

Linking Task-based Language Teaching and Sociocultural Theory: Private Speech and Scaffolding in Reading Comprehension

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Abstract

In Sociocultural Theory, mediations in second language learning include (1) mediation by others (2) mediation by self (3) and mediation by artifacts, which incorporates brilliant insights for EFL contexts (Lantolf, 2000). Putting these ideas in a task-based method, the present study aimed at examining the contribution of scaffolding and private speech in improving EFL learners' reading skills, and seeking how learners' performances might link to social or interpersonal activities they engage in. Screened through an Oxford Placement Test, 54 EFL freshmen taking a reading comprehension course participated in this study and formed two randomly divided groups and pretested using a 30-item TOEFL test of reading comprehension. The control group benefited from a teacher, who paraphrased, summarized and provided the meaning of the new words and expressions. The experimental group was asked to do the same tasks through collaboration, private speech and artifacts. Students' performances were video-taped to be used for discourse analyses and provide measures of fluency, accuracy and complexity (Iwashita, Elder, & McNamara, 2001). Two types of measurements were used: 1) a final test of reading comprehension, 2) an oral presentation of a text whose readability matched that of the texts used during the experiment. The students' performances on presenting the text orally were rated based on the idea units recalled (Johnson, 1970). The data analysis revealed no difference between the two groups in the final test, but in oral presentation, the experimental group outperformed the control group.

Introduction

The emergence of different learning theories has affected language teaching and has eventually stimulated teachers to welcome some changes in language classes. Searching about

some theories through task-based teaching might be a tempting issue as long as the findings might bring about some new perspectives in language learning.

Sociocultural theory of Mind (SCT) developed by Vygotsky (1987) and Leontiev (1981) as one of the influential theories in learning has ultimately influenced language teaching. SCT has opened a new paradigm in Second Language Acquisition (SLA) and has so deeply affected the SLA that Lantolf (2000) coined "Sociocultural SLA". Describing SCT, Lantolf argues that in higher mental activities a kind of mediation exists and what mediates the mind is the social activity. In other words, this theory asserts that social activities organize endowed capabilities like language and enable individuals to consciously control mental activities like planning and problem solving. To further elaborate on the tenets of SCT, talking about the opposite fronts, which suggest different views for language learning, seems necessary.

The dominant theories underlying SLA called behaviorism and cognitivism, focus on the formation of language habits and the genetic knowledge of a person, respectively. Sociocultural theories attempt to focus on the contexts, acts, and motives of language events between individuals due to the fact that they are simultaneously social and cognitive. Cognitive theorists argue that language, as a genetically endowed and innately controlled phenomenon, follows some internally directed paths, and finally appear as a result of triggers provided in the linguistic environment. They also put forward the modularity of language and hypothesized that language learning is different from other forms of learning (Chomsky, 1972). According to this view, language is acquired even after minimal exposure to linguistic data.

Like Chomsky, SCT theorists believe that the origin of language is in the mind, but they argue that language learning is not different from other forms of learning. For language learning, sociocultural theories use terms like "participation" instead of "acquisition" arguing that language learning is not a matter of taking in some knowledge but of taking part in social activities. These issues revitalize the debate over knowledge and use of language ignored in some theories. Accordingly, Ellis (2003), elaborating on Sfarid (1998) points out that in L2 learning, knowledge equals use and use brings about knowledge. That is, the distinction between these two concepts is no further recognized in SCT principles.

In this regard, Nunn (2001) mentions five components called regulation, activity theory, mediation, private speech, and the zone of proximal development central in SCT. Not having been utilized in this study, the two first items are just briefly introduced.

Wertsch (1985, p.112) asserts that activity theory raises questions like "*what the individual or group is doing in a particular situation*". This theory provides a framework to analyze what learners do in interaction.

Wertsch (1985) also puts forward four levels of regulation for understanding and analyzing issues like interaction, mediation, and relationships between people. The levels include (1) Object-regulation; (2) Other-regulation; (3) Self-other-regulation; (4) Self-regulation; the last one, as the ultimate level of attainment, is accomplished when an individual gains complete control and ability to function independently.

Mediation

In SCT mediation of human behavior happens through tools and sign systems, with language being the most important of all. According to Vygotsky (1987), tools and language are not fixed, and they get new forms in human history and its cultural development; therefore, language is no longer distinguished from its use. He further argues that external social speech is internalized through mediation; therefore, society is connected to mind in this way.

When all forms of learning take place due to interaction, language learning cannot be an exception. Artigal (1992) suggests social interaction as a newly recognized place for language acquisition device. Eventually language acquisition is not the result of interaction but comes true in the interaction. That is, language organizes thought and plays a bidirectional role: as a means and as a manager; it involves how to use language to mediate language learning. It is worth mentioning that in this view interaction could be both dialogic and monologic although the role of the former is underlined as being more crucial. Vygotsky (1987) metaphorically explains that social planes are precursors for any functions to appear in psychological planes. He proposes that all functions internalized in a child's cultural development appear twice: first, on the social level, and later, on the individual level. For example, language takes place first *between* people (*interpsychological*), and then *inside* the child (*intrapsychological*). In other words, social interaction is a prerequisite to cognitive development to transfer an interpersonal process into an intrapersonal one (Nunn, 2001).

Conspicuous in SCT and related to interaction, is the concept of Zone of Proximal Development (ZPD), which identifies the limit to which someone can learn new information with the assistance of someone else who might be an expert, such as a teacher, or a fellow learner at the same level or slightly higher level of competence than the learner. These characters act as mediators between the student and the knowledge the student is trying to understand and eventually assist the learner in reaching goals not likely to be accomplished by the learner alone.

In ZPD each student owns two levels of learning potential: one potential is reachable by itself and is called the “intramental plane”, the other one is only reachable with assistance and is called the “intermental plane”. Apple (2006) explains that sharing or “scaffolding” of knowledge from classmates can assist learners to obtain the ZPD while rote copying of language knowledge is not so much determining. Besides scaffolding, private speech is another way through which the person below ZPD could be assisted. Accordingly, our internal mental ability to use and manipulate language is the result of mediation through language. In other words, in SCT language development emerges out of talks in two distinct ways: (1) through some forms of scaffolding when the learner is interacting with others; and (2) through private talk when the learner tries to regulate his/her thoughts. Artifacts and signs are also suggested as means of mediation, and language is considered as the most powerful sign of mediation.

Scaffolding or collaborative learning

Proponents of SCT stress the roles played by other people in learners’ lives, those who cast as *mediators* to help learners move to subsequent zones (Williams & Burden, 1997). The concept of ZPD emphasizes that individuals are interdependent and social processes have crucial roles in developing all forms of knowledge, including language (Xu, Gelfer, & Perkins, 2005). As a major principle, the self-regulation (described in introduction) in SCT, prioritizes the learner’s ability to perform cognitive tasks independently based on a prior social process.

Oxford (1997) argues that learners’ cognitive development is influenced by the social and cultural activities they experience. Therefore, SCT foregrounds the importance of learning processes, rather than the educational outcomes. It is also suggested that the interpretation of

learning processes be considered in the immediate social situation and the sociocultural context in which learning activities take place (Kumpulainen & Mutanen, 2000). It means that sociocultural theorists deal with the development of language knowledge at a macro level, rather than breaking language into its components.

Following these views, in L2 language learning, learners first produce linguistic forms and functions while interacting with others, peers, native speakers or teachers, and subsequently internalize them so that they can use forms and functions independently. In other words, in SLA each individual learns language while mediated by others in the context of language learning as a prerequisite for internalizing language.

Referred to as scaffolding by Vygotsky and cooperative learning by Brown (2001), this concept emphasizes the role that interaction plays in SCT. As Jacobs et al. (2002) assert, the link between second language learning and SCT is a perspective which highlights the way through which L2 learners enhance learning according to the context and their relation with other peers. Different researchers have empirically studied the issue of collaborative learning, and almost all of them report positive evidence for collaborative learning as a useful method in SLA settings. Scaffolding, collaborative dialogue, peer assistance, and self-assistance are issues viewed from SCT perspectives by some researchers, including the present authors.

Similar to our study, Hall (1995) considered a teacher judged to be knowledgeable, highly proficient, and providing a linguistically rich environment, however, the teacher's analysis shows that instruction limited student opportunities to facilitating interactional development. Hall (1995) also argues that the class format which was IRE-dominated (initiation, response, follow-up evaluation) did not bring about interaction between students or teacher and students.

Likewise, Anton (1999) focused on the degree to which classrooms are made either teacher-centered or learner-centered through the discourse. Analysis of the discourse revealed how the interactional style of the instructor directed student attention in the lessons, creating a sense of cooperation for the classroom activities. Thus, a learning-centered environment was created. Anton also found that learner engagement and negotiation of meaning are reduced when instruction is not "proleptic" or when instruction lacks scaffolding in the ZPD. This includes

communicative moves by the instructor in the use of directives, assisting questions, open-ended questions, pauses, gestures, opportunities to bid for the floor.

Ellis and He (1999) found that the dialogic construction in peer interaction provided far more opportunities for learners to learn new words than did monologically constructed formats. This leads to opportunities for use, and negotiation of meaning. This outcome characterizes dialogically based interactions.

Mendoza (2004) studied the issue of second language vocabulary learning from a sociocultural point of view and observed that participants shared their knowledge and used both linguistic and non-linguistic forms of assistance in their conversations. He also concluded that the participants concentrated mostly on meaning considering the three aspects of word knowledge (i.e. form, meaning, and use – Nation, 1990). Mendoza (2004) identified evidence of learning in his analysis since learners demonstrated knowledge development when asked in the quizzes, reviews, and games. Moreover, the analysis revealed features that facilitated understanding of word form, meaning, and use. The participants took advantage of the information provided in the task, using each other's expertise, the tools available to them, and the instructor's assistance to internalize knowledge about the words.

Chen (2008) studied the effectiveness of collaborative learning both theoretically and practically and found CL successful from perspectives of (1) motivational theory (2) social interdependence theory, (3) Piagetian sociocognitivism, and (4) Vygotskian socioculturalism. Furthermore, CL can develop learners' knowledge cognitively, structurally and affectively.

To sum up these and similar results, we can say that scaffolding or collaboration, as well as dialogic interactions are suggested since they put forward at least two priorities: the interactions are meaningful and shared between all members of the group; learners practice language while they are using it and investing on each other's abilities. Regarding the outcome, learners are more socially knowledgeable since they have integrated knowledge of language and social interaction.

Private speech

Vygotsky defines inner-speech as the internalization of external forms of dialogic communication (Nunn, 2001). He means that when confronted with tasks beyond the ZPD,

children invoke private speech. Children manipulate their thought and language to find and organize the solution to a task beyond their ZPD. Inner-speech or private-speech is somewhat analogous to think-aloud tasks and close in meaning to metatalk (Ellis, 2003). It is believed that inner-speech means to talk to oneself in order to express the actions required to successfully complete a task; this form of self-mediation guides the person to carry out an activity, which is beyond their current competence. This is seen as an insight to strategies and processes learners use to complete a task.

Children talk to themselves even when they are in the company of adults. Such talks, regarded as practice, prepare the child to control his/her mental operations while doing different tasks like using language. In the same way, adults including L2 learners can benefit from private speech and mediate themselves in language learning. Frawley and Lantolf (1985) refer to a principle called continuous access and point out that adults continue to adopt the strategies that they used to employ in the past. In other words, adults favor private talk strategies in gaining control over language functions and forms as they used to when they were children.

Therefore, in SCT, interpersonal interaction is not the only realized way for mediating language learning. Private Speech (PS) is another way through which language learners can mediate themselves. Private speech is not talking to oneself in front of the mirror but as Ohta (2001) suggests it includes imitation, mental rehearsal and responses that a learner provides in his mind to questions the teacher has asked another student.

What went on theoretically explained some concepts to justify the place of private talk in SCT in order to pave the ground for introducing the studies, which have experimentally, put this component into practice. Winsler (2004) studied the effectiveness of private talk in regulating one's thought and found that more than 95% of adults talk to themselves; moreover, he categorized the findings of some studies on private speech some of which are presented below:

1. Adult second language learners use PS in L1 in learning contexts to help them acquire L2 (Broner & Tarone, 2001; Ohta, 2001).
2. Private speech in L2 for the service of learning among adult L2 learners is more common in advanced learners than in beginning L2 students (Lantolf, 1997).

3. There are cross cultural/linguistic differences in how, and how much, adult L2 learners use PS for language learning (McCafferty, 1994).
4. Children use more PS in open-ended and creative activities than in closed-ended, goal-directed activities (Krafft & Berk, 1998); Age differences in children's PS use in naturalistic settings can be due to the classroom context changing with age rather than child age per se (Krafft & Berk, 1998).

Extended to L2 learning, these results can point to situations where learners use private speech in developing their language skills. All in all, the results of these and similar studies reveal that private talk accelerates learning and ends in socio-linguistic development.

The study: framework, questions, and the objectives

Following SCT ideas, it was assumed that Iranian EFL learners needed to be assisted by self, by peers and by the teacher in a reading course, instead of being provided with large amount of linguistic input by the teacher; therefore, this study aimed to study the effects of scaffolding (collaboration) and private speech on students during a reading course. Thus, the study put these two components of SCT in a task-based framework to measure the outcomes qualitatively and quantitatively. In other words, through collaborative and private speech, students were asked to accomplish some tasks. In this regard the following research question was formed:

Does SCT have any effects on Iranian EFL students' reading comprehension?

This study tried to merge SCT theoretical tenets with TBLT methodologies. TBLT and SCT are highly compatible (Nunn, 2001; Ellis, 2003). Sifting through studies and the results that emerge from SCT, we concluded that using sociocultural frameworks may provide more precise understandings of learners' performances engaged in various forms of TBLT. In other words, through linking SCT tenets to TBLT methods, we may not only get more information about the nature of TBLT methodologies, but can benefit from natural classroom interactions that lead to autonomous learners. Consequently, we can manage what and how learners perform under different task conditions to develop and maximize learning-centered second language acquisition (Nunn, 2001).

In this study, two of SCT components, private speech and collaborative learning, are considered as effective conditions in performing reading comprehension tasks. In other words, putting into a TBLT framework, collaboration and private talk, are used as factors which may enhance learners' abilities in accomplishing, summarizing and paraphrasing tasks.

Method

Participants

Based on their performance on a 50-item Oxford Placement test of reading comprehension, 54 EFL freshmen who scored higher among a population of 80, were invited to take part in this study during a reading comprehension course. Students were randomly divided into two groups, control and experimental. Since the study aimed at checking the effects of an instruction, which incorporated SCT tenets, both groups were exposed to a 30-item TOEFL test of reading comprehension. Except for the method used, the teacher, the source book, and allotted time for both groups were the same.

Procedures

The source book for both groups was "Select Readings: Intermediate" by Linda Lee and Erik Gunderson (2001). In both classes, after introductory questions and preliminary discussions, the teacher or VCD read out the text. The parts distinguishing the two classes emerged immediately after the passages were read once or twice.

For the experimental group, the teacher asked the students to do different tasks such as paraphrasing, summarizing, and discussing the ideas presented in each paragraph. The teacher suggested that students collaboratively and through private speech – for every other paragraph - carry out the suggested tasks. For example, if the students were asked to collaboratively paraphrase the first paragraph, they were asked to paraphrase the second one by themselves, i.e. practice private speech.

On the other hand, for the control group, as it is usual in most language classes, the teacher paraphrased, summarized and discussed the ideas in each paragraph in the whole lesson. Students asked their questions if they had any.

The participants of the two groups, called by the teacher or voluntarily, read some of the paragraphs, summarized them or talked about them. During the class hours, students'

performances were videotaped to be used for discourse analysis and to be measured for fluency, accuracy and complexity (Iwashita, Elder, & McNamara, 2001). This method continued for eight ninety-minute sessions. At the end of the course, students were post-tested using the same 30-item TOEFL test used in the pretest. Moreover, students were asked to orally present some passages, and their performance was videotaped to be scored based on the idea units presented. The selected texts, unseen by the students, had readability below or close to that of the text in the textbook – ranging from 10 to 11. The students' performance on the oral presentation task was counted as twenty percent of their final scores.

Data collection

Students' scores on the 30-item TOEFL test were recorded. The performance of each student on oral presentation was also scored based on the idea units provided. Also called a linguistic unit (Bransford & Franks, 1971; Carrell, 1983) as well as an information unit (Roller 1990), an idea unit comprises the minimal words necessary to express a thought or idea.

Accordingly, the number of idea units that students recalled after reading the text measured their abilities in presenting the text orally. Johnson's (1970) text segmentation provided useful assets in assessing the data quantitatively. Furthermore, Sharp's (2002) method helped us in dealing with the data qualitatively. For example, the importance of ideas in each text affected rating.

As a result, three types of scores were obtained: scores representing (1) pretest, (2) final test and (3) oral presentations based on idea units recalled. These data were subjected to t-test. Moreover, the video-taped performances were rated with regard to fluency, accuracy and complexity of the discourse. In other words, in order to compare the performances of the two groups during the instructions, descriptive analyses were used which discussed students' performance during the process.

Results and discussion

Statistical analysis

All the data were subjected to descriptive statistics. The results are presented in Table 1. The pretest results reveal that the two groups were not so different. This is, of course confirmed by inferential statistics shown in Table 2. No statistically significant difference can be observed

between the means of the control and experimental groups. It can be concluded that the two groups were equal to begin with.

Table 1: Descriptive statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Pretest	Control	27	19.5556	5.47957	1.05454
	Experimental	27	18.9630	5.33120	1.02599
Finalexam	Control	27	15.7778	4.03192	.77594
	Experimental	27	17.4074	4.55951	.87748
Oraltest	Control	27	3.4815	1.69548	.32629
	Experimental	27	4.3704	1.33440	.25681

To see if the mean differences were statistically significant or not, independent-samples t-test was run. The results are presented in Table 2.

Table2: Results of independent-samples t-test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
pretest	Equal variances assumed	.354	.555	.403	52	.689	.59259
	Equal variances not assumed			.403	51.96	.689	.59259
finalexam	Equal variances assumed	.807	.373	-1.391	52	.170	-1.62963
	Equal variances not assumed			-1.391	51.23	.170	-1.62963
oraltest	Equal variances assumed	2.59	.113	-2.141	52	.037	-.88889
	Equal variances not assumed			-2.141	49.28	.037	-.88889

As can be seen from Table 2, the two groups did not perform significantly differently in the final exam, as the mean difference was not statistically significant. However, in terms of oral paraphrases, they differed significantly. The experimental group outperformed the control group.

Descriptive analysis dealing with aspects of discourse

Dealing with the results of tests used to check the effects of instruction is a useful method, but to get deep insights about the events that happen in class we should directly consider the on-

going process that happens while implementing the tasks. Skehan (1998) suggests that production requires some attention to form and distinguishes three aspects of production: (1) fluency, the capacity of the learner to communicate meaningfully in real time (2) accuracy, the ability of learners to use their interlanguage knowledge of language in production (3) complexity, the utilization of interlanguage structures that are interesting, new, elaborate and structured. For example, the number of words or false starts affects fluency, while the number of self corrections or target-like uses of negation account for accuracy; frequent use of conjunctions or number of turns would be considered as factors influencing complexity.

Ellis (2003) classifies these three factors and some specific measures used in various studies (Appendix A) and argues that regarding the context, the emphasis on each of these factors is different. The students' performance in the ninth session was measured according to Ellis's classification. This framework for data analysis was used because it considered three aspects of fluency, accuracy and complexity in learners' production. Since dealing with the performances of all students needed detailed factor analysis and evaluating all students in one session was impossible, it was decided to use the performance of those students who performed in the ninth session; they did not exceed eight students in the control and nine in the experimental group.

Although the performances of the two groups were very close in some aspects, e.g., complexity, they diverged in accuracy and fluency. For example, regarding the fluency, students in the experimental group ran their ideas more smoothly since they used more words per minute (mean of 62 versus 50), ran more words in each turn (mean of 4 versus 3.5), and used shorter pauses (12 versus 20). Regarding the accuracy, although both groups had problems in managing tenses, using articles, and using plurals, again the experimental group outperformed group one in other specific measures; percentage of error-free clauses for group two against group one was (70% vs. 66%), moreover group two self-corrected their sentences or their peers' sporadically while group one did not.

Both groups performed similarly in not using complex sentences, except for using three conjunctions such as *when*, *therefore*, and *because*. Besides these numbers, the friendly and active climate prevailing in the experimental group, where collaboration and private speech prevailed, encouraged the students to participate more voluntarily in class discussions. They were no longer afraid of making mistakes; their peers had already observed their mistakes and

helped them to overcome the problems. Moreover, their peers were within their reach to help them when they ran out of some words.

Limitations and suggestions for further research

1. Merging SCT and TBLT, which is rarely dealt with, will end in more prosperous and assuring results if studied in a longitudinal framework. As it might be recognized by some readers, 8 sessions do not qualitatively provide the predicted results.
2. This study suffers limited number of raters, to put forward objective judgments and enhance reliability of obtained scores for idea units it is suggested that more than four raters be invited for scoring. Zhang (2008) used the judgments of eight English professors in describing each unit qualitatively and quantitatively.
3. The effects of different SCT components were not considered in the present study. Could we separate the results of private speech from collaborative learning, the findings would favor a more precise perspective; furthermore, such distinct results may shed some lights on the methods rendered by EFL teachers.
4. If some forms of factor analyses are rendered more assuring and precise results will be provided. Other factors may also have a hand in enhancing or deteriorating EFL learners' language performances.
5. For the last point, we suggest that the effects of SCT through a TBLT method be used for other language courses like conversation and writing.

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Appendix A: A classification of production variables used in task-based research, taken from Ellis (2005, p.117)

Dimension	Measures
1. Fluency	Number of words per minute Number of syllables per minute Number of pauses of one/two seconds or longer Mean length of pauses Number of repetitions Number of false starts Number of reformulations Length of run, i.e. number of words per pausally defined unit Number of words per minute
2. Accuracy	Number of self-corrections Percentage of error-free Target-like use of clauses Target-like use of verb tenses Target-like use of articles Target-like use of vocabulary Target-like use of plurals Target-like use of negations Ratio of indefinite to definite articles
3. Complexity	Number of turns per minute Anaphoric reference (as opposed to exophoric references) Lexical richness, e.g. number of word families used, Percentage of lexical to structural words, type-token ratio Proportion of lexical verbs to copula Percentage of words functioning as lexical verbs Percentage of occurrence of multi-propositional utterances Amount of subordination, e.g. total number of clauses divided by total number of c-units Frequency of use of conjunctions Frequency of use of prepositions Frequency of hypothesizing statements