

THE EFFECT OF FLIPPED VOCABULARY LEARNING ON ACHIEVEMENT AND ATTITUDES OF EFL NINTH-GRADERS IN OMAN

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ABSTRACT

The study aimed to investigate the effects of flipped vocabulary learning on vocabulary students 'achievement and explore the students' attitudes towards flipped learning after experimenting such approach. Total of fifty students participated in the study; twenty-five students involved in the flipped learning approach as the experimental group and twenty-five students were taught in the non-flipped learning environment as a control group. During the intervention, students in the experimental group were exposed to practice materials such as video clips (fill in vocabulary logs), PDF file and chatting via Whatsapp Application before face-to-face activities in the classroom; while during the classroom, the students did exercises on the practice materials in pairs/groups. To measure students' performance, a vocabulary pre-test and post-test was administrated, and an independent t-test for post-test was used to compare the control group and the experimental group's performance. Moreover, to assess the experimental group's attitude toward their learning experience through flipped learning approach, an attitude survey questionnaire was distributed. The findings indicated that the experimental group outperformed the control group in vocabulary learning and they had a positive attitude toward the flipped learning approach.

KEYWORDS: *Flipped Learning, Vocabulary Achievement, Students' Attitudes*

INTRODUCTION

Vocabulary knowledge is one of the most crucial components of any language proficiency (Harley, Cummins, Swain, & Allen, 1990). Without a wide range of meaningful vocabulary, it is a challenging task to communicate with people and initiate conversations with them (Gardner, 2013; Thornbury, 2006). Gardner (2013) and Thornbury (2006) stated that developing a wide range of vocabulary can assist learners in mastering foreign or second language. Additionally, most foreign language learners have a common understanding about the importance of learning English vocabulary. In their studies conducted in Korea, Fujiwara (2011) and Horwitz (1999) concluded that learning vocabulary appeared to be the most significant part of learning a foreign language in the learning process category. In Oman, students' lack of vocabulary is one of the main reasons for not being able to communicate well using the English language (Al-Maawaliya, 2008; Al-Siyabi, 2016; Al Hosni, 2014). Moreover, Omani students find difficulties in answering higher level questions in the extensive reading programs because of lack of basic vocabulary (Al-Maawaliya, 2008).

In response to the importance of mastering vocabulary, researchers have suggested different strategies and techniques to promote foreign language vocabulary learning such as repetition, mnemonics and using paper-dictionary

(Nation, 1982; Rossiter, Abbott, & Kushnir, 2016). These researchers have claimed that these strategies are effective in learning foreign vocabulary, but they have somehow considered them old-fashioned, however. Most Recently, with the emergence of technology, researchers in the language teaching field have experimented different types of technological tools to promote vocabulary achievement such as augmented reality (Santos et al., 2016; Solak & Cakir, 2015), mobile applications (Ghazali & Ali, 2017; Lu, 2008; Zhang, Song, & Burston, 2011) and computer-based space (Chukharev-Hudilainen & Klepikova, 2016). These tools have been maintained to be effective in learning foreign language vocabulary (Chukharev-Hudilainen & Klepikova, 2016; Mahdi, 2018; Santos et al., 2016).

One of the evolving approaches that has emerged in the educational field with technology use and it has been widely used in the last decade is the flipped learning approach (FLA). The FLA was first initiated in 2007 by science teachers, Sam and Bergmann, who requested their students to watch video clips at home and then to discuss the content of the lesson in the class where the focus was on high-level skills in Bloom's taxonomy. Thus, The FLA can be defined as "a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter" (Flipped Learning Network, 2014). Further, FLN specifies four essential pillars which constitute the four letters of the word "FLIP". These pillars are "flexible environment", "learning culture", "intentional content" and "professional educators" which stand for the four letters of the word "FLIP" respectively.

Statement of the Problem

Flipped learning approach (FLA) is widespread and is used in different kinds of disciplines, whether in higher education level or K-12 education (Lo & Hew, 2017; O'Flaherty & Phillips, 2015). Many researchers have maintained that FLA can be utilized in teaching a foreign language and it can promote learning achievement in different skills of the foreign language (Hung, 2014; Lee & Wallace, 2018; Lyddon, 2015). In addition, some studies revealed that FLA had changed the attitudes of learners towards learning English as a foreign language positively (El-Esery & Radwan, 2017; Lee & Wallace, 2018). However, some researchers have called for further studies to investigate the effect of flipped learning approach in different skills and sub-skills of the language (Kim, Park, Jang, & Nam, 2017; Moranski & Kim, 2016) and some researchers have called for further research in K-12 Education globally (Huang & Hong, 2016; Lo & Hew, 2017) and in Oman specifically (Lane-Kelso, 2015). Most recently, Wang, An, and Wright (2018) recommended that vocabulary knowledge should be measured in details when investigating the effect of FLA on the foreign language skills.

Although an extensive research has been carried out on FLA, there seem to be few studies that have examined the effect of flipped vocabulary learning on learning achievement and the attitudes towards it in the Omani context. For example, this approach had been investigated in the scientific discipline in one of the Omani Government Schools (Al-Hosni, 2015), but not in teaching English.

Further, by providing evidence/s on the effect of flipped vocabulary learning on the achievement and attitudes, teachers can be aware of the benefits of flipped learning and they might consider applying this approach with their students while teaching vocabulary. Therefore, this study comes to explore more about the FLA in the context of teaching new vocabulary in Oman Basic Education schools and to explore students' attitudes towards the approach.

Research Purposes

The purposes of the study are:

- To investigate the effect of flipped vocabulary learning approach on the vocabulary achievement in the Omani schools.
- To explore the students' attitude towards flipped vocabulary learning after the implementation of the approach.

Research Questions and Hypothesis

- What are the effects of flipped vocabulary learning on vocabulary achievement?
- What is the attitude of grade nine students towards learning vocabulary using FLA?
- There is a significant difference between the flipped vocabulary learning group and non-flipped vocabulary learning group in the post-test vocabulary achievement test in favour of the flipped learning group at $p \leq .05$.

METHODOLOGY

Research Design

The study employed a quasi-experimental design in which the researcher developed a pre-test and a post-test to assess the vocabulary knowledge of the control group and experimental group. The control group was taught vocabulary explicitly at the beginning of each class and they practised some exercises pertinent to the explained vocabulary. Whereas, the experimental group learned the same words through flipped vocabulary learning approach. A questionnaire was administered to the flipped group to investigate the students' attitudes towards learning vocabulary through FLA. At the same time, students were asked about their preferences for and the benefits of flipped vocabulary learning as open-ended questions. The steps of the procedures are summarized in the following points:

- Before the experiment, the researcher did a training presentation for the experimental group to show the proper way of watching video clips outside the classroom and before they come to the classroom as suggested by Sam and Berg and other researchers (Bergmann & Sams, 2012).
- Then, each student in the flipped learning group was given a student vocabulary log where they can write some notes while they are watching the video clips. This vocabulary log was adapted from (Hadley & Charles, 2017) and adapted in Kang's (2015) study which is about flipped classroom.
- Before each lesson, a video clip was sent to the students through Whatsapp application containing vocabulary items that they would study in the lesson the coming day. The new words range from seven to twelve words per video and the video clip lasted from four to seven minutes.
- The students were asked to fill in the student vocabulary log and to answer questions related to the words embedded in the video while the students were watching the video clips.
- In the classroom, the students did some activities pertinent to the words that they had watched outside the classroom. The activities focused on higher-order thinking skills in Bloom's Taxonomy and students answered open-ended questions and quizzes in pairs or in groups.

- The students involved in Pair-and -Share activities through which students discussed the words in pairs and then they shared their ideas with the whole class (DeLozier & Rhodes, 2016).
- *The teacher also organized student presentations at the beginning of the lesson as a lead-in activity so that five students presented what they had watched in the video clips outside the classroom (DeLozier & Rhodes, 2016).
- For the control group, the teacher explained the same vocabulary items to the students in the classroom at the beginning of each lesson.

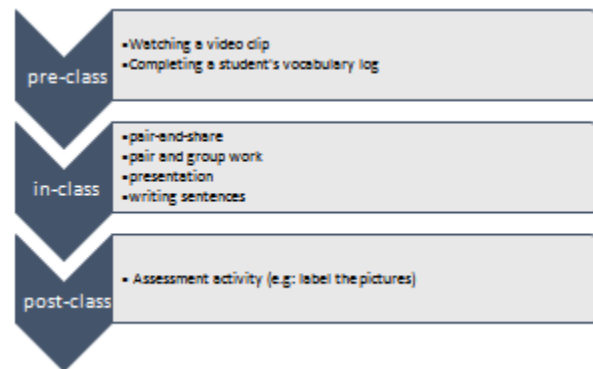


Figure 1: Illustration of Stages of Flipped Vocabulary Learning Approach

Population and Sample

The population of the study was all grade nine students in Al Batina North Governorate in 2017/2018. The sample size was two male groups from different schools in Saham studying in two classrooms. The experimental group was from the Alarqam Bin Alarqam School consisting of 25 students and they studied the vocabulary items using FLA. The experimental group was selected at the convenience of the researcher, and it was taught by him, as FLA is new to English teachers in the Governorate. Prior to commencing the intervention, the students' parents signed in a consent form for approval as the students are under 18 years old (A sample of the consent form in Appendix B). The control group, randomly selected, comprised 25 learners studying in a nearby school. This group received explicit vocabulary instruction at the beginning of each lesson. A pre-test was administered to both groups to specify the homogeneity of these two groups.

RESEARCH MEASURES

Vocabulary Achievement Pre-Test

The vocabulary pre-test was administered to the experimental group and the control group three days prior to teaching unit three. The researcher performed an independent t-test to ascertain that both groups are homogeneous and have the same breadth of vocabulary knowledge regarding the words they would study. Table 2 displays the results of the independent t-test.

Table 1: Vocabulary Pre-test Independent T-test for Groups Equivalence

Group	N	Mean	SD	T-Value	P-Value
Experimental	25	3.76	1.45	-.094	.926*
Control	25	3.72	1.57		
Total score is 10. *p <.05.					

The results in table 2 indicate that there is no significant difference between the experimental group and the control group in the mean scores regarding the vocabulary knowledge.

Vocabulary Achievement Post-Test

The vocabulary post-test contained four different types of questions and each question measures specific vocabulary skill. For example, question one is multiple-choice and it measures guessing from context knowledge (Sasao & Webb, 2018). The second question was designed using defining the context format and it measures the student's form recall ability (Kremmel & Schmitt, 2016). Laufer and Nation (1999) stated that this type of questions can assess the active vocabulary knowledge for the students. The third question is also a multiple-choice question where the word definition is provided and the students have to choose the correct answer. Kremmel and Schmitt (2016) classified this kind of question as a form recognition test where the students can link the meaning with its suitable form. The fourth and last question is also guessing from context test (Sasao & Webb, 2018) in which students read a dialogue and they have to fill in the gaps according to the context provided. Both groups learned the vocabulary items through the intervention process while they are learning vocabulary using flipped learning for the experimental group or the traditional way for the control group.

Students' Attitudes Post-Questionnaire

To determine the reliability of the questionnaire, it was piloted by 10 students in grade ten (not the experimental group) studying in the same school. These students experienced learning English via video clips last year, but they watched the videos in the classroom. The analysis of the piloted questionnaire revealed that the Cronbach's alpha is 0.918, showing a high level of reliability as presented in Table 3.

Table 2: Cronbach's Alpha for Students' Attitudes Post-Questionnaire

Cronbach's Alpha	No of Items
0.918	15

RESULTS AND DISCUSSIONS

First Research Question: Vocabulary Achievement

What is the effect of flipped vocabulary learning on vocabulary achievement?

Table 3: Descriptive Statistics of the Vocabulary Post-test for the Experimental and Control Group

Group	N	Mean	SD	Std. Error Mean
Experimental	25	9.0	4.4	.88
Control	25	6.56	3.9	.78

Table 4 illustrates that the experimental group (M = 9.0, SD = 4.4) obtained higher marks in the vocabulary post-test than the control group (M = 6.65, SD = 3.9).

In order to respond to the first question, an independent-sample *t-test* was calculated to find any significant difference between the experimental group and the control group. The results are illustrated in Table 6.

Table 4: Results of Independent-Sample T-test for the Vocabulary Achievement Post-test

Group	N	Df	Mean	T-Value	P-Value
Experimental	25	48	9.0	2.057	.045*
Control	25		6.56		
Total score is 20. *p <.05.					

Table 5 shows that the statistical difference between the two groups is significant at p-value= 0.05 in the mean scores of the vocabulary achievement post-test; the experimental group (M= 9.0) outperformed the control group (M= 6.56) in the vocabulary achievements, suggesting that the FLA had a positive effect on students' performance in the vocabulary knowledge. Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted. There is a significant difference between the two means in favour of the experimental group.

These findings of the study are in line with previous findings in Alnuhayt, (2018), Kang, (2015), Mori's et al. (2016) and Zhang et al., (2016) who reported higher achievements in the vocabulary achievement due to implementing flipped vocabulary learning, but contradict with Oh's study which showed insignificant statistical difference in the scores between the control group and the experimental group.

Second Research Question: Students' Attitudes

What is the attitude of grade nine students toward learning vocabulary using flipped learning approach?

Table 6 below shows the results of the questionnaire responses.

Table 5: Means and Standard Deviations of the Experimental Group's Attitudes toward FLA

Statements	Mean	SD
10- I see that watching the video clips before the lesson is a useful way to learn new words.	4.36	.95
1- I enjoyed learning English vocabulary using the video clips at home before the lesson.	4.32	1.03
8- I enjoyed watching video clips via Whatsapp application.	4.28	.89
2- I felt comfortable when I learned vocabulary through the video clips that I watched outside the classroom and before the lesson.	4.24	.83
9- I felt more prepared to participate in in-class activities after I watched the video clips outside the classroom and before the lesson.	4.24	.92
5- I enjoyed the activities that I did in the classroom with my group.	4.2	1.2
14- I learned the meanings of some English vocabulary items during the discussion with my classmates in my group.	4.12	1.01
15- I felt bored while I was doing in-class activities that were related to English vocabulary items.*	4.12	1.23
7- I did not like learning new vocabulary items through watching video clips.*	4.08	1.18
6- Watching video clips at home helped me learn new vocabulary more promptly and efficiently.	4.04	1.06
4- Watching the video clips helped me learn vocabulary items through repeating them several times.	4.0	1.15
13- Watching video clips as homework increased my study load.*	3.72	1.24
12- Watching English vocabulary items in the video clips made them easy to remember.	3.68	1.25
11- Learning new vocabulary items is difficult via video clips.*	3.08	1.35
3- I learned new words more from face-to-face instruction than from the video clips at home.*	2.4	1.41
Overall total	3.93	1.11
*Negative statements that are reverse-coded		

The table reveals important facts about students' attitudes toward FLA. First, the overall score displays that students have positive attitudes toward FLA in general (M = 3.93, SD = 1.11). Item#10 "I see that watching the video clips before the lesson is a useful way to learn new words" obtained the highest scores (M = 4.36, SD = .95). The second highest item in the scale is item#1 "I enjoyed learning English vocabulary using the video clips at home before the lesson" which has a mean of 4.32 and SD of 1.03. On the other side of the scale, item#3 "I learned new words more from face-to-face

instruction than from the video clips at home" has the lowest mean ($M = 2.4$, $SD = 1.14$) and students were confused which technique is better whether to learn words with their teacher's instruction or learning words using the video clips. This claim can be supported by some of the students' answers to the first open-ended question as one of the students reported that "I enjoyed watching video clips at home, but I understand more when the teacher explains the words in the classroom". Item#3 is followed by item#11 "Learning new vocabulary items is difficult via video clips" which is the second lowest item in the scale ($M = 3.08$, $SD = 1.35$). Although item#11 has the second lowest item, it is still in the range of positive attitude toward learning vocabulary through video clips and the SD of this item indicates the responses' dispersion is widespread as it is the highest score among the items.

It is safe to say that overall the students' attitudes toward learning vocabulary is positive, and it is in line with the results from (Adnan, 2017; Ahmed, 2016; Al-Harbi & Alshumaimeri, 2016; Kang, 2015; Lee & Wallace, 2018; Wang et al., 2018; Wanner & Palmer, 2015; Wong & Chu, 2014). However, it contrasts with DeSantis, Van Curen, Putsch, and Metzger (2015) findings.

CONCLUSIONS

This quasi-experimental study set out to examine the effect of flipped vocabulary learning approach on vocabulary achievement and attitudes of Omani grade nine students. This chapter shows a summary of the main findings regarding the two research questions, implications for using flipped vocabulary learning generally and specifically in Oman and recommendations for further research.

Based on the results obtained from the statistical analysis of the vocabulary achievement post-test, there was a statistical difference between the experimental group and the control group in favour of the experimental group. A possible explanation for this result is that flipped learning is suitable for elementary level (Mori et al., 2016) and millennial students enjoy employing this approach while learning vocabulary (Roehl, Reddy, & Shannon, 2013).

This study has found that generally students in the experimental group have a positive attitude toward FLA. Students enjoyed the new approach more than anything else in the process of learning vocabulary.

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