which are being appreciated and used by second language acquisition (SLA) researchers and practitioners and why they are applying cognitive linguistics approaches to study second or foreign language learning. The second part of this study starts with the discussion on Vygotsky's language learning theories, especially his thinking and speaking/languaging system and sociocultural theory (SCT). In this section I put light on the point of contact of cognitive linguistics and Vygotsky's sociocultural theory. I also presented various studies, which show why it is useful to apply CL and SCT concepts together to improve and make L2 acquisition easier for SLA students. In the end, I presented a few empirical studies, which have used CL and SCT concepts in SLA classrooms. I also discussed a few studies to show the validity of applying CL and SCT concepts within the field of second/foreign language acquisition.
Key words: Language, L2 acquisition, sociocultural theory (SCT).

Section-I: Cognitive Linguistics

Cognitive linguistics is the study of the relationship between mind and language. It was developed in contrast to generative linguistics (Chomsky, 1966), which focused primarily on syntax. In the paradigm of cognitive linguistics, "meaning is so central to language that it must be a primary focus of study. Linguistic structures serve the function of expressing meanings and hence the mappings between meaning and form are a prime subject of linguistic analysis. Linguistic forms,

in this view, are closely linked to the semantic structures they are designed to express. Semantic structures of all meaningful linguistic units can and should be investigated.

Cognitive Linguistics is considered as an approach that takes insight from psychology and linguistics to study language from various perspectives. It explains how language aligns with cognition, and how it adapts in the course of language usage, phylogenetically in language development, ontogenetically in language acquisition, and moment-to-moment in situated, on-line language processing and performance (Robinson & Ellis, 2008). Cognitive linguistics as an approach started flourishing in the 1970s and became an exclusive field of study since the 1980s. Since its emergence, a large amount of research work has been conducted specifically focused on semantics, syntax, phonology, historical linguistics (Croft & Cruse, 2004) and language acquisition.

Cognitive linguistics takes a non-modular approach to the study of language, which is in contrast to *generative* approaches. Generative approaches consider languages as consisting of modules, which include phonology, morphology, syntax and semantics. These modules or sub-systems operate independently from the rest of human cognitive processes and are not influenced by the ways humans interact with the world (Ellis & Wulff, 2012). These independent modules / system establish the assumption of a *narrow language faculty* or Universal Grammar and a *broad language faculty* (Hauser & Fitch, 2002). According to Jackendoff (2011) the broader language faculty includes cognitive abilities, which are necessary for human auditory, motor, vocal system, short and long term memory.

Cognitive linguistics does not see language as consisting of modules or sub-systems. Language is studied as a part of human cognition where language and cognition are interwoven. In other words cognitive linguistics takes a non-modular view of language. Ellis and Wulff (2012)

are of the view that, "cognitive linguistics is non-modular in the sense that the idea of distinct linguistic subsystems is discarded, including the long-standing distinction between words (the lexicon) and the rules that combine them (grammar)." (p. 1). In this way the focus in cognitive linguistics is on analyzing the influence of general human abilities on language processing, change and acquisition of L1 or L2.

Foreign or second language practitioners always take interest in understanding and analyzing language acquisition from various perspectives through the lens of cognitive and psycholinguistic process. Most of the second language acquisition (SLA) theories are based on top-down (from Universal Grammar to L1 and L2 grammars) approach to the study of language acquisition, which assumes the modular view of language. Theorists who believe in the top-down approach assume that L2 develops in the mind automatically in the same way as L1 if given sufficient amount of input (Pütz&Sicola, 2010). According to the top-down approaches, the language acquisition device (LAD) is activated if the required input is given for a certain period. LAD is autonomous and works independently without the assistance of any other cognitive / mental faculties like image schemas, perception, attention, classification, emotions and other bodily experiences.

On the other hand, cognitive linguistics assumes bottom-up approaches to studying language acquisition process. Cognitive linguists claim that language is acquired in the same way as human learn other skills**.** Bottom-up theories assume that second language acquisition depends on how L2 learners interact with the world, how they acquire and store other knowledge. In this way there is a strong link between learning L1 or L2 and general cognitive development. For instance, Ellis and Wulff (2012) are of the view that "Second Language Acquisition (SLA) encompasses the study of the cognitive representations and mechanisms of second language

processing, their time-course of acquisition, and, where possible and feasible, their relevance to instruction." (p. 3). In the field of cognitive linguistics, SLA researchers try to explore the links between cognitive development and language acquisition from various perspectives.

There are numerous studies which state that language is embedded in our experience of the world and our '*physical embodiment*' (Langacker, 1987, 2000). Speakers make meaning of any word on the basis of his classification, perception and interaction of the world around him. This categorization and classification of a speaker's interaction with and perception of the world around him depends on his cognitive development and physique. It implies that a speaker (L1 or L2) cannot understand a word or is unable to make a meaning of a word if the word does not have any relation with his worldly experience. For example, in the words of Bailey et al. (1997) and Feldman (2006) the meaning of verbs like push, poke, pull and hold cannot be understood unless we take into consideration the *sensorimotor* skills like hand motions, postures and amount of force which play an important role in carrying out these actions. It means that languages guide their speakers to practice different *thinking for speaking* (Slobin, 1996) while learning or speaking another language. In this way, non-native speakers (L2 learners) develop some alternative techniques for thinking of speaking in order to learn another language.

In this section I have demonstrated the relevance of these basic CL concepts, and theoretical frameworks for researching them, to the fields of SLA and language pedagogy.

Cognitive semantics is an important area of investigation within the field of cognitive linguistics. Cognitive semantics does not consider language as an autonomous cognitive system/faculty but it views language as part of human cognitive system. Cognitive semantics places human cognition at the center of the meaning making process and assumes linguistic meaning as expression of conceptual structure. Cognitive semantic has three basic principles (Evan

& Green, 2006). These are describe by Cadierno (2008):

1. Conceptual Structure is embodied

2. Semantic structure is conceptual structure

3. Meaning representation is encyclopedic and constructional (non-compositional)

Semantic domain is one of the most researched areas in cognitive semantics. Talmy (2000) explored motion domain within the field of semantic domain. In his typological framework Talmy investigated the typological patterns of motion events. He is of the view that *conceptual structure* is linguistically programmed in different languages. Motion event is "a situation containing motion and the continuation of a stationary location alike." (Talmy, 2000, p. 25). His analysis of motion event focused on systematic relations in language between meaning and surface expressions. In other words he described the relationships between different elements "within the domain of meaning and different linguistic forms, including both open class elements such as motion verbs (*go, climb, run*) and closed class elements such as satellites (*up, down, in, out*)" Cadierno, 2008, p. 242).

Talmy's motion event consists of four components: *Figure* (objects)*, ground* (location)*, path* (path) *and motion* (action or motion itself)*.* This framework can be understood from the following example. '*The pencil rolled of the table'* where '*the pencil'* is the figure, '*the table'* is the ground, '*off'* functions as path and the verb "*rolled"* is a motion. On the basis of this typology of motion event Talmy proposed that every language arranges or packages motion events in a different way and the L2 learners have to pay special attention while processing or expressing motion events through their '*thinking-speaking system'.*

Talmy's typological framework on motion events, institutes an interesting research area for the study of the ways to analyze how adult language learners from different linguistic backgrounds

use spatial relations in relation to express motion events (Cadierno, 2008). This framework encourages many researchers in the field of second language acquisition to explore the issue of linguistic relativity by studying how and to what extent adult language learners with typologically different L1s and L2s adapt to a new thinking-for-speaking in the foreign language.

Stam (2001) conducted a study to analyze use of motion event by native (L1) and non-native speakers of English (L2). All the L2 speakers had Spanish as their native (L1) language. In this study Stam (2001) discovered that Spanish adult learners inclined to use their native language patterns of expressing motion events. On the result of this study it can be concluded that L2 speakers rely on their L1 linguistics patterns for expressing motion events. In other words it can be said that their L1 thinking-for-speaking configurations on their speech are deeper and stronger at initial level. It is hypothesized that L2 learners might learn to use motion events correctly if they were given more exposure and chance of using motion events in L2.

In another study Gulberg (2008) examined *gestures* in relation to second language learning from two perspectives: Gestures and learning generally, and role of gestures in the development of language systems specifically. Kendon (2004) defined gestures as representative or symbolic movements, which a speaker use or make while talking. This definition excludes functional gestures like walking or riding a bike, etc., but it includes gestures like making a 'victory' sign. Gestures are language like which means that they are arbitrary, segmental and combinatorial. They are contextualized and conventionalized or lexicalized (McNeill, 2000). Gulberg (2008) is of the view that "gestures are deeply multi-functional and have both communicative and self-directed, cognitive functions." p. 278)

Because gestures have communicative and multifunctional characteristics there is a strong link between gesture, speech and language. Gestures are related to a speaker, which means it is a

speaker phenomenon. We make gestures while talking to others and not when we are silent. Gestures also perform linguistic function, which includes making reference (deictic expressions), for instance, this thing, here and there. Gestures can become a part of an utterance or the utterance itself like, *put (that one there).* On the basis of their (importance) many theorists believe that gestures play an important role in speech or communication. Kendon (2004) considers gestures as an auxiliary system to speech. Some cognitive linguists consider gestures to facilitate lexical retrieval (Krauss, Chen & Gottesman 2000). There are many researchers who believe that gestures and speech are integral part and gestures help in memorizing or verbalizing lexical items (Kita &Özyü, 2003)

Alibali, Kita and Young (2000) are of the view that gestures assist a speaker to explore his communication from various perspectives, which help him to easily choose, arrange and internalize spatial information into verbal units. In this way speaker (L1 or L2) can be more communicative by using more gestures in their speech. Goldin-Meadwo& Wagner, Nusbaum and Kelly (2001) are of the view that learning L1 or L2 becomes easy for the learners who use more gestures because gesture lessen the cognitive load on working memory, which in turn minimizes the processing load. This relief to the cognitive process is directed to memorization, planning and accomplishing other memory intense operations. On this assumption, Gulberg (2008) is of the view, "that L2 learners' gestures reflect their attempts to reduce the processing load of keeping words, grammar, and the relationships between entities in mind at the same time as planning what to say next." (p. 293). In this way, it can be said that by making gestures L2 learners can improve their communicative skills. Clark (1996) demonstrated that languages consist of gestures and speech (composite signal) and acquiring a new language means acquiring a new gestures system.

Though this area is still understudied but future researchers can be done to explore the

relationship between learning L2 by using gestures from various perspectives.

Entrenchment is another famous and well-researched concept like motion evens and gestures within the field of cognitive linguistics (which is a usage based approach to language or language learning). Entrenchment means how easily and frequently a structure (lexical, etc.) is activated as a result of cognitive processing of that structure (Langacker, 1991). There is strong relationship between entrenchment and input. Tomasello (2000) is of the view that repetition or imitation learning is a significant characteristic in first or second language learning. It is hard for children to learn a new structure at the expense of an already acquired and practiced one. Ellis (1994) extends this concept of entrenchment to the second language learning. Ellis (1994) is of the views that second language learners acquire those structures easily, which are frequent and more practiced. It is easy for L1 learner to acquire L2 if both the languages have some kind of similarity (Ellis, 1994).

On the basis of the above studies Lowie and Verspoor (2004) assumed that L1 plays a significant role in acquiring L2. They demonstrated that Dutch learners (who are learning English as their second language) acquired some of the structures or lexical item easily and quickly which had similar constructions or meaning in their L1 (Dutch in this case). For example, it is easy for the Dutch learners to learn English word *break, which* has a cognate (breken) in Dutch. In one of their study Lowie and Verspoor (2004) examined the role of two variables, similarity between L1 and L2 versus frequency of input in acquiring L2. They developed and used an activation model of the '*mental lexicon'*, "that predicts that a frequently occurring word will have a higher level of activation than a word that is scarcely used." (Lowie and Verspoor, 2004, p. 77). After using this activation model with Dutch students who were learning English as their second language they concluded that for the beginner students L1 structures were triggered to a higher degree which

implied that similarity would play a significant and a major role in acquiring L2 cognates. They also have the view that more exposure to the L2 will result in more frequency of occurrence of linguistics structure that plays an important role in acquiring the target language.

Zoltán (2001) studied another important area in the field of cognitive linguistics. ZoltánKövecses studied figurative expressions, specifically idioms, from different perspectives. As a cognitive linguist he believed that motivated learning is more useful for teaching and learning idioms. He tried to arrange idioms on conceptual level while answering the following questions:

1. What are the most common idioms?
2. How should we arrange idioms in an ideal idiom dictionary?
3. What kinds of meaning do idioms have?
4. How should we teach idioms in the SLA/FLT (Foreign Language Teaching) classroom?

Cognitive linguists argue that the most common idioms are those that are centered on the main or direct source domain. For example, the dictionary of *Figurative Idioms* by George Nagy (1999) consists of 12000 idioms. Out of these 12000 there are 2000 idioms, which are directly related to human body. It implies that one-sixth of the total idioms are body related which shows that this *source domain* is the most beneficial and productive for metaphor or metonymy based idiomatic expressions.

Secondly, a dictionary of idioms for second or foreign language learners should be arranged on the basis of presumed conceptual order. According to Zoltán (2001), "it should indicate the target domain, source domain, and the scope of the source domain for the idioms that are based on a particular source." (p. 113)

Thirdly, he described that the meaning of the idioms are dependent on conceptual mapping and relevant mapping between a source and a target. It is necessary that second language (SL)/ foreign language (FL) learners should be given all three aspects or meanings of the idioms (general, specific and connotative), which will the learners in relevant mapping between a source and a target.

On the basis of the above premises Zoltán (2001) proposed that if idioms were arranged on these criterion they could act as a useful strategy for learning and facilitate SL/FL learners in improving their language fluency.

Another guiding principle in the field of cognitive semantics is that the meaning of traditional figurative patterns or expression encompassing idioms, metaphors and formulaic sequences are motivated rather than arbitrary (Gibbs 1994, Johnson 1987 &Lackoff 1987). This view is contrary to the traditional view about metaphors, idioms or figurative language, which believes that meaning of these expressions are arbitrary. On the other hand, cognitive semantic sees some kind of systematicity these expression. According to the traditional view, these figurative expressions are learned through memorization, repetition or rote learning in case of second or foreign language learners. Cognitive semantics put forward some new and alternative skills and techniques for learning these expressions (Boers & Demecheleer, 1998).

The alternative strategies proposed by cognitive semantic are based on an increased awareness of these figurative expressions to the learners. According to Boers (2004) these strategies are;

1. Identification of metaphor as a common ingredient of everyday language.

2. Identification of metaphoric themes

3. Identification of the non-arbitrary nature of many figurative expressions

4. Identification of cross-linguistic variety in the linguistic instantiations of those metaphoric themes.

In his study Boers (2004) applied these strategies in a foreign language context. He demonstrated that these alternative techniques for learning figurative expressions could be applied in three ways for enhancing their compression in less time. The result of his study showed that second or foreign language learners take more interest in learning if;

1. The imaginary underlying figurative expression can be made clear to the students by referring to the literal meaning of the image.

2. Students can be motivated to devote cognitive effort in trying to figure out the meaning of idioms independently.

3. Idioms can be grouped under common metaphoric themes.

After applying these strategies Boer (2004) found that these techniques are useful for learning or memorizing new or unknown figurative expressions like, metaphors, idioms or sequences.

Schmitt (2004) studied these figurative expressions including idioms, collocations, sequences or patterns and developed an exclusive area of study within the field of cognitive linguists with the name of formulaic sequences. Norton Schmitt talks about formulaic sequences from various perspective encompassing their construction, processing and acquisition.

Schmitt (2004) claims that formulaic sequences are stored and processed holistically /as a holistic unit instead of a single word. For example, opaque formulaic sequences (idioms) are processed as holistic unit. We cannot understand or derive meaning from its compositional part or single words. The speaker or hearer derives meaning from the whole unit. Secondly, idioms are spoken more fluently with a continuous and coherent intonation tone or contour. Both of the evidence shows that formulaic sequences are processed as a holistic unit.

Both L1 and L2 learners process formulaic sequences more easily and quickly, especially, children. Nelson (1973) is of a view that children who use language for referential purpose rely more on single word utterances. On the other hand, children who are more expressive and use language for socialization tend to learn and use formulaic sequences. In other words, expressive children learn the whole expressions. Schmitt (2004) endorsees Nelson's point of view by adding that children's preferred use of language also depend on the input they receive.

L2 learners also admire, prefer and tend to use more formulaic sequences in their speech. Learning and using formulaic sequences in their communication give them a quick and easy access to a peer group. Fillmore (1976) observed the same situation when he noticed that five Mexican children who were trying to be integrated into an English medium school. Fillmore (1979) witnessed that these children were using eight strategies to be the part of the L2 community. Out of these eight strategies three were directly dependent on formulaic language.

On the basis of these evidences it can be said that formulaic sequences are stored and produced holistically. Not only children but also L1 and L2 adult learners tend to rely on formulaic sequences to be more communicative.

Section-II: Sociocultural Theory and Cognitive Linguistics

In the previous section I discussed various studies, which talk about cognitive linguistics and second language acquisition. In this section I described how and in what ways theories and concepts of cognitive linguistics fit into language learning theories of Lev Vygotsky (1896-1934).

Vygotsky's (1934) work on cognitive and social development is considered fundamental to much of the research in cognitive linguistics. His work emphasizes on the role of social interaction in the development of cognition. He was of the view that community plays an important role in the process of '*meaning making'* though his central focus is on investigation, analysis and

examination of "the unification of speaking and thinking process." (Mahn, 2012, p. 100)

Vygotsky's works specifically focus on children's meaning making process to discover the underlying systems, which are involved in the evolution and growth of human's ability to make and communicate meaning (Mahn, 2012). According to Mahn (2012) Vygotsky, "compares it to the processes used higher primates to make meaning of their world and highlights a fundamental differences—the sociocultural world into which the child is born, including cultural practices and the communicative use of the language." (p. 101)

Vygotsky's sociocultural theory (SCT) grew out of his work on children's language development in sociocultural settings. While talking about SCT, Masuda and Arnett (2015) mention that Vygotsky believed that, "human cognitive abilities develop as a result of internalizing socially based learning through culturally constructed artifacts" (p. 10). It implies that a human's higher thoughts (consciousness) develop due to the interaction of their brain with culturally developed modes of life.

Masuda and Arnett (2015) mentioned three important components of Vygotsky's socio-cultural theory (SCT) namely, *mediation, internalization and the zone of proximal development.* Inspired by these notions many SLA and CL (Cognitive Linguistics) researchers applied SCT and cognitive linguistics concepts to second language acquisition. Lantolf (2007) believes that there is "organic unity between the sociocultural environment and cognitive process" (p. 33). On the basis of these premises there are many scholars, like Lantolf, (2007), Lantolf&Poehner (2014) and Homle (2007) who endorse the application of SCT and CL to the field of second language acquisition. Sharwood Smith (1991) is of the view that *cake* of SLA is cognitive while its *icing* is the social. In the same way Long and Doughty (2003) (as cited in Zuengler& Miller, 2006, p. 37) are of the view that future of SCT and CL is very similar and glaring:

For SLA to achieve the stability, stimulation, and research funding to survive as a viable field of inquiry, it needs an intellectual and institutional home that is to some degree autonomous and separate from the disciplines and departments that currently offer shelter. Cognitive science is the logical choice. (p. 869)

Masuda and Arnett (2015) mention three reason for using CL and SCT concepts together to implement in the field of second/foreign language learning:

1. Both CL and SCT assume that concept formation or conceptualization is fundamental to language learning and communication.

2. CL and SCT endorse concept based linguistics explanations through highly visual models.

3. CL does not have any theory of developmental education. SCT provides an educational development theory for use with CL.

On the basis of the above premises about CL and SCT many studies have been conducted to explore SLA from various perspectives.

Jacobsen (2015) in her study '*A Cognitive linguistics analysis of English conditionals in English for academic purposes (EAP) instruction: Implications from sociocultural theory'*discuses how L2 learners can learn English conditional ('*if'* constructions) by using CL approaches. Traditional grammar is centered on prescriptivism, which ignores contextual use of conditionals. On the other hand, cognitive linguists not only explain the constructional meaning of conditionals but also use them according to a particular context. In this way CL approach is more beneficial for learning English conditionals by L2 learners.

Jacobsen (2015) selected seven advance level students (four for cognitive activities and three for traditional instructions) to get their feedback on learning English conditionals by using material (contextualized activities including posters, PPTs, pictures and videos) based on cognitive

linguistic approach and classroom activities which were based on sociocultural theory (students collaboration activities).

Students were asked to give feedback in a retrospective interview. Qualitative analysis of the data showed that L2 students who were given activities on cognitive approach showed and performed better on production and collaboration on class activities than non-cognitive group. Jacobsen (2015) concluded that combination of CL and SCT are more beneficial for learning English conditionals by L2 learners.

On the basis of the studies discussed in this paper it can be concluded that researchers are conducting research in the field of SLA from the perspective of CL. Cognitive linguistics theories are not only applied to the field of SLA but they are also producing more useful results when they are used with Vygotsky's theory of SCT.

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