The Contribution of Vygotsky’s Sociocultural Theory in Mediating L2 Knowledge Co-Construction

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Abstract—Vygotsky’s Socio-Cultural Theory (SCT) emphasizes the role of meaningful human interaction as playing an effective role in language learning, especially in L2 development. The aim of this paper is to synthesize the main concepts of SCT and to show how it may help to enhance L2 learning practices. A critical review of Vygotsky's Socio-Cultural Theory suggests that human mental performance is basically a process arranged by concepts, social objects, and activities. Learning is, then, seen as an interactive process, representing the learner’s final output in practical community. Applying the Socio-Cultural Theory in practice can be the more suitable approach to provide an all-encompassing framework in which L2 learners can be engaged in various collaborative learning activities for L2 language learning. L2 learners’ interaction with various language activities seems to have instructional implications on their cognitive progress and consequently, this can reflect positively on their L2 language performance, leading to meaningful and constructivist L2 learning experience. The critical overview of the SCT in this paper recommends encouraging the use of collaborative techniques that integrate both instructors and L2 learners with the socio-cultural norms that can help exploit the full potential for a successful L2 learning experience.

Index Terms—interaction, L2 language pedagogy, learning, Sociocultural Theory

I. INTRODUCTION

Learning of L2 vocabulary and grammar is a first step in language learning; once this milestone is covered, L2 learners need to know when and how to use these to convey certain meanings in specific situations (Hymes, 1972). They may find it challenging to deal or communicate with L1 speakers because it may vary significantly from what they already know in their mother tongue. It may be essential, then, for L2 learners to clarify aspects of speech (e.g., intonation, certain idioms, etc.) to learn and develop new skills in order to meet these higher standards (Negueruela-Azarola & Garcia, 2016). The Socio-Cultural Theory (henceforth, SCT) offers a unique approach that relies on diverse conceptions of human development emphasizing the integrated nature of individual elements in the learning process (Masuda & Arnett, 2015). During interactions with others, the L2 learner has access to language forms and functions that are normally exclusively accessible to the latter. SCT offers a theoretical framework that stresses context-based language learning providing practical implications for second-language instruction.

There is a substantial corpus of theoretical and empirical studies on the impact of sociocultural perspectives on L2 learning (Bao & Du, 2015; Lantolf et al., 2015; Lantolf et al., 2020; Van Compernolle, 2015; Panhwar et al., 2016). Integrating the SCT theoretical framework into practice entails its informed use in pedagogy which can be considered as a developmental step and also as a bridge to understand not only the second language (L2) learners’ cognition but also, how they develop these cognitive skills by which the mind improves. Vygotsky (1997) argued that in order to recognize the human cognition processes, pedagogical intervention must be encouraged. Since the contribution of SCT to the pedagogical practices in the language classroom may not be understated, hence, a critical overview of the construct of Vygotsky’s SCT is the aim of this paper. This is followed by a more detailed discussion of its significant implications and effective contributions to L2 cooperative learning activities in a constructivist learning environment.

II. VYGOTSKYAN SOCIOCULTURAL THEORY

SCT is derived from the earlier work of Vygotsky (1978), a Russian psychologist, who hypothesized that a person’s mental ability cannot be separated from their social environment because people can develop cognitively through social interaction. According to SCT, human actions occur in cultural surroundings which are then mediated by language and best knowledge building happens when they are in their cultural environment (Wertsch, 1985). In other words, it is the social impact that shapes the individual’s mental ability and not the opposite (Daniels, 2001; Vygotsky, 1978, 1986). As human communication, according to Vygotsky (1987), has the unique and distinctive capacity to transmit generalized meaning, described as the defining feature of highly evolved human activity. A broad and objective way of describing understanding of meaning is: meanings that enable social communication to take place in a variety of situations.
Individuals attain the capacity to communicate meaningfully when they connect with one another. The titles of objects frequently pique the attention of youngsters when they interact with adults (Vygotsky, 1987). In the first place, the word obtained in this manner merely refers to a particular object that is fulfilled under defined circumstances (i.e., not yet generalized). Children will always associate the term "chair" with a certain kind of dining room chair. To generalize, children must have many verbal exchanges with adults in a variety of contexts. As a result, "chair" has gone from being a purely functional term to having a far wider meaning. Vygotsky (1987), on the other hand, was intrigued by the significance of meaning, as it is important that people could maintain the same level of comprehension no matter what medium they were communicating with. As during the interaction process, language users can send the messages as output and receive them as input. If there are any difficulties in encoding or decoding these messages, then the language users restructure and modify their messages so that comprehension becomes possible. In terms of L2, learners negotiate in meaning, they change syntax, word forms, repeat the words and so on, in order that understanding, and development can take place (Swain & Lapkin, 1998). The assumption has been made, then, that second language learning takes place through this negotiated activity.

Based on SCT, there is no incidental and passive learning, as learners create specific sub-goals, and the language turns into an intentional tool to help achieve their higher goals. They may have sub-goals, such as requesting more elaboration, reading a book, or looking up a word in a dictionary, and those sub-goals may usually be formed to achieve primary goals, such as passing a test, finding the correct direction in a new area, or writing a research paper and so on (Lantolf & Thorne, 2007). At some point, this process must attract the learners' attention, and thus, it is an intentional, directed goal created in order to achieve their higher goals. Learning is, therefore, seen as an interactive process which is the L2 learners' final output in practical society (Rogoff, 1994). Inputs are further seen as an essential component to promote successful second language acquisition, and they are also obtained through social communication in which L2 learners participate (Ellis & Barkhuizen, 2005).

From SCT perspective, Ellis and Barkhuizen (2005) pointed out that language learning and development take place in social interaction as it plays a significant role especially in L2 development. Social communication can be considered not only as a chance to learn any language, but also it is viewed as evidence of learning. In terms of L2 learning contexts, an earlier study by Swain and Lapkin (1998) focused on the importance of social interaction in a collaborative dialogue. Findings proposed that a dialogue which builds linguistic knowledge can be considered as language learning in advancement. Thorne (2000) further pointed out that according to SCT, language is considered as "socially constructed rather than internally intrinsic" (p. 225). As suggested by Vygotsky's theory, language is the most significant tool when mediating direct goals during social communication which are also assumed to be the basis of knowledge construction.

III. KEY SCT CONCEPTS

In SCT, one of the main concepts is mediation which means the use of tools, whether concrete or abstract, as a medium between the learner and the social-activity world (Lantolf & Thorne, 2007). As the employment of tools or techniques transforms impulsive, natural, and unmediated behavior into higher mental processes in socially important tasks (Azadi et al., 2018; Subero et al., 2018), for example, in children's unmediated (direct) memory, this transforms into mediated memory over time (i.e., remembering by means of language or other signs). Based on Vygotsky's (1987) research, children who had trouble remembering a list of words were given image cards to aid their memory. This had a positive impact on their overall performance and after a while, their brains adapted to these relaxing methods and no longer required image cards for later stages of memory formation. Mental pictures could be conjured up by both youngsters and adults, and these images could be linked to the ideas they had learnt. Taber (2020) stressed the use of objects such as memory aids, picture cards, symbolic mediation as softly repeating the words to be recalled, and human mediation. Vygotsky classified symbolic mediators into three categories: messages, symbols, and literary masterpieces.

Besides the symbolic mediator, human mediators are crucial because social interaction between two or more people acts as a basis for internalization and, thus, language development. Language modulates human behavior, thus people's actions may have a variety of meanings (Vygotsky, 1987). Interpersonal contacts that matter are critical to language development (Kozulin, 1990, 2003, 2018; Marginson & Dang, 2017; Selepe & Moll, 2016). According to Vygotsky's theory, development always starts between people (i.e. on the inter-mental plane) and then moves into the individual's mind (i.e., the intramental plane). As clarified by Kozulin (2018), for all higher mental processes to grow from the outside or from the intramental plane to the inside, a technique of mediation is required. In other words, people's cognitive development can be considered as a consequence of their communication with others.

According to Mitchell and Myles (2004), learning, a mediated process, is seen as a mental activity carried out through mental tools such as language. In terms of L2 context, through the negotiated process, L2 learners can use L1 as a mediated tool to internalize and focus attention on L2 knowledge (Gá nem-Gutiérrez, 2008). This means that L2
learners in the language-learning classroom use language both as a means of mediation to enhance the ability to learn and as an object.

Another important concept is regulation, which is one of the keys to mediation. It refers to the process which enables L2 learners to improve their ability to regulate or control their own activity through linguistic means (Mitchell & Myles, 2004). A related mechanism that is considered an effective concept is the scaffolding process, which, according to Wood et al. (1976), means a collaborative dialogue. It facilitates actions that the teacher or an expert peer brings into the interaction in order to help the novice through their process of internalization.

In Ohta's (2001) study which investigated the influence of corrective feedback in classroom learning and the students' way of assisting each other, it was found that through the regulation process, L2 learners generally move through three stages: they are object-regulated, if they use objects in their social world to regulate their mental activity; they are other-regulated, if they can learn and correct errors with mediation from an external support, sometimes this process is called scaffolding; or they are self-regulated, if they have achieved internal control to learn without any mediation from an expert. Self-regulation is achieved through the process of internalization which is considered a higher form of mental activity. This means that L2 learners use this cognitive tool (internalization) in order to develop the self-regulation to achieve development in language learning. The main way to use language to mediate and regulate internal thought is through private speech (Lantolf & Thorne, 2007). The cognitive function of private speech, as Lantolf (2006) clarified, is to simplify the internalization of mental actions. Internalization is an internal mental process which occurs when a learner manifests knowledge through an external resource to make it "internally available" (Lantolf & Thorne, 2007, p. 204).

The internalization process often assists the learner through a model of the developmental process called the zone of proximal development (ZPD). Vygotsky (1978) defined the ZPD 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" (p. 86). Therefore, ZPD is both a model of developmental process and a pedagogic tool that teachers can use to understand features of learners' emerging abilities that are in early stage of maturation.

IV. THE VYGOTSKYAN SOCIO-CULTURAL APPROACH AND L2 INTERACTIONAL COMPETENCE DEVELOPMENT

SCT-based research investigates feedback from various areas, such as negotiation, effective help, as a collaborative process - all of which are covered by an inter-active umbrella to show its value to L2 learners. As shown in the study conducted by Aljaafreh and Lantolf (1994) which examined the nature of the scaffolding clarification, self-regulation, and internalization as part of the collaborative process between L2 learners and their teacher within the ZPD. The subjects of the study were three pre-intermediate L2 learners who were asked to participate in one tutorial session a week to allow researchers analyze the learners' interactions around four recurring issues: using articles, prepositions, modal verbs, and tense selection. The tutor's assistance was changed and reduced between sessions in order to help learners achieve developmental progression from other-regulated to be fully self-regulated.

At the beginning of each session, the participants were required to read their essays and find any mistakes. Discussions stopped when they found any mistakes or observed problems. During these interactions, the tutor initially assisted in a general way, with remarks such as, "Do you notice any problem?" (p. 469). When this level of help failed, the tutor would become more specific, with additional comments, such as, "pay attention to the tense of the verb" (p.470). The result of examining the interactions led to some improvements in grammatical competence which indicates that learners were moving from other-regulation, that is, the need for tutor's assistance, to being fully self-regulated ability to identify and correct their errors. Researchers also illustrated that English as second language (ESL) develops as the process moves through a series of levels, each of which is differentiated by capacities to find and correct mistakes as well as the frequency and quality of help required to achieve progress.

Another example is the study carried out by Centeno-Cortes' (2003) which showed ways that the L2 learners used private speech in language classrooms to internalize the linguistic aspects. For example, in the case of a student who had come across the Spanish word for postage stamp 'sello' on a road in Spain, sought to repeat this word in the classroom setting which varied between 'sello' and 'sella' because the student reported that she was uncertain of its form. At the precise moment of recording she was uttering to herself 'se.... ello', where the pause she made suggests her indecisiveness. The student thus, used the private speech form to internalize the correct linguistic form, eventually finding the correct form word form through social and classroom-based interactions.

This example shows us how learning and development can take place not only during a single interaction between the teacher and the student, but also among learners themselves through private speech to internalize the features of their L2. Based on Aljaafreh and Lantolf's (1994) study, generally, successful interaction between tutor and learner, involves the scaffolding interpretation, self-regulation and internalization processes. It also provides appropriate evidence of L2 complexity and accuracy.

V. THE SOCIO-CULTURAL ACTIVITY THEORY (VYGOTSKY, 1978; 1986) AND L2 COOPERATIVE LEARNING ACTIVITIES

A. The Three Steps of Regulation
The socio-cultural activity theory (Vygotsky, 1978, 1986), or the communication contextualizing framework, establishes platforms of reality and is taken by the socio-cultural and physical demands. Practical actions are derived from an activity and it can be considered as a fundamental base to learning particularly in the context of language learning (Panwar et al., 2016). Taking the SCT theory into practice, an ideal classroom learning task should be considered first. Secondly, it should be kept in mind that this type of activity requires a physical setting, students' participation, and applying the socio-cultural standards of communication. By this, it is assumed that students may successfully complete this activity especially with mediation from the teachers or their peers (Shrum & Glisan, 1994).

Having discussed the three stages of regulatory theory, object regulation – the first stage - refers to the process where a person uses environmental objects to aid their mental activity. As Vygotsky (1987) pointed out that individuals’ cognitive development can be mostly shaped by their linguistic interactions with others. L2 learners at this stage tend to use objects to acquire the meaning or spelling of new English words by, for example, drawing shapes above the new English words to help remind them of the meaning of the word. Students sometimes tend to link the English word with objects around them using their L1, thus becoming regulated by the language as an object which implies that L2 learners’ cognitive development can be greatly enhanced if their L1 is used to help them understand subject content. In Thinking and Speech, Vygotsky (1987) argued persuasively that mastering L2 begins with mastering the first language (L1). Because of this, mastery of an L2 is dictated by the semantic framework of the L1. L2 learners begin learning a new term conceptually in their mother tongue before learning it precisely in L2. As Frawley (1997) stated, instead of controlling L2, learners may need assistance from objects such as L1, dictionary, or specific text in order to focus their attention on L2 knowledge.

Other regulation – the second stage - refers to the process where students are regulated by another, more knowledgeable or experienced person – a peer or teacher in the shared social activity, school, or university, such as when L2 learners were controlled by their schoolteachers that may have a negative impact on their mental development at an early stage which is entirely un-self-regulated. Research by (Wertsch & Hickmann, 1987; Wertsch, 1985) showed that even if learners can undertake tasks by themselves, they can only pursue independent action when their teachers suggest particular goals. This can be true to some extent where some students were ‘spoon-fed’ by their teachers; when those students attend university, they expect lecturers to provide more than is expected fair, is unhelpful for language learning and may affect their L2 language performance.

Over-dependent students generally had a negative influence on their teachers because of the time taken to train them to move from object regulation to other regulation at the beginning of the semester. Covering lecture plans and curriculum were adversely affected by the extra time, energy and effort needed to deliver the training on schedule. Thus, teachers need, as stated by Deci and Ryan (1985), to move away from traditional authority figures while teaching by acting as a facilitator which allows students to make choices and display capability of navigating themselves through challenges whether individually or collaboratively.

In terms of L2 context, learners can carry out tasks such as grammar-focused writing requiring linguistically mediated assistance from a teacher or more capable peer. This linguistically mediated assistance – scaffolding – may be represented as a supportive dialogic process which is the primary means of carrying out other-regulation whereby a writing task, for example, requires basic composition of a specific topic with attention to the tense used. Such tasks aim to check students’ grammatical strength and weakness in writing skill and, where relevant, extent of speaking skill. Students usually received help to familiarize with the task through a warm-up activity, by seeing pictures or tackling general questions about the topic to help them develop ideas. As an example, L2 learners formed groups where one student had good English, as the target language, and two with weak English. While working on writing, they indirectly corrected the incorrect use of tense or language form by reading their work back. As a result, Student 1 had noticed the language form and corrected herself in an attempt to be self-regulated. Noticing can play a mediating role on language grammatical development (Schmidt, 1990). They were also offered positive feedback which encouraged them to produce the L2. During their collaborative interaction in these groups, it was noticed that some students directed a question to her partner or others interrupted a partner to provide explicit scaffolding to correct the use of L2 in their writing. Students’ interactions were clearly at the micro-genesis of developing their use of appropriate verbs in writing as they were engaging in talk to construct meaningful, correct, verb forms (Garrett & Baquedano-López, 2002). Through their communication and negotiation of the language, therefore, they can learn new forms and improve L2 performance.

However, as pointed out by Lantolf and Thorne (2007), self-regulation is an unstable stage. On balance, it was observed that each of these three stages: object, other and self- regulation are, as Frawley (1997) stated, equal and recoverable and the learner can overpass this sequence at desire, depending on the task requirements. This means that self-regulation is a relative phenomenon where the learner is not necessarily to be self-regulated in several different tasks and not all learners acquire self-regulation mechanisms for the same task simultaneously. Even the most proficient L2 learners may need to pass the earlier stages of improvement, object- or other –regulated when engaged with challenging interaction context.

B. Zone of Proximal Development (ZPD)

One of the most key features of the Vygotskian conceptual theory is how it significantly promotes cooperative learning activities in the way of providing an appropriate scaffolding. Vygotsky (1978) found the cooperative learning
process shapes development especially in instructional design, but that there was no direct connection between learning and development although deliberately instructed L2 settings can encourage qualitative developmental movements. The ZPD Vygotskian concept is based on learner’s estimation that focuses on the positives of the active interaction between a learner and an assistant/instructor (Daniels, 2001). In the L2 context, Aljaafreh and Lantolf’s (1994) study of ZPD created an activity framework linking the current developmental stage to the potential development which can be reached because of the instructors’ interaction with the learners. The potential developmental level is formed by the type of assistance required to encourage the activity and the learners’ capacity to achieve the knowledge development through external mediation. Evidence of development from this concern, as shown by Aljaafreh and Lantolf’s (1994) study, is not limited to the learners’ actual language performance, as their act seems not to be varied from one time to another. However, the frequency and quality of the external support that a particular L2 learner needs to produce suitable L2 performance may change. At one time a learner may respond to the teacher after providing explicit instructions to supply a specific feature of the L2, and at another time, the learner may need only a slight hint to be able to supply the feature. Although L2 learners’ actual performance remains as it was, the development which has taken place through the different qualitative mediation was required to prompt the performance. A further important finding is that although different L2 learners made the same error, this reflects different issues. As an example, in the same study, two learners had ignored the same compulsory linguistic aspect, however, they had different qualitative support needs to correct this linguistic issue, indicating that they required different types of assistance to improve their L2 performance.

Development within the ZPD is not just about learners’ performance per set, it is also about their responsibility for producing L2 suitable performance. Thus, it can be noticed that evidence of development seems to be seen at two distinct levels: at the actual autonomous performance level and at the level where performance is facilitated by external assistance. The ZPD, therefore, is seen not only as a developmental mechanism but also a conceptual mediated instrument that instructors can use to deeply understand their learners’ features (Blake & Pope, 2008; Daniels, 2001; Lantolf & Thorne, 2007). This means that L2 learners’ performance can be expected to be developed but their development level can be varied based on their response to mediation; if they are able to perform suitably in the L2 with assistance, in time they may be capable of performing correctly without assistance in the future.

C. L2 Social Constructivist Learning

Making connections between language learning and the actual use of this language in real-life is one way to put the SCT concept into practice. Draper (2002) defined constructivism as the philosophy that believes learners’ knowledge is constructed based on their communications with the situations involving their communications with others. It has been found by White-Clark et al. (2008) that constructive teaching can help teachers efficiently to meet the difficulties they may face to support the learners’ achievements. This is because of the teachers’ encouragement to their own learners to be involved in the processes of learning by taking responsibilities of their own learning. In addition to the autonomy, one of the most fundamental learning principles, according to Vygotsky (1997), is customizing the instruction to fit the needs and interests of the students being taught. The curriculum and the instructors should focus on learners’ interests, needs, and goals, just like any other subject-matter teaching in order to be useful and related to their actual world. In L2 context, during their communications, and providing alternative answers to each other, they may try to internalize and gain control over the task. This awareness stage identified as pre-micro-genesis activity often requires organizational speech (Gáñem-Gutiérrez, 2008) which could be facilitated by reading aloud, as an attempt to be good self-interpreters (Swain, 2010) to mediate knowledge co-construction. Teachers, therefore, are encouraged to form settings in which their learners can construct their own knowledge according to their contexts.

VI. CONCLUSION

From the preceding description of Vygotsky’s theoretical framework, higher mental process, representing L2 learning, is mediated by the meaningful element of language. Another basic premise of the sociocultural perspective is that L2 learning development can take place from outside to within and vary depending on the frequency and quality of the external assistance. To connect Vygotskian theory with classroom practice, hence, collaborative techniques which integrate both instructors and L2 learners in socio-cultural norms for potential L2 successful learning experience is recommended. As the critical review of the Vygotskian concept suggests, the theory creates a democratic setting that greatly encourages adopting cooperative learning activities in which L2 learners can discuss, argue, be critical and responsible for their own knowledge. The SCT theory, therefore, has instructional implications which can be significantly efficacious to provide an all-embracing interactive structure for constructivist L2 learning practice.

REFERENCES


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