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Acquisition of New L2 Word Meanings through Interaction

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インタラクションを通しての第二言語語彙意味習得

長崎睦子

The purpose of this study was to investigate whether interactionally modified input and output promote the acquisition of new second language (L2) word meanings. Two experimental groups, the interactionally modified input group and the interactionally modified input with pushed output group, engaged in a listening task based on directions including 10 target words. The task between the two groups differed according to whether the participants had opportunities to modify their output. The result showed the effectiveness of both interactionally modified input and output on L2 vocabulary learning; however, the modified input with output group outperformed the modified input without output group. From a sociocultural perspective, the study also analyzed learner/learner interaction: collaborative dialogue between learners during the task for any signs of *scaffolding*. The dialogue indicated that, through collaborative work, the learners were encouraged to cooperate to achieve the goal and learn the meanings of the words effectively.

Key words: The Interaction Hypothesis (相互交流仮説), Interactionally Modified Input (インタラクションを通して修正されたインプット), Pushed Output (強制アウトプット), The Sociocultural Theory (社会文化理論), Scaffolding, L2 Vocabulary Learning (第二言語語彙学習), Collaborative Dialogue (協同的対話)

INTRODUCTION

Modified Input and Acquisition

The present study was carried out based on two theories of interaction, namely, the Interaction Hypothesis and the Sociocultural Theory to pursue the relationship between interaction and second language acquisition thoroughly. As a beginning, the Interaction Hypothesis claimed by Long (e.g., 1983, 1996) was overviewed.

The Interaction Hypothesis emphasized the critical role of comprehensible input through interaction in second language acquisition. To be precise, Long suggested that input modified through interaction (interactionally modified input) promotes comprehension; consequently, it contributes to acquisition. Interactional modifications between speakers are called *negotiation*, which is the key concept for acquisition. This hypothesis led a number of studies to examine the effectiveness of interactionally modified input on the learning of second language.

Pica, Young, and Doughty (1987) investigated the effect of three types of input, baseline input, premodified input, and interactionally modified input, on comprehending directions. They found that the group that received modified input through interactions using oral instruction had the highest level of comprehension of all the groups. Loschky (1994) investigated how the three types of input mentioned above affected learners comprehension of Japanese locative expressions. As a result, he found that interactionally modified input contributed to comprehension the most. Gass and Varonis (1994) also found that interactionally modified input was more advantageous for comprehending directions than premodified input in a study in which native speakers of English (NS) and non-native speakers of English (NNS) participated in a problem-solving activity in pairs. While these studies did not show a direct relationship between comprehensible input and acquisition, Ellis, Tanaka, and Yamazaki (1994) were able to link comprehensible input with acquisition to some extent in terms of the acquisition of new L2 word meanings. Although more research is definitely needed to show the effectiveness of interactionally modified input on acquisition, overall, it can be said that the results of these studies show a strong relationship between interactionally modified input and comprehension.

Modified Output and Vocabulary Learning

As a number of studies have shown, it is reasonable to suppose that comprehensible input is crucial for second language acquisition. However, Swain (1985) argued that not only comprehensible input but also comprehensible output are necessary for both fluency and accuracy. Based on her findings through research done on sixth grade French immersion students, she claimed that it is comprehensible output that enables learners to pay attention to the form of a message beyond just comprehending it. She urged that especially output which is “pushed” to produce is crucial.

Several studies have been conducted to investigate the role of output in vocabulary learning. Fuente (2002) examined the effects of premodified input, negotiation without pushed output (interactionally modified input without pushed output), and negotiation with pushed output (interactionally modified input with pushed output) on the learning of 10 Spanish words in NNS/NS pair work. She found that interactionally modified input with pushed output promoted productive acquisition

more than interactionally modified input without pushed output.

Deguchi and Morita (2005) focused on work in a teacher/student classroom and investigated the effect of four input conditions: unmodified input, premodified input, interactionally modified input, and interactionally modified input with pushed output, on L2 vocabulary learning, while Fuente's study was conducted in NNS/NS pair work. The results showed that interactionally modified input promoted the comprehension and the acquisition of new L2 word meanings more than premodified input. Furthermore, the students who experienced both interactionally modified input and pushed output comprehended and acquired the word meanings better than the students without pushed output. Although the samples of pushed output were too small to conclude its effectiveness on the learning of L2 word meanings (only four participants engaged in pushed output), this finding may indicate that pushed output has a positive effect in the learning of L2 word meanings.

The Role of Interaction from Sociocultural Perspectives

The present study also examined how interaction between learners serves to mediate their mental activity in learning new L2 word meanings in the framework of sociocultural theory. While the Interaction Hypothesis views interaction mechanically as input and output going in and out of the brain, and studies what types of input and output work better on acquisition, the Sociocultural Theory (built upon the work by the Soviet developmental psychologist Lev S. Vygotsky) emphasizes a more robust and holistic view of interaction.

Van Lier (2000) examined the role of interaction from sociocultural and ecological perspectives and suggested that the nature of interaction was different from that viewed by the interactionists (the advocates of Interaction Hypothesis). He indicated, 'by studying the interaction in its totality, the researcher must attempt to show the emergence of learning, the location of learning opportunities, the pedagogical value of various interactional contexts and processes, and the effectiveness of pedagogical strategies' (p.250).

A sociocultural perspective for acquisition (e.g., Donato, 1994) is that language development arises from collaborative social interactions between individuals in the process of problem solving activity. New knowledge always arises from social interaction, in other words, collaboration with others. If it is internalized by a learner, then, successful learning will occur. Swain (2000) began to view the interaction differently from the interactionists' in the article, *The Output Hypothesis and Beyond*. She argued that it is collaborative dialogue that constructs linguistic knowledge and it is where language use and language learning can co-occur. That is to say, the focus of analysis on language learning shifts from input and output to collaborative dialogue made through social interaction.

In the course of collaborative dialogue, *scaffolding*, which is assistance from a more skilled individual to a novice, facilitates learning because it brings the novice's attention to crucial aspects of the environment. In L2 learning, scaffolding is held through a collaborative process between a teacher, or a more skilled learner, and a learner to help the learner produce linguistic forms that he can not produce by himself. Wood et al. (1976, cited from Donato, 1994) characterized scaffolded help by six features.

1. recruiting interest in the task
2. simplifying the task
3. maintaining pursuit of the goal
4. marking critical features and discrepancies between what has been produced and the ideal solution
5. controlling frustration during problem solving, and
6. demonstrating an idealized version of the act to be performed

Donato (1994) examined whether any scaffolding occurred in interactions among three learners of French during open-ended collaborative tasks based on microgenetic analysis. He found that they could expand their own L2 knowledge and extend the linguistic development of their peers through the process of peer scaffolding. Scaffolding within *zone of proximal development* (ZPD) is claimed to be the most effective for learning. ZPD was defined by Vygotsky as: 'the difference between the child's developmental level as determined by independent problem solving and the higher level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers' (1978, p. 85). In other words, it is the domain of knowledge or skill where a learner can not achieve a goal independently but can accomplish it if relevant scaffolded help is provided. Thus, scaffolding within ZPD is the key to successful L2 learning.

The present study examined the data from sociocultural perspectives as well. Specifically the study investigated whether any scaffolding is observed in a teacher/learner interaction as well as a learner/learner interaction, and whether or how it facilitates L2 learning, which would also help determine what learners do during an interactive task. By analyzing the interaction not only from interactionists' views but also sociocultural perspectives, it can be understood from various sides and give us more profound insight into the relationship between interaction (modified input and output) and acquisition.

THE STUDY

Previous studies provided some evidence that interactionally modified input works better than pre-modified input. Furthermore, interactional modified input with pushed output might be more advantageous than interactional modified input without pushed output. The present study was further study of the research done by Deguchi and Morita (2005) and attempted to investigate the role of pushed output in interaction in L2 vocabulary learning. In addition, the study duplicated a part of He & Ellis's study (1999) in the environment of EFL (L1 Japanese) setting.

In order to obtain more data to judge the effects of output, a two-way learner/learner pair work was designed for the interactionally modified input with pushed output group (IMI+O). In Deguchi and Morita's study, the number of students who were pushed to clarify their meanings in a teacher/student classroom was limited. In this way, it was assumed that all the participants in the IMI+O group could experience interactions with their peers. In other words, in learner/learner pair work, students would be forced to produce output and clarify the meaning of their previous utterances in a natural way to complete the task. Deguchi and Morita's study showed that the interactionally modified input group outperformed the premodified input group and the baseline input group; hence, this further study determined to compare an interactionally modified input with pushed output group with only an interactionally modified input group.

The two general research questions were: (1) Which works better for participants to comprehend directions containing new L2 words, interactionally modified input or interactionally modified input with output? (2) Which works better for participants to recognize the meanings of new L2 words, interactionally modified input or interactionally modified input with output?

Participants

The participants were 45 first year L1 Japanese students. They were from two intermediate level English speaking classes at a private Japanese university. One class was designated the interactionally modified input group (IMI - 23 participants), and the other was designated the interactionally modified input with output group (IMI+O - 22 participants).

Design

This study used an experimental pretest-posttest design which included two experimental groups but not a control group. While the IMI group received interactionally modified input, the IMI + O

group received interactionally modified input and an opportunity to produce and modify their output.

Dependent variables included listening comprehension measures, which showed the extent of comprehension of directions including ten target words during the treatment period, and vocabulary acquisition measures, which showed the extent of recognizing the meanings of the target words.

The two groups experienced all below.

1. Pretest: conducted three weeks before the treatment
2. Treatment: varied for the two groups
3. Posttest 1: conducted one week after the treatment
4. Posttest 2: conducted two weeks after the treatment

Treatment

The participants in both groups engaged in a listening task based on directions containing the 10 target words. A paper with the numbered pictures of the target words and a matrix of a house were distributed.

1. Treatment for IMI

In the IMI treatment, the teacher read aloud directions and the participants were then required to choose the appropriate item from the picture list and write its number in the appropriate place in the house. The participants were allowed to ask the teacher questions if they did not understand her directions. To encourage the students to actively interact with the teacher, several formulas for requesting clarification, such as “Could you repeat that?,” “What does ~ mean?,” and “What’s ~?,” were written on the board. The phrases were also written on their task sheet. The teacher in this group modified the initial directions according to the participants’ requests. In fact, many items were repeated. In this way, all the participants were able to receive the interactionally modified input concerning the meanings of new L2 words.

2. The treatment for IMI + O

The IMI+O group engaged in the same task in pairs. Before the pair work, the teacher read aloud the target words for labeling the pictures, and the participants wrote down each word beside the corresponding picture. Then, they were asked to make directions for each target word on their own. After writing directions for 10 vocabulary words, the participants exchanged their directions orally in pairs. They were allowed to ask their partner questions regarding the directions, thus giving the participants opportunities to modify their output. The performance of the treatment in both groups was used as a measure of comprehension.

Instruments

In order to identify target words that were unknown to the participants, the pretest was conducted three weeks prior to the treatment. The participants were asked to write the meanings of 50 English words, all of which were household items. As a result of the pretest, ten words were selected for the treatment (the non-recognition level of these words was 99.9%). The ten items were: *binoculars*, *colander*, *detergent*, *ladle*, *plunger*, *Popsicle*, *rake*, *razor*, *tweezers*, and *whisk*.

Two picture-matching posttests were conducted to test the participants' ability to recognize the meanings of the target words. One test was administered a week after the treatment, and the other was administered a month after the treatment. The interactions between the teacher and the participants in the IMI group and those in four pairs randomly chosen in the IMI+O group were recorded and then transcribed to analyze for scaffolding.

The difficulty with the present study's research design was that the main variable between the two groups, namely whether the participants were pushed to produce the meanings of new L2 word meanings, actually caused more variables. Specifically, while interaction in the IMI group was performed between a teacher and students in a classroom, it was performed in student/student pairs in the IMI+O group. Hence, the environment in which the interaction occurred varied between the two groups. In other words, the environmental difference may have affected the quality of interactionally modified input which both groups received. However, this design was deliberately chosen because the present study attempted to obtain the data from classroom settings. In order to provide all the IMI participants with modified input as well as IMI+O participants with opportunities to modify their output naturally in a classroom, this design was considered appropriate.

RESULTS AND DISCUSSION

Research Question 1: Which works better for participants to comprehend directions containing new L2 words, interactionally modified input or interactionally modified input with output?

Table 1 shows the comprehension scores of the target words by both groups. The mean comprehension scores for IMI were 7.86 out of 10, and 9.81 out of 10 for IMI+O. These results indicate that both interactionally modified input and that with pushed output greatly help L2 learners to comprehend new L2 word meanings.

Table 1. The mean scores of the Treatment, Posttest 1, and Posttest 2 by the IMI and IMI+O groups

	Treatment (comprehension task)	Posttest 1 (vocabulary recognition test)	Posttest 2 (vocabulary recognition test)
IMI (N=23)	7.86	1.84	2.91
IMI+O (N=22)	9.81	7.50	7.00

Research Question 2: Which works better for participants to recognize the meanings of new L2 words, interactionally modified input or interactionally modified input with output?

Table 1 also shows the vocabulary recognition test scores of the target words for both groups in Posttest 1. The mean scores for IMI in Posttest 1 were 1.84 and those of IMI+O were 7.50. A t-test showed a significant difference between the two groups ($p < .05$). The results of Posttest 2 were similar to those of Posttest 1.

It can be said that both interactionally modified input only and interactionally modified input with pushed output promote participants' comprehension of directions containing new L2 words. However, it appeared that interactionally modified input with pushed output is far more effective in promoting participants' ability to recognize and retain new L2 word meanings. Therefore, in terms of retention of new L2 word meanings, the experience of modifying one's own output through interaction, producing the target words and clarifying their meanings, seems to be much more effective than simply receiving directions modified through interaction.

As reviewed, the Interaction Hypothesis claimed that negotiation provided the ideal condition for second language acquisition; hence, based on this claim, one may say that the more interactional modifications learners engage in, the more opportunities for comprehension and learning they are able to obtain. Therefore, in order to investigate the causes which led to the better results of the IMI+O group, the number of interactional modifications, namely, *clarification requests* (e.g., 'What does ~ mean?'), *confirmation checks* (e.g., 'You mean ~?'), and *comprehension checks* (e.g., 'Do you understand?') in each group was counted.

Table 2 shows the number of interactional modifications that occurred in three pairs of the IMI+O group as well as those in the IMI group while engaging in the listening task. Four pairs in the IMI+O group were randomly chosen and instructed to record their interactions; however, one pair failed to record their whole conversation during the task. They accidentally turned off the recorder five minutes after they began to talk. Thus, the number of interactional modifications of three pairs were

considered. On average, each IMI+O participant received 20.5 interactional modifications while receiving directions from their partner. On the other hand, the IMI participants received 38 modifications while listening to the teacher's directions. In short, the IMI group obtained almost twice as many modifications as the IMI+O group. In addition, during the whole task, each IMI+O participant performed 41 interactional modifications on average, which was almost equivalent to the IMI group.

Since the number of negotiations in both groups was nearly equal, the reason for the better performance of the IMI+O group can be accounted for by the major variable between the two groups; that is, the participants were pushed to produce output, producing the target words and clarifying the meanings. As table 2 indicates, 23 clarification requests, which are claimed to force interlocutors to modify their output (Pica et al., 1989), were observed in the IMI group. Since the purpose of the treatment for this group was to provide participants with interactionally modified input, in fact none of the IMI students were asked to modify their output. There was only one time when the teacher was not able to hear an utterance by a participant and asked him to clarify what he said. In brief, the teacher was the one who clarified the meanings in the IMI group.

On the other hand, in the IMI+O group, 61 clarification requests were observed; hence, each participant was forced to modify their output about 10 times on average during the task (61 clarification requests were divided by six: the number of IMI+O participants who were recorded). This figure indicates that as the present test aimed, the IMI+O group had many opportunities to modify their output. Therefore, the better performance of the IMI+O group can be accounted for by their experience of output. The large number of opportunities for by their IMI+O participants to produce new words and their meanings helped them to process these words more deeply than by simply hearing them.

Table 2. The number of interactional modifications while each participant was receiving listening instructions.

		Clarification	Confirmation	Comprehension	Total
IMI+O	Pair 1 A	8	2	5	15
	B	10	5	8	23
	Pair 2 A	6	2	0	8
	B	13	12	1	26
	Pair 3 A	7	10	2	19
	B	17	13	2	32
IMI	All participants	23	1	14	38

The interactions in both groups were also carefully examined from a sociocultural perspective to investigate which factor led to the IMI+O group's higher performance. Some examples of 'scaffolding' that have been claimed to assist learning by the Sociocultural Theory were observed in the learner/learner pair work in the IMI+O group. Four distinctive features were located as follows, and they applied to some of the characteristics of scaffold help suggested by Wood et al. (1976, see Introduction).

1. a pragmatic marker, "OK"
2. breaking the task into small parts (2 = simplifying the task)
3. working collaboratively towards the goal (3 = maintaining pursuit of the goal)
4. the use of Japanese (5 = controlling frustration during problem solving)

Many examples of the participants' utterance, "OK" or "I understand," which showed their understanding of the instructions provided by their partners, were found in all pairs. Two types were used the most. One was "OK" as the response to the comprehension check by the partner. As the example in the third and fourth lines in excerpt 1 shows, B's utterance "OK" was the response to A's comprehension check "OK?" to show his comprehension.

There were 18 examples of comprehension check in the three pairs (Table 2). In seven of the 18 comprehension checks by their partners, the students asked them further questions. For the other 11 comprehension checks, the students said "OK," "Yes," or "Yeah" to show their understanding. In other words, the students did not ignore their partners' comprehension checks, but rather gave a signal showing they understood or asked more questions if they did not understand.

In the IMI group, the teacher made 14 comprehension checks and the students asked further questions regarding eight comprehension checks. Regarding six comprehension checks, it is unknown whether all the participants understood or not, although the teacher observed that some participants nodded in response to the comprehension checks. It is quite possible that there were some participants who did not ask further questions even if they did not understand.

The other type of "OK" functioned as a boundary marker. "OK" was used at the end of each sequence of instructions to close an episode and start the next one. As observed in the sixth and seventh lines from pair 3 in excerpt 1, the sequence of instructions concerning the word "ladle" ended after B, who received the instructions, said "OK." They then went on to the next vocabulary word. This indicates that both interlocutors agreed that they were ready to go to the next vocabulary word. In other words, they confirmed whether the instructions were understood and completed successfully.

In fact, out of 56 instructions in the three pairs, each sequence of instructions finished with either "OK," "OK, next," "please next," "next please," "sure," "go ahead," "yes," "yeah," or "OK. I see." This

shows that the participants went on to the next sequence of instructions only after they were satisfied with their performance on the previous set of instructions. In the IMI group, all the instruction sequences finished with the teacher's utterance such as "OK, let's go to the next one." While the teacher controlled the progress of the task, the students were the ones who controlled it in the IMI+O group.

Excerpt 1 (From Pair 3 in the IMI+O Group)

A: Kitchen room. Could you please put ladle? Ladle.

B: OK.

A : OK?

B: OK. Oh, where?

A: hanging on the wall...ummm...between fry like frying pan? Pan? Pan.

B: OK.

A: OK. And last.

The second distinctive feature of the IMI+O group was that the participants simplified the task by breaking it into small parts, which was also frequently observed in learner/learner interaction in He and Ellis's study (1999). As excerpt 2 shows, first, the students dealt with the target word, "ladle." After finding the correct picture for it, they moved to a direction about where it should be placed. This action of breaking the task into small parts occurred in all pairs in most of the directions. This feature could be regarded as one of the scaffolding features, *simplifying the task*. The simplification of the directions presumably led to the higher comprehension scores in the IMI+O group.

Thirdly, the students collaborated effectively to achieve their goal, which corresponds to the scaffolding feature, *maintaining pursuit of the goal*. From the first line to the fourth line in excerpt 2, B asked A to clarify the meaning of "ladle," so A began to describe it. However, he had difficulty in clarifying it. Then, B showed A the picture which he presumed was the item described by A to confirm his assumption. Subsequently, A responded in the fifth line. This sequence revealed that the students collaborated effectively to achieve their goal, which was to locate the correct picture, put it in the right place according to the partner's directions, and complete the whole task successfully.

Excerpt 2 (From Pair 2 in the IMI+O Group)

A: Would you please the ladle in the shelf on the wall of the kitchen?

B: Sorry, what does ladle mean?

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A: Ladle ummm...is a stick and...

B: This?

A: Yes. Ah, no no no.

B: So where should I put this?

A: Um...put put it in the shelf on the wall of the kitchen.

B: Ah, wall. Ah this...this place?

A: Yes, yes.

The last distinctive feature of the IMI+O group was the use of the first language (L1). It appeared that the students frequently used their L1, Japanese, as a tool of achieving the goal of the task. As observed in excerpt 3, B seemed to control his mind by L1. In sociocultural terms, it is said that B mediated his mental activity by a symbolic means, Japanese. Through it, he could direct his interlocutor's attention to significant features in the directions and could move on to the next step in solving the problem. In addition, the use of L1 enabled B to control his frustration during problem solving, which could be an example of the scaffolding feature, *controlling frustration during problem solving*.

Excerpt 3 (From Pair 1 in the IMI+O Group)

B: Ah...could you please put a razor next to the sink of the bath?

A: Umm...

B: Bathroom

A: Oh...what does...a razor look like?

B: A razor ..look like ah..ah...hi..**Hige**

A: Hige?

B: Ah...ah...ummm hair shaving...shaving...**kigu**

A: OK.OK.OK.

B: Could you please put a razor next to the sink of the bath?

A: OK.

There appeared to be many examples of scaffolding described by the Sociocultural Theory in the IMI+O group. Whereas the IMI+O participants worked on a problem solving activity collaboratively to reach the goal, the interaction in the IMI group, interactionally modified input condition, showed that the teacher always determined the way in which the task was to be engaged in as well as whether the

students were ready for moving to the next direction. As He and Ellis indicated, the IMI students in the present study also engaged in the task as if it were a test to check their comprehension of directions and the learning of new words. Even though this condition allowed the students to interact with the teacher, the teacher always controlled the interaction. Thus, as excerpt 4 demonstrates, the discourse between the IMI students and the teacher appeared to be more automatic and conventional than between students.

Excerpt 4 (From teacher/student interaction)

T: Let's go to the next one. Please find a ladle. Would you please put the ladle to the left of the refrigerator? OK? Any questions?

S1: What is ladle?

T: Ladle...OK...ah...a ladle is like a big spoon and we use it to scoop up or serve soup sauce. That's a ladle. It's like a big spoon. OK?

S2: Where should I put it?

T: OK. Would you please put the ladle to the left of the refrigerator in the kitchen? Could you put it in the right place? Any other questions?

T=teacher S1=student1 S2=student2

The point is that the environment that the IMI+O students collaboratively created provided them with more opportunities for the learning of L2 word meanings than the environment of the teacher/student classroom. In the sociocultural perspective for L2 learning, learners are viewed as active constructors of their own learning environment, and they modify it through their choice of goals and operation (Mitchell and Myles, 1998). The IMI+O condition allowed each student to take a main role in creating a more comfortable and suitable learning environment as well as controlling the task in a way that they liked. In terms of comprehension of the directions it was obvious that individual assistance from student to student in the IMI+O group was more appropriate than the assistance from the teacher to all the students in the IMI group. Furthermore, through collaborative dialogue, the IMI+O pairs seemed to obtain new linguistic knowledge about the target words together, which contributed to their retention of these words. Providing learners with an environment for not only rich input and output, but also an opportunity for social interaction where they can participate as active and responsible agents might be the key to L2 learning.

CONCLUSION

The present study showed that interactionally modified input with output resulted in better comprehension and acquisition of new L2 word meanings than interactionally modified input without output. While receiving the directions regarding the 10 target words, the students in both groups received many modifications; as a result, their comprehension scores of the words were high. However, concerning the retention of the meanings of the words, modified input with output worked significantly better than input without output. These results indicate that both modified input and output contribute to the comprehension of L2 word meanings, but output seems to be more directly related to the retention of what was learned.

Pushing learners to produce output may force them to process the meanings of words more profoundly than by just hearing them. This argument was also made by Swain (1995, 2000) who said that output pushes learners to process language more deeply than input. She claimed that output such as writing and speaking enables learners to expand their interlanguage in order to meet their communicative goals. To produce something, they are forced to do something; specifically, they are required to connect linguistic meaning with form. Through this process, learners may discover what they can say and what they cannot, which provides them with needed information for L2 development.

The analysis of interaction between the students revealed that they worked effectively together to accomplish the goal of the task. This appeared to create more suitable learning conditions than the teacher/student interaction. In fact, a number of instances of scaffolding, which are claimed to be seen in expert/novice interaction such as teacher/learner interaction, were observed in the student/student interaction as well. In a study which investigated how premodified input, interactionally modified input, and modified output affected new L2 vocabulary respectively, He and Ellis (1999) also found that modified output worked best. They illustrated how scaffolded help in modified output, that is, learner/learner interaction, contributed to their vocabulary learning, and suggested that the output made learners collaborate effectively to reach their goal, providing the ideal conditions for language acquisition. They claimed that this can best be described by what the Sociocultural Theory claims is crucial for language acquisition to take place.

The present study also shows that collaborative work through student/student pair interaction provided better learning conditions than the teacher/student interaction which was strictly controlled by the teacher. Language learning might be more likely to occur through interaction that the learners can control themselves, rather than the environment of simply receiving rich input as the Sociocul-

tural Theory indicates (Lantolf and Pavlenko, 1995).

The results from the present study provide us with valuable insight into classroom L2 teaching and learning: active pair or group work in the classroom needs to be considered as a tool to facilitate L2 learning. The students who worked with their peers in pairs learned new L2 word meanings better than the students who participated in the teacher/student interaction. The dialogue constructed by the students showed that learners can assist each other to complete the task. It seems reasonable to state that group work is a worthwhile experience for learners.

This does not deny the significant role that a teacher plays as a facilitator for language learning. As excerpts from the IMI+O students demonstrated, they still need to obtain more accurate and larger amounts of information in terms of new L2 word meanings. That is to say, a teacher monitoring student work and providing appropriate feedback is crucial in promoting L2 learning. Swain (1998) indicated that learners are likely to remember incorrect solutions which might be made through collaborative dialogue between them. There is no doubt about the importance of careful attention by a teacher to individual learner's performance during collaborative group work, as well as to their final product such as a written report. The classroom should be a place where active and meaningful interaction is held to allow learners to be more responsible and spontaneous, and to promote their learning.

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