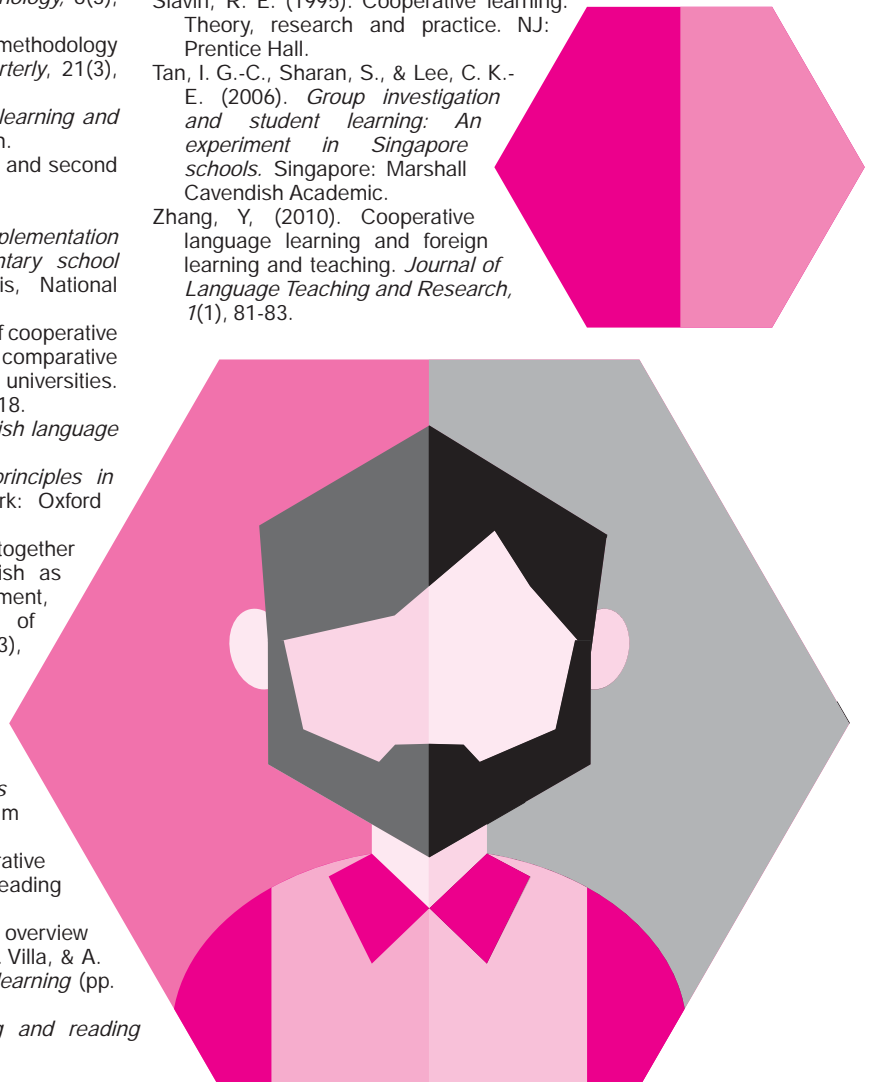


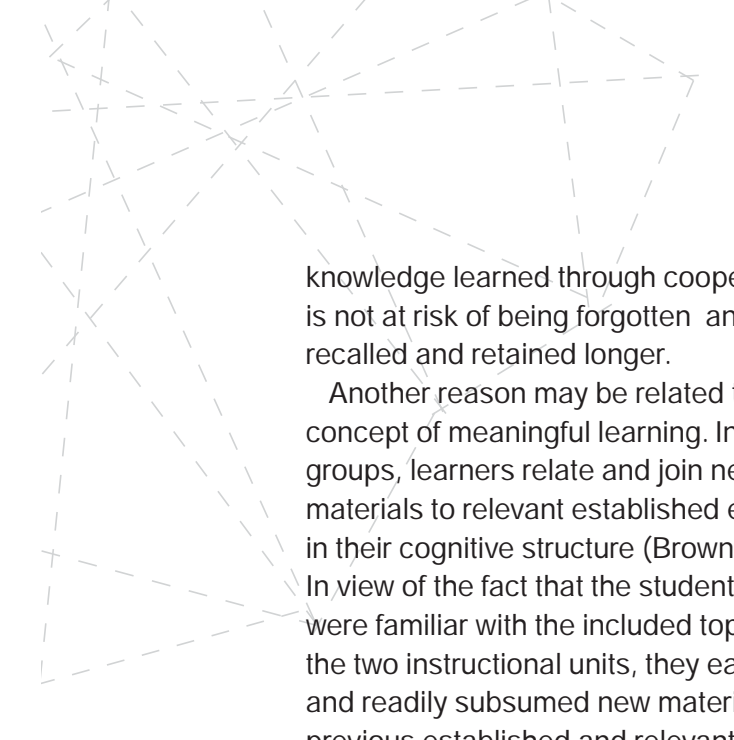
learning English as a foreign language and investigate, empirically, their effectiveness in developing reading comprehension. All in all, CL activities as interactive strategies create a safe climate in which learners work and collaboratively communicate with each other. In a similar vein, Duxbury and Tsai (2010) point out that CL enables students to use the target language more often, support communication with others in the language, create an environment for stimulating classroom activities, and bring about variety to language learning.

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knowledge learned through cooperation is not at risk of being forgotten and is recalled and retained longer.

Another reason may be related to the concept of meaningful learning. In CL groups, learners relate and join new materials to relevant established entities in their cognitive structure (Brown, 2007). In view of the fact that the students were familiar with the included topics in the two instructional units, they easily and readily subsumed new materials to previous established and relevant ones. Furthermore, when students are in CL groups they can brainstorm around the selected topics, work, and make decisions together (Milios, 2000).

Students in cooperative groups are expected to help, discuss and argue the issues with each other; hence, they appraise their groupmates' information and attempt to align their information with that of their groupmates (Slavin, 1995)

Moreover, the findings of this study are also in favor of Krashen's (1981) affective filter hypothesis. Krashen puts emphasis on the learner's emotional states or attitudes and regards them as adjustable filter that freely impedes the required input for learning. Hence, learners with a low affective filter interact with confidence and are more receptive to the presented input (Richard & Rodgers, 2001). In line with this, students in cooperative groups, through their interaction in small groups, exterminate their negative attitudes

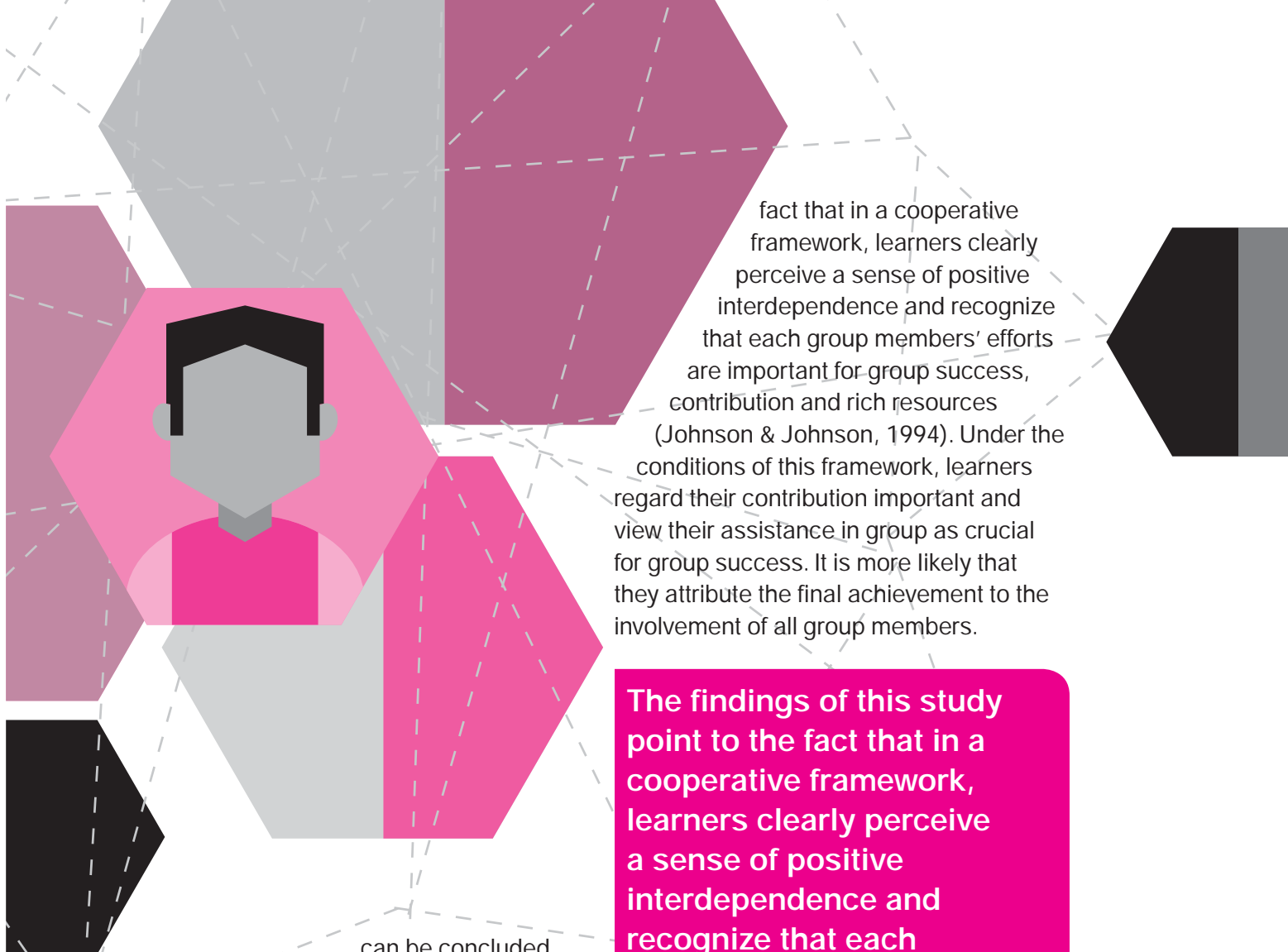
toward language learning and with more confidence and low level of affective filter can effectively participate in the process of language learning.

Learners in cooperative groups communicate in a rich linguistic environment. On account of this, the findings are considered to be in line with interactionist theory of language learning which emphasizes that language development is the result of interaction between the innate ability of the learner and the linguistic environment. They place a greater importance on the influence of the environment on language learning. In the words of Seng (2006), the interactionist view of language learning resulted in communicative approach to language teaching, group work as well as CL.

Conclusion

Although the obtained results cannot be considered as that conclusive, this study encourages teachers to make use of this strategy in view of the fact that it triggers the cognitive processes and background knowledge of the students. Additionally, the technique used in this study is compatible with communicative language teaching as it is learner-centered and experience-based. This study paves the way for arriving at a reliable method of teaching reading passages, the elements of which can be utilized as substantial instructional objectives in course design. Finally, to lessen the detrimental effects of the monotonous teaching environment, teachers can enhance their students' accountability with the help of this technique

The present study was carried out to localize the suggested practice of CL techniques with the Iranian students



fact that in a cooperative framework, learners clearly perceive a sense of positive interdependence and recognize that each group members' efforts are important for group success, contribution and rich resources (Johnson & Johnson, 1994). Under the conditions of this framework, learners regard their contribution important and view their assistance in group as crucial for group success. It is more likely that they attribute the final achievement to the involvement of all group members.

The findings of this study point to the fact that in a cooperative framework, learners clearly perceive a sense of positive interdependence and recognize that each group members' efforts are important for group success, contribution and rich resources (Johnson & Johnson, 1994)

can be concluded that the number of students in a group does not play an influential role in improving learners' language proficiency. All in all, at least in the unique situation of this study, the components of a particular technique are to be considered as the source of differentiation rather than the number of group members.

The obtained results confirm the previous studies carried out on the efficacy of CL techniques (e.g., Jalilifar, 2010; Rahvard, 2010; Ghaith, 2003; Khorshidi, 1999; Chang, 2013). However, the findings of this study contradict those who asserted that CL techniques had no positive effect on the achievement of reading comprehension skills (e.g., Bejarano, 1987; Miritz, 1989).

The findings of this study point to the

Students in cooperative groups are expected to help, discuss and argue the issues with each other; hence, they appraise their groupmates' information and attempt to align their information with that of their groupmates (Slavin, 1995). On the other hand, students in classes of conventional methods, particularly lecture-based methods, cram facts which are easily forgotten. Moreover, these methods do not stimulate students' innovation, inquiry, and the acquisition of scientific attitudes (Adeyemi, 2008). As a result, the

As depicted, the mean scores for dyadic and triadic GI groups were higher than the control group, and in turn, the mean score of the triadic GI was higher than the dyadic GI. Accordingly, in order to check whether or not the observed differences among the groups' means on the posttest were statistically significant, a one-way ANOVA was run. Table 4 presents the results:

group (MD=6.4, $p < 0.05$). However, there was no significant difference between the dyadic and triadic GI. Consequently, in response to the first question, the students in cooperative groups had better achievement than

Table 4
Results of One-Way ANOVA for the Groups' Performances on the Posttest

Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	733.04	2	366.7	29.94	.00
Within Groups	1065.76	87	12.24		
Total	1798.9	89			

The results indicated that there was a statistically significant difference at the $p < 0.05$ level for the three groups: $F(2, 87) = 29.94, p = 0.00$. Despite reaching statistical significance, it is not clear where precisely the difference lies. In view of this, post hoc comparisons were used to investigate the observed differences, as depicted in Table 5:

the control group which received instruction through the traditional ways of language teaching.

Regarding the second question, there was no significant MD between the dyadic and triadic GI groups (MD= 1.1, $p > 0.05$). This

Table 5
Results of Post-Hoc Scheffe Test for the Groups' Performances on the Posttest

Group	Groups	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Dyadic GI	Triadic GI	-1.10	.84	.64	-3.50	1.30
	Control	5.30*	.84	.00	2.89	7.70
Triadic GI	Dyadic GI	1.10	.84	.64	-1.30	3.50
	Control	6.40*	.84	.00	3.99	8.80
Control	Dyadic GI	-5.30*	.84	.00	-7.70	-2.89
	Triadic GI	-6.40*	.84	.00	-8.80	-3.99

The mean difference is significant at the 0.05 level. *

Posthoc comparisons using Scheffe test revealed a significant mean difference (MD) between the dyadic GI and the control group (MD= 5.3, $p < 0.05$), and between the triadic GI and the control

indicates that there was no significant difference between the two member groups instructed through GI and the three member groups which were also taught on the basis of GI components. As a result, it

to 15 heterogeneous pairs. But in the triadic groups, the class was divided into 10 mixed-ability groups of three. In these two groups, the instruction proceeded according to stages of GI technique. The group members divided the selected subtopics into individual tasks. Each group was responsible to integrate their findings and report them to the whole class. Group members read the selected subtopics individually, and then they exchanged their ideas about the meaning, new lexicon, and structure. Consequently, they interacted within groups, and through interpretation they made the text comprehensible (Tan et al., 2006; Sharan & Sharan, 1989; Sharan, 1980). Following these stages, as a result of self-interpretation, students were intrinsically motivated and convinced that they could accomplish the assigned task on their own.

Results and Discussion

Descriptive statistics and one way between-groups analysis of variance (ANOVA) were run to analyze the data. First, the descriptive statistics for the students' performance on the Nelson Test were calculated. The mean and standard deviation of the three groups are presented in Table 1:

Table 1
Descriptive Statistics for the Groups' Scores on the Nelson Test

Groups	N	Mean	SD	Min	Max	Skewness	Kurtosis
Group 1	30	12.96	2.45	7.0	17.0	-.662	.530
Group 2	30	12.06	1.96	9.0	16.0	.427	-1.041
Group 3	30	12.63	1.86	8.0	16.0	-.378	-.154

The results showed that the mean scores for the three groups were almost similar although the degree of dispersion to some extent varied among the groups. In brief, results revealed that the three groups were to a great deal equivalent regarding

their language proficiency. In order to investigate the difference among the participants' scores on the Nelson Test, an ANOVA was run. As depicted in Table 2, there was no statistically significant difference at the $p < 0.05$ level for the three groups: $F(3, 116) = 1.53, p = 0.20$. This ensured that the three groups were almost equal with reference to their language proficiency before the treatment.

Table 2
Results of One-Way ANOVA for the Groups' Performances on the Nelson Test

Source of Variance	Sum of Squares	df	Mean Square	F	Sig
Between Groups	22.09	3	7.36	1.53	.209
Within Groups	556.50	116	4.79		
Total	578.59	119			

Descriptive statistics were also obtained for the students' performance on the constructed posttest. Table 3 shows the results:

Table 3
Results of One-Way ANOVA for the Groups' Performances on the Nelson Test

Groups	N	Mean	SD	Min	Max	Skewness	Kurtosis
Dyadic GI	30	18.03	3.81	9.0	24.0	-.873	.147
Triadic GI	30	19.13	4.11	9.0	23.0	-1.297	.873
Control	30	12.73	2.01	9.0	17.0	.148	.044



- cooperative techniques and that of students taught using the traditional methods?
2. Does dyadic and triadic groups technique make any significant difference in students' achievement in reading comprehension?

Methodology

● *Participants*

The participants were a total of 90 male senior high school Iranian students. These students, aged 17-19, were all in the last year of high school, and they were preparing themselves to take part in the NUET. The students were randomly assigned to three classes. In order to ensure the homogeneity of classes, a sample of Nelson English Language Proficiency Test (Fowler & Coe, 1976) was run. To select the experimental and control groups, the Convenience sampling was employed. Following this, the experimental groups were two classes, each comprising 30 students, instructed through dyadic and triadic GI. Another class of 30 students was assigned to the control group instructed through traditional approaches (e.g., grammar translation method) to language teaching.

● *Instrumentation*

Two testing instruments were employed to collect data for the present research: Nelson English Language Proficiency Test, and a reading comprehension test. At first, Nelson Battery- section 300A was utilized to make sure the homogeneity of the three groups. The internal consistency of the Nelson instrument was estimated through administrating it to 30 examinees who had roughly the same characteristics as participants of the study. The obtained results demonstrated that

the Cronbachalpha for the test was 0.82, suggesting a test with a good internal consistency.

The second instrument was a reading comprehension test, which was administered as the posttest at the end of the study, adapted from the NUET samples and modified by the researchers. This test comprised 30 multiple choice items following 4 passages and 2 cloze passages. In order to pilot-test the reading passages, they were given to a total sample of 20 students. Based on the results of item analysis some of the items were modified. The internal consistency reliability of the test was estimated to be 0.78, suggesting an acceptable level of internal consistency.

Group investigation (GI), as a cooperative technique, is of particular interest to the researchers. GI includes four substantial components: investigation, interaction, interpretation, and intrinsic motivation (Tan, Sharan, & Lee, 2006)

● *Procedure*

The groups were instructed by one of the researchers of the present study. This study lasted 2 months, two sessions per week and 16 sessions on the whole, and about 45 minutes of each session were allocated to reading practice. The topics under investigation were two instructional units of gradefour textbook designed for a reading-based course.

Two experimental groups were instructed via dyadic and triadic GI. In the case of dyadic group, students were assigned

The Study

The traditional nature of classroom instruction in Iran depends largely on lecturing and memorization without any emphasis on the communicative aspects of language in real situations. As a consequence, students do not normally acquire proficiency in communicative skills. Most of the Iranian high school students are also afraid of the English section of the national university entrance test (NUET). Since in the NUET most of the test items measure reading

comprehension skills, it is of crucial importance to work sufficiently on this skill during high school years. With this background, the purpose of the present study was to investigate the effectiveness of GI technique in dyadic and triadic groups on reading comprehension of Iranian high school students. The study, therefore, sought answers to the following questions:

1. Is there any significant difference between the reading comprehension of L2 learners who are taught through



in a CL activity gain higher achievement than those who perform individually. CL is designed “to foster cooperation rather than competition, to develop critical thinking skills, and to develop communicative competence through socially structured interaction activities” (Richard & Rodgers, 2001, p. 195).

CL is designed “to foster cooperation rather than competition, to develop critical thinking skills, and to develop communicative competence through socially structured interaction activities” (Richard & Rodgers, 2001, p. 195)

Although CL practitioners claim that it can improve learners’ capabilities in every aspect of language, it is only under particular conditions that CL can be productive and result in acceptable levels of achievement. Johnson and Johnson (1994) enumerate these conditions: increased positive interdependence among learners, simultaneous (face-to-face) interaction, increased individual accountability and personal responsibility, constant use of interactive and small-group skills, and efficient use of group functioning. They further add that the positive role and goal interdependence help students move gradually from interdependence to independence and ultimately to autonomy.

Group investigation (GI), as a cooperative technique, is of particular interest to the researchers. GI includes four substantial components: investigation, interaction, interpretation, and intrinsic

motivation (Tan, Sharan, & Lee, 2006). Investigation refers to the fact that groups focus on the process of examining the related materials about a chosen topic. Regarding interaction, students are required to explore ideas and to help one another. In the stage of interpretation, the group synthesizes and elaborates on the findings of each member in order to enhance understanding and clarity of ideas. Finally, the autonomy awarded to them in the investigative process, increases their intrinsic motivation.



Learning on Senior Reading Comprehension

Introduction

The substantial role of English as an international language has attracted the attention of many scholars as well as those who are in charge of educational systems. In addition, many countries have recognized English as the most important foreign (or second) language (L2) students need to learn in academic contexts.

English is, thus, considered as one of the main subjects in schools and universities in different parts of the globe. Students should be able to read the scientific materials written in English, thereby expanding their academic knowledge through developing communicative skills in English. It is generally accepted that reading is the most important language skill for learners in academic contexts (Carrell, 1989). Consequently, scholars and teachers should seek and employ learning and teaching approaches with the aim of developing learners' reading proficiency.

As experience has shown, teacher-fronted approaches hardly lead to successful language learning. They are more in tune with developing the students' knowledge about some forms of language than developing communicative aspects of language. That is why scholars have

shifted their focus to new approaches, emphasizing the active role of learners in the process of language learning. Among these approaches, over the last decades, cooperative learning (CL) as a new approach toward language learning has emerged and opened a new area for researchers. Howard (2004) indicates that the primary reason for this interest is that CL provides learners with opportunities to explore the world beyond the classroom and prepares them for the workplace.

As experience has shown, teacher-fronted approaches hardly lead to successful language learning. They are more in tune with developing the students' knowledge about some forms of language than developing communicative aspects of language

In the words of Johnson and Johnson (1994), CL is the instructional use of small groups in which learners work together so that they can maximize their own learning and learn from each other. Supporting this, Zhang (2010) asserts that people working

The Effect of Cooperative High School Students' EFL

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چکیده

هدف از این مطالعه، مقایسه میان پیشرفت درک مطلب دانش‌آموزان دوره دبیرستان ایرانی در گروه‌های کوچک مشارکتی و عملکرد آن‌ها در چارچوب آموزش‌های سنتی معلم - محور است. بدین منظور، تکنیک یادگیری مشارکتی تحت عنوان تحقیق گروهی به کار برده شد. در این مطالعه ۹۰ دانش‌آموز پسر شرکت داشتند که به‌طور تصادفی در سه گروه قرار داده شدند. جهت تشخیص همگنی این گروه‌ها، از آزمون مهارت زبان انگلیسی نلسون استفاده شد. سپس دو گروه به‌طور تصادفی به‌عنوان گروه‌های آزمایش و یک گروه گواه انتخاب شدند. دو گروه آزمایشی براساس تکنیک تحقیق گروهی (در گروه‌های دو نفره و سه نفره) و گروه گواه نیز بر اساس روش‌های سنتی و رویکرد فردگرا آموزش داده شدند. پس از اجرای پس-آزمون، نتایج حاصله به‌وسیله آنالیز واریانس یک‌طرفه و پس-آزمون Scheffe مورد تجزیه و تحلیل قرار گرفت. نتایج نشانگر این بود که دانش‌آموزان در گروه‌های مشارکتی موفقیت بهتری در مقایسه با گروه کنترل داشتند. هر چند نتایج حاکی از آن است که تفاوت معناداری بین گروه‌های دو یا سه نفره آموزش‌دیده از طریق تکنیک تحقیق گروهی وجود ندارد. همبستگی مثبت به‌عنوان یکی از اصول اساسی یادگیری مشارکتی می‌تواند تأثیر زیادی بر عملکرد دانش‌آموزان در درک مطلب داشته باشد.

کلیدواژه‌ها: یادگیری مشارکتی، درک مطلب، تحقیق گروهی، گروه‌های دونفره، گروه‌های سه نفره

Abstract

The purpose of this study was to compare Iranian senior high school students' EFL reading comprehension achievement in cooperative and traditional teacher-fronted settings. To this end, the cooperative technique of Group Investigation (GI) was used. In this study, 90 pre - intermediate male students participated that had been randomly assigned to two dyadic and triadic GI groups and one control group receiving instruction via the traditional individualistic instructional approaches. A retired Nelson English Language Proficiency test was used to ensure the homogeneity of the groups. Further, an EFL reading comprehension test was administered as the posttest, and the results were analyzed through a one-way ANOVA and the post-hoc Scheffe test. The results revealed that students who worked in cooperative dyadic and triadic groups improved more significantly in terms of reading comprehension than the control group. Nonetheless, the results indicated that there was no significant difference between dyadic and triadic groups receiving instruction through GI. It is concluded that positive social interdependence, as one of the central maxims of cooperative learning, can favorably influence L2 learners' learning and skill development, foster their transition from interdependence to independence, and ensure learner autonomy.

Key Words : cooperative learning, group investigation, dyadic groups, triadic groups