



The Effect of Flipped Language Teaching on EFL Learners' Text Comprehension: Learners' English Proficiency Level in Focus

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Abstract

The current pretest-posttest quasi-experimental study sought, firstly, to examine the effect of employing flipped language teaching techniques on EFL learners' text comprehension and, secondly, to explore whether there was any significant interaction between the flipped classroom approach and EFL learners' proficiency level. To this end, 65 male and female EFL learners were conveniently selected and their English proficiency level was determined based on the results of a TOEFL PBT. Having been divided into two experimental (one intermediate and one upper intermediate) and two control (one intermediate and one upper intermediate) groups, the participants were pretested in terms of reading comprehension at the beginning of the study. Subsequently, during a 14-week course of reading comprehension, the learners of the experimental group received flipped language instruction, whereas the control group's learners were taught being exposed to conventional instruction. To investigate any changes in the learners' performance as a result of the study course, their reading comprehension ability was gauged at the conclusion of the study course administering a posttest parallel to the pretest. The results indicated that the learners in the flipped classrooms outperformed their counterparts in the control group in terms of text comprehension, regardless of their English proficiency level. The findings of the study may urge EFL teachers to adopt a flipped classroom approach in order to enhance EFL learners' reading comprehension skill.

Keywords: Flipped classroom; Flipped techniques; Proficiency Level; Text comprehension

INTRODUCTION

Being required to spend a large amount of time reading expository texts and research articles, many Iranian EFL learners consider reading comprehension ability as the most important skill for academic success. Nonetheless, they often fall

behind the satisfactory level of academic achievement regarding the comprehension skill (Riazi and Rahimi 2005). The key factors that are responsible for poor reading are enumerated by (Gunning 1998) as "(a) lack of basic decoding skills or fluency, (b) lack of academic vocabulary, (c) limited vocabulary, (d) over-use of background knowledge, (e) failure to read

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for meaning, and (f) lack of strategies or failure to use strategies" (p. 311). Among all the contributory factors in EFL learners' failure to demonstrate a satisfactory reading performance, lack of appropriate reading skills and strategies is presumed to be the most prominent one. According to (Blachowicz and Ogle 2001), reading comprehension takes place only when a reader is aware of appropriate reading skills and strategies and the ways of applying them to accomplish the reading purposes.

In the past few decades, a large number of studies have been conducted to identify the best way of teaching effective reading strategies to EFL learners. The recent movement towards learner-centered approaches can be considered as a platform for developing more effective teaching and learning procedures in this regards (Goh 2012). In many developing countries such as Iran, however, the teacher-centered learning approach is still preferred and implemented. The underlying concept of teacher-centered learning approach is based on instructional lectures. Lecture-based instruction is a method of content delivery through which the teacher introduces and describes content while students listen to and note down all the information provided (Greitzer 2002). In such an environment, the students are passive learners, they have to do the same activities, based on the resources available in the classroom and follow the same pace and usually the one which is established by the teacher. Over the last two decades, more flexible, student-centered classroom teaching methods have been proposed based on the concepts of "discovery" learning and "active" learning (Greitzer 2002). Greitzer (2002) goes so far as to argue that student-centered approach and active learning should be at the heart of educational system.

Considering the theoretical as well as empirical support for learner-centered approach, it is worth examining how educational system can develop such an approach. It seems that in moving away from the lecture model to an instructional model involving pedagogy and technology, many educators have turned to the Flipped Class-

room Approach (Sparks 2013). The flipped classroom, known also as inverted classroom and blended learning, is defined by (Lage, Platt et al. 2000) as "Inverting [or flipping] the classroom means that events that have traditionally taken place inside the classroom now take place outside the classroom and vice versa" (p. 32). In simpler terms, in a flipped teaching/learning model, the "Standard" model of teaching is reversed delivering instruction to students at home through self-study materials and moving the "homework" element to the classroom. In a flipped model, instructional lectures outside of the classroom can be provided through technology, such as lecture videos, allowing classroom time to be focused on active and meaningful learning. The videos are available for students to access whenever and wherever it is convenient as many times as they like, enabling them to come to class better prepared (Musallam and Musallam 2010).

Given the fact that recent progress in technology has offered endless options for being incorporated into foreign language teaching and learning, flipped classroom approach in conjunction with technology is one of the approaches which has gained a lot of attention in recent years (e.g., Aronson, Arfstrom et al. 2013, Muldrow 2013). Recent research on flipped classroom has testified to the usefulness of implementing the flipped teaching strategy in various EFL contexts. The benefits of adopting a flipped teaching approach ranged from increased repetition and exposure of key concepts, to extended opportunities for guided practices, and even to creating greater student autonomy and ownership of the learning process (Strayer 2012).

In spite of the merits of flipped classrooms reported in the literature (e.g., Basal 2015; Bergmann and Sams 2012; Enfield 2013; Sahin, Cavlazoglu et al. 2015; Strayer 2012), there is little empirical data (e.g., Abaeian and Samadi 2016; Karimi and Hamzavi 2017) on the effectiveness of flipped classroom approach in Iranian EFL contexts. Being a relatively unknown trend in Iranian EFL teaching/learning context, the approach merits to be investigated rigorously to

offer new insights to EFL pedagogy. Therefore, the current study sought to investigate the impact of flipped classroom approach on text comprehension among Iranian students. The study also set out to explore whether the efficacy of flipped instruction is dependent on learners' English proficiency level. The purpose of using flipped classroom approach in this study was to assist learners make use of appropriate reading strategies and arrive at an understanding of reading passages more effectively through an independent learner-centered approach. Focusing on the benefits of both learner-centered approach and flipped educational model, the study could offer a new perspective on the use of technology in EFL teaching as well. To accomplish the objectives of the study, the following research questions were formulated:

1. Does the flipped classroom approach have an effect on EFL learners' text comprehension?
2. Does the flipped classroom approach interact with the EFL learners' profi-

ciency level in affecting their text comprehension?

1. METHOD

Participants

Employing convenience (availability) sampling method, a total of 65 (29 male and 36 female) university students in the field of English Teaching from South Tehran Branch, Islamic Azad University were selected to participate in the current study. The participants' age ranged from 19 to 27. Based on their performance on a TOEFL PBT sample test, the participants were presumed to be either intermediate or upper intermediate learner. Among all the participants, 38 students scored within the range of 65 to 80 (the standard range for intermediate level learners) and the others' scores fell between 80 and 100 (the standard range for upper intermediate learners). The participants in each level of English proficiency were then divided into one experimental and one control groups. Table 1 displays the participants' demographics.

Table 1.
The Participants' Demographics

Groups	Numbers	Mean Age	Male	Female
Intermediate Experimental Group (IEG)	19	21.6	8	11
Intermediate Control Group (ICG)	19	22.1	10	9
Upper Intermediate Experimental Group (UIEG)	13	22.6	6	7
Upper Intermediate Control Group (UICG)	14	21.1	5	9

2. Instruments

Two main instruments were used to accomplish the purposes of the study: (a) TOEFL PBT sample test, (b) Reading Comprehension tests.

3. TOEFL (PBT) Sample Test

TOEFL test is a standard exam for evaluating the English proficiency of non-native speakers of English. To fulfill the objectives of the study, a paper-based sample test of TOEFL (TOEFL PBT) was used to categorize the participants of the study in terms of English proficiency. The test was comprised of three parts including

listening (50 items), grammar and written expression (40 items), and reading comprehension (50 items). The validity and reliability of the test are self-evident.

4. Reading Comprehension Tests

A reading comprehension pretest consisted of 20 multiple-choice items extracted from the book *Reading for TOEFL Test* by (Broukal 2002). The pretest was intended to measure the participants' initial reading comprehension ability. To maximize the content validity of the test, different types of question including detailed questions, infe-

rence questions, reference questions, and guess the meaning questions were included. The time allocated to the test was 20 minutes and the maximum score was decided to be 20 (i.e., one mark for each correct answer and no mark for incorrect one).

To eliminate the practice effect of employing an identical version as the pretest and posttest, a parallel version of the pretest was developed and used as the posttest. In order to make sure of the comparability of the pretest and posttest results, both the pretest and posttest were administered to a pilot sample (30 male and female EFL learners) before the main study. The results of running a paired-sample t-test on the scores obtained from the two measures indicated no significant difference between the two sets of scores' means. The content validity of the test was approved by the appraisal of two experts in the field of EFL teaching. The reliability of the pretest and posttest estimated by Cornbach's alpha coefficients was also found to be acceptable (pretest: $\alpha = 0.83$.; posttest: $\alpha = 0.79$).

5. Materials

Instructional Video Files

Acknowledging the view that students tend to learn better and retain more of the information presented when the length of the video is 10 minutes or less, the researcher recorded video lectures of about 8 minutes a week ahead of the class. The videos were specifically designed to be concise, and at the same time informative. Offering various facilities including pause, rewind, and re-watch, the video files suited different learners' learning style. Most of the students reported that they replayed and paused the online lecture to take notes and to understand the lesson.

6. Procedure

As the initial step towards implementing the study treatment, the participants were divided into four comparison groups; namely, IEG, ICG, UIEG, UICG, based on their scores on the TOEFL (PBT) placement test. At the commencement of the study, the reading comprehen-

sion pretest was administered to all the participants in order to ensure that any post-experiment reading comprehension achievement would be merely due to the treatment and not the learners' prior knowledge. The instructional intervention consisted of 14 sessions spread out over 14 weeks and the researcher was in charge of the instruction for both experimental and control groups. The classes were held once a week for each group and each session lasted one hour and a half. The experimental and control groups received the same amount of class instruction (over 20 hours) and were exposed to identical authentic language input and instructional materials (10 reading passages from the book *Inside Reading* by Burgmeier (2009)). The only variable that distinguished the experimental groups (IEG and UIEG) from the control ones (ICG and UICG), was the approach adopted to teach reading strategies and skills during the course.

The IEG and UIEG received the treatment in the form of flipped teaching techniques. As the primary stage of the study course, the video files were recorded by the instructor presenting reading strategies and the way that students were supposed to employ them. The learners of the experimental groups were then provided with the files prior to each session. All the students were encouraged to view the video prior to the lecture so that they could do some reading on their own and come to class with questions that may be discussed during lecture time. Having ensured that the learners watched the video tutorials at home, the instructor answered the learners' questions about the content that has been delivered via video. This allowed teacher to clear up any misunderstanding in advance of the class. Afterwards, the students were provided with a variety of class activities to practice what they had learned.

In the control groups (i.e., ICG and UICG) the learners were taught using traditional model of teaching. To do so, the teacher allocated the first 15 minutes of training to do a warm-up activity. The teacher then presented

new lesson for 30 to 45 minutes and spent the remains of the class practicing the learnt strategies.

To measure any change in the learners' reading comprehension performance as a result of receiving flipped instruction, the participants were required to take the posttest at the end of the study course.

7..Design and Analysis

Given the fact that random sampling of the participants was somehow impractical in the present study, a quasi-experimental design was employed to accomplish the study goals. A two-way analysis of covariance (ANCOVA) was, therefore,

carried out to examine whether adopting the flipped classroom approach (the independent variable) had any significant effect on the learners' ability to comprehend English texts (the dependent variable), as well as investigating the significance of the interaction effect between the approach and the learners' proficiency level (the moderator variable). The learners' prior proficiency in reading comprehension was regarded as the covariate variable of the study.

8.RESULTS

Table 2 displays the descriptive statistics of the pretest and posttest reading comprehension scores in all the study groups.

Table 2.
Descriptive Statistics of the Pre- and Posttest Reading Comprehension Scores in All the Study Groups

Group	Variable	N	Min	Max	Mean	Std. Deviation
IEG	pretest	19	7	13	10.84	1.77
	posttest	19	11	15	13.26	1.32
ICG	pretest	19	7	13	10.37	1.50
	posttest	19	9	14	11.89	1.49
UIEG	pretest	13	12	16	14.31	1.18
	posttest	13	14	19	16.85	1.57
UICG	pretest	14	12	16	14.43	1.34
	posttest	14	14	17	15.79	.89

As demonstrated in Table 2, the intermediate learners' pretest achievements in the experimental group ($M = 10.84$, $SD = 1.77$) was roughly similar to those of the control group ($M = 10.37$, $SD = 1.50$). On the other hand, the posttest performance of the intermediate learners in the experimental group ($M = 13.26$, $SD = 1.32$) was considerably better than that of the control group ($M = 11.89$, $SD = 1.49$).

Regarding the upper intermediate learners, notwithstanding the two groups' similarity in the pretest achievements (UIEG: $M = 14.31$, $SD = 1.18$, UICG: $M = 14.43$, $SD = 1.34$), the learners of the experimental group ($M = 16.85$, $SD = 1.57$) outperformed their counterparts in the control group ($M = 15.79$, $SD = .89$) on the posttest measure.

In sum, the results in table 2 indicated that all learners of the study improved from the pretest to the posttest measure in terms of reading comprehension; however, the greater amount of improvement belonged to the experimental groups' (i.e. IEG and UIEG) learners.

A two-way analysis of covariance (ANCOVA) was carried out to address the two questions of the study. Before performing the main analysis, however, all the fundamental assumptions underlying a two-way ANCOVA including normality, homogeneity of variances, and homogeneity of regression slopes were checked and no violation was witnessed. The main ANCOVA results are displayed in Table 3.

Table 3.
Results of ANCOVA on the Posttest Reading Comprehension Scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	197.114	4	49.279	55.364	.000	.770
Intercept	9.166	1	9.166	10.298	.002	.135
Pretest Pronunciation Scores	161.142	1	161.142	181.044	.000	.733
Group	44.815	1	44.815	50.349	.000	.433
Proficiency Level (PL)	11.289	1	11.289	12.683	.001	.161
Group * PL	1.894	1	1.894	2.128	.149	.031
Error	58.745	60	.890			
Total	10265.000	65				
Corrected Total	255.859	64				

According to Table 3, the ANOVA results indicated a significant main effect for the treatment (flipped classroom approach), $F(1, 60) = 50.349$, $p < .001$, as well as a significant main effect for proficiency level, $F(1, 60) = 12.683$, $p < .05$. As displayed in Table 4.3, the effect size value (η^2) was .433, indicating that approximately 43% of the total variance of the posttest reading comprehension scores could be attributed to the treatment effect. Nevertheless, the results showed a non-significant interaction between the learners' proficiency level and the treatment, $F(1, 60) = 2.128$, $p = .149$. That is, the effect of one

independent variable was not dependent on the level of the other. In simpler terms, however significant differences were witnessed between the experimental and control groups as well as the intermediate and control groups, there was no statistical evidence to accept that implementing the treatment affected the intermediate and upper intermediate learners differentially.

Tables 4 shows the adjusted means (i.e., the mean without the effect of covariate) based on the interaction between the learners' proficiency level and the study treatment.

Table 4.
Marginal Means of the Posttest Scores based on the Interaction between the Learners' Proficiency Level and the Study Treatment

Group	Adjusted Mean	Std. Error	99% Confidence Interval	
			Lower Bound	Upper Bound
IEG	27.112	.321	26.470	27.754
ICG	26.322	.318	25.686	26.958
UIEG	37.431	.364	36.703	38.159
UICG	36.824	.322	36.180	37.468

As the results in table 4 demonstrated, in both level of English proficiency, the learners in the experimental groups outperformed their counterparts in the control groups in comprehending English texts.

DISCUSSION AND CONCLUSION

The data analysis results revealed that after controlling for the initial differences between the learners, significant differences were found

between the experimental and control groups in terms of reading comprehension performance on the posttest measure. Based on the results, the learners who were taught in the flipped classrooms outperformed their counterparts who benefited from a conventional reading comprehension course. Consequently, as the main finding of the study, it was inferred that the use of flipped teaching techniques had the potential to enhance learners' ability to comprehend English texts.

This finding is generally in line with the previous findings that validated the positive impact of using flipped teaching model on improving students' learning outcomes (Davies, Dean et al. 2013; (Demetry 2010); Sadaghiani 2012; Sahin, Cavlazoglu et al. 2015; (Soltanpour and Valizadeh 2018); (Sparks 2013) ; Strayer 2012; (Kakande, Mkandawire et al. 2011)). The findings, particularly, corroborated the results of the previous studies in Iranian context (e.g., (Abaeian and Samadi 2016) ; arimi and Hamzavi 2017) which revealed that flipped model of instruction had a significant positive effect on the reading comprehension ability of EFL learners.

A possible justification for the study finding would be the plentitude of the opportunities to extensively work on learning activities in the flipped classrooms. Being provided with such opportunities, the learners of the flipped classrooms had better chances to participate in authentic learning environment. Furthermore, assigning multimedia learning materials for students to review outside classroom allows them to learn content at their own pace and permits them to view and listen again to those sections that present important or complex concepts. This interpretation is consistent with prior cognitive research, which noted the positive effect of allowing students to control the pace or stream of learning content (e.g., Gibbons 1977).

The study, in another phase, explored whether flipped techniques affected the reading comprehension ability of intermediates and upper intermediate learners differentially. The results of detailed analysis of the data revealed that although the intermediate learners were found to be more proficient than their intermediate counterparts in comprehending English text, there was no significant relationship between the learners' level of English proficiency and the extent to which their reading comprehension was improved as a result of receiving the flipped instruction. In simpler terms, the adaptation of the flipped classroom approach improved both the intermediate and upper intermediate learners' ability to comprehend English texts, regardless of

their English proficiency level.

Although this finding of the study contradicted that of Abaeian and Samadi (2016) who claimed that intermediate learners benefit from flipped technique more than upper intermediate learners, the discrepancy between the two studied would be attributed to the differences in context, instructional contents, and the data analysis methods utilized to address the research problems. The non-significant interaction between the learners' proficiency level and the flipped classroom's outcomes can be attributed to the learners' common need for being benefited from a learner-centered instruction instead of a lecture-based teacher-centered one.

The findings of the study implied that pedagogical approaches and strategies to teaching reading skill in Iran need special attention. In fact, the findings testified to the positive impact of implementing the flipped teaching techniques on EFL learners' reading comprehension, regardless of their English proficiency levels. In simpler terms, the flipped classroom environment in this study provided an instruction setting which suited learners at both proficiency levels, viz. intermediate and upper intermediate.

The findings can urge EFL teachers to promote EFL learners' reading comprehension by the aids of flipped technique as a practical strategy. To this end, EFL teachers are recommended to customize different types of flipped instruction to find the most suitable flipped model based on their learners' needs and interests. In addition to flipped instruction, teachers should be sensitive to the need of providing different kinds of activities and assignments by modifying them in an interesting way to diminish student's anxiety and stress. This will make the activities more accessible to a wider range of learners, particularly introverts. Taking the results of this study into account, EFL syllabus designers and curriculum developers may also be persuaded to adapt English textbooks and other instructional resources for an effective implementation of the flipped teaching techniques in EFL classrooms.

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