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**Research Paper**

## **Comparing the Impact of Blended and Flipped Teaching Strategies on Students' Skimming Technique and Vocabulary Learning**

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### **Abstract**

This study explored the impact of blended and flipped teaching strategies on English Foreign Language (EFL) learners' skimming skill, vocabulary learning, and retention. In addition, it compared the impact and efficiency of the blended and flipped teaching strategies. As the initial step, 90 homogenous intermediate EFL learners were randomly selected and divided into three groups, including two experimental and one control group. And as the second step, the reading and vocabulary pre-tests were administered. In the third step or treatment administration, the control group received instruction in the Traditional Learning (T-learning) context through the traditional teaching method. The blended experimental group received instruction in both Electronic Learning (E-learning) and T-learning contexts, while the flipped experimental group received instruction in the E-learning context. After completion of the treatment sessions, two posttests including reading and vocabulary tests were administered. In order to evaluate the participants' vocabulary retention, a delayed vocabulary posttest was administered 27 days later. With regard to the results of the data analysis, considering the first purpose of the study, both blended and flipped teaching

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strategies positively affected the participants' skimming skill, vocabulary learning, and retention. Regarding the second purpose of the study, the results manifested that, in comparison to the flipped teaching strategy, the blended teaching strategy was significantly effective in enhancing the participants' skimming skills, vocabulary learning, and retention. The results of this study can increase second language teachers and learners' awareness about the beneficial impact of blended and flipped teaching strategies in successful language learning.

**Keywords:** Blended teaching strategy, Flipped Teaching Strategy, Schema Theory, Skimming Skill, Vocabulary Learning

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## **1. Introduction**

The connection learners' prior knowledge and new presented information has gained popularity in Second Language Acquisition (SLA). Schema theory as a branch of cognitive science explains how a person's brain structures knowledge and comprehends new pieces of information (Zhonggen, 2019). Based on this theory, the comprehension of new information mainly depends on its consistency with the prior knowledge, which is also known as activated schemata (David & Jean, 2005). For interpreting new information, learners' schema should be activated by giving them prior knowledge (Gooniband, Jalilifar, & Khazaie, 2013; Khataee & Davoudi, 2018). It has been proved that a person's load of working memory can be reduced and the process of acquiring new knowledge can be facilitated by the utilization of schemata in different aspects of language teaching including, reading, listening, lexicology, translation and interpretation (Lampinen et al., 2001). Schemata availability and schemata activation will enhance learners' comprehension of new information (Morimoto & Loewen, 2007).

From the theoretical perspective, the two novel teaching approaches namely blended learning and flipped learning are in fact the quintessence of schema theory in SLA (Alharabi, 2015). They are, in fact, the two teaching methods which can be also known as notable examples of Electronic

Learning (E-learning) context (Guy, 2012). Blended learning is simply defined as a teaching strategy combining both traditional learning (T-learning) context and E-learning context (Akkoyunlu & Soylo, 2006) with the purpose of enhancing positive learning context (Tosun, 2015). It can be known as the most logical and natural evolution of learning agenda which is the combination of different training media (Bersin, 2003; Thorne, 2003). Blended learning can integrate learners' interaction of T-learning context with pedagogical innovations and technological advances presented by E-learning context (Ghazizadeh & Fatemipour, 2017).

Flipped teaching strategy has its theoretical basis in schema theory, and is one of the novel teaching strategies that can help to achieve a blended learning context (Alharabi, 2015; Capone et al., 2017). Defining from a different point of view, flipped learning is a new form of blended learning that has inverted the traditional instructional cycle (Wang & Zhu, 2019). Therefore, lecture and instructional contents are moved outside of the classroom environment, and allow learners to have more practice and interaction inside the classroom (Strayer, 2012). Flipped learning can be defined as a teaching strategy in which teachers are not dominators anymore and direct instruction is moved from the traditional learning environment to the individual learning space (Ting Hung, 2017; Wang & Zhu, 2019). Considering the E-learning context in comparison between blended and flipped classes, it is worth noting that flipped learning is in fact a very simple example of E-learning context whereas blended learning is a combination of both E-learning and T-learning contexts (Kvashnina & Mrtyenko, 2016).

With respect to schema theory learners can improve their learning if the new pieces of knowledge interact with their prior knowledge. In blended and flipped classes, learners are equipped with a round of schema supplement and construction before class (Slomanson, 2014). These teaching strategies imbue

learners with the necessary background knowledge related to new input and knowledge which will be presented during class time. The aims of these teaching strategies are to use technology to interact with students and to conceive technology as the common channel of communication for the teaching-learning process (Slomanson, 2014). As it has been mentioned before, schema theory has had its significance in all aspects of SLA. Particularly, the significance of schema theory in reading comprehension lies in how readers use their schemata (Zhonggen, 2019).

Reading materials are considered as the primary and worthy sources of getting input and a significant aspect of second language learning/acquisition. Despite their significance in improving learners' language learning, many EFL learners lack sufficient awareness in this regard. Learners also know very little about a proper reading process and reading techniques (Ghazizadeh & Fatemipour, 2017). Dreyer and Nel (2003) have mentioned that in order to motivate language learners to read more and therefore to have more exposure to language input, they should be made familiar with appropriate reading techniques.

There have been many innovations and changes in the education system in general and SLA in particular. With respect to these recent changes, scholars have tried to discover novel teaching and learning approaches, strategies, and methods (Alharabi, 2015). As scholars strive to enhance the teaching approaches, enrich the learning contexts, and motivate learners, utilization of social media- and technology-supported teaching methods are of the best trends. Therefore, with regard to the criticality of reading skill as a source of comprehensible input in successful language learning, as well as the importance of enhancing teaching strategies in terms of new learning environments supported by technology innovations, in this study an attempt is made to compare the impact of blended and flipped teaching strategies

having their theoretical basis in schema theory on second language learners' skimming technique and their vocabulary learning and retention. With respect to the mentioned purposes of the present study, the following research questions were formulated:

- 1) What is the impact of blended teaching strategy on learners' skimming technique and their vocabulary learning and retention?
- 2) What is the impact of flipped teaching strategy on learners' skimming technique and their vocabulary learning and retention?
- 3) What is the difference between the impact of blended and flipped teaching strategies on learners' skimming technique and their vocabulary learning and retention?

## **2. Literature Review**

The literature review is presented in two parts respectively focusing on blended teaching strategy and flipped teaching strategy.

### **2.1 Blended Learning**

The role and impact of blended learning has been studied by some researchers at various levels of language learning. The study ran by Shih (2011) is one of the examples in which the researcher intended to assist college students in learning English writing by using blended teaching strategy in comparison to traditional teaching method. The survey results showed that blended learning could improve students' writing ability. Zarei, Jalilifar, and Khazaie (2013) also investigated the effect of blended learning on students' writing ability and confirmed that use of a blended teaching method makes learning condition more desirable for learners' improvements in terms of their writing ability. The effect of the blended learning context on high school students' academic achievement has been investigated in another study done by Kazu and Demirkol (2014). Findings of this study indicated that blended learning environment cause students to be academically more successful than those who study in a T-learning context. Zarei and Khazaie

(2011), Soltani Tehrani and Tabatabaei (2012) compared the effect of blended learning environment and traditional instruction on Iranian English Foreign Language (EFL) learners' vocabulary learning showing that learners who receive learning content through blended teaching strategy will significantly have better performance on the post-test in comparison to the group of learners who receive learning content in a T-learning context. Similarly, Tosun (2015) evaluated students' perception of blended learning approach on vocabulary teaching. Results indicated that all students were satisfied with blended learning approach while their performance on the post-test did not show any significant improvement on their vocabulary learning. More relevant to the current study was the study by Al-Jarf (2007), which examined the effect of blended learning environment on college students' reading comprehension and concluded that in the blended learning environment, students' reading comprehension can significantly be improved due to using online instruction. Likewise, the survey run by Ghazizadeh and Fatemipour (2017) revealed that blended learning has a significantly positive effect on improving language learners' reading proficiency.

## **2.2 Flipped Learning**

Most of the studies on flipped classroom have tried to find out learners' perception of and idea about this new teaching strategy. For example, Evseeva and Solozhenko (2015) used flipped classroom for English teaching at a technical university and wanted to examine learners' attitude toward it. The results of learners' responses on the questionnaire showed that 85% of the learners agreed on the use of flipped learning environment, 98% enjoyed the availability of the learning sources, and 75% believed that the communication and collaboration opportunities in the flipped classroom is of high importance in their successful language learning. Similarly, Songsangyos and Jeerungsuwan (2015) investigated the attitude of PhD

students toward flipped learning environment and confirmed that learners who experience learning in flipped learning environment will have positive attitude toward this learning system. Likewise, Hung (2015) ran a research study with a focus on the possible impacts of flipped learning environment on English language learners' academic achievements and attitudes toward their learning experiences and found that flipped learning environment can create a positive and better attitude toward language learning in learners. Also, learners in flipped classroom obtained better learning achievements and engaged themselves more in learning. Similarly, in another research study conducted by Kenneth (2014), it was discovered that flipped classroom increases students' interest in learning, motivates them, enhances their learning through interactive exercises as well as their listening and speaking abilities, and helps them to engage more in class. Marlowe (2012) intended to examine and compare the impact of the flipped environment and traditional environment on learners' stress. The results showed that learners of flipped environment had lower stress levels in comparison to the learners of the traditional environment. The effect of flipped classroom instruction on EFL learners' English composition writing was studied by Namaziandost et al. (2019). The findings of their study manifested that utilizing flipped classroom instruction in teaching English composition writing can be an advantageous technique and significantly improves learners' writing skill. In addition, learners' responses on the questionnaire indicated that a considerable number of learners felt more motivated and independent because of the flipped classroom environment. Alharabi (2015) ran a survey study in which the researcher aimed to study the role of flipped learning approach using social media on health informatics education. The results indicated that almost all students agreed that the flipped learning activities helped them to obtain better understanding of the concepts of the course in an

interactive and collaborative learning environment. The effect of flipped and traditional learning environments was investigated by Galway et al. (2014) on teaching to the public health students. The results of the study revealed students' positive learning experiences and perceptions toward the flipped learning environment compared to the traditional learning environment. Yang et al. (2018) examined the effect of flipping the Chinese language class on students' four language skills. The results showed students in the flipped class received higher mean scores in speaking, writing, and reading than their counterparts in the traditional class. This suggests that the students in the flipped class performed significantly better than the students in the traditional class in generating complex and various sentences. The effect of flipped classes on students' learning of English idioms was also studied by Chen-Hsieh et al. (2016). Results revealed that flipped classroom can significantly enhance students' learning of English idioms as well as increasing their motivation for learning. The relevance and potential of flipped classroom in English learning classroom was analyzed in a survey carried out by Kvashnina and Martynko (2016), who confirmed that use of flipped classroom significantly improves students' performance for some certain parts of their course syllabus. The researchers stated that there is a need for stronger evidence in evaluating the effects of flipped learning on the improvement of each of the four language skill areas.

Despite the prior research studies investigating the effect of blended and flipped teaching strategies on different facets of language learning such as vocabulary learning, writing skill, reading and listening comprehension, some shortcomings can be recognized in the previous research studies. One of the shortcomings is the one-dimensional focus of the previous studies on reading comprehension itself and ignorance of the different kinds of reading techniques namely skimming and scanning. In addition, the impact of



blended and flipped teaching strategies on different levels of language learning including reading comprehension have been only compared with T-learning context, and there is no comparative study comparing these two novel teaching strategies. Also, the effect of blended and flipped classrooms have been only examined on learners' vocabulary learning but not its retention. Another shortcoming is concerned with the way learners' vocabulary learning has been evaluated, all of the vocabulary pre- and post-tests used by researchers evaluate learners' vocabulary knowledge out of context by simple vocabulary tests. Therefore, with the purpose of filling the gaps in the previous research studies, the present study tries to compare the impact of blended and flipped teaching strategies on EFL learners' skimming technique in reading skill as well as learners' vocabulary learning and retention.

### **3. Method**

#### **3.1 Design of the Study**

This study had no true randomization, because of the lack of access to the whole population. Therefore, participants were selected through convenient sampling and the present study was a quasi-experimental study. With regard to the mentioned purposes and research questions, the independent variables in this study were blended learning and flipped learning, and the dependent variables included skimming technique, vocabulary learning and retention.

#### **3.2 Participants**

Initially, the researcher selected 110 Intermediate EFL learners aged from 15 to 27 through convenient sampling from *Pardisan Language Institute*. The participants were given Oxford Placement Test (OPT) in order to have homogenous samples. After the OPT administration, 90 of learners who could successfully obtain the band score of the OPT (from 30 to 45) were selected as the final participants. They were at intermediate level of proficiency in the English language. The participants' native language was

Farsi and they were all females. The homogenized participants were randomly divided into three equal groups with 30 students in each group (i.e., group A: the control group, receiving instruction in the traditional classroom; group B: the experimental group, instructed by blended teaching strategy; group C: the experimental group, instructed by flipped teaching strategy).

### **3.3. Instruments**

#### **3.3.1 Teaching Material**

The teaching material used for the present study included both reading passages and vocabulary. All of the groups received the same teaching material. The reading passages were extracted from the course book for intermediate language learners entitled *American English File 3* (Oxenden & Latham-Koenig, 1995). And the particular vocabularies were selected from the vocabulary book designed for intermediate language learners entitled *Oxford Word Skills* (Gairns and Redman, 2008).

#### **3.3.2 The Pre-Test and Post-Test**

The reading pretest and posttest were both extracted from the final examination of Pardisan Language Institution, designed for intermediate language learners. The pre- and post-reading tests included two reading passages each followed by 5 questions with a focus on skimming skill (Appendix 1). The validity of the reading tests was established through seeking advice and comments from some of the English language teaching professionals. The KR-21 formula was employed in order to establish the reliability of reading pretest and posttest. The results indicated that the reading pretest and posttest respectively enjoyed reliability indices of 0.73 and 0.65.

The vocabulary pretest, posttest and delayed posttest were developed based on the exercises and questions of different types including multiple

choice, fill in the blank, and matching items cited in the Oxford Words Skills. The vocabulary pretest, posttest, and delayed posttest each included 20 items focusing on the 20 predetermined vocabularies (Appendix 2). The received advices from two English language teaching instructors were used in order to establish the validity of the vocabulary tests. The results of the KR-21 formula manifested that the reliability of pretest, posttest, and delayed posttest was 0.66, 0.83, and 0.84, respectively, which were high enough. According to Hatch and Lazaraton (1991), the acceptable range for reliability is 0.65 -0.95.

### **3.4. Procedure**

The selection of 90 homogenous language learners was the first procedure in this study. Administration of the pretests was the second procedure, followed by administration of the treatment sessions. The present study involved 11 sessions as the whole instruction sessions. Every week two sessions were held, and each treatment session lasted for 1:30 minutes. The first session was used for taking the pre-tests and the 10<sup>th</sup> session was used for taking the posttests. In addition, the 11<sup>th</sup> session was held 27 days after the 10<sup>th</sup> session in order to take the delayed vocabulary posttest. All three groups of the present study received the same instructional materials. The instructional material was composed of four particular reading passages and 20 vocabularies. Four sessions out of eight sessions were allocated to teaching the skimming technique through the reading passages and four sessions were allocated to vocabulary teaching. Each session 5 vocabularies were taught.

The participants in the control group received skimming technique and vocabulary instruction. The researcher, who was also the teacher of all three groups, started teaching the skimming technique by first explaining what skimming technique was. Next, the participants were provided with some instructions to learn how skimming a text should be done. The instruction

included changing the title of the reading text into a question, reading the text while trying to find the main idea in the beginning paragraph, reciting the text by looking back over it while focusing on headings and topic sentence and then summarizing the material, focusing on visual and verbal clues while reading the text quickly. After completion of explanations, the teacher asked the participants to read the passage and try to practically follow her instructions. Then she asked for their comprehension of the reading main idea requiring them to discuss and share their ideas with each other. As the last part of skimming technique instruction, the participants were supposed to do the related exercises in the book some of which were focused on the skimming technique. The predetermined vocabularies were also taught to the participants by explaining their meanings and using them in some sentences as examples. After explanation and provision of examples, the participants were supposed to do the exercises and make some sentences with the new vocabularies under the teacher's supervision.

The participants in the experimental group with blended teaching strategy received the instruction both in E-learning context and T-learning context. The teacher created a class code on the [www.remind.com](http://www.remind.com) platform particularly for the participants of the blended group and added them. Every week, three days before the first treatment session, the teacher shared one piece of reading and five predetermined vocabularies in the group. Regarding the skimming technique, the teacher first shared two files in the group. The first file included the definition and explanation of skimming technique, and the second file included the instruction of how skimming a text can be done. It is worth mentioning that the two cited files had the same content as the explanation and instruction presented in the control group. The participants were required to read the files carefully and then to read the shared reading text while following the teacher's instruction for skimming the text. Then, the

participants shared and discussed their understanding of the text. In case everyone posed any questions, the other learners were supposed to cooperate to find out the proper answer or explanation. As the last step, the teacher shared some questions about the text, some of which were focused on skimming technique, and the participants had to cooperate to do the exercises after the class time in the group. With regard to vocabularies, the participants were required to find out the meaning of each word and explain it in the group as well as make an example and share it. In addition, the participants were told that they can use their time to find out other parts of speech, collocations, phrasal verbs, etc. of the presented vocabularies and share them with others in the group. The instruction of blended group was not limited to the participants' cooperation and communicative activities in the E-learning environment. During the class time in T-learning environment also, the teacher first repeated the explanation of skimming skill and its procedures. After the reading text was read and reviewed, the participants worked in pairs to present their summary and understanding of the text. The predetermined vocabularies were also explained and taught by the teacher. She completed and corrected the participants by teaching them the parts they missed and explaining the parts they had problems with or questions about. At last, the participants were asked to do the following exercises related to the reading and vocabularies as well as make some examples with the new vocabularies in their two by two or group work conversation practices being supervised by their teacher.

The teacher created another class code on the [www.remind.com](http://www.remind.com) platform particularly for the participants of the flipped group and added them. The method of presenting instructional materials including reading passages and vocabularies, and participants' activities in this group were the same as the blended group. In flipped group, the participants also received the same

instructional files. The participants read the text following the presented instruction, shared and discussed their ideas, comments and understanding in the group, helped each other in case one of them had any questions and finally answered the questions given by the teacher in the group. New predetermined vocabularies were also presented by the teacher and the participants had to search the meanings by themselves, share them and make some examples. In addition, the participants could also add and share more information about each word such as other parts of speech, collocations, phrasal verbs and so on. The instruction in this group was limited to the E-learning environment, which was, in fact, the mentioned website, in fact the responsibility of learning was transferred from the teacher to the participants themselves. The participants received no instruction or future explanations on the instructional materials in the flipped group from their teacher. The class time was only spent for reviewing and doing exercises under the teacher's supervision. In class time the teacher presented no instruction and only focused on communicative activities through pair and group work.

### **3.5 Data Analysis**

The collected data in the present study were submitted to data analysis. Regarding the quantitative nature of this study, multivariate ANOVA (MANOVA), post-hoc Scheffe's tests and assumptions of normality were employed in order to analyze the collected data.

## **4. Results**

### **4.1 Assumption of Normality of Data**

In order to establish the normality of data, the researcher employed Skewness Kurtosis formula. The assumption of normality was retained because the absolute values of the ratios of Skewness and Kurtosis over their standard errors were lower than 1.96.

### **4.2 Test of Reliability**

The KR-21 formula was employed in order to establish the reliability of reading and vocabulary pretests and posttests as well as delayed vocabulary posttest. The results indicated that the reading pretest and posttest enjoyed reliability indices of 0.73 and 0.65, respectively. The reliability indices for the pretest, posttest and delayed posttest of vocabulary were 0.66, 0.83 and 0.84, respectively. As Hatch and Lazaraton (1991) mentioned, the acceptable range for reliability is 0.65 - 0.95.

**Table 1**  
*Descriptive Statistics and KR-21 Reliability Indices*

	N	Minimum	Maximum	Mean	Std. Deviation	Variance	KR-21
Pre-Reading	903	17	9.72	4.020	16.158	0.73	
Pre-Vocabulary	903	16	9.04	3.632	13.189	0.66	
Post-Reading	905	18	13.763	3.309	10.951	0.65	
Post-Vocabulary	903	20	13.814	4.482	20.088	0.83	
Delayed-Vocabulary	903	20	14.044	5.584	21.009	0.84	

#### 4.3 Reading and Vocabulary Pretests

A multivariate ANOVA (MANOVA) was run to compare the three groups' means on reading and vocabulary pretests in order to prove that they were homogenous in terms of their skimming ability and vocabulary knowledge prior to the main study.

Table 2 displays the descriptive statistics for the three groups on pretests. The flipped (M = 9.33), blended (M = 10.10) and control (M = 9.73) groups had roughly the same mean scores on the reading pretest. The flipped (M = 8.36), blended (M = 9.66) and control (M = 8.80) groups had fairly close mean scores on the vocabulary pretest.

**Table 2**  
*Descriptive Statistics; Reading and Vocabulary Pretests by Groups*

Dependent Variable	Group	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Pre Reading	Flipped	9.333	.740	7.863	10.804
	Blended	10.100	.740	8.629	11.571
	Control	9.733	.740	8.263	11.204
Pre Vocabulary	Flipped	8.367	.659	7.057	9.676

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Blended	9.967	.659	8.657	11.276
Control	8.800	.659	7.491	10.109

The results of MANOVA (Table 3) indicated that there were no significant differences between the three groups in their mean scores on a) reading pretest ( $F(2, 78) = .269$ ,  $p = .765$ , partial eta squared = .006 representing a weak effect size); and b) vocabulary pretest ( $F(2, 78) = 1.57$ ,  $p = .212$ , partial eta squared = .035 representing a weak effect size). Thus it can be claimed that the three groups were homogenous in terms of their skimming ability and vocabulary knowledge.

**Table 3***Tests of Between-Subjects Effects; Reading and Vocabulary Pretests by Groups*

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	Pre Reading	8506.944	1	8506.944	517.83	.000	.856
	Pre Vocabulary	7362.178	1	7362.178	565.45	.000	.867
Group	Pre Reading	8.822	2	4.411	.269	.765	.006
	Pre Vocabulary	41.089	2	20.544	1.578	.212	.035
Error	Pre Reading	1429.233		8716.428			
	Pre Vocabulary	1132.733		8713.020			
Total	Pre Reading	9945.000		90			
	Pre Vocabulary	8536.000		90			

**4.4 Reading and Vocabulary Posttests**

A multivariate ANOVA (MANOVA) was run to compare the three groups' means on reading and vocabulary posttests, and vocabulary delayed posttest in order to probe into the research questions raised in the present study.

Table 4 displays the descriptive statistics for the three groups on reading and vocabulary posttests and vocabulary delayed posttest. The blended group had the highest mean score on the reading posttest ( $M = 16.300$ ), vocabulary posttest ( $M = 17.200$ ) and delayed vocabulary posttest ( $17.467$ ). The flipped group had the second highest mean score on the reading posttest ( $M = 13.367$ ), vocabulary posttest ( $M = 14.500$ ) and delayed vocabulary posttest



(14.733); and the control group had the lowest mean of 11.600, 9.733 and 9.933 on the three tests, respectively.

**Table 4**

*Descriptive Statistics; Reading and Vocabulary Posttests, and Delayed vocabulary Posttest by Groups*

Dependent Variable	Group	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Post-Reading	Flipped	13.367	.494	12.385	14.348
	Blended	16.300	.494	15.318	17.282
	Control	11.600	.494	10.618	12.582
Post-Vocabulary	Flipped	14.500	.597	13.313	15.687
	Blended	17.200	.597	16.013	18.387
	Control	9.733	.597	8.547	10.920
Delayed-Vocabulary	Flipped	14.733	.618	13.505	15.962
	Blended	17.467	.618	16.238	18.695
	Control	9.933	.618	8.705	11.162

Table 5 displays the results of MANOVA. Based on these results, it can be concluded that there were significant differences between the three groups' mean scores on; a) reading posttest ( $F(2, 78) = 23.11, p = .000$ , partial eta squared = .347 representing a large effect size); and b) vocabulary posttest ( $F(2, 78) = 40.10, p = .000$ , partial eta squared = .480 representing a large effect size), and delayed vocabulary posttest ( $F(2, 78) = 38.06, p = .000$ , partial eta squared = .467 representing a large effect size).

**Table 5**

*MANOVA*

Source	Dependent Variable	Type III Squares	Sum of Squares	Mean Square	F	Sig.	Partial Squared	Eta
Group	Post Reading	338.156		169.078	23.112	.000	.347	
	Post Vocabulary	857.622		428.811	40.107	.000	.480	
	Delayed Vocabulary	872.622		436.311	38.066	.000	.467	
Error	Post Reading	636.467		7.316				
	Post Vocabulary	930.167		10.692				
	Delayed Vocabulary	997.200		11.462				

## Comparing the Impact of ...

	Post Reading	18004.000
Total	Post Vocabulary	18955.000
	Delayed Vocabulary	19622.000

Table 6 displays the results of post-hoc Scheffe's tests. Based on these results and the descriptive statistics displayed in Table 4, it can be concluded that;

A: The blended group had a significantly higher mean on the reading posttest (skimming skill) ( $M = 16.30$ ) than the control group ( $M = 11.60$ ) ( $MD = 4.70$ ,  $p = .000$ ). They also had a significantly higher mean on the vocabulary posttest ( $M = 17.20$ ) than the control group ( $M = 9.73$ ) ( $MD = 7.47$ ,  $p = .000$ ): and finally, they had a significantly higher mean score on the delayed vocabulary posttest ( $M = 17.46$ ) than the control group ( $M = 9.93$ ) ( $MD = 7.53$ ,  $p = .000$ ).

B: The flipped group had a significantly higher mean on reading posttest (skimming skill) ( $M = 13.36$ ) than the control group ( $M = 11.60$ ) ( $MD = 1.77$ ,  $p = .046$ ). They also had a significantly higher mean on the vocabulary posttest ( $M = 14.50$ ) than the control group ( $M = 9.73$ ) ( $MD = 4.77$ ,  $p = .000$ ): and finally, they had a significantly higher mean on the delayed vocabulary posttest ( $M = 14.73$ ) than the control group ( $M = 9.93$ ) ( $MD = 4.80$ ,  $p = .000$ ).

**Table 6**

*Post-Hoc Scheffe's Tests; Reading and Vocabulary Posttests, and Delayed Vocabulary Posttest by Groups*

Dependent Variable	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Posttest of Reading	Flipped	Control	1.77*	.698	.046	.03	3.51
		Blended	2.93*	.698	.000	1.19	4.67
	Control	4.70*	.698	.000	2.96	6.44	
Posttest of Vocabulary	Flipped	Control	4.77*	.844	.000	2.66	6.87
		Blended	2.70*	.844	.008	.60	4.80
	Control	7.47*	.844	.000	5.36	9.57	
Delayed	Flipped	Control	4.80*	.874	.000	2.62	6.98

Vocabulary	Blended	Flipped	2.73*	.874	.010	.56	4.91
		Control	7.53*	.874	.000	5.36	9.71

\*. The mean difference is significant at the .05 level.

C: The blended group had a significantly higher mean on the reading posttest (skimming skill) ( $M = 16.30$ ) than the flipped group ( $M = 13.36$ ) ( $MD = 2.93$ ,  $p = .000$ ). They also had a significantly higher mean on the vocabulary posttest ( $M = 17.20$ ) than the flipped group ( $M = 14.50$ ) ( $MD = 2.70$ ,  $p = .008$ ); and finally, they had a significantly higher mean on the delayed vocabulary posttest ( $M = 17.46$ ) than the flipped group ( $M = 14.73$ ) ( $MD = 2.73$ ,  $p = .000$ ).

### 5.1 Discussion

Regarding the evaluation of the blended teaching strategy, the results of the present study were indicative of the significant positive impact of blended teaching strategy on enhancing the participants' skimming skill, vocabulary learning as well as vocabulary retention by creating a proper schema in the participants' mind, enhancing interaction between the participants and providing a cooperative learning environment, etc. The blended group had significantly higher mean scores on the reading posttest ( $M = 16.300$ ), vocabulary posttest ( $M = 17.200$ ) and delayed vocabulary posttest ( $17.467$ ) in comparison to the control group obtaining significantly lower means of  $11.600$ ,  $9.733$  and  $9.933$  on the three posttests, respectively.

Considering the evaluation of flipped teaching strategy, the results of the present study manifested the significant positive impact of the flipped teaching strategy on improving the participants' skimming skill, vocabulary learning as well as vocabulary retention by creating a proper schema in the participants' mind, enhancing interaction between the participants and providing a cooperative learning environment, etc. In comparison to the mean scores of the control group on the reading posttest, vocabulary posttest and delayed vocabulary posttest that were respectively  $11.600$ ,  $9.733$  and  $9.933$ , the flipped group obtained significantly higher mean scores on the mentioned posttests namely ( $M = 13.367$ ), ( $M = 14.500$ ) and ( $14.733$ ). According to Capone et al. (2017), in cooperative learning, learners' learning will be improved by the help of their classmates and they will learn a different

learning method from the individualistic and competitive learning. The significant positive impact of the blended and flipped teaching strategies on enhancing the participants' learning has been supported by the findings of some other research studies including Alharabi (2015), Al-Jarf (2007), Demirkol (2014), Ghazizadeh and Fatemipour (2017), Hung (2015), Zarei and Khazaie (2011), Kvashnina and Martynko (2016), Marlowe (2012), Solozhenko (2015), Tosun (2015), and Yang et al. (2018).

The success of blended and flipped teaching strategies in improving the participants' skimming skill, vocabulary learning and vocabulary retention can be attributed to some reasons including the specific features and advantages of these two teaching strategies. Based on the findings of the previous research studies (e.g., Namaziandost et al., 2019; Yang et al., 2018) which are in fact in line with the results and findings of the current study, blended and flipped teaching strategies provided a collaborative learning environment for the participants in which they could utilize their collaborative skills. The participants' engagement in learning materials was increased and therefore they obtained an active role in learning which means rather than having a passive role and only receiving the instructional material explicitly during the class time, the participants could revise the content outside the class space and synthesize the material at their own pace. They were engaged in the pre-class autonomous learning and learnt how to accept the responsibility for their own learning by studying the material given to them, sharing questions and answers with their classmates in the group, and searching for more and complementary information out of the class time.

With respect to the comparison between the positive impacts of the blended teaching strategy with flipped teaching strategy, the results of the present study indicated that the blended teaching strategy significantly enhanced the participants' skimming skill, vocabulary learning as well as

vocabulary retention in comparison to the flipped teaching strategy. The blended group had a significantly higher mean on the reading posttest (skimming skill) ( $M = 16.30$ ) than the flipped group ( $M = 13.36$ ). They also had a significantly higher mean on the vocabulary posttest ( $M = 17.20$ ) than the flipped group ( $M = 14.50$ ) and, finally, they had a significantly higher mean on the delayed vocabulary posttest ( $M = 17.46$ ) than the flipped group ( $M = 14.73$ ). The significantly better performance of the participants in the blended class in comparison to the participants in the flipped class can be explained by the slight differences between these two classes; Although in the blended class the participants were responsible for their own learning and were provided with the instructional materials and exercises before the class time, the dominating role of the researcher as the responsible person for training the participants cannot be ignored completely. In the blended class the traditional authority of the researcher was kept while the participants' individuality aspects such as their different learning styles, learning speed etc. were taken into consideration. Therefore, by combining both the participants' responsibility for their own learning and the active role of the teacher as the main trainer and responsible person for the participants' learning, the blended teaching strategy kept the balance between the participants' autonomous learning and the dominating role of the teacher in the learning process.

According to Alharabi (2015), one of the disadvantages and problems with flipped classes is the lack of possibility for monitoring learners' learning process outside the class. He mentioned that the flipped class will be effective only when there is a way for the teacher to monitor and check learners' learning process. With regard to the cited problem, it can be claimed that by having both out- and in- class instruction, the blended teaching strategy of the present research kept the teacher's chance for monitoring her learners'

learning process. When there was in-class instruction in addition to online instruction, the participants' learning process was monitored by the teacher and she obtained a general sense of the kinds of problems the participants encountered during the online learning process.

Theoretically discussing the results of the present study, the positive impact of the blended and flipped teaching strategies on enhancing the participants' skimming skill, vocabulary learning and retention can be explained by the mechanism of schemata activation within the schema theory. Schema theory declared that successful understanding of new pieces of knowledge depends on the connection between the new pieces of knowledge with the prior knowledge in a person's mind. As Zhonggen (2019) stated, a person's cognitive mechanism associates input information with previous knowledge. In case the new information is in line with and related to the existing or prior knowledge termed as schemata in a person's cognition, the schemata will be activated and the person's comprehension and learning of the new information will be enhanced. Enhanced performance of the participants in blended and flipped classes in the present study manifested the validity of this theoretical claim and can be explained by the activated schemata in the participants' minds.

## **5.2. Conclusion**

This study pursued two purposes, first to explore the impact of two different teaching strategies namely blended and flipped strategies on enhancing language learners' skimming skill, vocabulary learning and retention and, second, to compare the impact and efficiency of blended and flipped teaching strategies with each other. The findings of this study were quite in line with the reviewed studies. Based on the results and findings of the current study, it can be concluded that the blended and flipped teaching strategies both had

significant positive impact on the participants' improved skimming skill, vocabulary learning and retention.

The results and findings of the present study related to the comparison between the two experimental groups, namely blended and flipped classes, point to the conclusion that the blended teaching strategy was more effective in enhancing the participants' skimming skill, vocabulary learning and retention.

With respect to the results of this study, it can be concluded that both blended and flipped teaching strategies can be utilized in order to cause schemata activation for learners. Therefore, the results of the current study are useful for confirming the credence of the role of activated schemata in successful language learning, as emphasized in schema theory.

The results of this study in terms of comparison between the two experimental groups, namely the blended and flipped groups as well as the control group lead us to the conclusion that both traditional teaching methods or T-learning contexts and online teaching methods or E-learning contexts may have some shortcomings which will cause problems for learners in their learning process, and result in weak learning. Therefore, in order to overcome the problems of pure T-learning and pure E-learning teaching methods, a teaching method should be used which is in fact a combination of both pure T-learning and pure E-learning contexts. Due to the fact that flipped teaching strategy creates a pure E-learning context, blended teaching strategy can be a more effective and professional teaching strategy because of covering both traditional and online teaching methods.

However, like any other research study, it is not logical to consider the findings of the present study as definitive findings. In other words, it cannot be concluded that successful teaching strategy mentioned in this study can be the only best and fruitful teaching strategy for enhancing learners' skimming

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skill, vocabulary learning and retention, but rather it presents a useful suggestion to be followed by teachers to improve and enhance learners' skimming skill, vocabulary learning and retention.

Considering the limitations of the study, it is needed to mention that the present study also had some limitations. The participants' gender and the time of the classes for all three groups can be named as some of the limitations in this study. Discussing the possible pedagogical implications and suggestions for further research studies is of great importance. According to the requirements of conducting research studies, the possible and real pedagogical implications of this study can be considered as the criterion based on which the value of a research study can be increased and its performance can be justified. The results of this study can lead the second language teachers to pay more attention to the critical role of preparing prior related knowledge in their learners' minds for improving their learning quality and understanding the class input. In addition, the findings of this study can help language teachers to improve their teaching skills and meet the new generation of learners needs in terms of using and benefiting new technological developments and E-learning contexts. Second, language institutions, syllabus designers and academic centers focusing on second language learning can design and provide lesson plans and policies by which blended teaching strategy is incorporated into their instructional syllabus.

As no research study is complete and exhaustive in itself, in order to verify, validate and confirm the obtained results, further studies need to be conducted. Consequently, as the first suggestion, the replication of the present study is suggested. Further research studies can also employ the same basic design for EFL learners of other languages and proficiency levels. Future studies can also examine the impact of blended and flipped teaching strategies on other types of reading techniques such as scanning, or other



aspects of language knowledge such as collocations, phrasal verbs and grammatical aspects of language knowledge. In addition, further studies can focus on evaluating and comparing the impact of other pure and non-pure E-learning contexts with blended and flipped classes. Exploring the impact of blended and flipped teaching strategies on learners' skimming technique and vocabulary retention were novel aspects of the present study. In addition, comparison of the two teaching strategies namely blended and flipped was also the other novel aspect of the current study. Therefore, the examining impact of both teaching strategies on the skimming technique and vocabulary retention, as well as the comparison of two teaching strategies requires further investigations. It is hoped that the present study acts as a starting point for leading towards more research on blended, flipped and other novel teaching strategies.

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