Proficiency and Collaborative Learning

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ABSTRACT

This study reports on the effect of different levels of proficiency on the students' achievements in collaborative learning instruction among 30 Persian-speaking EFL college students. Having been divided into dyads with different levels of proficiency, these subjects participated in nine sessions of collaborative instruction based on the form-focused collaborative text-editing task. The results of this study are obtained through the analyses of the proficiency gains in formal aspects of language in text-editing pre and post-tests and text-reconstruction post-test. The study highlights the significant effect of this type of instruction on more proficient students. Reasons provided in this study are the language analytic ability of the students, learning styles and strategies, and motivation. The findings of this study are helpful to teachers of the classes with heterogeneous language proficiency.

Keywords: Collaborative learning, information processing model, metacognition, learning style and strategy

1. INTRODUCTION

In recent years, learners are guided to assume responsibility for their learning. In line with this development, a common teaching strategy is to assign students to work on a task in pairs or small groups. To this aim, the terms cooperative and collaborative learning are variously used for specific applications to L2 learning instruction. Collaborative learning, which is defined by Oxford (1997: 443) as “a kind of process that helps students become members of the knowledge communities to have reflexive dialogues and acquire a deep knowledge,” puts learners in charge of learning and providing feedback for their partners.

A number of studies (e.g. Swain & Lapkin 1998; Ellis 2000; Mayo 2002) have shown that there are both pedagogic and social gains for
most learners working in small groups. Research findings (e.g. Swain & Lapkin 1995, 1998, 2000; Oxford 1997; Nassaji 1999; Williams 1999; Savignon 2001; Kuiken & Vedder 2002; Storch 1998, 1999, 2001a, 2005) in both first and second language learning have long been supportive of the use of small groups and pair works in the language classrooms. According to them, in the field of L2 education, the use of group and pair work is seen as providing learners with more opportunities to practice the L2 than are afforded in teacher led classroom activities.

However, simply assigning students to work in groups or pairs will not necessarily create conditions conducive to learning. In her study, Storch (1998: 299) suggests further studies to investigate the effect of learners' proficiency more carefully. According to her, such studies could be particularly informative for teachers working with heterogeneous language classes. This study will provide an opportunity to look into collaborative task more precisely and reveal the effect of students' proficiency on collaborative learning and students' achievement.

2. BACKGROUND

Proponents of collaborative learning are of the idea that by involving learners actively in their own learning in a supportive environment, educational outcomes can be improved. This improvement is because of a wide range of opportunities available in this type of instruction. Williams (1999: 587) indicates that an active role for the learner in the learning process is shown to be important in research done within the interactionist approach to second language learning. According to Foster (1998: 1), collaboration in these groups provides an opportunity for task participants not only to receive comprehensible input but also generate comprehensible output, both of which are claimed as crucial to second and foreign language acquisition. Collaboration is also seen as beneficial in several other ways. As Foster (1998) states:

... it increases the amount of class time available to an individual student to be involved in the target language; it decreases the amount of time students spend listening (or not listening) to other class members interacting with the teacher; it avoids the anxiety and self-consciousness that prevent some students from speaking up in front of the whole class; it allows the teacher more opportunity for individual instruction. In sum, it can help to create a positive and relaxed learning environment.
There are a number of studies which support the role of collaborative work in learning second language. Swain & Lapkin (1998: 320) view collaborative work as both a means of communication and a cognitive tool for language learning. In light of the results obtained in her classroom-based study, Foster (1998) suggests the implementation of tasks that require students to negotiate the form of their output. Foster observed the language produced by intermediate EFL students engaged in different types of tasks in small groups and dyads. She concluded that generally the dyad setting coupled with the obligation to exchange information is the best for language production, negotiation, and modified output (p. 18).

The quantitative analysis of the data obtained from a study carried out by Leow (1998) confirmed the greater facilitation of intake and improved accuracy with what he called “learner-centered exposure to grammatical form,” which he defined as “learners’ participation in a problem solving task that is carefully constructed to promote noticing the form in the L2” (p. 51).

The “Information Processing Model” introduced by Skehan (1998) is a theoretical model which emphasizes input processing and interaction (see Figure 1). Noticing is an important theoretical assumption which arises out of this model, and noticing as well as interaction (i.e. collaborative dialogue) are considered important conditions for second language learning. As it is seen in Figure 1 below, besides interaction, various factors affect noticing. Among these are the individual differences among learners in processing ability, and their readiness to concentrate on to certain linguistic forms. The purpose of the present study is to adopt these two factors to collaborative learning and consider the effect of students’ proficiency on this type of instruction, a hidden factor in the previous studies on collaborative learning.

Figure 1. Information processing model (Skehan 1998)
3. Method

This study is intended to evaluate the effect of proficiency on a particular type of collaborative form-focused instruction, and to investigate how students at different levels of proficiency behave while completing a form-focused collaborative task type, namely text-editing, which is assumed to affect the students' performance in completing the text-reconstruction task.

3.1. Participants

The study was conducted on thirty junior Iranian EFL students studying English in the department of English language at Shahid Chamran University. The average age of the participants was 23. By the time of this investigation, the subjects had passed the same courses in English as a foreign language, but their scores on the university courses demonstrated that their proficiency ranged from low-intermediate to high-intermediate. Hence, these subjects needed further work generally on their language proficiency and specifically on their grammatical accuracy.

3.2. Tasks

The task types used in this study were text-reconstruction and text-editing. The experimental group participated in the text editing collaborative task instruction to practice the forms of language through meaningful interaction. Nevertheless, research has provided evidence that such knowledge also promotes accuracy in the productive use of the target language (Paribakht 2004: 149). Therefore, the text-reconstruction task was used for final evaluation because not only does it consider meaning and form, but also it encourages subjects to produce forms they practice in their instruction period. These tasks are confirmed by other researchers (e.g. Storch 1998, 2001b; Mayo 2002) to draw students' attention to grammar and they are defined by these researchers as follows.

3.2.1. Text-editing collaborative task

Subjects are given a passage containing incorrect forms. Errors include choice of verb, tense/aspect, articles, morphosyntactic forms, choice between adjectival, adverbial and nominal endings as well as missing or wrong linking devices. Peers should recognize and reform the incorrect forms and simultaneously concentrate on the meaning of the text. The texts used for this instruction are authentic at intermediate level.
3.2.2. Text-reconstruction task
Subjects are given a text containing content words and are required to reconstruct the text by inserting the necessary function words (articles, prepositions), linking words and inflectional morphemes (marking for plural noun forms), etc. in order to produce a grammatically accurate and meaningful text. As Storch (2001b: 107) points out “task complexity varies with regard to the length of the text and the number and type of function words deleted.” In this study, the text was of 200 word length. The first sentence of the text was intact to help subjects become aware of the topic of the text. The rest of the function words of the remaining sentences got deleted and subjects were required to reconstruct the passage by inserting necessary function words.

3.3. Data collection
The subjects participated in a pre-test based on text-editing task in which they were asked to edit the deliberately-made formal errors. To start the instruction period, the subjects in the experimental group were divided into fifteen pairs on the basis of their average grades on their university courses. Pair division was preferred to small group to avoid over-distraction.

On the basis of their average, one proficient and one less proficient subject were allowed in each dyad. The minimum average was 10 and the maximum one was 19 out of 20. Subjects were split into pairs in such a way that more proficient subjects' averages were approximately four grades more than those of less proficient ones (see Figure 2 below).

![Figure 2. Subjects' averages of their scores on the university courses](image)
Therefore, one subject was more proficient than the other, and some pairs were more proficient than some others. By this division, high proficient subjects were involved in metacognitive function which, according to Nobuyoshi and Ellis (1993: 208), enables learners to increase their control over forms that have already been internalized or some new forms that are to be learned.

Having been provided with a text consisting of some deliberately-made formal errors, each pair of subjects was required to find the deliberately-made formal errors in the texts. After reflecting on the incorrect forms, each pair reformed the text and submitted it to the lecturer. The average time of the task completion was twenty minutes per session. In each succeeding session, the subjects received their teacher’s feedback by observing the correct forms written on their papers. In this study, following washback hypothesis, the content of the texts in the succeeding sessions was chosen from the most occurring formal errors of the peers in those of preceding sessions. This instruction period lasted for nine sessions, aimed to increase learners’ awareness of the formal aspects of language, and three sessions of the semester were devoted to one pre-test and two post-tests.

3.4. Data analysis
The data set included the pre-test – edited texts – and the post-tests – the edited and reconstructed texts. To measure the extent of the effect of the instruction period on the subjects’ improvement, the mean scores obtained from the accuracy measurement of the texts edited by each subject in their pre-test and post-test were used. To measure accuracy, the measure introduced in Storch’s (2005) study was used: the proportion of error-free clauses of all clauses (EFC/C). The scores obtained by this measurement were analyzed in SPSS statistical program. In order to measure for the ability of the subjects in producing accurate texts, the reconstructed texts had to be analyzed for correct forms. The same strategy as the one used in the text-editing tasks was adopted to measure accuracy in text-reconstruction exam.

4. RESULTS
It is equally common knowledge that some people are more successful than others at learning a second language. Figure 3 below represents a comparison of more proficient and less proficient subjects’ mean scores in their pre and post-tests in our study.
Table 1 and 2 below summarize the quantitative analyses of the subjects' performance in their pre and post-tests text-editing task. This analysis is based on paired sample t-test and shows the significant effect of this instruction period on the more proficient subjects in their pre and post-test text-editing tasks.

The other analysis was based on the subjects' performance in the text-reconstruction task. Table 3 represents this analysis which is based on independent sample t-test and the quantitative data show the significant difference between less and more proficient subjects in producing accurate forms.

Table 1. **Mean comparison of the less proficient subjects' pre and post-test**

<table>
<thead>
<tr>
<th>Less proficient subjects</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>Mean</th>
<th>Sig*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-test</td>
<td>15</td>
<td>10</td>
<td>1.95672</td>
<td>0.35725</td>
<td>.5725</td>
<td>0.06</td>
</tr>
<tr>
<td>Pre-test</td>
<td>15</td>
<td>1.93</td>
<td>2.52250</td>
<td>.61035</td>
<td>.65916</td>
<td></td>
</tr>
</tbody>
</table>

* The mean is not significant at 0.05 level (p<0.05)

Table 2. **Mean comparison of the more proficient subjects' pre and post-test**

<table>
<thead>
<tr>
<th>More proficient subjects</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>Mean</th>
<th>Sig*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-test</td>
<td>15</td>
<td>1.37</td>
<td>2.52250</td>
<td>.45894</td>
<td>.65916</td>
<td></td>
</tr>
<tr>
<td>Pre-test</td>
<td>15</td>
<td>1.1</td>
<td>3.61035</td>
<td>.65916</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The mean is significant at 0.05 level (p<0.05)
Table 3. Mean comparison of the subjects' reconstructed texts

<table>
<thead>
<tr>
<th>Subjects</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>Sig*</th>
</tr>
</thead>
<tbody>
<tr>
<td>More proficient</td>
<td>15</td>
<td>15.38</td>
<td>2.51369</td>
<td>0.58437</td>
<td>0.00</td>
</tr>
<tr>
<td>Less proficient</td>
<td>15</td>
<td>9.92</td>
<td>3.72218</td>
<td>0.67957</td>
<td>0.00</td>
</tr>
</tbody>
</table>

*The mean is significant at 0.05 level (p<0.05)

5. DISCUSSION

The present study considered the effect of differences in students' proficiency on collaborative learning and students' achievement. As it was indicated, in this study, the collaboration and contribution of ideas took place in dyads with subjects of different proficiency levels. In the dyad settings, one partner was more proficient than the other one. Moreover, some dyads were more proficient than some others.

The results of this study reveal that more proficient subjects improved more in their grammatical accuracy and language proficiency than less proficient ones. This outstanding feature in more proficient subjects' performance can be discussed in relation to the "Information Processing Model" introduced in Figure 1 above, learning styles and strategies, as well as motivation.

5.1. The "information processing model" and language proficiency

The "information processing model" (Skehan 1998) is currently widely discussed as relevant to foreign language learning (FLL). According to Manolopoulou-Sergi (2004: 430) "information processing is the study of how humans perceive, comprehend, and remember the information they gain from their environment." Quite briefly, according to the information processing model, learning has some very distinct steps, namely, input (first encounter with the new material), central processing (connections between new material and existing knowledge), and output (demonstration of the acquired knowledge).

"Noticing" and "attention" are significant theoretical assumptions which arise out of "the information processing model." In this model, noticing and interaction (i.e. collaborative dialogue) are considered as important conditions for second language learning. However, besides interaction, various factors can affect noticing. Among these are individual differences among learners in processing ability, and their readiness to learn to certain linguistic forms.

According to Manolopoulou-Sergi's (2004: 431) assumption "language analytic ability can be easily linked to learner's difference in language learning." Based on the results obtained from this study high-
proficient students have greater language analytic skills than low-proficient students, and the former pay considerably more attention to grammar than the latter.

Metacognition can be an explanation to this higher analytic ability. According to Phakiti (2003: 29):

Metacognition is thinking about thinking. It is deliberate, planned, intentional, goal-directed and future oriented mental processing that can be used to accomplish cognitive tasks. Metacognition involves active monitoring and consequent regulation and orchestration of cognitive processes to achieve cognitive goals.

Therefore, high proficient subjects’ greater improvement might be due to their higher engagement in metacognitive process which leads to the increase in control over the internalized forms.

5.2. Learning styles, learning strategies and language proficiency
This study involved subjects in self-directed learning strategy within the framework of collaborative learning. Other factors that have been extensively discussed as possible inhibitors or enhancers in the learning process are learning styles and strategies. The term learning style indicates preferred or habitual patterns of mental functioning and dealing with new information. Strategies are often conscious steps or behaviors used by language learners to enhance the acquisition, storage retention, recall and use of new information (Ehrman & Oxford 1990: 312).

It has also been argued that language proficiency bears a close relation to learning styles and learning strategies (Ehrman & Oxford 1990), and differences in learning styles can cause problems for the processing of the input, and consequently learning (Manolopoulou-Sergi’s 2004: 431). Ehrman & Oxford (1990: 314) indicate that language learners at all levels of proficiency employ different styles and strategies. However, more proficient students appear to use a wider range in a broader range of situations than do less proficient learners. Furthermore, they contribute this to their idea that successful language learners use a variety of strategies to become more self-directed to improve their performance.

5.3. Motivation and language proficiency
Research including Wenden (1986) has revealed that individuals vary in the strategies they employ because of differences in not only learning, but also in affective style. Learners’ selection of either adaptive or maladaptive motivational patterns is likely to have a decisive role in the
way they approach the learning task and progress in their performance. Crookes & Schmidt (1991: 480) wrote that motivated students are those who become productively engaged in learning tasks and sustain that engagement without the need for continual encouragement or direction.

It may be the case then that for various reasons learners in the low proficiency levels in a foreign language learning classroom do not have the intention to be involved in the learning task at all. In this study, these subjects' reactions for initiating the task were the questions such as “should I do this task and why?” Consequently, these low proficient subjects were likely to switch off even before the input is delivered to them. This can be another explanation for the better performance of the high-proficient subjects. According to Rubin (1975: 41), a good language learner seems to have a high motivation to participate in the learning activities. Second and foreign language teachers should, therefore, be aware of how motivation of their L2 students will influence the effectiveness of their lessons. These ideas might describe why more proficient subjects improved more in their accuracy and writing proficiency than less proficient subjects.

6. CONCLUSION

As second and foreign language teachers we need to explore possible opportunities to improve language learning. This study is a contribution to collaborative learning research in which a group of junior EFL subjects were instructed based on collaborative text-editing task. Through collaborative learning, text-editing task was designed to increase learners' awareness of how the target structures are used in context. Therefore, subjects focused on form through meaningful interaction and discussion over some meaningful texts. Then their performance in text-editing and text-reconstruction tasks was contrasted and analyzed.

The results indicate that collaborative tasks involve students actively in the learning process. When learners work together, the verbalization of the problems they encounter and the availability of peer feedback may act to enhance their attention to the aspects of language. However, what becomes very clear from the data and the observation notes is that not all learners participate equally in the collaborative tasks. A number of factors may explain these different engagement patterns including language analytic ability, students' learning styles and strategies as well as motivation.

This study shed light on the fact that less proficient students had less interest in participating in task completion, and the more proficient
partner tended to participate in a unilateral interaction. Therefore, high proficient subjects improved more in their accuracy and language proficiency than less proficient subjects. In the process of discussing over the deliberately-made errors in the texts, the learners with higher proficiency alluded to their knowledge of second language and extended their existing knowledge to some new contexts.

Hence in implementing such tasks, teachers may need to consider students' grouping carefully or assign this learning type to classes with high proficient students. Moreover, teachers must be aware that in collaborative learning less proficient students need exact attention and consideration and they benefit more from their teacher's instruction than their peer feedback.

NOTES

1. Schmidt (1990) considers intake as “the information which is noticed by the learner.” Intake is a prerequisite for acquisition and noticing is the necessary and sufficient requirement for the conversion of input into intake (Robinson, 1995).
2. Washback hypothesis, introduced by Alderson & Wall (1993: 120) and Bailey (1996: 263), indicates that a test will influence teaching and learning generally, and the content and methodology of teaching and learning specifically.

REFERENCES


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