**Effects of Incorporating Cooperative Learning strategies (Think-Pair-Share and Numbered Heads) on Fostering the EFL Learners’ Speaking Fluency**

Alimohamad Alipour 1*, Hamed Barjesteh2

1. Dept. of English Language and Literature, Islamic Azad University, Ayatollah Amoli Branch, Amol, Iran.
2. Dept. of English Language and Literature, Islamic Azad University, Ayatollah Amoli Branch, Amol, Iran.

* Corresponding Author’s Email: ha_bar77@yahoo.com

**Abstract** – The aim of this study was to investigate the effect of incorporating cooperative learning strategies on the improvement of speaking fluency ability of Iranian senior high school students. To this aim 32 Iranian Male EFL learners who were studying in Shariati high school were randomly assigned to an experimental group (EG) and a control group (CG). After conducting Oxford Placement Test and forming two desired classes with the same level of language proficiency, a pretest was administered to both the experimental and control groups. The pretest was an oral task aimed to assess learners’ speaking fluency before the treatment. Then the researchers practiced two techniques of cooperative learning (Numbered Heads and Think-pair-share) in the EG during six weeks of treatment. One week after the last treatment session, the participants took the tests. The descriptive statistics and independent samples t-test were used to analyze the data. The result showed that there is a significant difference between two groups regarding speaking fluency ability. Students in EG outperformed students in CG regarding speaking fluency ability toward learning.

**Keywords:** Cooperative Learning, Think-pair-share, Numbered heads, Speaking Fluency

1. **INTRODUCTION**

No one denies the importance of English language in the present time as a global language. It is the main language of academic conferences, science, technology, airports and air-traffic control, international business, international competitions, and pop music. According to the British Council Research, English has an official or special status in at least seventy-five countries with a total population of over two billion. Many other reasons, contributed the rise of English, like using for communication between people around the world, a language of modern times, and a language of science and information technology. English speaking ability is one of the most important skills to be developed and enhanced in language learners, particularly in an academic setting (Morozova, 2013). Nowadays it is essential for every person to have the ability to communicate in English with other individuals around the world. Indeed, the main objective of learning a foreign language is to be able to communicate in that language. Yet, we observed that EFL learners have difficulties in communicating in English. El-Khuli (2000, p. 23) said that:
One of the common difficulties to communicate freely in the target language may be due to the methods of language teaching and the learning environment which may be said to be unsuitable for learning a foreign language. It puts more emphasis on the other skills than speaking, so little speaking is practiced.

In Iran, many students are good at reading and writing skills, but not at oral communication skills. In order to help students learn English effectively, teachers should change their methods and approaches in teaching, create some strategies which can explore the students' capability, and give students more opportunity to talk and express themselves in the target language. In recent years, one of the greatest changes in foreign language pedagogy has been the shift from a teacher-centered learning model to a learner-centered model. This shift signals a new era in which English speaking instruction must give a chance for students to express themselves in speaking the language. A promising method to traditional speaking instruction is cooperative learning. It serves as an alternative way of teaching for promoting speaking and social interaction among students (Gomleksiz, 2007; Ning, 2011). The application of cooperative learning to classroom finds its root in the 1970s when Israel and United States began to design and study cooperative learning for classroom contexts (Kessler, 1992). According to Johnson and Johnson Cooperative learning is defined as “the instructional use of small groups so that students work together to maximize their own and each other’s learning.” Nowadays cooperative learning is applied in almost all school content areas and, increasingly, in college and university contexts all over the World (Johnson & Johnson, 1989; Kessler, 1992), and is claimed to be an effective teaching method in foreign/second language education by scholars abroad and at home. It is generally asserted that cooperative learning is the best option for all students because it emphasizes active interaction between students of diverse abilities and backgrounds (Nelson, Gallagher, & Coleman, 1993; Tsai, 1998; Wei, 1997; Yu, 1995) and demonstrates more positive student outcomes in academic achievement, social behavior, and effective development.

Effective cooperative learning requires 1) positive interdependence, 2) individual accountability, 3) promotive interaction, 4) social skills, and 5) group processing (Johnson and Johnson, 1994 and 1999). When these elements are well structured into the learning process, cooperative learning leads to increase not only learners’ academic performance, but also their participation, responsibility, basic needs, and speaking fluency ability.

In this study, the researchers compared cooperative learning instruction to traditional instruction to find out the effect of cooperative learning instructions on students’ English speaking fluency ability.

Cooperative learning has become one of the main stream instruction used in the language learning classroom to promote student speaking fluency ability and student-student interaction (McCafferty, 2006). Moreover, as suggested by Yu (1995), a teacher’s familiarity with cooperative learning could affect the results of such teaching method. Lai (2002) also suggested that the teacher needs prior training to obtain professional competence of cooperative learning. Nowadays, English has been an international language and is used to a greater and greater degree. However, not all the learners who involve in English-learning could end up with fruitful reward. One serious problem is quite astonishing: most learners, though they have mastered a great number of vocabularies and could engrave a lot of
grammatical rules in their minds, can hardly speak out a complete sentence, or write down a correct one. Teacher-centered classes in schools, Competition rather than cooperation among students, Unfamiliarity of teachers with cooperative learning mechanism and Students minimum knowledge of English proficiency are the four major issues which don’t allow students to enhance their oral skills adequately and make English classrooms boring for them. In order to deal with this situation, this paper intends to find out an effective way to help senior high school students enhance their speaking fluency ability.

This study is a discovery of the effects of incorporative cooperative learning (CL) strategies on Iranian students’ English achievement in a school. It particularly aims to investigate the effects of CL strategies on their speaking fluency ability. It offers the theoretical foundation for conducting pair talk and group work in English classrooms. The assumption is that using CL strategies can help learners to improve their speaking fluency ability toward learning English. Also, it provides important information regarding conducting two important techniques of CL (i.e. Think-pair-share and Numbered Heads) in the classroom context. This study has two variables. The CL is the independent variable; the speaking fluency ability is the dependent variable.

Although there is a large body of literature on the positive effects of cooperative learning for EFL learners, there is a gap in the literature regarding the implementation of Think-pair-share and Numbered heads cooperative techniques on the senior high school level in Iran. The Current research seems to validate this view that CL increases the social interaction among students and consequently leads to improving communication skills among them. University teachers will benefit from this study through using the up-to-date teaching methods used in the study, i.e. cooperative learning. English language classroom should no longer be dominated by the teacher but should be more student-oriented with the teacher adopting the role of facilitator. By doing so, it adds variety to teaching and learning context and making in fun for the students to improve their speaking fluency ability. The effects of cooperative learning on students’ speaking skills and attitudes have been repeatedly demonstrated and confirmed by studies conducted in L1 and L2 learning environments (Ning & Hornby, 2010; Ning, 2011; Talebi & Sobhani, 2012; Pattanpichet, 2011 & Suhendandon & Bengu, 2014).

The use of cooperative learning in teaching speaking has been the subject of extensive research (Zakaria & Zanaton, 2007). A big portion of studies indicates that the use of cooperative learning techniques can lead to positive attitudes towards cooperative learning and increased speaking skills (Suhendandon & Bengu, 2014; Ning and Hornby, 2010; Ning, 2011; Pattanpichet, 2011; Yang, 2005).

This study contributes to the body of knowledge by providing evidence that is needed to verify the existing studies so that Iranian EFL teachers can justifiably decide whether to use cooperative learning in their classrooms. In so doing the following research question was formulated: Do cooperative learning strategies think-pair-share and numbered heads have any impact on senior high school students’ fluency in speaking?
2. METHOD

2.1. Participants

The participants of the present study were 32 Iranian Male EFL learners who were studying in Shariati high school in Amol, Mazandaran, Iran. These Persian speaking learners were between 16-18 years old. In order to make sure that the participants were all at the same level of proficiency, an Oxford Placement Test (OPT) was administered. The results of the test showed that there was no significant difference between them. Among 40 intermediate EFL learners, 32 students with one standard deviation above and one standard deviation below the mean score were selected as participants of this study. They were randomly assigned to an experimental and control group.

2.2. Instrumentation

To comply with the objective of the present study the following instruments were utilized:

2.2.1. Oxford Placement Test

In order to ensure the homogeneity of participants, an OPT which proposed by Lynda Edwards was taken from them before the pretest stage. The concept of OPT in the Longman Dictionary of Language Teaching and Applied Linguistic (Richards & Schmidt, 2010, p.440) is defined as: A test that is designed to place test takers at an appropriate level in a program or course. The term “placement test” does not refer to what a test contains or how it is constructed, but to the purpose for which it is used. Various types of test or testing procedure (e.g. dictation, an interview, a grammar test can be used for placement purpose. This placement test included three parts: 50 multiple choice questions which assess students’ knowledge of key grammar and vocabulary from elementary to intermediate levels, a reading text with 10 graded comprehension questions, an optional writing task that assesses students’ ability to produce the language.

2.2.2. Oral Task

Two oral tasks were used in this study as pretest and posttest. The tasks involving paired dialogues were prepared to test the participants’ speaking fluency competence regarding the linguistic features. The first task was administered at the beginning of the semester as the pretest and the second one at the end of the semester as the posttest. The first oral task that the students performed as the pretest was asking about their partners’ favorite artist or football player and the second oral task was asking about their partners’ idea about Television programs. The system of rating was the same for both tests.

2.2.3. Scoring Rubric

A scoring rubric, adapted from authentic assessment for English Language Learners developed by O’Malley and Lorraine (2005) Valdez Pierce was used for the purpose of grading. This rubric for grading of the speaking fluency ability of oral tasks was a 1-4 rating scale which provides simple descriptions for vocabulary, grammar, pronunciation, fluency, and interaction. 5 points were devoted to each rank, for example rank one had a 1 to 5 point, rank two had 5 to 10 point, rank three had 10-15 and rank four contained the highest rates, which had 15 to 20 point. The purpose of this kind of evaluation was to give fair and clear feedback to the students.
3. PROCEDURE

At first, an OPT was conducted among 40 male students in Shariati high school in order to make sure about the homogeneity of them. A random sampling of participants ensured that sample was representative of population. Thirty two students with one standard deviation above and one standard deviation below the mean score were chosen as the participants of this study. They were randomly divided into the experimental and control group (16 learners in EG and 16 in CG).

In order to find out if cooperative learning has significant effect on increasing the students’ speaking fluency ability, participants’ voice in the classroom were recorded; thereby their performances on the oral tasks were transcribed carefully based on the prepared scoring rubric of speaking fluency in order to evaluate the speaking fluency ability of students. The teaching materials and activities in the control group were based on the traditional techniques, which involved mainly the Grammar-Translation technique. In addition the traditional teaching method in this study also included isolated learning context, as opposed to that of the cooperative leaning in the experimental group. During six weeks, six lessons (each contained one reading passage and several tasks and activities) from senior high school English book were taught to both groups; however, different techniques of teaching were employed in these two groups. Students in the control group received traditional teacher-fronted instruction throughout the classroom time. In this class the teacher began each new reading passage by reading it aloud and then translating each sentence to Persian. After transmitting the required knowledge, the teacher asked some of the students to answer the exercises individually. This approach was pursued every session for the whole semester.

In the experimental group, the role of the teacher in implementing cooperative learning was to turn the traditional classroom into a cooperative learning context. Firstly, the teacher assigned four groups in EG; each group had 4 members in it. For reading part, at first the members of the groups was assigned a number from 1 to 4, the teacher first gave an explanation regarding the text. Then, the teacher or one of the students asked a question based on the text the class was reading and the students in each group researched the answer and put their heads together to come up with an answer or answers. The teacher called a number from 1 to 4. The person with that number gave and explained their group's answer. This technique (i.e. numbered heads) was pursued doing tasks and activities provided in the book. In the last quarter of each session, the teacher wrote a challenging question on the board, these questions were about students’ idea, positive and negative points of subjects such as education, virtual world, favorite job, marriage, money and fame. At this part learners thought silently about the question presented by the teacher, then individuals had to pair up and talk about their ideas and after that, each pair shared their ideas with the other pair or the class. This technique is known as Think-pare-share. During six weeks, these techniques of CL were executed for experimental group as treatment. No new strategy was given to control group. One week after last treatment session, an immediate posttest was taken from both groups. This test was an oral task in which students were asked about their partners’ idea about Television programs. The system of rating was according to the prepared rubric as same as that of the pretest.
The Statistical Package for Social Science (SPSS) was utilized to analyze the data and find out differences between the two groups. To answer the question of study, the Means, frequency distributions and independent sample t-test were calculated to determine the subjects’ performance in the oral tasks. This study is a true-experimental and quantitative research. Experimental method can truly test hypotheses about cause and effect relationships. The aim of this study was to investigate the effects of incorporative CL strategies on Iranian intermediate EFL learners’ speaking fluency ability. CL is actually the independent variable of this research and dependent variable is speaking fluency ability. The research question is as follows: 1) Do cooperative learning strategies have any impact on senior high school students’ fluency in speaking?

This research was conducted in Shariati high school in Amol, Mazandaran, Iran within approximately two months. Participants of the present study were chosen from among 40 Male junior high school learners. In order to make sure about the homogeneity of the learners, an OPT was given to them. 32 Students with one standard deviation above and one standard deviation below the mean score were selected as participants of this study. They were randomly assigned to experimental and control group. These both groups consisted of 16 students. After conducting OPT and forming two desired classes with the same level of language proficiency, one pretest was administered to both the experimental and control groups. The pretest was an oral task aimed to assess learners’ speaking fluency before the treatment. Then, the researchers practiced two techniques of CL in the EG during six weeks of treatment. One week after the last treatment session, the posttest was taken from participants again.

In order to answer this research question, at the first step the researcher administered an OPT among 40 male students in Shariati high school in order to make sure about the homogeneity of them. A random sampling of participants ensured that sample was representative of the population. 32 students with one standard deviation above and one standard deviation below the mean score were chosen as participants of this study. They were randomly divided into the experimental and control group (16 learners in EG and 16 in CG). In order to find out if cooperative learning has a significant effect on increasing students’ speaking fluency ability the oral task was administered twice on the participants in both group, (once before the treatment and the other after). In addition, the participants’ voice in the classroom were recorded; thereby their performances on the oral tasks were transcribed carefully based on the prepared scoring rubric of speaking fluency for the later analysis.

To ensure the normality of the data the Shapiro-Wilk test was used. Table 1 report the results of the Shapiro-Wilk tests of normality for oral task.

| Table 1. Test of Normality for Control Group (Oral task) |
|-------------|--------|--------|
|             | Statistic | df | Sig. |
| Pretest     | .925 | 16 | .205 |
| Posttest    | .917 | 16 | .151 |
As it is observable in the table1, the obtained results for control group the obtained scores of CG in pretest and posttest of oral task were .205 and .151, respectively. So the level of significance for CG is over 0.05 and thereby the data distribution is normal.

**Table 2. Tests of normality for experimental group (Oral task)**

<table>
<thead>
<tr>
<th>Statistic</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>.927</td>
<td>16</td>
</tr>
<tr>
<td>Posttest</td>
<td>.957</td>
<td>16</td>
</tr>
</tbody>
</table>

According to the above table, the level of significant of the EG in pretest and posttest of oral task is over 0.05, and the data distribution is normal.

At first, it was important to be sure that there was no significant difference in pre-test scores between the experimental and control groups. Below table shows the basic descriptive statistics of obtained scores of CG and EG of oral task in pretest:

**Table 3. Descriptive Statistics of groups in pretest of oral task**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control group</td>
<td>16</td>
<td>3</td>
<td>15</td>
<td>9.25</td>
<td>3.992</td>
</tr>
<tr>
<td>Experimental group</td>
<td>16</td>
<td>3</td>
<td>17</td>
<td>9.44</td>
<td>4.457</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This table reveals the mean scores, standard deviation, and standard error of mean of the experimental and control group. Mean scores of CG and EG in the pretest stage equals 9.25 (SD=3.992) and 9.44 (SD=4.457) respectively, which shows that these two groups have equal speaking fluency ability in the pretest stage. But in order to test this claim more accurately, the independent sample t-test was used.

**Table 4. Independent samples test for the pre-test of oral task**

<table>
<thead>
<tr>
<th>Equal variances assumed</th>
<th>F</th>
<th>Sig.</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.399</td>
<td>.533</td>
<td>-.125</td>
<td>30</td>
<td>.901</td>
<td>-.188</td>
<td>1.496</td>
<td>-3.242</td>
<td>2.867</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>-.125</td>
<td>29.643</td>
<td>.901</td>
<td>-.188</td>
<td>1.496</td>
<td>-3.244</td>
<td>2.869</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to the above table, level of significance for both groups equals .901, which is more than .05, so it does not show significant difference between groups in pretest stage.

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Table 5 reveals the basic descriptive statistics of CG and EG in posttest stage:

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control group</td>
<td>16</td>
<td>4</td>
<td>15</td>
<td>9.38</td>
<td>3.810</td>
</tr>
<tr>
<td>Experimental group</td>
<td>16</td>
<td>5</td>
<td>20</td>
<td>13.25</td>
<td>4.171</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As above table shows, mean score of CG in posttest is 9.38 (SD= 3.810) and mean score of EG in posttest is 13.25 (SD= 4.171).

Comparing the mean scores of EG and CG in the posttest stage shows considerable difference. It indicates that there is a significant difference between the experimental and control groups’ mean scores on the posttest of oral task. Learners who were in the EG acquired higher scores in the posttest than learners who were at of EG. In order to test this difference more accurately, the independent sample t-test was used.

As it can be observed, the participants’ performance in the experimental group was better than the performance of control group as a result of using CL techniques. In the table of t-test for Equality of means, the sig. (2-tailed) value is shown by the amount of .010 and this value is less than .05, which means that a significant difference was provided between the two groups of experimental and control in post-test rejected here. That is to say, considering speaking fluency, the difference between the two groups of the study was statistically significant on the post-test. As indicated in Table 6, the CL strategies had significant effect on learners' speaking fluency ability.

### Table 6. Independent samples test for the posttest of oral task

<table>
<thead>
<tr>
<th></th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Equal variances</td>
<td>.080</td>
<td>.779</td>
</tr>
<tr>
<td>assumed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances</td>
<td>-2.744</td>
<td>.010</td>
</tr>
<tr>
<td>not assumed</td>
<td>.757</td>
<td>-2.744</td>
</tr>
</tbody>
</table>

4. DISCUSSION

Cooperative group work is one way of teaching which according to many years of research and practical application by hundreds of thousands of teachers, now exist for virtually every imaginable instructional purpose. Furthermore, we now know a great deal about the effects of cooperative group work on students and the condition necessary for
effective group work, especially for teaching speaking. Kao (2003) and Liao (2005) showed that speaking skills can be enhanced via cooperative learning.

In a recent study on effects of cooperative learning in a mathematics course (Denessen, Akker, & Rijt 2005), Veenman and his colleagues explored student cooperative behaviors in the dimensions of help seeking, help to give, and constructive activities. These behaviors were further examined in categories such as instrumental (e.g., requesting an explanation of process), executive (e.g., asking for a direct answer), confirmatory (e.g., verifying the proposed suggestion), and affective (e.g., giving positive comments on the collaboration process).

Dang (2007), Tuan (2010) and Vo (2010) also conducted various studies on the effectiveness of cooperative learning on the achievements of students in secondary and intermediate levels. The results showed that language skills and students’ achievements were improved, interpersonal skills were developed and creative thinking was promoted upon undertaking cooperative learning. Other studies such as Gillies (2011), Kao (2003) and Liao (2005) concluded that cooperative learning increased student’s achievements. In a survey, Hussein Poor (2009) studied the effectiveness of teaching social skills in a group on the emotional and behavioral problems of elementary school students in Pasargadae. Rahavard (2010) explored the relationship between cooperative learning strategies and reading comprehension. All of these studies support the effectiveness of CL in different educational domains.

The present study found that the performance of the students in the experimental group improved after using cooperative learning strategies as compared to the traditional approach. Lv (2014) found that CL has a positive effect on English-learning students and that it has led to more interactions than any other learning approach. The present study is in line with previous studies on the benefits of cooperative learning to second language students in the affective domain (e.g., Ghaith, 2002, 2003; Ghaith & Bouzeineddine, 2003; Liang, 2002). It was also supported by Nen- Chen, Gladie, and Wu (2005), who conducted an empirical study in Hong Kong. They found that students taught by cooperative learning outperformed those who were taught by lectures.

In the present study the experimental group, the group who received CL strategies performed much better than the control group who received traditional method of teaching in the posttest of oral task. It was observable that students in EG obtained higher scores in posttest of oral task than students in CG. The present study is in line with previous research conducted by Talebi and Sobhani (2012). They discussed that using CL has significant and positive effect on English language learners' speaking proficiency. Similarly, Pattanpichet (2011) and Liang (2002) proved that incorporating CL strategies can increase students’ oral skills.

As in the present study that showed CL strategies can help students develop their speaking fluency and learning motivation, Al-Tamimi (2014) and Liang (2002) found that learners’ oral communicative competence and their motivation toward learning English will be improved by incorporating CL. In a similar study Yang (2005) compared the effectiveness of CL and traditional teaching methods on Taiwanese college students’ English oral performance and motivation towards learning. He found that students taught by cooperative
learning outperformed those who were taught by lectures in oral performance and learning motivation. Also, the result of the present study especially on the part of learning motivation is in line with the study done by Yoshida, Tani, Uchida, Masui, and Nakayama (2014). They examined the effects of online cooperative learning on motivation in learning foreign language. They found that students’ learning motivation improved significantly.

5. CONCLUSION

This study examined the effects of incorporating cooperative learning strategies on the improvement of the EFL learners’ speaking fluency toward learning English as a foreign language. According to the findings of the study, it can be concluded that there is a high correlation between the cooperative learning strategies and speaking fluency ability of language learners. Based on the results obtained through the statistical analysis on the collected data, it can be safely claimed that there is a significant difference between the oral performance of those students who are taught through cooperative learning strategies and the others. Moreover, the significant improvement of the participants’ speaking fluency and learning motivation resulted from the fact that discussing, creating, and thinking in a group, rather than individually, can provide more enjoyable classrooms and more clever students.

REFERENCES


