ZPD, Tutor; Peer Scaffolding: 
Sociocultural Theory in Writing Strategies Application

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Abstract

Viewing language learning as a dialogic phenomenon, Sociocultural Theory (SCT) proposes that language use and the relevant cognitive processes need to be examined within a social context (Kublin et al., 1998). Through scaffolding, a social construct which is interrelated to ZPD (Zone of Proximal Development), in a classroom teachers as well as non-novice learners can help novice individuals to internalize language dialogically or to perform a task/skill independently. Moreover, to achieve learning, language learners use specific strategies. The purpose of this study was to investigate how scaffolding can improve L2 learners' writing strategy application and hence their writing quality with the help of their peers and with total or random mediation from their instructors. Thirty EFL writing learners including both male and female learners were selected. While their writing quality was pre-tested individually, their performance was recorded to elicit strategy application. The research was designed experimentally to clarify self-regulation and writing improvement within the participants. The results of posttest writing task and the analysis of strategy application records during the treatment and in the posttest revealed that the participants with peers' and tutor's non-random scaffolding made remarkable progress in both writing quality and strategy application.

1. Introduction

Scaffolding Writing

In recent years teachers at all levels of instruction have become more and more interested in how they can support their learners in learning and using forms of written language. One useful technique for this support is scaffolding, a concept which owes much to the work of Vygotsky (1920) whose sociocultural ideology of human learning and development through interaction left a great impact on learning and teaching profession. Harris and Hodges (1996) define scaffolding in learning as the gradual withdrawal of adult (e.g., teacher) support via instruction, modelling, questioning, feedback, etc., for a child's performance across successive engagements, thus transferring more autonomy to the child. In second language acquisition, the term 'scaffolding' points to the linguistic support provided by an expert (tutor, instructor, or even a more proficient/knowledgeable peer) to a learner (Bruner, 1990). Providing clear directions for learners, clarifying purpose of the task, keeping learners on task, offering assessment...
to clarify expectations, and creating momentum are the advantages attributed to ‘scaffolding’ by teaching experts (McKenzie, 1999). Scaffolding can be presented in different forms. Some practical examples are mentioned blow:

**Some practical examples:**
Examples of exercises which work on this principle of guided learning through practice are:

- **Joint Construction:** A group of learners construct a text together, with the teacher as the ‘scribe’ and ‘mentor’ suggesting possible words and phrases.
- **Peer Response Feedback:** Learners work in pairs or small groups, using prompts provided by the teacher, to respond to each other’s writing.
- **Teacher Feedback:** Can be used not just to grade and evaluate, but also to scaffold future writing.

However, to study and explore the effectiveness of scaffolding in education and particularly in SLA and L2 formal instruction, we need to observe it within a broader scope.

**Sociocultural Theory (SCT)**

According to Tharp and Gallimore (1988) “This view has profound implications for teaching, schooling, and education. A key feature of this emergent view of human development is that higher order functions develop out of social interaction. Vygotsky argues that a child’s development cannot be understood by a study of the individual. We must also examine the external social world in which that individual life has developed. Through participation in activities that require cognitive and communicative functions, children are drawn into the use of these functions in ways that nurture and ‘scaffold’ them” (pp. 6-7). Kublin et al (1998) state that “Vygotsky described learning as being embedded within social events and occurring as a child interacts with people, objects, and events in the environment” (p. 287). Despite the original conceptualization of SCT in the L1 context, it also has remarkable contribution in L2 acquisition in the formal context. This social approach to SLA emphasizes the casual relationship between social interaction and cognitive development, including language learning. The central claim of SCT is investigating cognition requires us not to isolate it from social context (Vygotsky, 1978). SCT views learning not an ‘individual endeavor’, rather it introduces the dimensions of social interaction and collaboration into learning. In both Vygotsky’s (1962,1978) and Bruner’s views (1975, 1983) learning possesses a ‘transactional’ nature, namely, it primarily occurs through interaction with more experienced guides who can support the actions of the novice learner. And that is the part of the process through which language is used as a ‘symbolic tool’ to clarify and make sense of new knowledge, with learners who are highly dependent on the discussions with the expert. The more the new knowledge is internalized, the more learners use language to presents and comment on what they have learned. So, cognitive development is realized when an individual’s mental processing turns away from the external context and learning moves from inter-psychological to the intra-psychological. In the whole process, language plays the role of a symbolic tool which mediates interpersonal and intrapersonal activity: this occurs within the ZPD (Walsh, S., 2006).

**Learning process and ZPD**

Vygotsky, (1920) coined the key construct: Zone of proximal Development (ZDP):

the distance between the actual developmental level as determined by individual problem-solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers.

Lantolf (2000: 17, cited in Walsh, S., 2006) asserted that the ZPD should be considered as a ‘metaphor’ for observing and understanding how mediated tools are appropriated, adjusted, and ultimately internalized. He defined the ZPD as “the collaborative construction of opportunities for individuals to develop their mental abilities.

There are different studies having examined both expert (teacher)-novice interactions as well as novice-novice interactions. Many of these studies adopted the microgenetic method involving detailed analysis of sequences of interactions with a view to documenting the shift towards self-regulation occurring within them (Ellis, 2008, p. 272). However, a number of studies have also employed an experimental design involving pre-tests and post-tests. Incorporating microgenetic analysis within an experimental design, Nassaji and Swain’s (2000, cited in Ellis, 2008) examined a native-speaking tutor’s oral feedback on the written compositions of two Korean learners of English (expert-novice interactions). The results showed that providing non-random feedback within the learner’s ZPD was effective in some ways as enabling the learner to arrive at the correct form during the feedback sessions, and with much less explicit assistance in subsequent sessions, and enabling the learner to use the correct form in a post-test consisting of a cloze version of the composition she had written previously. Nassaji and Swain’s research showed that random feedback did not always succeed in enabling the learner to identify the correct forms and was much less effective in
promoting unassisted use of the correct form in the post-test. The results of this study are in line with the claim that, when scaffolding works to construct a ZPD for a learner, learning results. Swain, Brooks, and Tocalli-Beller’s (2003) review of peer-peer dialogue in which, learners could act concurrently as experts and novices and support learning through questioning, proposing possible solutions, disagreement, repeating and managing activities and behaviours indicate that the collaborative dialogues in which peers engage as they work together on writing, speaking, listening, and reading activities mediates second language learning.

However, there are some studies which shows that peer mediation is not always effective; occasions can arise when ‘expert’ mediation is required. Platt and Troudi (1997) showed how peer rather than expert mediation had negative effect coming to certain content areas (for example, math). Lantolf commented while peer assistance is effective for learning everyday functional language, it may not be as effective for development of academic language. There will obviously be situations in which the mediation provided by an ‘expert’ language user is required to negotiate a learner’s ZPD. Thus, Swain and Lapkin (1998) argued that teacher feedback on the recorded oral dialogue generated by a task or the written product of the task was needed to resolve learner uncertainty and to point out incorrect solutions to linguistic problems.

The present study was intended to investigate how scaffolding can improve L2 learners’ writing strategy application and hence their writing quality with the help of their peers’ and with total or random mediation (feedback) from their instructors. Moreover, via applying a microgenetic framework of analysis, the study sought to determine what writing strategies the participants used and how effectively they employed the strategies. Taking previous studies as a point of departure, this study aimed at answering the following questions:

**Research Questions**

- Can peer-peer interaction with random instructor’s mediation result in the learners’ writing quality improvement and increasing their writing strategies application? If yes, how much is the extent of this improvement and application?
- Can peer-peer interaction with non-random or total instructor’s mediation result in the learners’ writing quality improvement and increasing their writing strategies application? If yes, how much is the extent of this improvement and application?
- Do the learners’ of peer-peer with random mediation proceed from dependency on group work to self-regulation in writing and strategy application? If yes, how does this happen?
- Do the learners’ of peer-peer with non-random or total mediation proceed from dependency on group work to self-regulation in writing and strategy application? If yes, how does this happen?

**2. Methodology**

**2.1. Participants**

Thirty EFL writing learners of Abadan Islamic Azad University including both male and female learners took part in this study. Due to the university requirements, class-section restrictions, and limitation on course-offers to the instructors, we did the research in my two writing classes each including 15 learners. The participants had already taken the basic courses in English including Grammar, Reading, and Conversation. Each group was divided further into 3 subgroups of 5 learners. One group was assigned as a peer-peer interaction with random instructor’s mediation which is abbreviated as G1 throughout the text. The other group was assigned as a peer-peer interaction with non-random or total instructor’s mediation. This group is abbreviated as G2. According to their pre-test scores, I arranged each subgroup with one member with the highest pre-test score. This high pre-test score member was allocated the role of the leader of the subgroup and was considered the more knowledgeable peer or the ‘knower’.

**2.2. Data collection procedure and the treatment**

Regarding the probable differences between the participants of the two groups before the treatment started, I gave them a pre-test in which they were asked to write on an argumentative paragraph on “why most people mind losing weight a hard task.” To analyze the participants’ writing strategy application and collaborative performance, each session I asked the subgroups to write down an argumentative paragraph on a topic content-parallel with of their pre-test one. While taking part in their peer-peer dialogues and being assisted by me, the participants were asked to record their voices and later submitted them to me in mp3 recordings. To reduce their reluctance to cooperate with each other, I rewarded them: they did not need to do extra homework after the sessions they wrote together. Then the sessions the participants did not do the group work, they were given another argumentative topic as homework to write down about on the same content-topic and were asked to record their voices, too (individual). These recorded voices along with their written texts were also submitted to me in mp3 recordings. These recorded voices of both groups along with their recorded voices were also submitted to me in mp3 recordings in the following class hour. It is
worth mentioning here that I followed my regular teaching plan and materials in these two classes. This included instructing about the topic sentence and the structure of a paragraph and the ways to form and develop them. Therefore, in the treatment sessions, the participants of both G1 and G2 were asked to observe the principles of paragraph development they had been instructed through. Each treatment session had to be recorded in 45 minutes and if any subgroup was not able to finish the task in due time, it needed to go on the same topic in the next treatment session. The class-treatment sessions were 10 and the total hours recorded in the class were seven hours and half (450 minutes) with each group making fifteen hours with both G1 and G2 (900 minutes). In addition to the class-treatment sessions recordings, there were the participants’ individual tasks (homework) recordings. There were 5 individual recordings in each G1 and G2. Every home-taped task was asked to be about one hour to finish the paragraph, so the total home recordings for both G1 and G2 was 10 hours (600 minutes).

I gave treatment to G1 as my support and instruction through the whole treatment from one subgroup to another one. Walking around and listening to their discussions, giving them the necessary hints and points on their arguments, sentences and, lexical options, talking to them about their ideas on the topic and sentences were what I considered as scaffolding resources to add to the main instruction. Meanwhile, I sometimes addressed all subgroups and referred them to general points. In G2, I applied the same strategies but not very regularly and not with any subgroup. Sometimes in G2, I let the members of each subgroup negotiate their ideas with the members of other subgroups.

Finally, at the end of the treatment period I gave a posttest to both groups. They were asked to write down on an argumentative topic as “why most people avoid a dentist’s appointment”. The participants’ pre and posttest paragraphs were scored according to Hughes’ writing scoring checklist. The papers were scored again in three days interval by me, the interrater ratio was 76%. Then, another colleague of mine scored them, hence giving the interrater reliability of 78%. Then the results of both tests were compared with each other. Two within-group t-tests and one between group t-test were run to see the differences between the two groups with respect to their writing quality.

Their home and class recordings were analyzed to see how much and what type of writing strategies they had been employed and how well each group had applied the strategies and how they had been worked together. To see how their collaboration led to individual self-regulation improvement, the recordings were analyzed and codified by me and another colleague. As the starting point, we conducted a pilot study. We selected a quarter of the main data randomly (225 minutes) and separately ran a preliminary analysis on them in order to identify the underlying strategies. Wherever there were any disagreements on identifying strategies, the two raters discussed the discrepancies until agreement was achieved. In the next phase of the study, the remaining 675 minutes of class-treatment recordings in addition to the recordings in the pilot study were analyzed for the main analysis.

3. Results

A t-test between groups was run to show the probable difference in the participants’ writing quality. As t-observed was smaller than t-value at 0.05, the result of the pretest-posttest within G1 indicates that this group significantly improved its writing quality. As t-observed was greater than t-value at 0.05, the result of the pretest-posttest within G2 indicates that this group showed some levels of improvement but not as significantly as G1. The t-observed between groups in posttest is greater than t-value at 0.05, G1 which received peer-peer interaction with total instructor’s mediation improved more than G2 with peer-peer interaction with random instructor’s mediation. The result of the pretest between groups in terms of the t-test shows that both groups were not significantly different at the beginning before the treatment started. Table 1. displays the t-test results:

| Test                        | t-value | Significance |
|-----------------------------|---------|--------------|
| Pretest between groups      | 5       |              |
| Test-posttest G1            |         |              |
| Test-posttest G2            | 1       |              |
| Posttest between groups     | 3       |              |

The microgenetic analysis of the learners’ audio recordings also shows that G1(peer-peer interaction with total instructor’s mediation) individually used more strategies they had been engaged with while interacting with their group peers and instructor in the classroom than G2 (peer-peer interaction with random instructor’s mediation)

G1 utilized more strategies individually and collectively, while G2 did not use as many strategies as G1 in both Table 2 & 3 indicate the distribution and types of the strategies with their number of occurrences.
Distributions of strategies in learners’ audio recordings (individually)

| Strategies               | G1 | G2 |
|--------------------------|----|----|
| Planning (local & global)| 14 | 7  |
| Questioning (local & global) | 24 | 16 |
| Restating (local & global) | 36 | 22 |

Distribution of strategies in learners’ audio recordings (collectively)

| Strategies               | G1 | G2 |
|--------------------------|----|----|
| Planning (local & global)| 14 | 7  |
| Questioning (local & global) | 24 | 16 |
| Restating (local & global) | 36 | 22 |

4. Conclusion

The findings are in line with Nassaji and Swain’s (2000) and Swain, Brooks, and Tocalli-Beller’s (2003).

The results of posttest writing task and the analysis of strategy application records during the treatment and in the posttest reveal the participants with peers’ and tutor’s non-random scaffolding made remarkable progress in both writing quality and strategy application. The participants of G1 were independently able to apply the strategies and as their marks shows they were more capable of applying the effective strategies which led to their higher writing quality.

References

Badger, R., & White, G. (2000). A Process genre approach to teaching writing. ELT journal, 54(2), 153-160
Carson, J., & Leki, I. (1993). Reading in the Composition classroom: second language perspectives. Boston, Massachusetts. Heinle Publishers.
Carson, J., & Leki, I. (1997). Completely different worlds: EAP and the writing experiences of ESL learners in university courses. TESOL Quarterly, 31(1), 39-55.
Donato, R. (1994). Collective scaffolding in second language learning. In: Lantolf, J. P., ed. Vygotskian approaches to second language research. London: Ablex Publishing, 33-56.
Donato, R. (2000). Sociocultural contributions to understanding the foreign and second language classroom. In: Lantolf, J. P., ed. Sociocultural theory and second language learning. Oxford University Press, 27-50.
Ellis, R. (2000). Task-based research and language pedagogy. Language Teaching Research, 4(3), 193-220.
Gee, S. (1997). Teaching writing: a genre-based approach. In: Fulcher, G., ed. Writing in English language classroom. Hertfordshire: Prentice Hall Europe ELT.
Gibbons, P. (2002). Scaffolding language, scaffolding learning teaching second language learners in the mainstream classroom. NH: Heinemann, Portsmouth.
Horowitz, D. (1986). Process not product: less than meets the eye. TESOL Quarterly, 20(1), 445-462.
Kennedy, B. L. (1994). The role of topic and reading/writing connection. TESL-EJ, 1(1). Available from http://tesl-ej.org/ej01/a.3.html [Accessed 2007.
Kozulin, A., & Pressieisen, B. Z. (1995). Mediated learning experience and psychological.
Kozulin, A. (2002). Sociocultural theory and the mediated learning experience. School Psychology International, Sage Publications.
Kozulin, A. (1998). Psychological tools, a sociocultural approach to education. Harvard University Press: Cambridge, London, UK.
Kubin, K. S., Wetherby, A. M., Crais, E. R., & Prizant, B. M. (1989). Prelinguistic dynamic assessment: A transactional perspective. In A. M. Wetherby, S. F. Warren,& J. Reichle (Eds.), Transitions in prelinguistic communication (pp. 285-312). Baltimore, MD: Paul H. Brookes.
Kubota, R. (1997). Voices from the margin: second and foreign language teaching approaches from minority perspectives. The Canadian Modern Languages, 54(3) 394-412.
Kumaravadivelu, B. (2006). TESOL methods: changing tracks, challenging trends. TESOL Quarterly, 40(1), 59-81.
Lantolf, J. P., & Appel, G. (1994). Theoretical framework: an introduction to Vygotskian approaches to second language research. In: Lantolf J. P., ed. Vygotskian approaches to second language research. London: Ablex Publishing, 1-32.
Lantolf, J. P. (2000). Introducing sociocultural theory. In: Lantolf, J. P., ed. Sociocultural theory and second language learning. Oxford University Press, 1-26.
Lin, M., & Mackay, C. (2004). Thinking through modern foreign languages. UK: Cambridge.
Marshall, J. D. (1987). The effects of writing on learners’ understanding of literacy text. Research in the Teaching of English, 21(1), 31-61.
Mckenzie, J. (1999). Scaffolding for Success.9 (4). Available from: http://www.icelp.org/asp/Aspects of Mediation Learning Experience.shtm [accessed 15 April 2007].
Miller, L. J. (1996). Their names are Juan and Rosa: understanding and responding to noun number errors in ESL writing. TESOL Journal, vol.6 (2), 21-40.
Ohta, A. S. (2000). Rethinking interaction in SLA: developmentally appropriate assistance in the zone of proximal development and the acquisition of L2 grammar. In: Lantolf, J. P., ed. Sociocultural theory and second language learning. Oxford University Press, 51-78.
Parrila, R. K. (1995). Vygotskian views on language and planning in children. School Psychology International. Sage Publications.
Rogoff, B. (1990). Apprenticeship in thinking, cognitive development in social context. USA: Oxford University Press.
Seedhouse, P. (1999). Task-based Interaction. *ELT Journal*, 53 (3), 149-156.
Seedhouse, P. (2004). The *Interactional architecture of the language classroom: a conversation analysis perspective*. USA: Blackwell Publishing.
Shayer, M. (2002). Not just Piaget, not just Vygotsky, and certainly not Vygotsky as an alternative to Piaget. In: Shayer, M., ed. *Learning intelligence, cognitive acceleration across the curriculum from 5 to 15 years*. UK: Open University Press.
Simister, J. (2004). To think or not to think: a preliminary investigation into the effects of teaching thinking. *Improving Schools*, Sage Publications, 7 (3), 243-254.
Spack, R. (1988). Initiating ESL learners into the academic discourse community: how far should we go? *TESOL Quarterly*, 22 (1), 29-53.
Tzuriel, D., & Kaufman, R. (1999). Mediated learning and cognitive modifiability: dynamic assessment of young Ethiopian immigrant children to Israel. *Journal of Cross-Cultural Psychology*, Sage Publications.
Wertsch, J. (1985). *Vygotsky and the social formation of mind*. UK: Harvard University Press.
Williams, M. & Burden, R., (1997). *Psychology for language teachers, a social constructivist approach*. UK: Cambridge University Press.
Zamel, V. (1985). Responding to learner writing. *TESOL Quarterly*, 19 (1), 79-101.
Zimmerman, C. B. (1997). Do reading and interactive vocabulary instruction make a difference? an empirical study. *TESOL Quarterly*, 31 (1), 121-140.