ATLANTIS
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Experimental Research in English Reading Classroom Instruction of Non-English Major Junior College Students from the Perspective of Jigsaw IV*

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Abstract—It is taken for granted that traditional instruction method in EFL classroom is useful, such as grammar translation method, induction method and deduction method, etc. However, there is an argument against this approach, especially for non-English major junior college students. For the non-English major junior college students, it may put them tired and bored in English reading class. The author considered that the theory of cooperative language learning lays a theoretical foundation for the study of non-English major junior college students in EFL teaching, so this paper presents an experimental research in English reading classroom from the perspective of Jigsaw IV. The research is carried out in two classes, of which one is traditional grammar translation method class; the other is the experimental class of Jigsaw reading. The result of the research is that students in the experimental are more active and effective than the traditional English reading class. The application of Jigsaw IV aims to help students improve their active participation, learning confidence, communicative ability and get better English reading achievement. The research has proved that it is more effective to take Jigsaw IV approach in English reading class for junior college students.

Keywords: Jigsaw IV, English reading classroom, non-English major junior college students

I. INTRODUCTION

The research background, which includes theoretical, practical and personal reasons for the research etc., will be presented in this part as follows.

A. The reasons for this research

First, theoretical guidance: Jigsaw is one of the technique learning of Cooperative learning. It was known with its expert group and original group [1]. It was believed this technique can increase students' enthusiasm to get good academic [2]. According to Holliday & Dwriht C (2000): the steps of Jigsaw IV have also evolved into nine: first, course presentations; second, establishment of expert questions; third, mastering the corresponding questions in expert groups; fourth, experts group testing; fifth, members of expert group returning to their home group to impart knowledge; sixth, home group testing; seventh, review of the competition mechanism (using the integral game system); eighth, evaluation and assessment; ninth, teacher's explanation according to the actual situation of the course and students [3]. Peng Shanshan (2008:145-146) pointed out that the initial task of foreign language teaching is to train and cultivate students' foreign language ability, and appropriate teaching methods and means directly affect the teaching efficiency and quality [4]. Therefore, Jigsaw reading classroom instruction is viable to non-English major junior college students on the basis of Jigsaw IV that put forward by Holliday & Dwriht C. The reading materials of this research consist of reading part of each unit of students' textbook — Direct English-An Integrated Course (1) written by Jian Shi, Xing Wang and Louis Rogers, each unit has five or six even more parts. Group testing referred to the correspondent exercise in the textbook to check students [5].

Second, personal practice: It is convenient to collect data for which as a part-time job English teacher for non-English major junior college students in Yunnan Jiaotong College. Jigsaw IV was utilized in English reading classroom instruction to improve students' interest and participation in English reading classroom instruction and gain better teaching efficiency.

At length, personal preference: Major in Pedagogy of Subject English Teaching, teaching methods and techniques are indispensable factors in promoting teaching efficiency and quality. So self-development and promotion in professional knowledge and ability should be put into practice and enhanced.

II. LITERATURE REVIEW

This part will express what Jigsaw is, the evolution of Jigsaw and procedures of Jigsaw; what cooperative language learning refers to and the effect.

A. The research of Jigsaw

Jigsaw also named Jigsaw puzzle, a picture printed on cardboard or wood, that has been cut up into a lot of small pieces of different shapes that you have to fit together again [6]. Jack C. Richards & Theodore S. Rodgers (2008) [7] pointed out that Jigsaw refereed differentiated but predetermined input — evaluation and synthesis of facts and opinions. Jigsaw was first advocated in Texas in the 1970s by Elliot Aronson — a well-known American educator and sociologist; the step of Jigsaw I includes group division, Jigsaw groups formed, expert groups formed, and reporting tasks [8]. Slavin (1986) improved and added "Student Teams Achievement Di-visions", also called STAD on the basis of Jigsaw I and finally formed Jigsaw II. Specifically, Jigsaw II includes regular teaching activities such as reading, expert group discussions, team reports, tests and team confirmation. In stress-free learning environment, these teaching activities provide learners with communicative language learning opportunities; besides, the dynamic learning form of Jigsaw II provides learners with a relaxed and rich feedback environment which contributing to foreign language learning [9]. In 1988, Jones and Steibrink added a cooperative review in home group before the quiz of Jigsaw II which was developed Jigsaw III. At the beginning of this century, however, Holliday, Dwight C has added the teacher's explanation, supplemented the Jigsaw III, which formed Jigsaw IV. The steps of Jigsaw IV have also evolved into nine: first, course presentations; second, establishment of expert questions; third, mastering the corresponding questions in expert groups; fourth, experts group testing; fifth, members of expert group returning to their home group to impart knowledge; sixth, home group testing; seventh, review of the competition mechanism (using the integral game system); eighth, evaluation and assessment; ninth, teacher's explanation according to the actual situation of the course and students [3].

According to researches on Jigsaw in China and foreign countries, there are so many researches refer to English reading in primary school, junior/senior high school and university. For example, Juan. M. Leyve-Moral (2016) discussed the achievement of students by using Jigsaw method — 89.6% of the objects argued that Jigsaw was beneficial for them, while 10.4% of the objects thought Jigsaw was useless [10]. In China, many researchers have studied the advantages of Jigsaw in primary, secondary school; a minority of them refers to college or university. Therefore, Experimental Research in English Reading Classroom Instruction of Non-English Major Junior College Students from the Perspective of Jigsaw IV is feasible.

B. The research of cooperative language learning

Cooperative involves doing something together or working together with others towards a shared aim [11]. Jack

C. Richards & Theodore S. Rodgers (2008) [12] pointed out that Cooperative language learning (CLL) is a part of a more general instructional approach also known as Collaborative Learning (CL) and Cooperative language learning activities involving pairs and small groups of learners in the classroom. Cooperative learning is group learning activity organized so that learning is dependent on the socially structured exchange of information between learners in groups and in which each learner is held accountable for his or her own learning and is motivated to increase the learning of others (Olsen & Kagan 1992: 8) [13]. Jack C. Richards & Theodore S. Rodgers (2008) regarded the primary role of the learner is as a member of a group who must work collaboratively on tasks with other group members; learners have to learn team work skills; they are directors of their own learning. Johonson et al. (1994) reviewed the role of teacher in CLL differs considerably from the role of teachers in traditional teacher-fronted lesson; the teacher has to create a highly structured and well-organized learning environment in the classroom, setting goals, planning and structuring tasks, establishing the physical arrangement of the classroom, assigning students to groups and roles, selecting materials and time [14]. Cooperative learning is mainly group learning activities according to the cooperative process and way, helping students to learn together in the mixed composition of the heterogeneous group, promoting students communication, so as to enhance the formation of students' cognitive feelings (Liang Lingzhi, 2017) [15].

III. RESEARCH METHODOLOGY

This part will focus on how the experiment conducted and methodology was adopted. Quantitative and qualitative analysis were applied through test and interview.

A. Research questions

In order to know about non-English junior college students' English reading levels and enhance their English reading standard, the research proposes tests and interview to answer the following main questions: First, is Jigsaw IV beneficial for non-English junior college students' English reading and improve their English reading achievement? Second, what are the opinions of students on the application of Jigsaw IV and traditional English reading instruction method?

B. Research objects

The objects of this research are 102 students who are all major in Economic Management and come from Yunnan Jiaotong College. There are 14 males and 38 females in class 1903, while 13 males and 37 females are in class 1904. Class 1903 is control group while class 1904 is experimental group.

C. Research instruments

Two reading tests (pretest — National English Examination Paper for College Entrance Examination and post-test — Final Examination) are given to the subjects before and after the experiment in four months.

The interview includes two stages. The first stage is before the experiment, which include two questions: first, are you satisfied with your English reading achievement, why not? Second, what do you think about the traditional English reading class and could you share some ideas to improve it? After experiment, ask students how do you think Jigsaw IV in reading? Why or why not? Then, what can you learn from Jigsaw IV in English reading class?

IV. DATA COLLECTION AND ANALYSIS

The data was collected by the researcher and analyzed through SPSS 23.0 statistics. The Mean was adopted to analyze the level of students from two classes; Std. Deviation was used to analyze the concrete situation of experimental class and control class; the value of "p" was utilized the difference between the two classes.

A. Research results and discussion

This part will present the research result and discussion through analyzing SPSS 23.0 statistics. Descriptive analysis was adopted to analyze the average English level between the two classes; frequency analysis was applied to demonstrate the demography between the pretest and post-test of the two classes; the value of "p" was accepted to measure the significant difference between the two classes; interview was utilized to measure the opinions of students in experimental class.

B. English standard and difference of the two classes

The following "Table I" refers to the descriptive analysis of English standard for non-English major junior college students, which includes reading achievement in pretest and post-test of experimental class and control class.

TABLE I.   DESCRIPTIVE ANALYSIS OF READING ACHIEVEMENT IN PRETEST AND POST-TEST OF EXPERIMENTAL CLASS AND CONTROL CLASS

Descriptive Statistics						
Achievement	Class	N	Minimum	Maximum	Mean	Std. Deviation
Reading(pretest)	Control class	50	4	24	12.12	5.32
	Experimental class	52	2	24	12	5.21
Reading(post-test)	Control class	50	2	29	19.98	7.14
	Experimental class	52	9	29	22.96	4.06

As was shown from the "Table I", the mean of pretest achievement in control class was equaled to 12.12, while the mean in experimental class was 12. The S.D.=5.32 in control class, while S.D.=5.21 in experimental class. All of which demonstrate that there was no significant difference between control class and experimental class in pretest English reading achievement. However, in the post-test the mean equaled to 19.98 in control class, 22.96 was in the experimental class which was higher than the control class. It demonstrated that students in experimental class got better English reading achievement. S.d. Deviation was 7.14 in control class, 4.06 was in the experimental class which meant there was obviously different situations in control class.

TABLE II.   FREQUENCY ANALYSIS OF DEMOGRAPHY IN EXPERIMENTAL CLASS AND CONTROL CLASS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		12	19.4	19.4	19.4
Class	1903	50	80.6	80.6	100
	1904	52	42.3	100	100
Control class	Female	37	59.7	59.7	79
	Male	13	21	21	100
Valid		71	57.7	57.7	57.7
Experimental class	Female	38	30.9	30.9	88.6
	Male	14	11.4	11.4	100

As was demonstrated from the "Table II", we could see 13 boys which occupied 21% and 37 girls which occupied 59.7% in the control class; 14 boys which was 11.4% and 38 girls which owned 30.9% in the experimental class; both of which generally signed there was no significant difference in the two classes. So it is appropriate to do the research.

TABLE III.   SIGNIFICANCE ANALYSIS OF READING ACHIEVEMENT IN PRETEST AND POST-TEST OF EXPERIMENTAL CLASS AND CONTROL CLASS

Achievement	Class	N	Minimum	Maximum	Mean	Std. Deviation	p
Reading(pretest)	*Control class*	50	4	24	12.12	5.32	0.91
	Experimental class	52	2	24	12	5.21	
Reading(post-test)	*Control class*	50	2	29	19.98	7.14	0.01
	Experimental class	52	9	29	22.96	4.06	

We can obviously know from "Table III" that "p" equaled to 0.91 in pretest which was higher than 0.05, while "p" was 0.01 in post-test which was lower than 0.05. It marked that there was no significant difference in the pretest, while there was strongly significant difference in the post-test. Therefore, the English reading achievement of two classes were different after the experiment in four months.

C. Personal speculation on the reasons of the result

The reasons of the research result are included: first, Jigsaw reading was applied into the class. As far as Jigsaw reading instruction is concerned, it is helpful to realize two main goals of reading comprehension: on one hand, developing meta-cognitive ability, i.e., students' ability to control and master the learning process and adjust learning strategies in time; on the other hand, mastering what they have learned in the process of mutual teaching and learning, and then developing their autonomous learning habit (Sharon, 1994:203) [16]. Therefore, students in experimental class improved themselves through the experience. Second, Jigsaw is one of the technique learning of Cooperative learning. It was known with its expert group and original group [1]. It was believed this technique can increase students' enthusiasm to get good academic [2]. Third, the students in the control class were not very outgoing and they always kept silent when they were offered questions or had a discussion, let alone, the higher-standard students help or communicate with the lower-level peers actively and happily.

D. Discussion

This results consist with Ghaith (2001), that is, in a supportive and encouraging learning environment, both the low and high-achievers feel that the learning process is very interesting, easy and enjoyable, because the low-achievers can get personal and learning support from the teachers and the high-achievers; on the contrary, in a competitive learning environment, the low-achievers will feel more pressured to learn and become tired of learning and do not experience the learning pleasure [17]. What's more, the results of Basyah (2017) and Madu (2018). Basyah (2017) proved that Jigsaw technique in teaching-learning economics lesson can be a model for improving students' achievement [18]. Madu (2018) applied Jigsaw to Math lesson and proved that Jigsaw was effective in increasing students' math achievement [19]. Students in the experimental class were more active and got better English reading achievement. However, the characteristics of students may have an influence on their learning achievements.

V. CONCLUSION

In this part, result will be concluded. Whether Jigsaw IV is beneficial for non-English junior college students' English reading and improve their English reading achievement or not, the opinions of students on Jigsaw IV and traditional English reading instruction method. Major findings, implications, limitations of the research and recommendations for future research will be implied in this part.

A. Major findings

Jigsaw IV is beneficial for students' English reading comprehension achievement, students in experimental were more active in sharing and discussion, they always lay in center when learning, low-level students could be helped by higher-level students, and finally they got better achievement after four months. However, some students thought that Jigsaw IV wasted much time and it was complex when divided groups; especially 52 students in the classroom after interviewing them "what the opinions of students on Jigsaw IV and traditional English reading instruction method are".

B. Research significance

Theoretical significance, Jigsaw reading is helpful in students' English reading comprehension. For example, some points of authors. First, cooperative learning is an effective form of teaching, which is relevant to reading affective factors and can improve cognitive, social, and affective states (Slavin,1995)[20]. Second, Slavin (1977) pointed out the social status of students in cooperative learning has been improved, in the traditional classroom instruction; however, students lose their status [21]. Third, Dansereau (1988) argued that higher-level students would also benefit from cooperative learning because they would explain to lower-level students. Meanwhile, Ghaith (2001) argued that lower-level learners generally believe that learning with higher-level peers will feel more relaxed. This indicates that learners' intelligence is related to their cooperative learning process [17]. Additionally, on the basis of theoretical analysis cooperative learning, Jigsaw IV has enriched it.

Practical significance, teaching methods that suit for students are effective teaching. During the practice of Jigsaw IV, students' ability of practice, communication skills, and cooperative spirit as well as expression ability has enhanced. Some lower-level students become more confident and active by teacher's encouragement and praise when they felt

shy or did not know many questions; higher-level students could become more responsible and active to help lower-level students. Because, (Slavin, 1983:33) argued that teachers can give more rewards to groups that perform better, or praise them verbally [22]. Therefore, students have improved themselves comprehensively during the process of learning, discussing and practicing and so on and forth.

Methodological significance, non-English major junior college students were the objects had enriched the research objects about Jigsaw reading instruction.

C. Limitations of the research

First, objects are too large to divide groups easily and appropriately, and 102 research objects cannot stand the whole non-English major junior college students. Future research needs more objects and most of them should stand for the whole non-English major junior college students in one province or a district. Second, research instrument was unitary that test paper and interview to the research objects. Last but not the least, data analysis was unitary, for which SPSS was the only way to analyze. SPSS and AMOS or any other useful methods should be applied into the future research.

D. Recommendation for the future research

As a flexible and useful teaching technique of cooperative language learning, Jigsaw IV plays an initial part in English reading classroom instruction. However, with the deep development of economic globalization, cross-cultural communication among countries, cross-language communication among nationalities and ethnic groups are becoming more and more widespread [23]. It is necessary, therefore, to consider Jigsaw IV in the education of ethnic groups or other languages classroom instruction.

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