

## **IS COOPERATIVE LEARNING BETTER THAN INDIVIDUAL LEARNING IN READING COMPREHENSION WORKSHOP?**

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### **ABSTRACT**

*The present study investigates effect of cooperative method on students' achievements in reading comprehension in the context of English as a Foreign Language (EFL). An adaptation of the HAVO test was used to measure reading comprehension of 75 undergraduate students of the English Department at Jambi University. Participants were selected randomly assigned to three groups: two experimental groups and one control group. The experimental groups had been taught by means of the cooperative and an individual learning method in reading comprehension by means of workshops, whereas the control group had been taught by means of individual learning method with no workshops. A pre-test and post-test were administered, and the results were analyzed through a one-way ANOVA and post hoc Kruskal-Wallis Test followed by the Mann-Whitney Test. The results revealed that there was no significant effect in reading comprehension achievement in the cooperative group with workshops and in both of the individual groups.*

**Keywords:** *cooperative and individual learning, reading comprehension*

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### **INTRODUCTION**

Rapid development in information technology and an increasing intensity of international relations among countries have led each country to positioning English as the most important language that should be mastered. People all over the world have become aware of the importance of English as a tool for global communication. There is even a strong belief in the developing countries, including Indonesia that nations who do not master this international language will be left behind in globalization.

Since the 1970s, there has been awareness in Indonesia to teach English as the foreign language. English is taught as a compulsory subject matter from secondary school level to university level. At the same time, in some schools, English is taught from the primary school level, and there is even a new trend in Indonesian education to force many schools and universities with an international standard of education to use English as a medium in teaching and learning. The trend indicates that English has become more important in all levels of Indonesian education. However, the importance of English is not in line with the improvement of students' proficiency in English. In fact, as indicated by Lengkanawati (2004), students' proficiency in English from secondary to university levels is still not satisfactory.

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To attain a more satisfactory result, many efforts have been taken by teachers and researchers and stakeholders. Various teaching methods and learning strategies have been tried and applied in the context of EFL. Cooperative learning is one of them. In spite of the fact that cooperative learning has not specifically been designed for foreign language teaching, it can be applied in all subjects, including a foreign language context. It can help develop skills in listening, speaking, reading, writing, team-working, and empathy by giving each member of the group an essential part to play in the learning activity. In this activity, group members work together as a team to accomplish a certain goal. This method facilitates interaction among all students in the classroom, leading them to evaluate each other as contributors to their common task (Siciliano, 2008). In addition, the cooperative learning method promotes students to have positive interdependence, communication and psychological skills in face-to-face promotive interaction, individual accountability, social skills, and good teamwork skill in group processing (Johnson, Johnson, & Holubec, 1990).

Even though many positive findings and theoretical views have been shown, only a few of them focus on the impact of cooperative learning on students' achievements in reading comprehension in the context of English as a foreign language at university level. One of them is a study conducted by Khorshidi (1999). His study shows that there is a significant relationship between cooperative learning and students' performance on English reading comprehension at an Iranian university. Another one is a study carried out by Meloth and Deering (1992), who examine the task-related talk, reading comprehension, and metacognition of students over a 4-week period of time. Related to their findings on the effect of cooperative learning on reading comprehension, it can be stated that students who learn in a cooperative setting demonstrate a significantly better outcome on all comprehension subtest.

In the context of applied linguistics, it is urgent to carry out empirical studies in order to evaluate the effectiveness of cooperative learning methods measuring students' achievements by means of reading comprehension activities in an EFL teaching-learning process. For that reason, main purpose of this study is to examine the differences in students' achievements in reading comprehension among three groups with different treatments. The first group was taught by means of cooperative learning in a reading workshop context, the second group consisted of individual within a workshop context, and the last group consisted of individuals without a workshop context. A workshop context means a period of discussion or practical work on a reading passage in which students are asked guided questions to help them understand the text.

Hence, the study is intended to find out which method is more effective and better than others in terms of giving a stronger effect on students' reading comprehension performance. Hopefully, the findings can be used by EFL teachers to select the most appropriate methods in enhancing students' learning processes of English reading

comprehension. Moreover, the study may also give meaningful findings which can be applied in future studies.

## **METHOD**

### **Participants**

The participants for this study are undergraduate students of English Education, at the Faculty of Teacher Training and Education, Jambi State University in Indonesia. They have been studying English as a subject at Junior and Senior High School for six years with a minimum of four times forty-five minutes per week. Their current language of instruction in class is English combined with Indonesian when they do not understand some passages in English. They are trained to be Junior or Senior High School teachers of English. 75 students (60 females and 15 males) of three classes ranging in age from 19 to 21 years old are involved in the study. They enrolled in the "Reading II" course at the academic year of 2009/2010.

### **Hypotheses**

According to the main goal, the present study is aimed to find the effectiveness of the two methods in term of which method is giving a stronger effect on students' reading comprehension performance. Hence, the following hypotheses are proposed for this study:

**Ho:** There is no significant difference in students' achievements in reading comprehension between the cooperative group with workshops and the individual groups with and without workshops.

**H1:** There is significant difference in difference in students' achievements in reading comprehension between the cooperative group with workshops and the individual groups with and without workshops.

### **Materials**

The materials used in this study were adapted from selected texts of HAVO English test. The HAVO English test is a standardized English proficiency test developed by Dutch Ministry of Education, Culture and Science. There were 5 sets of HAVO English tests whereby each of the set consisted of 1 passage with 10 modified multiple choice comprehension questions. The five texts are as follows: 1. "Flirting", 2. "Why are phones replacing cars", 3. "The Beauty of the wind farms", 4. "The fat of the land", and "Taking our leaders at face value". The first two texts were employed for the pre and post-test and the rest were employed for the treatment 1, 2, and 3 respectively.

Along with the pre and post-test, the vocabulary test was also administered. The vocabulary items in the test were mainly selected from the new lexical items taught and given exposure to during the course. The test was used as the assessment tool in the pre-test and the post-test phase of the study. Students were asked to do a pre-test which aimed at checking their performance level before the workshops (intervention). The result of the pre-test was also used as a basis to classify them

into small groups for cooperative learning in order to create a heterogeneous ability in each small group.

### **Procedure**

In selecting of participants, 75 students of 3 classes who took part in the study were assigned at random. There are two experimental groups (cooperative learning and individual learning with workshops) and one control group (individual learning without workshops). The two experimental groups and one control group are selected with assumption that the three groups are at the same reading level proficiency because they enrolled in the university at the same time and they are the same semester.

Additionally, the three groups are taken to make a more clearly contrast between the two experimental groups (cooperative and individual with workshops) and one control group. So, there were 25 students who were allocated to 1 of the 3 groups. The cooperative group was also divided into five small teams (in a group of five). Each team consisted of students whose performance level range from low to average to high based on the results of the pre-test.

### **Instructions**

After the groups were formed, meetings with all of the participants were organized and during that meeting all of the details of the experiment were explained to them and they were given a schedule of all the activity sets. During these meetings, the date of the pre-test and that of rules of the class during the treatments were unanimously agreed upon.

### **Pre-test**

To start with, a pre-test of reading comprehension adapted from a HAVO English test (2008) was administered to the 3 groups and the results were recorded. The results of the pre-test were also used to determine the level of the students in order to be able to divide them equally among the 3 groups to make them as heterogeneous or mixed in ability as possible. The test consisted of 1 text with 10 multiple choice questions. Participants were requested to cross the best answer out of 4 options for 40 minutes.

### **The study**

Each group learnt according to its method and time schedule. The cooperative group with workshops worked in heterogeneous learning teams. These teams were provided with a text, a worksheet, and a comprehension test to measure their achievement after the workshops at the end of the class meeting. There were five teams in this cooperative group, in which each member of the team has her/his own role: the role of a leader, a writer, a reader, a speaker or as a checker. The roles here were aimed at maintaining individual accountability.

A leader was responsible for managing teamwork and monitoring inside group activity, i.e. making sure that everyone did what they were supposed to do, giving

turns to his/her members to speak, and making sure that time was managed well. A writer was responsible for making notes of all activities in the group, reformulate the answer everyone agrees on and writing it down. A reader was responsible for reading out the correct answer on the answer sheet and deciding if the group answer and the answer on the answer sheet were similar. There was one speaker who had the specific task of being a spokesman who represented the group and who communicated to other groups or to the teacher. A checker was responsible for checking the members answer and correcting wrong answers.

The sequence of activities was as follows: the students read the text silently for a few minutes and then they were given a worksheet consisting of comprehension questions that helped and guided them to have a better understanding of the text. They worked on the worksheet together. They might discuss approaches to answer all questions and might argue any discrepancies to find the best answers. They had to help each other and encouraged their teammates to do their best. They also taught their teammates and assessed their strengths and weaknesses to help them succeed on the latter test.

After 40 minutes, they were instructed to stop this activity and the next 10 minutes were given to them to check whether their answers were correct or not by comparing them with the key answer provided by the researcher. One of the members; the reader, read the correct answer from the key answer sheet, whereas the checker checked the team's answer and the writer made notes on their worksheet and wrote the correct answers and the leader made sure that the teammates understood and agreed on the correct answers. When all group members agreed, the leader told the group to go on.

Finally, there was a comprehension test of the text they had already read and discussed in their team. Their worksheet was taken away before they did the test. Although the students had studied together, they were not permitted to help one another on this test. They did the test individually for 20 minutes. The test scores were recorded and were used as information to know the students' performances during the treatments. The whole cycle of activities took 3 class periods.

The individual group with workshops was also provided with the same text and the same comprehension questions as used in the cooperative group. The difference is only about the number of participants who took part in the activities. The participants did the activities all alone. They were encouraged to answer all questions by their own way individually. They might use the dictionary as they like. Before they did the test at the end of the activities, the worksheet had also been taken away.

The control group was only provided the text and test at the end of the activities. All of the time (fifty minutes) as devoted to read the text, because they did not need to answer the reading comprehension questions as the other two groups did. They were free to use the dictionary or other means that might help them understanding the text. Finally, there was a test with 10 multiple choice questions on the text they

have already read at the first 50 minutes. The time allocated to do the practice was the same as in the two other groups. All of the activities were carried out individually.

### Post-test

After the three class periods of treatment, a post test was administered to the participants. This test consisted of a similar format and time span as used in the pre-test were also applied in this test. A text entitled “Why phones are replacing cars” and a 10 item multiple-choice comprehension test was distributed to the participants in accordance with their group schedule. 40 minutes were allocated to complete the test.

### Design

Experimental research design was applied in this research. Three classes of undergraduate students of the Faculty of Teacher Training and Education majoring in English Education were selected. Two classes functioned as experimental groups and another as a control group. The experimental groups were taught by means of cooperative learning with workshops and individual learning with workshops. On the other hand, an individual method without workshops was applied in the control group. The three groups were taught by the same person with the same materials and the same time allocation.

## RESULT

Related to research question, “is there a significant difference of students’ achievements in reading comprehension between a cooperative group with workshops and individual groups with and without workshops,” a descriptive analysis has been done to see the mean differences among groups on reading comprehension. The statistical analysis revealed that there were little discrepancies among the groups. The posttest score indicated slightly higher achievements in individual learning with no workshop group (the control group) than in either cooperative scores or individual (with workshops) scores. It implies that there were slight differences between cooperative and individual groups. Table 1 below shows the mean scores of the cooperative learning group, and the individual groups with and without workshops.

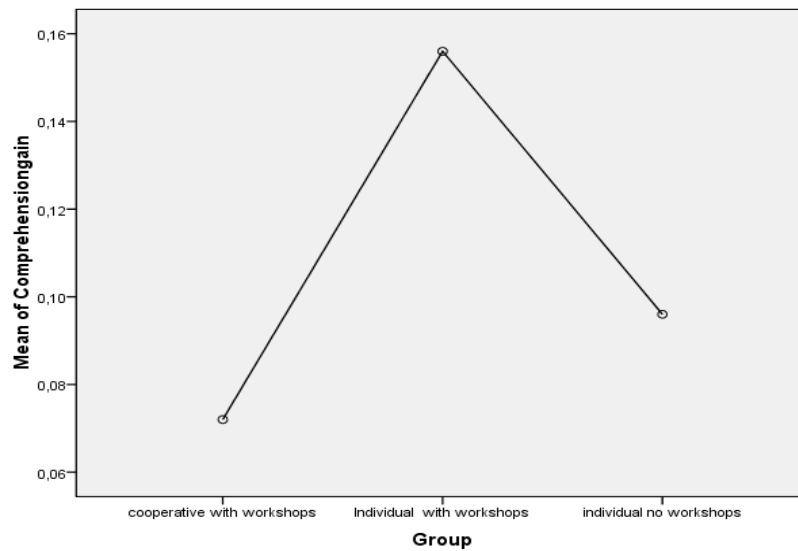
**Table 1. Mean of Dependent Variable of the three groups**

Groups	N	Mean Scores	
		Pretest	Posttest
Cooperative	25	53.2	58.4
Individual with Workshops	25	42	57.2
Individual with No Workshops	25	55.2	62.4

The slight differences among the three groups can be made more apparent by looking more closely at the scores of each group (mean of post-test – mean of pre-test). The cooperative group gain was ( $M=.0720$ ,  $SD=.1646$ ), the individual group

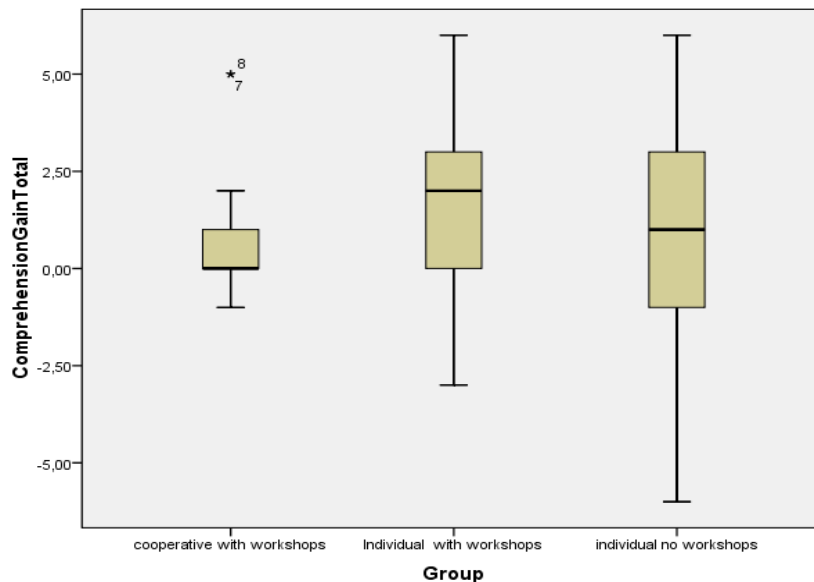
with workshops (M=.1560, SD=.1959), and the cooperative group without workshops (M=.0960, SD=.0960). The individual group with workshops attained a better score than two other groups. Furthermore, by comparing the means of reading comprehension gain to the three groups' means plot, the following figure can be drawn:

**Figure 1: Means Plot of reading comprehension gain of all groups**



In more detail, the total gains of reading comprehension of each group could be shown in figure 2 below.

**Figure 2 Boxplot of Reading Comprehension Gains of All Groups**



The box plot reveals a slight discrepancy among the three groups. In case of the cooperative group with workshops, the mean and median on reading comprehension gain overlap at 0.00. It indicates that 75% of the students in this group achieved larger scores than the mean and median scores and only 25% of

them attained the lowest scores in between -1.00 and 0.00. In the individual group with workshops, the highest score was 6.00. This score was the same as the mean gain of the individual group with no workshops. The lowest score of the individual group with workshops was in between -3 and 0.00. A Larger range of the lowest score can be seen in the individual group with no workshops, which was in between -6 and -1. This condition implies that despite of the differences that exist among the groups (the cooperative group, and the individual groups with workshops and without workshops) as indicated on the box plot, it cannot be said that the differences were significant. However, to check more precisely the differences were significant or not, a One-Way ANOVA test needed to be carried out. The result of the analysis using SPSS 16 is depicted in Table 2.

**Table 2 Analysis of Variance for achievement scores in reading comprehension**

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.094	2	.047	.968	.385
Within Groups	3.482	72	.048		
Total	3.575	74			

The table shows that there were no significant differences between the experimental groups and control group at  $F(2,72) = 9.68$ ,  $p = .385 > 0.05$ . Contrast tests (2 tails), which were assuming equal variances and were not assuming variances, also demonstrated similar result, with a significant level at 0.319 for the first assumption and 0.261 for the latter (both of them bigger than 0.05). Thus, it can be said that there were no significant differences among the cooperative group and both of the individual groups, with and without workshops.

To sum up, due to the absence of significant differences on achievement scores among the cooperative group, the individual groups with workshops or no workshops as shown by the result of the ANOVA analysis, the following null hypotheses was accepted for this study "There was no significant difference between students' achievements on reading comprehension among the cooperative group with workshops and the individual groups with workshops and no workshops."

## DISCUSSION

The result findings indicate that there were no significant differences among the cooperative group with workshops and the individual groups with and without workshops on students' achievements of reading comprehension. In addition, by comparing the mean gains of the three groups, it can be seen that the individual group with workshops achieved better gain scores than the cooperative group and the other individual group that had a different treatment (without workshops).



The result was contradictory to most of the research findings that exposed positive impacts of cooperative learning on students' achievements (Johnson & Johnson, 1989; Slavin, 1991; Widaman & Kagan, 1987; Veenman, et al., 2005; Law, 2010; Zhang, 2010). However, the results in the present study cannot simply be used as evidence to conclude that cooperative learning methods failed in terms of promoting high achievements in English reading comprehension. It can be shown from the findings, that the differences in achievements between the cooperative group and the individual groups were not significant enough and the students' gain was not only determined by the teaching method, but also by other factors that were involved in the learning process.

Learning strategies and metacognitive strategies are the important factors that need to be taken into account. In the cooperative learning strategy there is inter-personal exchange process that support the usage of higher thinking skill strategies, reasoning, and metacognitive strategy (Johnson & Johnson and Holubec, 2004). In this term, metacognitive strategies consist of students' activity in regulating, directing, monitoring and evaluating their learning strategy. In this term, students need to have knowledge of procedures, prior knowledge, and awareness of cognitive process and the best way of their own learning strategies. This implies that effective EFL students using metacognitive strategies by preparing their own strategies in doing learning activity, monitoring and evaluating their comprehension and outcomes. It means that students need to have metacognitive awareness of the linkage among strategies, learning process and learning outcomes. Related to EFL reading context, Cubukcu (2008) confirmed that "reading comprehension could be developed through systematic instruction in metacognitive language learning strategies". This implies that student's knowledge and skill in metacognitive strategy is as important as systematic instruction using various kinds of method and learning strategy (i.e. cooperative or individual learning) in facilitating students to promote better achievement in reading comprehension.

In short, to give more comprehensive answer about the difference factors in relation to students achievement in the cooperative group and individual groups we need to take into account not only the teaching methods in and statistical analysis that we have done, but also other determinant that were exist and possible in giving impact on the students achievement. In the more specific context of EFL reading class, other factors like motivation, learning materials, knowledge background, especially in vocabulary size and depth, grammatical knowledge, learning strategy and metacognition strategy have to be taken into account to get more rich understanding about teaching and learning process and outcomes.

Related to the present research, as far as teaching methods used for improving someone's reading comprehension concerned, there are at least three fundamental methods that can be selected by teachers to make students learn and interact with each other in the learning process. Firstly, teachers can manage their reading class in a competition situation to make all of students involve in the competition to show who the best in the class is. Usually, the classroom tends to be to be found in

a win-lose struggle in an unhealthy competition to decide who the best is. Secondly, teachers can set up their classes in the individual learning circumstances so that the students involved in reading activities individually at their own pace and in their own way. Thirdly, they can manage their classes in the cooperative learning conditions by assigning the students in small groups to work together, regardless of the diversity in ability and background.

Johnson and Johnson (1989) summarized research findings on the use of competitive, individualistic, and cooperative goal structures, which implied clear differences among the three methods. They found that goal structures and interpersonal processes in competitive situations had many negative impacts on students' achievements and affective outcomes of learning, such as low interaction levels, low levels of trust, mutual dislike, and high comparison of self versus others among the students. The similar effect also can be found in the individualistic method, in which the students have no opportunities to interact with each other. This is different from the cooperative method, in which many positive impacts can be found, such as high levels of interaction among students, mutual liking, effective communication, high levels of acceptance and support, high levels of sharing and helping, high levels of emotional involvement, and no comparison between self and others. These impacts also can be noticed in the present research even though the cooperative group was not significantly different from the individual groups in terms of students' achievements in reading comprehension.

In terms of why working in the cooperation group did not have a significant impact on students' reading comprehension, there were some possible reasons. As implied by Slavin (1991), cooperative learning has positive effects on students' achievements if the groups have two important features: group goals and individual accountability. It seems that the two features did not work well in the cooperative reading workshops.

Based on the observation done during the class meeting periods, it can be noted that some groups were not consistently on the right track when it came keeping their goals in comprehending the meaning of the texts. They did not work efficiently when reading the texts, answering the guidance questions critically, and discussing the whole meanings of the texts in a very limited amount of time. As a result, they could not fully understand the whole meanings of the texts. When they were tested individually after the cooperative reading sessions in their groups, they could not achieve high scores.

Related to the individual accountability of each group member during the treatments, it can be observed that teamwork in the cooperative groups was not running well. Even though everybody in the group had their own roles and responsibilities, they did not play their roles in accordance with the rules in practice. Some of the students did not hold themselves accountable for their roles in groups as indicated in the group's activities. On the one hand, some of them were too dominant and some were too submissive in the group's activities. As a result, the achievements in understanding the text varied. Yet, in a way that was contrary to all expectations.

Instead of the active students gaining the highest scores, some of the highest scores were attained by the submissive students. However, it was also surprising that there were several students in other group who looked enthusiastic and dominant in the group discussion, but who did not achieve high scores on the tests.

In short, the two main reasons (as mentioned by Slavin, 1991) why working in cooperation did not have a significant impact on students' reading comprehension are caused by the inconsistencies in the groups' goal and a lack of individual accountability. Furthermore, the present findings need to be followed up with further research to see the differences between cooperative and individual methods by taking into account other factors such as student motivation, learning materials, students' background knowledge, and learning strategies, including meta-cognition strategy. In addition, studies that examine to what extent vocabulary acquisition, vocabulary knowledge, and vocabulary development relate to reading comprehension in ESL/EFL are also needed to be done in a broader scope.

### **CONCLUSION AND SUGGESTION**

Statistical analysis revealed that there were no significant differences among the cooperative group with workshops and the individual groups with workshops and the individual group without workshops in reading comprehension performance. There were two main reasons why working in cooperation did not have a significant impact on students' reading comprehension; inconsistencies in the groups' goal and the lack of individual accountability.

Some groups were not consistently on the right track in terms of maintaining their goals in comprehending the meanings of the texts. They did not work efficiently in the reading texts, they did not answer guidance questions critically, and they did not discuss the whole meanings of the texts in the very limited amount of time that was available. As a result, they could not fully understand the whole meanings of the texts, so many of them failed to achieve high scores on the test. Related to individual accountability, teamwork in the cooperative groups was not running well. The members of the groups knew what their roles and responsibilities were, but in the practice of reading cooperatively, they did not play their roles accordingly.

The present study has several limitations. Firstly, the number of participants in this research is limited to the students of the English Department at Jambi University, so it cannot be generalized to all of the EFL students. Secondly, the reading questions were limited in number, so it cannot precisely indicate all domains of reading comprehension. They need to be improved by adding some questions to meet the entire comprehension domain. Thirdly, the entire scope of positive and negative impacts of cooperative learning could not be shown due to the limitation on research time. This study only examined three lessons involving three groups, and such a short learning time might not be enough to discover the effects of teacher-guided cooperative learning activities on the strength of students' reading performance. Students may show greater improvement when they are familiar with

the cooperative learning atmosphere. Further studies should investigate those activities over a longer learning period, such as a school year.

Related to the findings, it can be said that other variables such as students' learning strategy, motivation, gender, dynamics of interaction among students in small groups during a cooperative activity, and knowledge background still need to be taken into account in any future research. In addition, the inter-relation between vocabulary (acquisition, knowledge, and size) and reading comprehension can be explored more extensively related to the cooperative learning methods applied by teachers in the EFL classroom. Related to this, it can be studied to what extent vocabulary size has a significant effect on reading comprehension, or what kind of reading activity is best for vocabulary acquisition, and in what specific condition cooperative learning strategies contributes to promote higher achievements and better social skills compared to individual learning.

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