

## Key Concepts in Vygotsky's Theoretical Framework: L2 Classroom Interaction and Research

Jung Mi Nam

(Pusan National University)

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The role of interaction in second language (L2) classrooms has been examined from different angles, ranging from early studies of foreigner talk to the studies of the teacher- and task-based talk. However, most of the research on L2 classroom interaction has been based on a traditional psycholinguistic view of language and learning, failing to reconceptualize a broad and holistic understanding of L2 learning. Currently, many researchers have attempted to explore and describe classroom interaction in L2 classrooms from a sociocultural perspective. The purpose of this paper is to discuss Vygotsky's theoretical framework in terms of L2 classroom interaction and research from a sociocultural perspective, by describing three key concepts (zone of proximal development, private speech, and activity theory) in Vygotsky's theoretical framework and relating them to L2 classroom interaction. The results demonstrated the importance of social interaction for second language acquisition with the review of the related research study. It was also suggested that the dynamic and interactive processes of second language learning in the classroom should be valued by L2 researchers as well as L2 teachers. Finally, implications for the concepts for L2 classroom research and pedagogy are presented in the conclusion.

[second language research/ sociocultural theory, 제2언어 연구/사회문화 이론]

## I. INTRODUCTION

Over the last twenty years, the role of interaction in second language (L2) classrooms has been examined from different angles, ranging from early studies of foreigner talk to the studies of the teacher- and task- based talk. However, most of the research on L2 classroom interaction has been based on a traditional psycholinguistic view of language and learning, failing to reconceptualize a broad and holistic understanding of L2 learning (Hall & Verplaetse, 2000; Lantolf, 2000). Currently, with recognition of the importance of language development in the social context of communicative interaction, many researchers (e.g., Aljaafreh & Lantolf, 1994; Dicamilla & Anton, 1997; Ohta, 2000a) have attempted to explore and describe classroom interaction in L2 classrooms from a sociocultural perspective.

Sociocultural theory, rooted in the work of L. S. Vygotsky and his colleagues, maintains that human action is mediated by tools made available through participation in the larger social and cultural contexts, and that thinking and speaking are tightly interrelated (Donato, 2000). The goal of sociocultural theory is to understand how people organize and use their minds for accomplishing the business of living (Lantolf & Pavlenko, 1995). This theory provides a valuable framework to understand L2 language classroom interaction because one of its main principles is that “cognitive development, and thus learning, originates in a social context such as the language classroom” (Anton, 1999, p.304).

The purpose of this paper is to discuss Vygotsky’s theoretical framework in terms of L2 classroom interaction and research from a sociocultural perspective. First, I will describe three key concepts (zone of proximal development, private speech, and activity theory) in Vygotsky’s theoretical framework and relate them to L2 classroom interaction. Next, I will identify research questions and analyze the various research methodologies applied to explore sociocultural studies which develop our understanding of the three Vygotskian concepts in the L2 classroom. Finally, implications for the concepts for L2 classroom research and pedagogy will be presented in the conclusion.

## **II. KEY CONCEPTS IN VOGOTSKY'S THEORETICAL FRAMEWORK**

The fundamental tenets of Vygotsky's theoretical framework are that human consciousness is mediated mental activity, and as the explanatory principle for understanding the consciousness, socially meaningful activity should be taken into consideration. Vygotsky also saw "the transformation of elementary processes into higher order ones as possible through the mediating function of culturally constructed artifacts including tools, symbols, and more elaborate sign systems, such as language" (Lantolf & Appel, 1994, p.6). Therefore, since mental and sociocultural activities in humans are bound together in a dependent, symbolically mediated relationship, the external, sociocultural activity is transformed into internal, mental functioning through a mechanism (Lantolf & Appel, 1994). Vygotsky, who regarded learning as a socially situated activity, has proposed several key concepts such as the zone of proximal development (ZPD), private speech, and activity theory.

### **1. Zone of Proximal Development (ZPD)**

Vygotsky proposed the idea of the ZPD, perhaps the most well known and widely adopted construct of his sociocultural theory, stating that the true measure of a child's intelligence rather than mental age is the difference between his/her abilities at one level over and against the level he/she is capable of given the right kind of instruction. He defined the ZPD as follows:

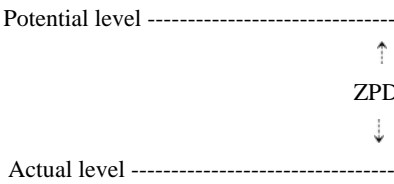
The difference between the child's developmental level as determined by the independent problem solving and the higher level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers. (Vygotsky, 1978, p.86)

The ZPD is the distance between what children can do independently and what they can do dependently with assistance of others such as adults, capable adults, capable peers, etc. When children and adults engage in the dialogic

process in the ZPD, there is a shift from the intermental to the intramental plane, which marks the beginning of children’s control over their own behavior (Lantolf & Appel, 1994). Here, the emphasis is on the process and how the learners arrive and move through this zone with the assistance of another with greater knowledge and experience than themselves. Therefore, what is important is the higher cognitive process that emerges as a result of interaction rather than a product or a specific task the learners carry out. Also, the development is not a single experience but a rather a continual process of growth as the learner gains better understanding in the social environment (Hough, 1997).

This kind of development takes place in the zone of proximal development with mediation, which could be tools and symbols or egocentric speech, adults, social support, etc. The ZPD can be represented like this:

**FIGURE 1**  
**The Representation of the ZPD**



It should be also noted that the ZPD is not a physical place situated in time and space but a metaphor for observing and understanding how mediational means are used and internalized (Lantolf, 2000).

Recently, some researchers have argued that there is not a clear expert and the ZPD does not require the presence of expertise. Some empirical studies have shown that in collaborative interaction between language learners, assistance can be provided equally between nonexperts (Anton, 1999). Therefore, the current view of the ZPD has been expanded beyond just expert/novice interaction (Lantolf, 2000).

## 2. Private speech

Vygotsky (1978) emphasized the developmental process and the critical role of language as the primary symbolic cultural artifact. When children face a problem to solve, they make egocentric speech which involves description of the situation. But when they face a difficult problem which they cannot solve by themselves, they ask adults for help using socialized speech. Then there comes the internalization of socialized speech, and this stage is dynamic. Regarding the relationship between egocentric speech and social speech, Vygotsky mentioned:

In the beginning, egocentric speech is identical in structure with social speech, but in the process of transformation into inner speech it gradually become less complete and coherent as it becomes governed by an almost entirely predicative syntax... (Vygotsky, 1967, p.145)

When does private speech emerge? Once egocentric speech is transformed into inner speech, it goes underground. When a learner is engaged in a difficult task, egocentric speech resurfaces as private speech. This means that it is possible for adults to demonstrate child-like knowing strategies. This activity is called the principle of continuous access (Frawley & Lantolf, 1985).

When discussing inner speech, Vygotsky also distinguished word sense from word meaning. While word sense is individual and contextualized, word meaning is decontextualized and stable. The interactions between the two constitute the inner speech between two different subjects of one thought. The private speech represents “an externalization of the inner order as the individual attempts to regain control of cognitive functions” (Lantolf & Appel, 1994, p.15).

Unlike Piaget's claims that egocentric speech serves no specific function and eventually disappears, Vygotsky saw that egocentric speech plays a key role in the development and conduct of mental activity; “what is more, it does not disappear, but goes underground as verbal thought, or inner speech, in elliptical form. As egocentric speech is transformed into inner speech, it loses its structural equivalence to social speech” (Lantolf & Appel, 1994, p.14).

### 3. Activity theory

On the basis of Vygotsky's framework to understand how mediated minds are formed and how they function, the activity theory was constructed by Vygotsky's colleagues (e.g., Leont'ev, 1981), whose intent was to develop a more "Marxian" explanation of higher mental functions than Vygotsky did. The three levels of analysis in activity theory proposed by Leont'ev (1981) are activity, action, and operation. The highest level is activity, which means the socially determined setting based on roles, goals, and means used by the participants.

Action is the level of an activity in which the process is aimed towards a goal. The important features are that any given action can be embedded in a different activity and that goals are not necessarily stable, once formed. Therefore, individuals, as active agents in creating their world, "can modify, postpone, and even abandon goals together" (Lantolf & Appel, 1994, p.19).

Operations are the means by which an activity is carried out. The same goal can be achieved through a different set of operations. The primary concept that underlies activity theory is motive. Without motive, there can be no activity. Motives specify what is "maximized" in a setting and arise out of the system of relations individuals maintain with others in the world (Lantolf & Appel, 1994).

In this activity theory, as a primary unit of linguistic analysis, sentence which is central to Chomskian theory is replaced by utterance – "the dialogic output of real speakers and listeners engaged in real goal-directed activities" (Lantolf & Pavlenko, 1995, p.110). Regarding this, Artigal (1993) made an interesting comment that the language acquisition device (LAD) is not located in the individual's head but situated in the dialogic interaction among people who are engaged in the goal-directed activities.

Even though activity theory has some problems such as no mechanism for higher forms of consciousness and the difficulty of becoming a legitimate object of psychological research, the link between socioculturally defined motives and concrete actions and operations is provided by semiotic systems, of which language is the most powerful and pervasive (Lantolf & Appel, 1994).

Although the above Vygotskian concepts were originally developed to describe

child development in interaction with adults in first language (L1) situations, they are useful in analyzing L2 classroom interaction. Most of all, the Vygotskian ideas have played an important role in situating the place of learning in the social interaction rather than in the individual's head. Through the social interaction, students learn how to mediate their own and each other's learning in the L2 classroom. In order to see how the mediation and learning happens in the actual classroom situation, it is worth reviewing the previous research on L2 classroom interaction from a Vygotskian perspective.

### **III. REVIEW OF L2 CLASSROOM RESEARCH BASED ON THE VYGOTSKIAN CONCEPTS**

With the increasing interest of Vygotskian theories in the L2 classroom research, I have found that many studies have been conducted, employing various research methods from small-scale case studies to qualitative longitudinal studies in the L2 classroom. I have also found that the research in L2 classroom based on Vygotskian approaches has tried to establish the value of group work. Among the many studies, I will present a brief review of several recent studies on the ZPD, private speech, and activity theory in the L2 classroom, focusing on the purpose of the research, including major research questions employed, research methodologies, and the findings of each study.

#### **1. Research based on the Zone of Proximal Development (ZPD)**

The notion of the ZPD has brought forth a number of valuable research studies which have implications for L2 classroom instruction. The first study to be reviewed is by Aljaafreh and Lantolf (1994), who conducted an extensive microgenetic study on the relationship between the ZPD and error correction. The research questions they employed were: (1) Does error correction lead to learning, or are corrective moves by teachers or other caretakers ineffective? (2) how and when errors should be corrected? (3) how the negotiation of corrective feedback, or other-regulation, in the ZPD promotes learning?

The participants for the study were three ESL students in the ZPD group,

out of nine students who enrolled in an eight-week second level ESL writing and reading course. For data collection, the participants were asked to write one in-class essay a week and they received corrective feedback during their tutorial sessions. Since one of the tutors was the researcher, participant observation was the major research methodology. All sessions were audio-taped for later data analysis.

Through the data analysis, the researchers concluded that “effective error correction and language learning depend crucially on mediation provided by other individuals, who in consort with learner dialogically co-construct a ZPD” (Aljaafreh & Lantolf, 1994, p.480). Recognizing the need for different ZPDs for different learners and different structures, the study also proposed a regulatory scale to capture developmental progress through the ZPD.

Another interesting research on L2 classroom was conducted by Takahashi (1998). The study reported the results of a three-year-long qualitative observation of a Japanese FLES (Foreign Language in Elementary School) at Falk School in Pittsburgh, PA in America. The program consists of a 15-minute lesson a day, five lessons a week. The purpose of the study was to investigate how young L2 learners engage in the social participation or social interaction in the classroom, and how collaboration in the ZPD occurs in elementary level language instruction.

As research methodology, qualitative classroom observations of all kindergarten through grade five students were employed, and how the students participated in the classroom discourse was closely examined by the researcher. Twenty-four classes in total were video-taped and transcribed for analysis. The protocol analysis indicated that the guidance given by the teacher and the peers in the ZPD allowed these young learners of Japanese to conquer the problems they were struggling with, and thus, helped them outperform their actual level and extend to their potential level (Takahashi, 1998).

The third study to be reviewed is by Anton (1999), who investigated learner-centered and teacher-centered discourse in interactive exchanges between teachers and learners in the L2 classroom. The research data came from observation of first-year university French and Italian classes throughout a semester. The purpose of the research was to explore the negotiation that unfolds in the interaction and the communicative moves used by the teachers to



provide scaffolded assistance to learners within the ZPD.

The results showed that compared with in the teacher-centered classroom where the opportunities for negotiation and scaffolding within the ZPD were reduced, in the learner-centered classroom, teachers could lead students to become highly involved “in the negotiation of meaning, linguistic form, and rules for classroom behavior during classroom activities” (p.314). Although this study has not provided a detailed description of the research methodology employed, the analysis was placed within the context of the role of discourse in the mediation of cognitive development, a major point in sociocultural theory.

A similar study was conducted by Donato (1994), who also examined teacher-learner interaction during the presentation of grammatical concepts, by using a set of data from an open-ended classroom activity in an intermediate-level French class in college. The question in his research was whether learners can exert a developmental influence on each other's interlanguage system in observable ways.

The finding of the study showed how formal explanations can be constructed by teacher and learners through a negotiation process. It also demonstrated that the learners provided peers with appropriate guidance in engaging activities in class, enabling the students to accomplish a higher than their current level. This is an example of the ZPD without a presence of an expert.

## 2. Research based on private speech

Several studies were conducted, focusing on the function of private speech in L2 learning and performance in the classroom. As a replication of Frawley and Lantolf (1985), McCafferty (1994) analyzed samples of private speech produced by ESL learners at different proficiency levels. The purpose of the study was to examine the relationship between L2 proficiency level and the use of private speech, and to substantiate the connection “between Vygotsky's observations for the use of private speech by children and its mediational role during a L2 acquisition” (p.123). The major research question was whether learners' use of private speech decreases as their proficiency increases.

The subjects for the study were 39 ESL students attending the University of Mexico. They were from either Hispanic or Asian backgrounds. The subjects

were divided into two groups based on the standardized test scores such as the TOEFL test: learners of low-intermediate proficiency and learners of high-intermediate to advanced proficiency. A picture narration task was used for data collection. All subjects were expected to construct a narrative based on a series of six consecutive drawings. All responses were tape recorded and later transcribed and coded according to the major categories, from object-regulation to self-regulation. The findings showed that with increased proficiency learners' use of private speech diminished, and that cultural background of L2 speakers may well influence their use of private speech.

Another study was Ohta's (2000b), which probed the relation between private speech and corrective feedback in the L2 classroom setting. The research question was "what private speech data tell us about both the salience of recasts and the process of corrective feedback in classroom language learning" (p.54). Seven university-level learners who enrolled in a first-year or second-year Japanese were participated in the study through an academic year. The classes were video and audio recorded three to five times per quarter.

For the methodology of analysis, episodes containing private speech were used, being identified with a narrow definition of private speech: "reduced volume, lack of adaptation to an interlocutor, and lack of response from an interlocutor" (p.35). The analysis utilized a qualitative discourse-analytic approach. The results showed that private speech data contributed to understand learners' mental activity, providing additional evidence that recasts are salient and useful to language learners.

### 3. Research based on activity theory

Several recent L2 classroom studies have directly explored the implications of activity theory for second language acquisition (SLA). For example, Coughlan and Duff (1994) examined task-based performances of L2 speakers. Questioning the assumption that research tasks are constants in research design, the purpose of the research was to illustrate the dynamic relationship between task and activity. Their major research question was to discover whether "the same task does yield comparable results when performed by several individuals, or even when performed by the same individual on two different occasions" (p.175).

For the research methods, they analyzed L2 classroom discourse which was generated by a commonly used picture description task. The researcher used two data sets, one from a case study conducted in Canada, and the other from a larger-scale study conducted in Hungary. Five subjects participated in the study. One subject was a Cambodian man who was taking ESL courses in Canada. He was interviewed by the researcher in a series of meetings as part of a longitudinal study. The researcher also conducted 15-to-20 minute interviews of the other four participants who were studying EFL at secondary schools in Hungary, on the basis of the activities in class.

The research demonstrated that different people can conceptualize the same basic task differently and that the same learner can react to the same task differently over time. Their L2 protocols supported Vygotsky's argument that speakers are active agents in controlling their environment. Therefore, tasks cannot be predetermined, but emerge from the interaction of speakers, motives, histories, and settings, motives. Arguing that L2 classroom research data cannot be completely removed from the sociocultural context in which it was created or collected, the authors concluded that "while the task or blueprint may be the same, the activity it generates will be unique" (Coughlan & Duff, 1994, p.190).

Similarly, Brooks and Donato (1994) applied a Vygotskian perspective to understand the nature of students' speech activity in the L2 classroom. By criticizing the limitations of the traditional view of SLA, they showed how a Vygotskian analysis of L2 verbal interaction can extend beyond the encoding-decoding framework of L2 classroom research.

The major research question was "how speaking during a two-way information-gap task collaboratively influences and build a shared social reality between the participants" (p.265). As research subjects, eight pairs of third-year high school learners of Spanish participated in a two-way information-gap type activity. The conversations among the students were both video and audio recorded, and each transcript was analyzed. They investigated three specific instrumental functions of speaking: (1) speaking as object regulation, (2) speaking as shared orientation, (3) speaking as goal formation. The results indicated that all talk during a collaborative task, even in the L1, was relevant because it oriented the participants to the task and to each other, which converted the task into a real activity.

Finally, Gillette (1994) conducted a three-month case study of successful and unsuccessful adult L2 learners, focusing on individual differences in L2 learning from the perspective of activity theory. The participants were six intermediate university learners of French as a foreign language. Through the analysis of interviews, class notes, and diaries, the researcher found a link between the learners' motives and their goals for studying a foreign language. The study also showed how the link plays a role in the kinds of L2 learning strategies the learners use.

#### 4. Findings from previous research on the Vygotskian concepts

The research described above has shown how the three Vygotskian concepts function in different L2 learning settings using different kinds of tasks. In this paper, I have attempted to include research on various L2 languages such as English, Spanish, French, Italian, and Japanese, at different levels of proficiency and L2 learners of different ages, from children to adults, with a variety of research methods.

In terms of methodology itself, I have found that much of the recent research on L2 classroom within Vygotsky's theoretical framework was based on the qualitative research paradigm. Considering the fact that each classroom context is unique and L2 classroom culture is dynamic, multiple, and situated, qualitative research methods would provide more natural description than quantitative research methods which attempt to measure classroom interaction objectively. Vygotsky himself preferred the understanding of human behavior rather than predicting it. Therefore, he did not advocate experimental research.

However, I have found that some researchers have tried to use quantitative research, particularly using the ZPD as a means of interpreting experimental results. Based on the critical review of 15 quantitative studies on ZPD, Hayward (1995) found that only three studies included all the necessary elements in relation to the ZPD, due to the researchers' misunderstanding of the theoretical concept. Another example of a lack of theoretical understanding of the ZPD was indicated by Dunn and Lantolf (1998). After surveying related publications, they argued that, even though Vygotsky's ZPD and Krashen's *I+1* are incommensurable constructs based on incommensurable theories, many L2

researchers have tried to integrate the two, resulting in the misguided and unproductive conclusion. Based on these two examples, I believe that a strong theoretical foundation should have priority before we decide on quantitative or qualitative or both methodologies. The methods should be the means not the ends, and research methodology should be based on the purpose and the context of the research.

Throughout the review of research process, I have also found that many L2 classroom studies have not provided a full and detailed explanation of methodology. In particular, the complete process of data analysis including coding schemes was missing in many cases, which could provide some insights into the future L2 classroom research. Nevertheless, all the research has clearly demonstrated the value of sociocultural theory on L2 classroom, which is always situated by context, society, culture, and history.

In spite of the short history of L2 classroom research within Vygotskian theory, significant progress has been made in understanding the process of L2 acquisition thanks to his theoretical framework. Hopefully, as Lantolf and Appel (1994) mentioned, L2 classroom researchers will “begin to explore the potential that sociocultural theory and Vygotskian research methodology have for developing an even fuller understanding of second language phenomena” (p.27).

#### **IV. CONCLUSION**

Until now, I have discussed three key concepts in Vygotsky's theoretical framework with respect to L2 classroom interaction and research from a sociocultural perspective and demonstrated the importance of social interaction for SLA with the review of the related research. Considering the fact that the classroom environment is also an important culture that “becomes co-constructed and continually defined and modified during the activities that take place as part of daily life within the foreign language classroom” (Takahashi, 1998, p.402), the dynamic and interactive processes of second language learning in the classroom should be valued by L2 researchers as well as L2 teachers.

The review of previous research on L2 classroom within Vygotsky's

framework has provided me with some implications from the teacher's perspective and the researcher's perspective. As L2 teachers, the most significant practical implication of Vygotskian concepts is their social nature. Realizing the fact that acquiring a second language requires more than simple mastery of linguistic rules, we need to be aware of the interdependent nature of L2 learning. Therefore, it is the teacher who should create contexts and environments for social interaction and give mutual guidance in the ZPD.

As L2 researchers, keeping in mind that the social context cannot be separated from the place learning is involved, L2 development must be examined as dynamic processes in meaningful contexts of social activity (John-Steiner, Panofsky, & Smith, 1994). In order to improve teaching practices and research at the same time, dialogic approaches can be used, because involving students in the research project rather than the object of the researcher's inquiry is a commitment to getting to know students' needs, experiences, and realities (Wong, 1994), thereby enabling us to create optimal conditions for social interaction within the ZPD in the L2 classroom.

Finally, after searching the literature, I have found that few studies have attempted to examine Korean as a second/foreign language or Korean students' L2 learning process within the Vygotskian theoretical framework. Since every culture and language is unique, by conducting research on Korean as an insider, I hope that I could add some valuable insights into L2 learning process in the future.

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**예시언어(Examples in): English**

**적용가능 언어(Applicable Languages): English**

**적용가능 수준(Applicable Levels): Elementary/Secondary/College**

남정미

부산대학교 언어교육원

609-735 부산시 금정구 장전동

614-754 부산시 부산진구 양정1동 현대APT 206-1702

Tel: (051) 853-2285, 011-9552-2246

Email: jnam1000@pusan.ac.kr

nam.26@osu.edu

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