Human Mind is Mediated-
A Comparative Analysis of Two L2 Studies

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Abstract

During the past few years, many studies in the domain of second language (L2 for short) learning have been conducted from the sociocultural perspective, which highlights the role that language interaction plays in learning and regards L2 learning as social rather than individual in nature (Mitchell & Myles, 2004).Within the sociocultural perspective, mediation can be seen as a shift from other-regulation to self-regulation in the process of progression in autonomy in learning a second language. Both studies to be analysed in this article reveal that collaborative step-by-step scaffolding is important in language cognition. Lina Lee's study paid particular attention to the five-level collaborative scaffolding adapted by Aljaafreh and Lantolf to observe the moment-by-moment scaffolding between experts and novice language learners and how learners initially resort to other-regulation and then gradually self-regulate. Similarly, De Guerrero and Villamil also analysed the scaffolded help of writing revision between the two English as Second Language (ESL) students, which occurs within the Zone of Proximal Development (ZPD) activation and how the writer achieved self-regulation in the end. These two studies provide useful evidence of peer mediation in the language classroom. Firstly, they show evidence of learning as a result of interaction between language learners of different abilities; and secondly their interaction can take place either online or face-to-face. There is a range of ways in which the mediation impacts learners' L2 development.

Introduction

1.1 The Sociocultural Concept of "Mediation"

During the past few years, many studies in the domain of second language (L2 for short) learning have been conducted from the sociocultural perspective, which highlights the role that language interaction plays in learning and regards L2 learning as social rather than individual in nature (Mitchell & Myles, 2004). According to sociocultural theorists, humans are "fundamentally socially organized entities" (Lantolf, 2007, p. 32). To gain a comprehensive and thorough understanding of Sociocultural Theory (SCT), we must first

comprehend the concept of "mediation". Lantolf (2000b) stresses that:

> The most fundamental concept of sociocultural theory is that the human mind is
> mediated. [...] Vygotsky argued that just as humans do not act directly on the
> physical world but rely, instead, on tools and labour activity, which allows us to
> change the world, and with it, the circumstances under which we live in the world,
> we also use symbolic tools, or signs, to mediate and regulate our relationships with
> others and with ourselves and thus change the nature of these relationships. (p. 1)

According to the Soviet developmental psychologist, Lev S. Vygotsky, we human
beings apply certain devices, such as hammers, bull dozers, etc. to link to the world of objects
(Lantolf, 1994). Correspondingly, some symbolic tools also help us organize and control
high-level mental processes, such as "voluntary attention, logical problem-solving, planning
and evaluation, and voluntary learning…" (Lantolf, 1994, p. 418). This is why Vygotsky
drew the analogy between technical/mechanical tools and psychological tools to illustrate the
indispensable function of psychological tools to us human beings (Lantolf & Appel, 1994).
There is no doubt that second language acquisition consists of high-level mental processes;
therefore, the human mind is mediated especially when learning a second language. However,
it was not until the 1990s that SCT was applied to second language learning. Since a great
amount of research has explored the application of SCT to understanding processes of second
language learning in the classroom, taking a deep view of this theory is of great necessity.

1.2 Vygotsky's Classification of Mediation

Vygotsky divided the concept of "mediation" into three categories: mediation through
material tools, mediation through psychological tools and mediation with other human beings.
With regard to material tools as mediators, anything applied by human beings to master
nature can be included, ranging from wooden sticks to laptops (Vygotsky, 1978).

The second sort of mediation is accomplished through another individual (Vygotsky,
1978), which is especially true according to sociocultural theory, which considers human
beings as social rather than an individual. In the development of L2 learning, this other
individual can be a teacher, an expert, a peer or a parent.

Psychological tools play a crucial role in mediating the psychological processes of the
human mind. This kind of tool has changed along with human history. For instance, in the
past, psychological tools consisted of casting lots, tying knots and counting fingers. As time
passed, these psychological tools were upgraded and evolved into "symbolic tools", which

include numbers, arithmetic systems, music, art and, above all, language (Lantolf, 2000a). As to the importance of language in mediating between human minds, Vygotsky argued that, as children grow up, speech is firstly used after an action, then during the action, and finally when the action begins (1978). This argument evidently argues that language is closely connected to higher mental activity. Likewise, Lantolf (2000b) proposed that, from one generation to another, language consistently reshapes but assists human beings' communicative and psychological needs. It should be noted that, in the L2 learning process, both the first language (L1) and the L2 can be chosen and function in different ways. As the articles to be analysed apply L1 as mediation through psychological tools, it will be further addressed later.

In this essay I will examine the sociocultural conception of mediation by discussing two studies which report on the role of two different forms of mediation of second language learning: computer mediated communication and face-to-face interaction. However, I first need to discuss other key sociocultural constructs which are related to the idea of mediation and help to understand how mediation functions in the process of language learning.

1.3 Zone of Proximal Development, Scaffolding and Regulation

To gain a better understanding of mediation, it is important to examine certain relevant concepts such as ZPD, scaffolding, and regulation. The first concept is the zone of proximal development. In SCT, an unskilled individual learns the target language through collaborative communication with another individual, who is usually an expert with proficient knowledge. Scaffolding consists in another individual's support directing the attention of the learner to the learning target and prompting them to take successive steps to solve a problem (Wood et al., 1976). According to Vygotsky (1978), it is insufficient merely to be aware of an individual's achieved performance, which is also known as the history of development. Having a view of an individual's potential development which can be realized through assistance or additional mediation is equally or even more important (Lantolf, 2000a). In other words, ZPD, which takes into consideration both the present performance of an individual and his/her potential development, highlights the function of mediation. To be more specific, in the context of second language learning, mediation, which takes the form of negotiated assistance, must be sensitive to a learner's ZPD in order to be efficient in the learning process (Lantolf, 2000a; Nassaji & Swain, 2000).

The initial process of learning, assisted by others, is known as other-regulation.

When the individual becomes sufficiently mature and skilled, he or she is then capable of functioning alone or with minimal external mediation. When individuals appropriate the process of mediation and control their mental activity, their other-regulation transforms into self-regulation. The process of internalization can be regarded as having been accomplished at this point, as the scaffolding has been withdrawn (Lantolf, 2000a).

1.4 The Focus of This Essay

A great number of studies have adopted the theoretical framework of sociocultural theory. This present work will focus on mediation through human interaction by resorting to language use, including L1. In this essay, my intention is to evaluate how the human mind is mediated in L2 learning by analysing two studies, on expert-to-novice and peer-peer mediation respectively. The first study conducted by Lina Lee, *Focus-on-Form Through Collaborative Scaffolding in Expert-to-Novice Online Interaction* (2008), explores how corrective feedback was negotiated through expert-to-novice online interaction, whilst the second, *Activating the ZPD: Mutual Scaffolding in L2 Peer Revision* (2000), by María C. M. De Guerrero and Olga S. Villamil, evaluates the mutual scaffolding between two peers in writing revisions. Although the first study analyses expert-to-novice scaffolding through computer mediated communication whilst the second focuses on peer-peer mutual scaffolding in L2 learning, both demonstrate that the role of L1 in mediating L2 learning is vital. Moreover, examining these two papers allows us to analyse the different ways in which expert-to-novice and peer-peer interaction mediates L2 learning. Collaboratively, the two empirical studies serve to suggest that mediation facilitates L2 learning. In the next two sections, a critical review of these two studies will be presented, including a general evaluation of mediation, other-regulation and self-regulation, and the use of L1 in the process of mediation, followed by my commentary.

2. Empirical Study I: Lina Lee's Study on Collaborative Scaffolding in Expert-to-Novice Online Interaction in Focus-on-Form

With the widespread use of computers and the rapid growth of the internet both at school and at home, Computer-Mediated Communication (CMC) has been widely applied as an approach to support L2 learning. Murray (2000) defined this kind of communication as interpersonal communication achieved through a computer. However, different forms of CMC show different characteristics. Based on the time consumed during communication, CMC can be divided into synchronous and asynchronous types (Fotos & Browne, 2004).

Moreover, considering the number of participants involved in the communication, CMC has three categories: one-to-one communication, one-to-many communication and many-to-many communication (Fotos & Browne, 2004). Lee's empirical study uses computers as a platform to achieve a focus-on-form procedure through collaborative communication between experts and novices, in a synchronous, one-to-one communication aimed at improving language development.

2.1 The Study

The study was conducted over a semester at a large public university in the United States. Fifteen expert-to-novice pairs, consisting of 30 students of Spanish, were involved in different types of tasks. The students were grouped based on their language proficiency. This study attempted to answer three research questions: "does collaborative interaction between expert and novice speakers of Spanish foster a focus-on-form procedure, the attention of which is on the linguistic structures rather than meaning, during synchronous CMC?" (Lee, 2008, p. 57). If so, "how do expert speakers provide timely corrective feedback to draw learners' attention to L2 forms that lead to learner-generated corrections?" (Lee, 2008, p. 57). In addition, "from the learners' perspective, how does expert scaffolding affect the way in which corrective feedback is negotiated?" (Lee, 2008, p. 57). To answer these research questions, three types of two-way exchange task (jigsaw, spot-the-differences and open-ended question) involving collaborative interaction were chosen. An additional source of information was the reflective logs written by novices to report their observations and reflections upon this study.

2.2 How Mediation is Interpreted and What Kind of Evidence on Mediation is Presented

A close look at this study shows that various mediators are involved in the process of negotiation regarding corrective feedback on Spanish grammar. First of all, the tasks were carefully designed by the researcher to stimulate the process of error correction. Lee (2008) concluded that different task types influenced the amount of corrective feedback. As mentioned above, three types of two-way exchange task were chosen. The tasks were deliberately designed, as the first two types, jigsaw and spot-the-differences, were convergent with one closed outcome, whilst the last type, open-ended questions, was divergent with multiple outcomes. Since they belonged to different types, they influenced the mediation process on different levels. For example, when novices were doing the open-ended question

tasks, which are mostly meaning-oriented, they tended to self-repair their errors. On the contrary, spot-the-difference tasks, which require L2 learners to interact by applying particular lexical items, received the lowest self-repair moves, which could also be called self-correct repair. It seems that, as the novices had to pay more attention to meaning in the later tasks, they were likely to be less conscious of their errors in the forms of the language, and therefore made more mistakes and needed to correct them. In brief, "tasks function as mediator as it influences the amount of corrective feedback between experts and novices" (Lee, 2008, p. 55).

In the second place, CMC serves as a platform for the negotiation of corrective feedback on Spanish grammar. In Lee's study, interaction is organized through a chat room on Blackboard, through which corrective feedback is more efficiently negotiated in terms of form-focus processing. Unlike traditional corrective feedback negotiation, which is always carried out face-to-face, the chat room provided a less intimidating, visual way for the experts and the novices to negotiate. In most instances, corrective feedback was displayed on the computer screen, which facilitated the error correction, as the correction itself mainly focuses on language form. For instance, in providing corrective feedback on the use of *pido* 'I ask for' versus *pedi* 'I asked for' and *caminé*, 'I walked' versus *caminó* 'he walked', the written text on the screen attracted sufficient attention to the linguistic forms. Furthermore, another characteristic of CMC that benefits expert-to-novice negotiation is that the written discourse can be retrieved by means of the vertical scroll bar. In this way, participants can be more relaxed when corrective feedback is in process without worrying about face-saving issues compared with face-to-face interaction. Based on this synchronous CMC, students can be highly engaged in the corrective feedback.

Furthermore, experts also play an important role in mediating the L2 they provide guidance and interaction with novices. Vygotsky (1978) interpreted language as a means of both communication and intellectual development. The language use between the teacher and students, playing an intellectual function, mediated the students' learning of the particular variation (Vygotsky, 1978). Based on the perspective of a sociocultural theory of mind, which claims that cognition and knowledge are dialogically constructed, learners construct meaning through interacting with others. Although, in this study, the collaborative correction was via chat, a written form of communication, it displays the characteristics of both writing and speaking.

In this study, expert scaffolding played an important role in corrective feedback by providing confirmation feedback at the right time. We can glimpse how corrective feedback is accomplished when an expert provides appropriate feedback at the key moment. For instance, in episode 1, when a novice produced the wrong form 'esquí' instead of the correct form 'esquíe', the past tense of 'ski" to narrate his former experience, the expert immediately but gently gave a confirmation check by directly repeating the wrong verb with a question mark. After receiving this hint, the novice tried to self-correct the form by timely talking cooperatively about how he/she communicated with the focus on the communication process, which is also known as metatalk. At that moment, even without assistance, the novice was able to self-correct the linguistic form, which will be discussed further in the following section.

Another instance of the experts' role in mediating is how scaffolding is achieved in the students' ZPD in episode 3. When a pair was conducting an open-ended question, for example, at the beginning, the expert provided minimal scaffolding by first agreeing with the novice's opinion but gave a hint by suggesting "something is not right in the verbs". When the novice required further assistance by showing that he did not know how to correct, the scaffolding developed into more detailed assistance by directing attention to the non-target-like form. For example, the novice produced the sentence "It was ten o'clock when Lusia was arriving at the house", while the correct form should be "… Lusia arrived at the house". When the novice asked for more help, as the grammatical knowledge was beyond his scope, the expert assisted him by directly providing specific help (e.g. use of L1 to explain L2 grammar rule) and finally the novice performed the self-repairs. In this situation, it can be argued that scaffolding was accomplished with the expert's assistance.

Based on what has been discussed, I conclude that it is somewhat contrived to separate each type of mediation, as many of them function together in the process of L2 learning. For instance, when students apply L1 to help each other understand precisely what a task is about, it is a process whereby the task as a mediator, the use of L1 and the peer mediation combine in the L2 learning process. To gain a better understanding of how language learning is perceived as a mediated process, it is necessary to separate each type during analysis.

2.3 Other-Regulation and Self-Regulation

As shown in the previous section, the final step in the mediated process is that the novice self-repairs. To gain a better understanding of the process, we can examine how

novices first benefit from other-regulation in the early steps of an interaction and eventually are able to self-regulate during the feedback correction within the ZPD. Thus, the following stages of interactions indicate successful regulation, as the novices used preterit forms, a knowledge that was inside the limits of their ZPD.

The experts have a dual role, as teachers and as peers. On the one hand, novices and experts are of a similar age and thus are treated "less as authority figures" (Lee, 2008); on the other hand, as the experts had received training and acquired sufficient language ability, they were able to act as teachers when negotiating with the novices. In other words, the experts' role was different from that of a typical teacher, who always leads the discussion; their role was to monitor the discussion by taking a leading position, but at the same time they worked collaboratively with the novices when performing the form-focus correction (Lee, 2008).

In order to show what the step-by-step collaborative scaffolding is like, Lee (2008) provides a close-up data analysis of selective episodes. For example, in the episode 6, which illustrates how a student made the progression from other-regulation to self-regulation, the novice initially had difficulty with the preterit tense forms, as he used the present tense twice to describe what had happened in the past (Lee, 2008, p. 63). In the role of monitor, the expert first responded to the novice by agreeing with him. Then, he provided a hint to draw the novice's attention to the form of the verbs. This discourse, along with the later question narrowing down the specific type of verb form and even using metalinguistic hints to correct errors, reflects that the expert had a leading tone. It shows that is was only with the expert's help that the novice was able to correct his error. Meanwhile, the novice admitted that his verbs in the past were not good enough and then made a second attempt to identify the error. It can be seen that the novice was able to engage in collaborative feedback and, therefore, by the seventh week, he had already arrived at the self-regulated stage as he used the two verbs correctly without the expert's help. This is consistent with the concept of other-regulation, which is "what individuals can achieve with external mediation at one point, they are frequently able to do without this assistance at a later time" (Lantolf, 2000a, p. 18).

Despite the fact that other-regulation can transfer to self-regulation if the scaffolding is sensitive to the novice's ZPD, corrective feedback may not be negotiated when the novice misunderstands the goal of the corrective feedback. For instance, in episode 8 (Lee, 2008, p. 65), the novice viewed the interaction as meaning-oriented. Therefore, he did not try to correct the form of the verb but repeated that he did not understand or like verbs. Another

possible cause is that, although not mentioned in the paper, the tone of the expert was not friendly enough, as he directly pointed out the wrong forms and said "you should" without considering the novice's affective factors, thus giving rise to difficulties in negotiation. In this way, the novice may feel anxious when solving semantic as well as syntactic problems.

2.4 Use of L1

The use of L1 in L2 acquisition has always been a controversial topic. However, more and more studies have been conducted to justify the appropriate use of L1 in L2 learning. Antón and Dicamilla (1999, p. 237) have argued that "L1 use provides, through collaborative dialogue, an opportunity for L2 acquisition to take place" to maintain intersubjectivity, "an atmosphere of cooperation and understanding that allowed them to implement the task". Also, L1 provides each learner with scaffolded help during interactions. In line with Antón and Dicamilla, Lee also evaluated the role that L1 plays in the collaborative interaction between experts and novices in form-focused L2 learning. L1, deployed as a mediating tool, enables the feedback negotiation of L2 forms, including lexical and syntactical errors. For instance, when one novice focused her attention on specific L2 forms and was encouraged to self-repair, she asked "Should I use 'llegó' instead of 'llegaba'?" in L1 to re-orient herself.. Through using L1, Lee claims that the novice re-oriented herself and negotiated the correct form with the expert. When the expert suggested that there was still a formal mistake, the expert used L1 to explain the L2 grammar rule, which can be seen as scaffolded help within the novice's ZPD, which led to the novice's final self-repair.

2.5 Commentary

Lee's study demonstrated that CMC supported the feedback negotiation between the pairs and thus helped the novice members to pay attention to the L2 forms for both syntactic and lexical errors. In the process of error correction, the experts were able to provide step-by-step scaffolding at the proper time but too much interference in corrective feedback should be avoided as it may influence the novice's error correction negatively, as some learners expressed their discomfort and discontent with the way their expert partners intervened during the communicatively oriented interaction. Compared with most studies related to the successful collaborative scaffolding achieved within L2 learners' ZPD (Foster & Ohta, 2005; Lee, 2004), this study examined instances of failed corrective feedback. When direct and explicit assistance was provided to the novice, corrective feedback was not negotiated. The collapse of scaffolding seems to suggest that feedback must be made within the ZPD and,

therefore, over-intervening should be avoided. The pedagogical implication is that teachers should not 'over-intervene' in teaching but should only intervene when they know that the learner is well-prepared and willing to accept the intervention.

Nevertheless, it should be noted that there are some limitations to this study. First of all, the validity of the experts' suitability for correcting the novices is unclear. Thus it is difficult to generalize from this evidence that experts can assist novices in the process of corrective feedback. As mentioned above, the students were regarded as experts because they had obtained an advanced level of proficiency based on a Spanish Oral Proficiency Test (Lee, 2008). Nevertheless, ten of the 15 "experts" were native speakers of English, who were taking or had taken a graduate seminar in Spanish and were of approximately the same age range as the novices. Moreover, although a training session was provided to support the experts scaffolding skills in online interaction, as they lacked teaching experience, the duration of the training was limited to two hours. In such a short training, it is questionable whether the comparatively capable students could become as competent as "experts". In this way, the conclusion cannot be generalized to all teacher-student collaborative scaffolding. Second, the conclusion that the type of tasks had an impact on the amount of feedback seems to lack sufficient evidence. This conclusion was drawn in accordance with the quantitative analysis that found that open-ended questions received the highest rate of self-repair while spot-the-differences tasks, which required the novices to pay attention to both meaning and form simultaneously, resulted in the lowest number of self-repairs. This conjecture seems reasonable to some extent, but other factors involved in the feedback negotiation were not taken into consideration. For instance, in the practice of scaffolding, L1 was used for either grammar explanation or lexical problem solving in both jigsaw and spot-the-difference tasks, whilst only L2 was used in the open-ended questions. The relationship between the amount of L1 use and self-repairs demands further exploration.

Further research in exploring the effect of scaffolding could, for example, compare the efficiency of feedback negotiated through CMC or face-to-face collaboration. Another area worthy of investigation is to compare the differences between the focus-on-form and focus-on-meaning conditions of scaffolding in CMC.

3. Empirical study II: Maria C. M. De Guerrero and Olga S. Villamil's Study on Mutual Scaffolding in L2 Peer Revision

3.1 The Study

This study was one of a series of studies carried out by De Guerrero and Villamil on the scaffolded peer revision of ESL learners' writing. The aim of the study was to observe the mechanisms by which revision strategies take shape and develop in the inter-psychological space created when two learners are working within their ZPD (Guerrero & Villamil, 2000). If focused on the analysis of the interaction of two students, selected from 40 dyadic interactions, as they were sufficiently rich and varied to reveal the process of mediated learning. The participants in the study were two male ESL college learners whose mother tongue was Spanish. They had joined the ESL communication skills course and participated in revision sessions. One of the cases described in this paper will be analysed here in detail. The roles of "reader" or "writer" was allocated to the each learner in the dyad on the basis of their performance in the composition, but this information was not available to the participants. The interaction between the two students was audiotaped and then transcribed. The writer's first draft was treated as an additional source of data. The revision process was divided into 16 episodes and a microgenetic analysis was applied. In the following section, I will mainly focus on how the reader acted as a mediator to help the writer shift from a reliance on other-regulation to self-regulation.

3.2 Other-Regulation and Self-Regulation

Although the study was mainly about mutual scaffolding in L2 peer revision and the role of the reader and writer was previously arranged according to their writing level, their roles changed during the correction process. During the cognitive exchange of both participants, the writer experienced a change in his mental process from other-regulation to self-regulation.

In the first stage, the learner who played the role of the reader behaved as an expert, providing direct help with authority. For instance, by repeatedly stating "you should", "you have to", or "you shouldn't", the reader played a dominant role in the interaction to provide other-regulation (Guerrero & Villamil, 2000, p. 57). At this stage, the writer initially focused exclusively on the reader's corrections and almost completely accepted these corrections by continuously responding "yes" and justifying his behaviour autonomously. Later, there is evidence that the writer felt slightly doubtful about the reader's correction by responding "Uh

hmm..." and "but if I write it like that, I find it somewhat, I don't know, unnatural" (Guerrero & Villamil, 2000, p. 57). Despite this comment, the use of the particular form of the verb in his final draft shows he accepted the reader's correction.

However, the writer gradually expressed frustration at the fact that he had made so many mistakes in one sentence and was corrected by the reader too frequently. The reader sensed the writer's unease and tried to change his role from that of the "expert" to "knowledgeable peer" and raised the writer's awareness that he was expressing his own view. By suggesting "I want you to give your opinion", the reader tried to readjust his own role and position himself as audience. He intimated "a clear distinction between his role as a 'reader' or a facilitator, and his partner's role as the author who is ultimately responsible for the text" (Guerrero & Villamil, 2000, p. 59). During this period, the reader's regulation takes the form of psychological influence and affective support. As the reader encouraged a more active involvement from the writer in the interaction, the writer tried "to regain authorship" (p. 59) as he started to offer his own suggestions for improving the text.

At this stage when both participants mutually gave and received feedback, Guerrero and Villamil claim that a "mutual scaffolding" (Guerrero & Villamil, 2000, p. 59) took effect. In episode 6 (p. 59), both participants came across an incorrect sentence but neither of them knew how to correct it. At this stage, "task regulation was shared between reader and writer thorough the interaction" (p. 59). When the reader identified the "trouble source" (p. 60), the writer immediately refused to accept this correction. As the reader insisted on his suggestion, the writer agreed halfheartedly by saying "It's all right, whatever",. At this point, the reader tried to make sure that the writer does not fall back and prevent the collapse of his scaffolding and made. For instance, the reader though thought the text was subtly difficult, refused to call for teacher's help; and the writer let himself be guided by his peer in the revision but ultimately responsible for offering the correct solution. Such being the case, the interaction progressed and self-regulation and other-regulation coexisted. During this period, their interactions worked as two peers scaffolding each other's learning.

In the last episode provided by the authors, Guerrero and Villamil argue that self-regulation was finally constructed for both the writer and the reader. In the case of the writer, after receiving the reader's suggestions of modifications, he started to reject the corrections firmly and even provided scaffolding for the reader. This arguably provides evidence that the reader had finally reached the point of self-regulation in his learning.

3.3 Use of L1

Unlike Lee's study, in this study, Spanish as L1 (Spanish) was continuously used in the interactions between the participants. As De Guerrero and Villamil put it, L1 was used as a lingua franca throughout the communication to finish the task. First of all, L1 was applied as "an instrument of task control" (Guerrero & Villamil, 2000, p. 64). As a linguistic resource, L1 use facilitated the peer-revision, especially due to the nature of the task. For instance, in episode 3 (Guerrero & Villamil, 2000, p. 57), the reader regulated the task by using L1 to distinguish various verb endings and to guide the writer through the use of the future tense. The reader was guided to compare certain forms of his L1 to the corresponding forms of the L2. In this way, during this part of the interaction, the task was manipulated and problem-solving was facilitated.

Moreover, though the researcher did not provide a detailed analysis, L1 also helped the reader and writer to achieve intersubjectivity. This can be best demonstrated by the episode 6 (p. 59), when the students shared a moment of laughter as there was a common knowledge in their shared culture with regard to the ambiguous word "bloody". In Spanish, this word also refers to a drink which looks like blood ("sangría"). Since both the reader and the writer shared the L1, they realized a "socio-affective function" (Gánem-Gutiérrez, 2009, p. 335).

To summarize, "L1 was considered valuable to the extent that it [...] promoted achievement of the goal and stimulated reflection, reconsideration, and restructuring of the L2" (Guerrero & Villamil, 2000, p. 64). This argument echoes Antón and DiCamilla's (1999) finding that L1 is an important tool for collaboration.

3.4 Commentary

De Guerrero and Villamil's study on L2 peer revision focuses on mutual scaffolding between reader and writer with their respective ZPD. An important finding of this study is that L2 peer revision scaffolding seems to be mutual rather than unidirectional. This study observed the development of both writer and reader: for the writer, thanks to the scaffolding provided by the reader, he gradually became self-regulated and independent in revision; likewise, the reader experienced a growth in his L2 writing and revision skills.

There were, however, some limitations in this study. First of all, it was not supported by convincing evidence that the reader was able to receive scaffolded support from his peer and to develop his ability in L2 writing and revising. Comparatively speaking, more information was coded about the development of the writer's language in order to support the

claim that he benefited cognitively from the interactions. In addition to the audio taped conversation, the researcher also used the writer's first and final draft as objects to analyse. However, a study exploring the reader's cognitive development during the writing revision was not conducted. To detect whether the scaffolding is mutual, a more detailed analysis should be undertaken. For instance, the researcher could have compared the reader's pre-writing material with his post-writing material to examine his development. Likewise, a research journal recording the mental process of the reader could have been employed as an additional source of data. Another issue is that there was no gender balance in the selection of the participants. On the one hand, the data collected is too limited and can hardly be generalized. On the other hand, the data result may be different if two female students or a male and female pairing were investigated, to explore the influence of gender as a variable in peer revision. Another limitation of this study is that the writer's final draft as an additional data for investigation deserves more thorough consideration. The writer's final draft of writing was completed at home a week later. During this period, close observation such as why the writer corrected his errors or why he chose not to adopt the appropriate forms suggested by the writer was not explored. In this case, the possibility of other factors such as the teacher's or parents' interaction was not taken into consideration in the writer's revision process, which may weaken the validity of this research. Finally, L1 was continuously used as a mediating tool. However, the two participants were intermediate ESL college learners who were capable of using L2 in peer revision with L1 as additional assistance. There should be further research comparing the effects of applying L1 occasionally in L2 learning or as the main form of interaction.

Conclusion

Within the sociocultural perspective, mediation can be seen as a shift from other-regulation to self-regulation in the process of progression in autonomy in learning a second language. Both studies discussed in this essay reveal that collaborative step-by-step scaffolding is important in language cognition. Lee's study paid particular attention to the five-level collaborative scaffolding adapted by Aljaafreh and Lantolf to observe the moment-by-moment scaffolding between experts and novices language learners and how learners initially resort to other-regulation and then gradually self-regulate. Similarly, De Guerrero and Villamil analysed the scaffolding that took place during writing revision between two

ESL students within the ZPD activation and how the writer achieved self-regulation in the end.

It should be noted that microgenetic analysis is appropriately applied in both studies. As discussed in the introduction, microgenesis is an effective approach in revealing the process of how mediation scaffolds the learners' language cognition and their independent self-regulating competence. A learner's cognitive development is, "a process undergoing changes right before one's eyes" (Vygotsky, 1978, p. 65). Due to this reason, certain scaffolding strategies can be evaluated in particular moments in the interaction which can shed light upon the issue of when scaffolding skill should be applied as students come across different obstacles in L2 leaning.

Moreover, the use of L1 facilitates collaborative interaction in second language learning both as a social and cognitive mediating tool. In Lee's study, the use of L1 helped the expert and the novice to negotiate particular L2 forms and reduced cognitive burden. Moreover, L1 also enabled that the experts and novices maintained intersubjectivity, "a shared perspective on the task" (Antón & Dicamilla, 1999, p. 240). Apart from paying attention to L2 form, they had a shared communication. In De Guerrero and Villamil's study, L1 was used as a linguistic resource to control tasks and also to achieve intersubjectivity, as L1 reflected share knowledge in their own culture. The use of L1 provides an argument that psychological tools play a crucial role in mediating the psychological processes of the human mind. Nevertheless, choosing L1 or L2 as mediation tool in second language acquisition still requires further and broad research.

Furthermore, by comparing the two studies, we can conclude that a learner can benefit from either a more capable person or a peer at the similar level. In Lee's study, more proficient learners were identified as "experts" and the researcher examined the roles they played as teachers in the interaction, supporting their peers in solving linguistic problems when collaboratively accomplishing tasks. In De Guerrero and Villamil's study, the peer in the role of "reader" also supported the "writer" in improving their revision practice. However, on some occasions, the "reader" was not equipped with the relevant knowledge to solve a linguistic problem and therefore the interaction did not lead to improved learning and understanding. In such case, a regression may have happened, which means that the learner did not achieve development in their learning process (De Guerrero & Villamil, 2000, p. 61). De Guerrero and Villamil showed that at some instances the writer was able, at a later date, to

resolve the linguistic mistakes on his own. This may have been a result of "self-regulation", which had developed over a longer period and been scaffolded by peer interaction. Moreover, a peer's scaffolding is beneficial when scaffolding is mutual rather than unidirectional, thus under collaboration, both peers can develop within the ZPD.

On the whole, these two studies provide useful evidence of peer mediation in the language classroom. Firstly they show evidence of learning as a result of interaction between language learners of different abilities. Secondly their interaction can take place either online or face-to-face. As I have indicated in this section, there is a range of ways in which the mediation impacts the learners' L2 development, such as applying L1 or L2 and benefiting from a more capable person or a peer with a similar language level.

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