

The Effect of Immediate and Delayed Feedback on the Achievement of Chinese EFL Learners on Reading Comprehension

Di Qi¹, Azizah Rajab², Nur'ain Balqis Haladin³,
Wenjing Wang⁴, Xiaoxiao Fu⁵

¹Affiliation (Di Qi), Universiti Teknologi Malaysia

²Affiliation (Azizah Rajab), Universiti Teknologi Malaysia

³Affiliation (Nur'ain Balqis Haladin), Universiti Teknologi Malaysia

⁴Affiliation (Wenjing Wang), Universiti Teknologi Malaysia

⁵Affiliation (Xiaoxiao Fu), Universiti Teknologi Malaysia

Email: ¹zdqd1986@gmail.com

Abstract

This study aims to investigate the effect of using two types of feedback (immediate and delayed) in motivating Chinese students to improve English reading proficiency in the university level. The current study employs 3(immediate feedback, delayed feedback and no feedback) X 3(low level, moderate level and high level) quasi-experimental study. Highlighting the purpose of the current study by adopting three groups of participants were randomly selected from Fuyang Normal University for the academic year (2018-2019). 18 English majors in the university were selected to participate in present study for 1 week. By comparing the achievements of pretest and posttest, the result showed that students in the immediate feedback group performed better than students in the delayed feedback group and no feedback group. Additionally, high proficiency learners benefited more from immediate feedback, with making more progress than the other two levels. However, moderate proficiency level learners benefited more from delayed feedback compared to the other two proficiency level groups.

Key Words: *Feedback, reading comprehension, Language learning, learner's achievement*

1. INTRODUCTION

Numerous of studies have convinced that the provision of feedback in teaching is effective for EFL learners (Clariana, 1999; Kulik & Kulik, 1988; Quinn, 2014; S. Samuels & Wu, 2003) and that different feedback types have different effects on the improvement of learners' language proficiency (Lemley, 2005; Manoli, Papadopoulou, & Metallidou, 2016). However, it is still controversial that which type of feedback is more effective for students who learn the foreign language.

In China, the role of teacher feedback has received many attentions because mastery experience suggests that as supervisors, teachers are successful in the act of giving feedback. But overall, feedback studies in the field of second language acquisition remain sporadic in China, and research on feedback conducted in China has been focused mainly on verbal and writing feedback. In recent years, the Ministry of Education in China has made great efforts to develop Chinese EFL learners' language proficiency (Xu & Connelly, 2009). Unfortunately, it has not created the proper impact on EFL Chinese learners to create a great desire in the target language. Meanwhile, a lot of teachers do not pay attention to feedback and when it should be provided. In a foreign language teaching and learning context, reading is the primary source of English input, and it accounts for a large proportion of English courses in Chinese universities. Therefore, using effective teacher feedback to students in this area can help both teachers and students improve their reading proficiency effectively.

This study aims to investigate the effect of using two types of effective feedback (immediate and delayed) in motivating Chinese students to improve English reading proficiency in the classroom setting. According to the procedures of Fuyang Normal University, teachers should attract their own students to the materials of the current textbook in reading namely "Extensive Reading". Chinese EFL learners need to be provided feedback effectively to be motivated to read and to help them in better learning in reading comprehension. The research questions of this study are:

1. What are the differences in the achievements of Chinese EFL learners in reading comprehension based on the feedback timing (immediate and delayed feedback)?
2. What are the differences in the achievements of Chinese EFL learners in three language proficiency levels (high level, moderate level and low level) in reading comprehension based on the feedback timing (immediate and delayed feedback)?

2. LITERATURE REVIEW

2.1 Theoretical issues

The theoretical framework for this study is based on Vygotsky's Social Constructivism Theory. Social constructivism focuses on how learners are actively engaged in constructing their knowledge. Vygotsky proposes that students are able to construct their own knowledge and understanding dependent on experiences and reflecting on their experiences (Dangel & Guyton, 2003). Moreover, teachers need to provide some help and guidance to students in their learning process, creating the opportunity for a managed discussion to assist their learning. Vygotsky (1978) notes that teacher should apply the method of scaffolding by providing assistance and offering feedback while the students encounter new problems in their learning. Teachers also ought to ensure that students are provided sufficient instruments to learning. Students should be instructed how to utilize devices, for example, the PC, resource books, and so on (Woolfolk, Gara, Allen, & Beaver, 2004).

As Woolfolk et al. (2004) present, Piaget advanced discovery learning with little teacher intervention while Vygotsky advocated guided discovery in the classroom. Guided discovery

includes the teacher providing intriguing questions to students and assisting them find the answers through testing theories. Students are actively engaged in the discovery process. In a classroom environment, students maintain their own knowledge and create new ideas through interaction with teachers. This learning concept reflects the entire content of the social constructivist classroom. According to social constructivist theory (Vygotsky, 1978), students need to have chances to distribute their insight. This need learning materials which are available for analyze and reflect. Furthermore, students can return to and revise their learning which will improve their learning knowledge. Students ought to have the opportunity to get feedback so that it might scaffold them in their quest for knowledge construction.

2.2 *Status of Reading in China*

China's education structure includes higher education, secondary education, primary education and preschool education. A foreign language, generally English, is the compulsory subject for all of the students in the universities, colleges, secondary schools and primary schools (Zhaoxiang, 2002). In order to get into college, upper-secondary school students need to access Higher Education by taking the national university entrance examination "Gaokao" (Rui, 2014). Students' score at this examination determine whether they are qualified to go to colleges/universities and which college they can go. University entrance should be based on the scores of national university entrance examination now administered by the National Education Examinations Authority (NEEA) (Yu & Suen, 2005). From 1983, Foreign languages include English and other languages were officially included in the college entrance examination subjects and was regarded as a compulsory examination item in the college entrance examination since then. In the college entrance examination, comprehensive tests based on basic knowledge are conducted for the students. The exams have stable question types which include listening, reading comprehension, cloze and writing. Reading comprehension in the college entrance examination aims at testing the comprehensive use ability of language, as well as deepening the practical use of English ability. Therefore, from the questions of exams, it can be found that the English grammar is relatively weakened while the reading comprehension is further strengthened.

As Penner (1995) observes, for many Chinese teachers of English, the aim is to provide the grammatical and vocabulary knowledge with the goal that the students can successfully pass the many exams they should take. In this way, Chinese undergraduate students should have studied English for 11-16 years altogether by the time they graduate (Girls, 2003). However, their proficiency in English stay a long way behind that of graduates in neighboring countries (Menken, 2008). Despite the fact that reading is so important, and students have already realized that mastering a foreign language will guarantee them better jobs, access to the internet, read world literature and so on, they are not very enthusiastic about reading on the grounds that for many years reading classes turn into dispensable and exhausting (Lau*, 2004).

It is generally accepted that students need to receive extensive input to develop their language proficiency. As the most important input, reading is the most crucial language skill needed by EFL learners for their academic proficiency and it is foundation of all the rest of skills in language learning whose components are listening, speaking, writing, and translating (Cogmen & Saracaloglu, 2009; Lynch & Hudson, 1991; McDonough & Shaw, 1993; Moreillon, 2012; Snowling & Hulme, 2011). The language input EFL students get is mostly from the classroom. Students do not frequently show any drive to find unknown foreign language resources outside of class or take part in reading beyond a course requirement. Extensive reading course is an important course in the basic stage of China English majors. According to the requirements of 《College English Syllabus》, the task of reading course is

to improve students' abilities, cultivate the ability to observe language carefully, enlarge their vocabulary and increase their knowledge of cultural background. The serious problem related to Chinese students in reading abilities is that there is no effective feedback can keep trick to the classroom activity. This is the reason that triggers the researcher to carry out the present research because Chinese EFL learners need to be provided feedback effectively to be motivated to read and to help them in better learning regarding the achievement of their skills in reading comprehension in the classroom setting.

2.3 Immediate Feedback and Delayed Feedback

The time of feedback had been noticed since 1920's and many researchers started to take the time of immediate versus delayed feedback into account. Researchers stressed the importance of providing feedback to student responses in a timely manner, so that students could apply the feedback immediately to the activity. But overall, the studies on feedback timing were limited before the 1960s and most studies tend to draw a conclusion that immediate feedback is more effective for learning (Pressey, 1926, 1932). The studies showed that the effect of immediate feedback as it can help students deal with their problems as soon as possible, and students can also feel the teacher's attention to themselves through the process of feedback. Feedback can be provided immediately after the students' response or it may postpone for some period of time or set number of responses, such as at the end of a test (Clariana, Ross, & Morrison, 1991; Kulik & Kulik, 1988; Smits, Boon, Sluijsmans, & Van Gog, 2008). Any delay between the response and the receipt of the feedback is delayed feedback, but the delay in terms of time could be seconds, minutes, hours, days, or even weeks (Smits et al., 2008). Dempsey and Wager (1988) proposed the operational definitions of immediate feedback and delayed feedback: "Feedback was given either immediately after each response, immediately after an entire test was completed, or after a delay of a day or more." In current study, immediate feedback was defined as feedback provided after the test was completed while delayed feedback was provided within one hour after the completion of the test (English & Kinzer, 1966).

Much studies investigates the effects of immediate feedback and delayed feedback on Learning (Clariana, 1999; Manoli et al., 2016; Miller, 2014; Quinn, 2014; S. J. Samuels & Kamil, 1988). The main point in the studies of feedback timing is which type of feedback (immediate feedback or delayed feedback) are more effective in learning. Compared to most previous studies, Kulhavy (1977) suggested that the utilization of delayed feedback was more effective because of a phenomenon called Delay-Retention Effect which was initially described by Brackbill, Bravos, and Starr (1962) in the study concerned with multiple-choice testing.

2.4 Studies Related to Reading Comprehension and Feedback Timing

As mentioned above, the studies on feedback timing were limited before 1960s. From later 1960s, a number of researchers started to investigate the effects of immediate and delayed feedback on learning (Bown, 2004; Clariana, 1999; Jurma & Froelich, 1984; Pound & Bailey, 1975; Prather & Berry, 1973). However, there are lack of attention to feedback timing on reading comprehension in classroom, although reading comprehension is often viewed as an important way to the language input (Chafouleas, Martens, Dobson, Weinstein, & Gardner, 2004; Grenfell, 1992; Janzen, 2007; Manoli & Papadopoulou, 2013). In general, the research on the effect of immediate and delayed feedback on students' reading comprehension was very rare.

Guthrie (1971) investigates the motivational effect of timing feedback on reading. The results show that under different feedback conditions (immediate feedback and delayed feedback), students' emotional responses to reading tasks are different. The learning effect of delayed

feedback on original task is significantly higher than that of immediate feedback. But in the completion of a continuous passage, immediate feedback produces more motivation than delayed feedback. S. Samuels and Wu (2003) evaluates the effects of immediate versus delayed feedback on sentence and passage comprehension, as well as reading speed. The students were chosen from low, moderate and high reading ability levels. The researcher found that students in the immediate feedback condition performed significantly superior on measures of passage comprehension and composite comprehension. However, compared with the other two ability groups, the moderate-level group scored highest in reading speed. Another study was conducted in three intensive reading classes to explore the participants' acquisition of regular and irregular past tense forms of English at different feedback time (Yang & Lyster, 2010). In both feedback groups, the teacher consistently provided one type of feedback (i.e., either recasts or prompts) to correct students' response during the activities, whereas in the control group, the teacher provided feedback only on content. Analysis showed that time always showed a great influence, indicating the prompt group made significant progress, and then are the recast group and the control group. The prompts and recasts had similar effects on improving accuracy in the use of irregular past tense forms. Manoli et al. (2016) examines the effects of immediate and delayed teaching intervention (a multiple strategy instruction) on EFL learners' reading performance. The experimental group that received a three-month strategy intervention within the Direct Explanation framework, while the control group did not receive such feedback. The results indicated that students in the experimental group improved their reading performance both in the immediate and delayed posttest measurements as compared to the students in the control group.

The purpose of these studies was to explore the effects of immediate and delayed feedback on reading-related factors (motivation; reading comprehension and speed; grammar acquisition; a multiple strategy instruction). Through investigating the effect of feedback timing on reading related problems, those studies intended to explore whether these factors will affect students' reading performance and guide students to improve their reading proficiency finally. However, to investigate the effect of feedback timing on reading related factors, the effect of different time of feedback on students' reading was first necessary to study. Furthermore, the majority of existing research has failed to manipulate and compare these two types of feedback in the real classroom teaching environment. Additionally, giving the right type of feedback in the right place at the right time of the learning phase may be central in understanding how teachers can provide feedback in a systematic and productive way so that students can effectively interpret and incorporate it (Stiggins, Arter, Chappuis, & Chappuis, 2004). It is found that the most effective timing of the feedback depends on whether the situation is in a real-life classroom environment or an experimental-lab type of environment. Thus, it is important to examine effects of feedback in real classroom situations, especially in English reading classes in university level and not just the controlled lab environment. The present study investigates the effect of using two types of effective feedback (immediate and delayed) in motivating Chinese students to improve English reading proficiency in the classroom setting.

3. METHOD

3.1 Research design

Quantitative research was used for conducting the present study. According to Sherman and Reid (1994), quantitative research often be used in sociologies utilizing the factual strategies utilized above to gather quantitative information from the exploration study. In the quantitative study, researchers send numerical structures and hypotheses that identify with the

amount under inquiry. The objective of quantitative method in current study was to find the differences in the achievements of Chinese EFL learners in reading comprehension based on the feedback timing. The research design framework was shown in Figure 1.

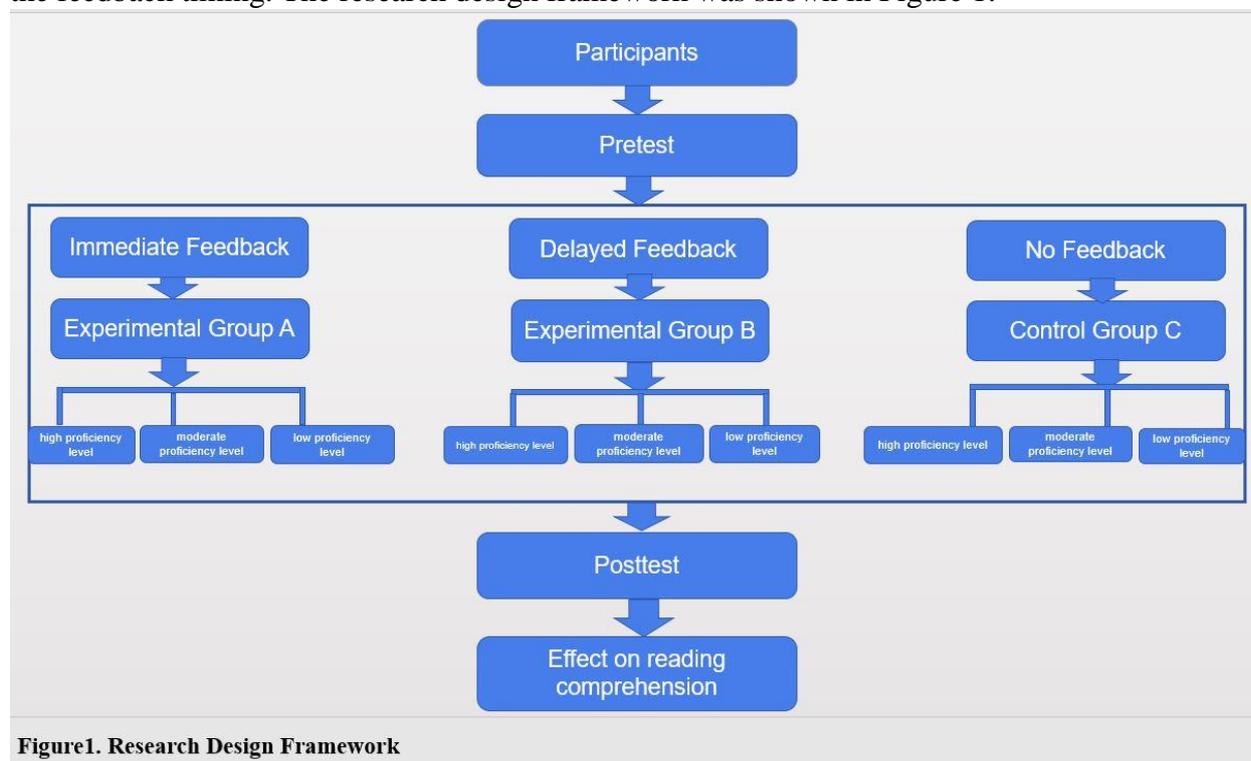


Figure1. Research Design Framework

3.2 Participants

The participants of the current study are undergraduate students who had similar background in the faculty of foreign language in Fuyang Normal University in the southeast of China. Eighteen English majors were selected which involves 15 females and 3 males, with age in 18-20. They were selected in terms of their ages (average 19 years old), formal exposure to English in primary school and secondary school (average 10 years). Subjects in the study were limited to students who were in the Freshman year for the academic year (2018-2019). All of them were on a full-time student status. These students just passed the college entrance examination in China and were in the second semester in college. All of these participants were coded from p1 to p18.

3.3 Instrumentation

For a long time, studies on reading has focused on the factors of measuring reading comprehension through various means, for example: multiple choice questions, cloze tasks, open-ended questions and summary writing (Riley & Lee, 1996). In this study, measurement of students' reading achievements were also included to quantify how well they comprehended the different types of feedback, thus improving their reading performance. Multiple-choice reading comprehension tests keep on being broadly used to decide a student's ability to read, and test the results of test remain evidence of education accountability that the public desperately needs (Farr, Pritchard, & Smitten, 1990). In multiple choice tests, the number of correct answers increases as students understand more (Hargreaves, 1997). In present study, the Extensive Reading textbook was chosen as the materials to investigate the impact of these two types of feedback (immediate and delayed) because the new English Extensive Reading Textbook is a series of extensive reading

materials for English majors in colleges and universities in China. The material used in this study named “Extensive Reading” aimed to effectively improve students’ English application skills. This booklet is closely linked to the high school curriculum, with the main purpose of improving reading speed and expanding vocabulary. Extensive reading materials in the textbook are rich in content, diverse in form and moderate in difficulty, which is convenient for students to practice and improve their reading speed (Cortazzi & Jin, 1996).

3.4 Procedure of the study

The procedures for this study was carried out by the Fuyang Normal University’s teachers and students. The first step was to divide the 18 participants into 3 groups (Experimental group A, Experimental group B and Control group C). The subjects were randomly divided to either the control group or one of the two experimental groups. The participants in the experimental group A received immediate feedback. The participants in the experimental group B received delayed feedback and students in the control group C received none feedback. Each group contains 6 participants with different age and gender. Then divide each group of 6 people into three sub-groups according to the results of the college entrance examination. These groups were classified by their achievements of the college entrance examination to arrange them into three levels namely: high proficiency level, moderate proficiency level and low proficiency level. The purpose is to measure each students’ reading ability and investigate the effects of these models of feedback on motivating students’ English language proficiency in different levels.

Pretest and posttest were conducted for all the participants and the experimental teaching activity began after the pretest (De Rose, De Souza, & Hanna, 1996; Dowhower, 1987). In Additionally, the tests content was selected so that each test contained different test items developed with the same test plan. This feature was important to reduce score variance caused by the repetition of test questions. The estimated time for each test was thirty minutes. The students had 30 minutes per test to complete 15 test items consisting of several different item types. Three groups of participants received different feedback methods. In the group of experimental A, participants received immediate feedback. The class teacher achieved it during their testing reading comprehension immediately after the completion of their tests. In the group of experimental B, participants did not receive the feedback after their answering all the tests section and they could receive delay feedback in one hour after the completion of their answering. In the control group C, participants did not receive any model of feedback (immediate or delay) during their testing reading comprehension by the class teacher. Each activity was conducted within 100 minutes in two sessions. Participants were provided by the specific instructions that can be used for answering the right choices in relating to the extensive reading context. They were engaged in multi-opportunities for developing reading skills in the class. Teacher can help students to correct their errors in the tests and teach them some reading skills like skimming, scanning, summarizing, guessing the meaning of the words and so on. After a week, they were conduct a unified post-test. According to the pre-test and post-test measures of achievement, their data were recorded by the researcher to compare and analysis.

4 RESULTS AND FINDINGS

A 3 (treatment) X 3 (reading abilities) design was used in this present study. A quantitative analysis of the participants’ achievements in the pretest and posttest were conducted in current study. These gain scores were analyzed by using ANOVA in Spss22.0 to test the effects of two types of feedback on reading comprehension achievements. Considering the

results, the conclusion would clarify which type of feedback was beneficial for EFL learners and the advantages of adopting that model of feedback. Independent variables included feedback type while dependent variables included the participants' performance scores on reading comprehension.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Exp.group A	6	11.17	1.472	.601	9.62	12.71	9	13
Exp.group B	6	11.17	.753	.307	10.38	11.96	10	12
Con.group C	6	10.83	1.169	.477	9.61	12.06	9	12
Total	18	11.06	1.110	.262	10.50	11.61	9	13

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.444	2	.222	.163	.851
Within Groups	20.500	15	1.367		
Total	20.944	17			

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Exp.group A	6	13.67	1.366	.558	12.23	15.10	12	15
Exp.group B	6	13.00	.632	.258	12.34	13.66	12	14

Con.group C	6	11.50	1.049	.428	10.40	12.60	10	13
Total	18	12.72	1.364	.321	12.04	13.40	10	15

Table4. Post-test ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	14.778	2	7.389	6.584	.009
Within Groups	16.833	15	1.122		
Total	31.611	17			

Table5. Multiple Comparisons Posttest

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Exp.A	Exp.B	.667	.612	.293	-.64	1.97
	Con.C	2.167	.612	.003	.86	3.47
Exp.B	Exp.A	-.667	.612	.293	-1.97	.64
	Con.C	1.500	.612	.027	.20	2.80
Con.C	Exp.A	-2.167	.612	.003	-3.47	-.86
	Exp.B	-1.500	.612	.027	-2.80	-.20

*. The mean difference is significant at the 0.05 level.

To examine the effects of feedback timing on Chinese EFL learners' reading performance, an ANOVA was conducted with the scores of the multiple-choice reading comprehension tests in the two measurement times (before and after the intervention) as within subject variable and the group (experimental vs control) as between subject variable. Table 1-5 presents the means and standard deviations of the data from the pretest and posttest. In the pretest of three groups (Experimental group A, Experimental group B and Control group C), it can be found that there are no significant differences in their achievements. There were significant differences in the results of the pretest and posttest in the two experimental groups, and the results of the posttest were significantly higher than those of the pretest. On the contrary, there is no significant difference in pretest and posttest scores of Control group. Further univariate analyses of variance indicated that there was difference on gain scores of three groups in posttest, the respective mean scores were: $M = 13.67$ and $M = 13.00$ for the Experimental group A and B while $M = 11.50$ for the Control group C. The descriptive analysis of the results from the post-test is presented in table 3. It can be seen from the table 4

that at the significance level of 0.05, the Sig value of the one-way variance of three groups was 0.009, less than 0.05. Therefore, it is believed that there is a significant difference between of three groups in posttest. Simultaneously, multiple comparisons are performed to analyze the specific differences among the three groups. The results showed that there is a significant difference between Experimental group A and Control group C at the significance level of 0.05. It is believed that Experimental group A was significantly higher than Control group C. Similarly, there was a significant difference between Experimental group B and Control group C. And Experimental group B was significantly higher than Control group C. Furthermore, Experimental group A ($M = 13.67$) in this study performed better than Experimental group B ($M = 13.00$). These results demonstrate the advantage of immediate feedback.

Many studies have shown that one of the key factors affecting the effectiveness of feedback is learners' proficiency (Dowhower, 1987; Kamimura, 2006; Kang & Han, 2015; Li, 2009; Murphy, 2007). According to the results of pre-test and posttest, the effects of different types of feedback on the achievements of high proficiency level, medium proficiency level and low proficiency level learners were studied. According to the distribution of descriptive statistics of pretest and posttest in Experimental group A, the respective mean and standard deviations for each proficiency level group were: the low reading ability group ($M = -2.500$, $SD = .707$), the group with moderate proficiency level ($M = -1.500$, $SD = .707$) and the group with high proficiency level ($M = -3.500$, $SD = .707$). Overall mean T-test shows that there is a difference of nearly 1 point between the experimental and the control group in the post-test results. However, there is no statistical significance in this difference (the t-test Sig values of the paired samples in pretest and posttest of the three level groups were respectively: $L=0.126$, $M=0.205$, $H=0.090$). If the different parts of the test were considered in isolation, it can be found that high proficiency level learners benefited more from immediate feedback, with making more progress than the other two levels. The second is the low-level learners and moderate-level learners showed the least change.

Regarding to the distribution of descriptive statistics of pretest and posttest in Experimental group B, the respective mean and standard deviations for each reading ability group were: the low reading ability group ($M = -1.500$, $SD = .707$), the group with moderate reading ability ($M = -2.500$, $SD = .707$) and the group with high reading ability ($M = -1.500$, $SD = .707$). The t-test Sig values of the paired samples in pretest and posttest of the three level groups were respectively: $L=0.205$, $M=0.126$, $H=0.205$. It can be seen that moderate proficiency level learners benefited more from delayed feedback. The other two groups had similar changes. In the Control group C, there was little change in the achievements of high, medium and low reading proficiency level learners. There was no significant difference between pretest and posttest of the three level sub-groups.

5. DISCUSSION

This chapter summarizes the findings of this study, observations, limitations, and recommendations for future research. The questions which addressed in this study were related to the effect of using two types of effective feedback (immediate and delayed) in motivating Chinese students to improve English reading proficiency in the classroom setting. It was assumed that the experimental group would improve reading performance both in an immediate and delayed feedback as compared to the control group that received no such feedback. The research data confirmed the above hypotheses.

5.1 *Effects of immediate feedback on students' reading performance*

Through comparing the impact of different feedback delivery time on students' performance in the classroom setting, the results of present study indicated that students who receive immediate feedback on reading comprehension tend to perform better than students who receive delayed feedback or no feedback (Kulik & Kulik, 1988). Although the experimental and control groups started at similar reading ability level according to their performance on the college entrance examination and the researcher-designed reading pretest before the teaching intervention, the experimental group outperformed the control group on the achievements of reading comprehension measures after two-weeks feedback instruction.

Of course, some factors other than feedback, such as the participants' after-class reading and self-learning, as well as the students' different motivation and concentration in class, may affect students' reading test scores. However, the fact that both groups of students had the same learning environment (for example, the same English teacher and university) and were randomly assigned to both the experimental and control classes minimized the possibility that extracurricular learning might affect grades. Although the control group improved in the posttest, the improvement was not statistically significant. This indicates that the significant understanding effect obtained by the experimental group in the post-test measurement is probably the result of feedback teaching.

This finding is particularly important because it emphasizes and verifies the contribution of feedback, especially the use of immediate feedback and teacher guidance, to the improvement of students' reading comprehension proficiency, as it can help students deal with their problems as soon as possible, and students can also correct their errors, construct their reading knowledge through the process of feedback (Bangert-Drowns, Kulik, Kulik, & Morgan, 1991; Gist & Mitchell, 1992).

In this way, it is implicated that the immediate feedback seems to have a positive effect on students' academic performance (S. Samuels & Wu, 2003). In addition, compared with the delayed feedback, the immediate feedback has a more obvious promoting effect on students' reading achievements in the experiment. Therefore, in order to help students master necessary reading skills, develop good reading behaviors and improve reading comprehension, they need to actively participate in reading classes and get effective feedback to construct their reading knowledge. Simultaneously, the results suggest that Chinese EFL teachers need to realize the important role of reading feedback instruction which can benefit students and teachers in various ways; teachers can evaluate the degree to which students understand what they have read, and in the meantime, students can take part in text interpretation in a positive way, see how to monitor their own reading comprehension process, and adopt reading strategies and skills in the process of reading (Pappa, Zafiropoulou, & Metallidou, 2003). However, in fact, a great number of students fail to get receive effective feedback on reading comprehension in classroom settings in China and fall behind in academic performance. In this way, Chinese EFL learners need frequent and immediate feedback. In conclusion, in order to enhance Chinese EFL learners' reading proficiency, teachers should provide students with frequent and informational immediate feedback. Effective feedback includes error correction, skills teaching and practice. Therefore, Chinese EFL educators need to understand the current practice research results focusing on reading feedback to choose the right time to give feedback, to enhance Chinese EFL learners' reading proficiency.

5.2 *Effects of delayed feedback on students' reading performance.*

As mentioned above, analysis showed that time always showed a great influence, indicating

the delayed feedback also has a positive effect on students' academic performance (Manoli et al., 2016). Students in both the immediate feedback group and the delayed feedback group made some progress after the intervention and confirmed the researcher's instructional choices. There were significant differences in the results of the pretest and posttest in the Experimental group B in delayed feedback condition. The achievements of students in Experimental group B were significantly higher than those in Control group C and moderate proficiency level learners benefited more from delayed feedback. Like in a meta-analysis study, Kulik and Kulik (1988) make inferences that delayed feedback showed an advantage in experimental conditions which used test questions as the instruction. Roediger III and Butler (2011) also proposed that a short study-test with delayed feedback would result in better retention.

Moreover, the duration of feedback instruction in two weeks, including twice multiple-choice reading tests as well as two instructional sessions, seemed to produce positive results in improving students' reading skills. However, reference to related literature, developing students' reading comprehension is a long-term process which requires teacher in the whole teaching process to guide and provide effective feedback. During the teaching process, EFL teacher can evaluate students' understanding, then adjust their teaching strategies and finally form an effective, applicable feedback model for different EFL learners to improve their reading comprehension.

5.3 Limitations of the study and recommendations for future research

The present study has some limitations, which can be further considered in future studies. First of all, the sample size of this study is too small and the proportion of male and female students is unbalanced, which may lead to too narrow coverage of experimental subjects. Due to the limited research time, it may have some impact on the research results. For example, under different feedback conditions, students with three different levels of reading ability (high, medium and low reading ability levels) achieved higher achievements in the post-test than those in the pre-test, but the difference was not statistically significant. It can be assumed that a longer experiment might have produced different results.

Another limitation of the study is the lack of qualitative data measuring the participants' perspectives and strategy use before and after the feedback intervention. Though qualitative data have their own value, the current study just focus on collecting quantitative data from three different measurements to show the effectiveness of feedback timing on the participants' reading performance. Despite the above limitations, the results of the study confirmed the delayed feedback effect and, most importantly, the immediate feedback effects on reading comprehension in Chinese EFL learners.

In view of the above limitations, further research needs to be conducted on providing effective teacher feedback on reading comprehension to students, investigating which feedback timing is preferable to students and how does it improve students' reading comprehension to extend the discoveries of the current study (Chamot, 2005; Macaro & Erler, 2008). Moreover, future research should include the combination of qualitative and quantitative methods to obtain more comprehensive research results. A qualitative method should be employed to provide insights for English reading teachers and related researchers as to how they might be able to design and present instructional feedback responses in ways that would encourage students to make better use of them.

Attempting to investigate the effect of immediate and delayed feedback on the achievements of students' reading comprehension in this study has helped to create a clear picture of how

different types of feedback might impact students' reading performance and progress in classroom setting in university level. Future studies can also interview students to obtain their perspectives on teacher feedback and feedback timing, as well as the advantages of two types of feedback. Answers to these questions through additional research would hopefully help develop empirical studies related to feedback timing and reading comprehension that will foster enhanced student learning.

REFERENCES

- Bangert-Drowns, R. L., Kulik, C.-L. C., Kulik, J. A., & Morgan, M. (1991). The instructional effect of feedback in test-like events. *Review of educational research*, 61(2), 213-238.
- Bown, A. (2004). *The Usefulness of Guided Feedback in a WebBased IELTS Reading Programme for Arab Learners*. Unpublished M. Ed dissertation of the University of Manchester.
- Brackbill, Y., Bravos, A., & Starr, R. H. (1962). Delay-improved retention of a difficult task. *Journal of Comparative and Physiological Psychology*, 55(6), 947.
- Chafouleas, S. M., Martens, B. K., Dobson, R. L., Weinstein, K. S., & Gardner, K. B. (2004). Fluent reading as the improvement of stimulus control: Additive effects of performance-based interventions to repeated reading on students' reading and error rates. *Journal of Behavioral Education*, 13(2), 67-81.
- Chamot, A. U. (2005). Language learning strategy instruction: Current issues and research. *Annual review of applied linguistics*, 25, 112-130.
- Clariana, R. B. (1999). Differential Memory Effects for Immediate and Delayed Feedback: A Delta Rule Explanation of Feedback Timing Effects.
- Clariana, R. B., Ross, S. M., & Morrison, G. R. (1991). The effects of different feedback strategies using computer-administered multiple-choice questions as instruction. *Educational technology research and development*, 39(2), 5-17.
- Cogmen, S., & Saracaloglu, A. S. (2009). Students' usage of reading strategies in the faculty of education. *Procedia-Social and Behavioral Sciences*, 1(1), 248-251.
- Cortazzi, M., & Jin, L. (1996). English teaching and learning in China. *Language teaching*, 29(2), 61-80.
- Dangel, J., & Guyton, E. (2003). *Expanding Our View of Teaching and Learning: Applying Constructivist Theory (s) to Teachers Education*.
- De Rose, J. C., De Souza, D. G., & Hanna, E. S. (1996). Teaching reading and spelling: Exclusion and stimulus equivalence. *Journal of Applied Behavior Analysis*, 29(4), 451-469.

- Dempsey, J. V., & Wager, S. U. (1988). A taxonomy for the timing of feedback in computer-based instruction. *Educational Technology*, 28(10), 20-25.
- Dowhower, S. L. (1987). Effects of repeated reading on second-grade transitional readers' fluency and comprehension. *Reading research quarterly*, 389-406.
- English, R. A., & Kinzer, J. R. (1966). The effect of immediate and delayed feedback on retention of subject matter. *Psychology in the Schools*, 3(2), 143-147.
- Farr, R., Pritchard, R., & Smitten, B. (1990). A description of what happens when an examinee takes a multiple-choice reading comprehension test. *Journal of Educational Measurement*, 27(3), 209-226.
- Girls, C. (2003). Reassessing the "proofreading trap": ESL tutoring and writing instruction. *The Writing Center Journal*, 24(1).
- Gist, M. E., & Mitchell, T. R. (1992). Self-efficacy: A theoretical analysis of its determinants and malleability. *Academy of Management review*, 17(2), 183-211.
- Grenfell, M. (1992). Process reading in the communicative classroom. *Language Learning Journal*, 6(1), 48-52.
- Guthrie, J. T. (1971). Motivational Effects of Feedback in Reading.
- Hargreaves, D. (1997). Student learning and assessment are inextricably linked. *European Journal of Engineering Education*, 22(4), 401-409.
- Janzen, J. (2007). Preparing teachers of second language reading. *TESOL quarterly*, 41(4), 707-729.
- Jurma, W. E., & Froelich, D. L. (1984). Effects of immediate instructor feedback on group discussion participants.
- Kamimura, T. (2006). Effects of peer feedback on EFL student writers at different levels of English proficiency: A Japanese context. *TESL Canada Journal*, 12-39.
- Kang, E., & Han, Z. (2015). The efficacy of written corrective feedback in improving L2 written accuracy: A meta-analysis. *The modern language journal*, 99(1), 1-18.
- Kulhavy, R. W. (1977). Feedback in written instruction. *Review of educational research*, 47(2), 211-232.
- Kulik, J. A., & Kulik, C.-L. C. (1988). Timing of feedback and verbal learning. *Review of educational research*, 58(1), 79-97.
- Lau*, K. I. (2004). Construction and initial validation of the Chinese reading motivation questionnaire. *Educational Psychology*, 24(6), 845-865.
- Lemley, D. C. (2005). Delayed versus immediate feedback in an independent study high school setting.
- Li, S. (2009). The differential effects of implicit and explicit feedback on second language (L2) learners at different proficiency levels. *Applied Language Learning*, 19(1), 53-79.
- Lynch, B., & Hudson, T. (1991). EST reading. *Teaching English as a second or foreign language*, 2, 216-232.
- Macaro, E., & Erler, L. (2008). Raising the achievement of young-beginner readers of French through strategy instruction. *Applied Linguistics*, 29(1), 90-119.

- Manoli, P., & Papadopoulou, M. (2013). Strategic reading in multimodal texts: An application in EFL. Paper presented at the Electronic Proceedings of the 5th International Conference on Education and New Learning Technologies.
- Manoli, P., Papadopoulou, M., & Metallidou, P. (2016). Investigating the immediate and delayed effects of multiple-reading strategy instruction in primary EFL classrooms. *System*, 56, 54-65.
- McDonough, J., & Shaw, C. (1993). *Materials and Methods in ELT*: Cambridge and Mass: Blackwell.
- Menken, K. (2008). English learners left behind: Standardized testing as language policy (Vol. 65): *Multilingual Matters*.
- Miller, M. (2014). The utility of immediate and delayed feedback within the Math to Mastery Intervention Package in a school setting: Mississippi State University.
- Moreillon, J. (2012). *Coteaching Reading Comprehension Strategies in Secondary School Libraries: Maximizing Your Impact*: ERIC.
- Murphy, P. (2007). Reading comprehension exercises online: The effects of feedback, proficiency and interaction. *Language Learning & Technology*, 11(3), 107-129.
- Pappa, E., Zafiropoulou, M., & Metallidou, P. (2003). Intervention on strategy use and on motivation of Greek pupils' reading comprehension in English classes. *Perceptual and Motor Skills*, 96(3), 773-786.
- Penner, J. (1995). Change and conflict: Introduction of the communicative approach in China. *TESL Canada Journal*, 01-17.
- Pound, L. D., & Bailey, G. D. (1975). Immediate feedback less effective than delayed feedback for contextual learning? *Reading Improvement*, 12(4), 222.
- Prather, D. C., & Berry, G. A. (1973). Delayed Versus Immediate Information Feedback on a Verbal Learning Task Controlled for Distribution of Practice. *Education*, 93(3), 230-232.
- Pressey, S. L. (1926). A simple device for teaching, testing, and research in learning. *School and Society*, 23, 373-376.
- Pressey, S. L. (1932). A third and fourth contribution toward the coming "industrial revolution" in education. *School & Society*.
- Quinn, P. (2014). Delayed versus immediate corrective feedback on orally produced passive errors in English.
- Riley, G. L., & Lee, J. F. (1996). A comparison of recall and summary protocols as measures of second language reading comprehension. *Language testing*, 13(2), 173-189.
- Roediger III, H. L., & Butler, A. C. (2011). The critical role of retrieval practice in long-term retention. *Trends in cognitive sciences*, 15(1), 20-27.
- Rui, Y. (2014). China's removal of English from Gaokao. *International Higher Education*(75), 12-13.
- Samuels, S., & Wu, Y. (2003). The effects of immediate feedback on reading achievement. Unpublished manuscript, University of Minnesota, Minneapolis.
- Samuels, S. J., & Kamil, M. L. (1988). Models of the reading process. *Interactive approaches to second language reading*, 22-36.

- Sherman, E. A., & Reid, W. J. (1994). *Qualitative research in social work*: Columbia University Press New York.
- Smits, M. H., Boon, J., Sluijsmans, D. M., & Van Gog, T. (2008). Content and timing of feedback in a web-based learning environment: effects on learning as a function of prior knowledge. *Interactive Learning Environments*, 16(2), 183-193.
- Snowling, M. J., & Hulme, C. (2011). Evidence-based interventions for reading and language difficulties: Creating a virtuous circle. *British Journal of Educational Psychology*, 81(1), 1-23.
- Stiggins, R. J., Arter, J. A., Chappuis, J., & Chappuis, S. (2004). *Classroom assessment for student learning: Doing it right, using it well*: Assessment Training Institute.
- Vygotsky, L. (1978). Interaction between learning and development. *Readings on the development of children*, 23(3), 34-41.
- Woolfolk, R. L., Gara, M. A., Allen, L. A., & Beaver, J. D. (2004). Self-complexity: An assessment of construct validity. *Journal of Social and Clinical Psychology*, 23(4), 463-474.
- Xu, S., & Connelly, F. M. (2009). Narrative inquiry for teacher education and development: Focus on English as a foreign language in China. *Teaching and Teacher Education*, 25(2), 219-227.
- Yang, Y., & Lyster, R. (2010). EFFECTS OF FORM-FOCUSED PRACTICE AND FEEDBACK ON CHINESE EFL LEARNERS' ACQUISITION OF REGULAR AND IRREGULAR PAST TENSE FORMS. *Studies in second language acquisition*, 32(2), 235-263.
- Yu, L., & Suen, H. K. (2005). Historical and contemporary exam-driven education fever in China. *KEDI Journal of Educational Policy*, 2(1).
- Zhaoxiang, C. (2002). English departments in Chinese universities: Purpose and function. *World Englishes*, 21(2), 257-267.