RESEARCH ARTICLE

TEACHING VOCABULARY THROUGH FLIPPED ENGLISH CLASSES AT TERTIARY LEVEL: AN EXPERIMENT

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ABSTRACT

Vocabulary plays a vital role in learning a language and it is one of the important language components in developing oral and written communication skills. English vocabulary is vast; learning all words in English is next to impossible. Nevertheless, vocabulary instruction is facilitated at the primary and secondary levels. At tertiary level, students who learn English for a specific purpose are given vocabulary instruction specific to their area. For instance, students in an engineering college learn technical vocabulary in the first year. However, the first year students in most of the arts and science colleges are not given vocabulary instruction. Lack of vocabulary knowledge does affect the writing abilities of the students. Vocabulary instruction can be incorporated in regular English classes or through flipped English classes. Hence, to assess the impact of vocabulary instruction on tertiary students, a comparative study on the effect of regular English classroom method and flipped classroom method on enriching tertiary students' vocabulary knowledge was conducted. The findings of the study indicate that vocabulary instruction through the flipped English classroom method is statistically significant when compared to the vocabulary instruction using regular English classroom method.

Key words: Flipped English classroom, Vocabulary instruction, English language, Tertiary level

1.   INTRODUCTION

Vocabulary is the core element of any language and enriching L2 learners' vocabulary is invariably essential at all language learning levels. Students at the tertiary level need to possess excellent knowledge of vocabulary to understand the major subjects they learn and to score well in their examinations. Enriching the students' vocabulary will improve their comprehending knowledge, reading skills, and oral and written communication.

Effective communication skill is one of the critical career skills which the students need to acquire to succeed today's highly competitive job markets. Hence, the fundamental step to acquire this important skill is

to strengthen one's vocabulary. Teachers in schools and colleges try different strategies and techniques to facilitate students to learn as many words as possible. This study examined the effectiveness of teaching vocabulary through regular English classroom method and flipped English classroom method for the first year B.Com and BBA students of Hindustan Institute of Technology and Science, Chennai.

The flipped classroom method was chosen as a channel of instruction due to the fact that the younger generation is very much used to technology these days and it is easy to create interest among students using CALL tools.

2.   LITERATURE REVIEW

The students, who enter into colleges, demonstrate varied range of abilities in writing skills and lack of vocabulary is one of the reasons for students' average or below average performance. This is due to the influence of their mother tongue, the amount of exposure to English language, motivation and culture. Some students at secondary and tertiary levels get into the habits of reading fiction and non-fiction books in English. However, mere exposure to English language alone will not help students to know the word meanings, as Sternberg (1985:307) rightly states: "... simply reading a lot does not guarantee a high vocabulary. What seems to be critical is not sheer amount of experience but rather what one has been able to learn from and do with that experience."

Hence, the vocabulary acquired through reading books in English needs to be used in speaking and writing activities to retain the knowledge. It is, thus, not enough to encourage students to read newspapers and books in English, but how to facilitate students to use the vocabulary they have acquired through their experience needs to be considered. Researches on second language acquisition identified lack of vocabulary as one of the most critical factors for second language learners' difficulty in speaking and writing tasks (Astika, 1993). In 2008, Zakaria Lemmouth studied the relationship between grades and the lexical richness of students' essays. The findings showed that there is a relationship between use of advanced vocabulary in student essays and the overall course grade. However, no relationship was found between lexical richness and overall essay quality as reflected by faculty teachers' ratings. Nevertheless, students at tertiary level are capable of enriching their vocabulary as they need to understand, infer, interpret, incorporate and reciprocate their study materials for academic purposes. Jensen (1980:146-7) argues this situation even better: "Children of high intelligence acquire vocabulary at a faster rate than children of low intelligence, and as adults they have a much larger vocabulary, not primarily because they have to spend more time in study or they have been more exposed to words, but because they are capable of educing more meaning from single encounters with words... The crucial variable in vocabulary size is not exposure per se, but conceptual need and inference of meaning from context, which are forms of education."

In the light of the above researches, the researcher undertook the comparative study on the effect of regular English classroom method and flipped English classroom method on enriching tertiary students' vocabulary knowledge.

The regular English classroom method involves reading passages of varied genres and discussing the meanings of unfamiliar vocabulary by deriving individual word meaning and using contextual clues. On the other hand, the flipped English classroom method involves using computers and internet. The Flipped Classroom Field Guide compiled by the Coursera-partner community (2015: 4) describes flipped classrooms as: "a form of blended learning, a term that refers to any form of education that combines face-to-face instruction with computer-mediated activities."

3.   THE STUDY

The present study explores the effect of using regular English classroom method and flipped English classroom method on enriching the vocabulary of tertiary students.The study is significant as the effect of using flipped classroom technique for developing the vocabulary knowledge of students at tertiary level is rarely explored by the researchers. The goal of the study is to determine whether there is any significant difference between the two methods of vocabulary instruction: regular and flipped for tertiary students, who

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were the first year students of the Science and Humanities department of Hindustan Institute of Technology and Science, Chennai. The study, especially, seeks to answer the following questions:

- Is there any significant difference in vocabulary instruction between the two vocabulary instruction methods: Regular English classroom and Flipped English Classroom?
- What is the attitude of the participants towards the two vocabulary teaching methods: flipped English classes and regular English classes?

3.1 The Design of the Study: The design of the study was experimental which involved two groups: control and experimental. The participants of the control group were sixty seven first year B.Com students and the participants of the experimental group were eighty first year BBA students of Hindustan Institute of Technology and Science. The two batches were chosen for the study after the informal interview containing semi structured questions with the teachers of the English and MBA departments. The participants of both the groups, which contained both female and male students, were administered a pre-test before the treatment and a post-test after the treatment. A group mail id, which included the researcher and the participants of the experimental group, was created for conducting the flipped English classes. On contrary, the control group was given vocabulary instruction through regular English class method of deriving meanings of individual words and using contextual clues, and assigning homework on dictionary work and sentence formation. The researcher taught vocabulary, along with other important elements of writing, for a month during their English classes to both the groups. The two groups' data, before and after the experiment, was analysed and compared quantitatively to evaluate the effect of teaching vocabulary using regular English classroom and flipped classroom methods.

3.2 The Participants of the Study: The participants of the control group were sixty seven first year B.Com students and the participants of the experimental group were eighty first year BBA students of Hindustan Institute of Technology and Science, Chennai. The participants of both the groups were at an intermediate level of English language skills, belonging to the age group between 17 and 22, and most of their parents were graduated. They had their primary and secondary education in state board and central board schools and had been learning English as a second language for between 7 and 12 years.

4.   METHODOLOGY

The participants of the flipped English classroom were sent materials based on the next day's learning objectives in advance through the group mail id created by the researcher so that the participants prepare for the next day's English class following the instructions given. The materials used for the experimental group were also used to teach the participants of the control group. However, the control group received the hard copies of the articles, scripts of speeches, and lyrics of English songs. The control group was divided into groups and instructed to read the handouts given in the class and participate in the vocabulary tasks of finding meanings of targeted words using the strategies of deriving individual word meaning and using contextual clues. The researcher assigned homework on vocabulary tasks such as dictionary work to find meanings, word class, synonyms and antonyms of given words and using the words in sentences.

4.1 Materials Used in the Flipped English Classroom

- Articles on different topics
- Audio files of famous English Songs
- Audio files of famous speeches of native speakers
- Video clippings of famous movie scenes without subtitles
- Videos related to their major subject. (For example: Steve Jobs' speech on his Marketing strategy and Starbucks' Success Strategy)
- Power point slides
- Worksheets on vocabulary

4.2 Experimental Group's Activities at Home

- Reading articles, listening to audio files or watching videos to elicit new vocabulary
- Listening to native speakers and learning the pronunciation and usage of unfamiliar words

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•   Using a dictionary to know the meanings, word class and spelling of the unfamiliar words

Thereby participants were exposed to different topics, both general and specific to their subject area. While the participants were focusing on the vocabulary they were also gaining knowledge about various topics.

4.3 Experimental Group's Activities during English Classes

Since the participants of the flipped English classes went through the materials that they had received and came prepared for the next English classes, they actively participated in the following vocabulary activities.

Grouping of Words to Form Lexical Sets: The participants were divided into groups and each group was given a topic based on the materials which they had received the previous day. The groups brainstormed and prepared a list of words relevant to their topic within two minutes. Then, a representative from each group shared their lexical set to the other groups. The students from other groups added words that the group had missed out and also identified irrelevant words in the list.This strategy had helped the students to remember the words they learnt when they were asked to write a paragraph on the topic. Grouping of words is one of the vocabulary learning strategies which make the words easy to remember. Supporting this view, Cofer, Bruce, and Reicher (1966: 858-66) rightly assert, "If the words are organised in some way before memorization, recall is improved."

Vocabulary Quiz: Vocabulary quiz was conducted on the topics which the participants had received through their mails.The participants were divided into groups and the quiz was conducted in five rounds: Round 1- Definition, Round 2- Word class, Round 3- Synonyms, Round 4- Antonyms, and Round 5-Use the word in sentences. Each round contained five questions for each group. The participants observed 100% interest in the quiz activity. Of all the five rounds, framing sentences took more time since the participants were suggested to frame interesting sentences using adjectives and adverbs. According to Vivian Cook (2011:63), using words in sentences is one of the important strategies to learn new words. He says, Teaching cannot ignore that the student has to learn not just the meaning and pronunciation of each word, but how to use. One simple way of doing this is the traditional task of getting the students to make up sentences using particular words.

Paragraph Writing Task: The participants were given a topic and asked to write a list of words on the topic within two minutes. Then, they were asked to write a short paragraph of thirty words using the vocabulary from the list. The researcher evaluated the number of topic words that the participants had used in the paragraph.

Group Discussion: Group discussion was one of the activities which the participants participated with much interest. The participants were divided into groups and each group discussed a topic. The researcher acted as a supervisor and observed the vocabulary usage of each group. It was very evident that the students learnt more words through group discussions rather than the individual word eliciting task.

5. DATA COLLECTION

The researcher chose the essay writing task as a tool to test the vocabulary strength of the participants as it is one of the important writing tasks at tertiary level. Vocabulary is one of the essential components of an essay and students need to achieve the target word limit and use vocabulary specific to the topic to score the highest band of marks in the essay writing task. Christine Coombe (2011:121) emphasises the importance of assessing vocabulary in essays: "Most large-scale high-stakes examinations today assess the quality of vocabulary found in a student's writing sample. The International English LanguageTesting System (IELTS) assesses what it refers to as 'Lexical Resource.' Raters also take vocabulary usage into consideration when marking Test of Written English (TWE) essays."

The participants of both the experimental and control groups were administered a pre-test on an essay writing task on the topic 'The advantages and disadvantages of using internet' in about 300 words and the essays were evaluated using the Vocabulary scale from ESL composition profile (see figure 1) to assess the vocabulary strength of the participants. The researcher used the flipped English classroom method to teach vocabulary to the experimental group and the regular English classroom method to teach the control group. Then a post-test was administered to participants of both the groups on the topic, "The effects of pollution on the environment". Of the eighty participants in the experimental group seventy four participants wrote the

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pre-test and the post-test whereas in the control group sixty five participants wrote the pre-test and the post-test. The pre-test and post-test data were evaluated quantitatively, analysed and compared.

> 20-18   EXCELLENT TO VERY GOOD: sophisticated range; effective word/idiom choice and usage; word form mastery; appropriate register
> 17-14   GOOD TO AVERAGE: adequate range; occasional errors of word/idiom form, choice, usage but meaning not obscured
> 13-10   FAIR TO POOR: limited range; frequent errors of word/idiom form, choice, usage; meaning confused or obscured
> 9-7   VERY POOR: essential translation; little knowledge of English vocabulary, idioms, words forms or not enough to evaluate

Figure (1) Vocabulary rating scale of ESL Composition Profile

5.1   Data Analysis

The results of the pre-test and the post-test were analysed quantitatively using inferential statistics and SPSS method. The data collected from the semi-structured interview conducted with the participants of both the experimental and control groups were analysed qualitatively. First the pre-test results of both the groups were analysed using the vocabulary rating scale formulated by Jacobs *et al* (see figure 1). Then the data collected from the post-test after the vocabulary instruction session was analysed. Both the results were compared to measure the efficacy of vocabulary instruction of both the flipped English class and regular English class methods on developing the writing abilities of the first year science and humanities students. The evaluation of the vocabulary knowledge of the participants was based on their performances in the pre-test and post-test.

Sara Cushing Weigle (2002: 115) clearly states how essays are assessed using the rating scale of Jacob's et al ESL Composition Profile: "In the Jacob's *et al.* scale, scripts are rated on five aspects of writing: content, organisation, vocabulary, language use and mechanics. The five aspects are differentially weighted to emphasize first content (30 points) and next language use (25 points), with organization and vocabulary weighted equally (20 points) and mechanics receiving very little emphasis (5 points). This scale has been adopted by numerous college-level writing programs, and is accompanied by training materials and sample compositions so that users can fairly quickly apply the scale."

The participants' vocabulary strength was assessed using the vocabulary rating scale of ESL composition Profile (see figure 1). The researcher calculated the total number of words in the each essay and the number of specific words related to the topic by counting manually. The researcher framed a list of vocabulary related to the essay topic of the pre-test and the post-test and referred to the list while assessing the participants' essays. The participants who had used very less number of words in the essay and demonstrated little knowledge of vocabulary related to the topic was given scores between 7 and 9. The participants who wrote their essays in about 300 words, but the vocabulary related to the topic were of limited range, scored between 10 and 13. The participants who wrote their essays in about 300 words and included adequate range of vocabulary related to the topic but had occasional errors of word form, scored between 14 and 17. Similarly, the participants who had written their essays in about 300 words and used sophisticated range of vocabulary related to the topic and demonstrated effective word choice and word form mastery were give scores between 18 and 20.

To summarise the steps of analysis, first, the pre-test vocabulary scores of the control and the experimental groups were compared using inferential statistics to assess the homogeneity of both the groups.

Second, T-test, means and standard deviation were used to compare post-test average scores of both the control group and the experimental group to determine the significant difference in post-test scores between the two groups.

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Third, the participants' responses to the semi-structured interview, which was conducted with five participants from each group, were analysed qualitatively to investigate their attitudes towards the two vocabulary teaching methods: flipped English classroom and regular English classroom.

5.2 Results of the Analysis

Table (1) shows the comparison of the pre-test vocabulary scores of the control and the experimental groups.

Table (1) Comparison of Pre-test Vocabulary Scores of the control and the experimental groups

Group	No. of participants	Vocabulary scores			
		18-20	17-14	13-10	7-Sep
Control	65	8	12	24	21
Experimental	74	3	6	27	38

The homogeneity of both the control and the experimental groups is evident from the Table (1).

Data from both the experimental and control groups' post-test results was analyzed quantitatively by SPSS for arithmetic means, standard deviation and T-test. The significant level was set at the 0.05 level.

Research Question 1: Is there any significant difference in vocabulary instruction between the two vocabulary instruction methods: Regular English classroom and Flipped English Classroom?

Table (2) Comparison between the Post-test vocabulary scores of the control and the experimental groups

Group	N	Mean	Difference of Mean	Standard deviation	T-Value	Result
Control	65	11.7		2.529		
Experimental	74	14.4	2.7	3.045	27.45**	Significant

**significant at the value of 0.05

As shown in Table (2), the average post-test vocabulary score of the control group was 11.7 with a standard deviation of 2.529, while that of the experimental group was 14.4 with a standard deviation of 3.045. The result from the T-test showed that there was significant difference at the level of 0.05 (t = 27.45). It can be interpreted that the students from both groups had shown progress in the post-test vocabulary scores after being given vocabulary instruction. However, the experimental group's score was relatively high compared to the control group. Based on the analysis, it is evident that the participants of the experimental group gained more vocabulary than the participants of the control group.

Research Question 2: What is the participants' attitude towards the two vocabulary instruction methods: flipped English classes and regular English classes?

An interview with semi-structured questions was conducted to five participants from the experimental group and five from the control group to find out their attitudes toward the two vocabulary-instruction methods: flipped and regular. The participants of the control group reported that they found the vocabulary instruction too boring since they had to read a lot. However, they agreed that they had opportunities to learn new lexical items from the articles and speech scripts they read. On the other hand, the participants of the experimental group showed positive attitude towards the flipped English classroom method. All the five participants agreed that the materials sent to them were very useful and interesting, and also the class activities were productive and fun-filled. For instance, one participant said, "I enjoyed using the computer and internet for learning purpose. At home we had to read articles on screen, listen to speeches and songs, or go through slides and in class we had many opportunities to participate in group activities like quiz and discussion. I think learning is much better and easier this way." However, a few participants reported that they had to use the net centres to access internet since there was power failure at their houses.

6. FINDINGS AND DISCUSSIONS

The result of the investigation substantiates the fact that the flipped English classroom had a statistically significant effect on the participants of the experimental group. This is evident from the

improvement and efficacy seen in using relevant and sophisticated vocabulary apart from achieving the target word limit by the participants of the experimental group in the post-test essay writing task. One of the reasons could be their motivation and level of interest to use computer and internet for learning purposes.The result of the analysis of the qualitative data collected through the semi-structured interview with the participants of the experimental group suggests that the participants found the flipped English classes interesting rather than the regular English classes. The flipped English classes facilitated the researcher to give opportunities for the experimental group to practice the four language skills: LSRW.

The findings of this study are significant because the previous studies on vocabulary instruction did not use flipped classroom method. The findings revealed that the participants of the flipped classes showed a positive impact in learning vocabulary. Moreover, vocabulary instruction, either through the regular English classes or through the flipped English classes, had facilitated students to enrich their vocabulary strength and this enrichment was reflected in the essays of the participants of both the groups, despite the fact that more vocabulary improvement was noticed in the participants of the flipped English classes.

7. IMPLICATIONS AND CONCLUSIONS

Apart from giving special attention to the vocabulary enrichment of the students, vocabulary instruction through flipped classes facilitates students to know various topics, to learn correct spelling and pronunciation, and usage of unfamiliar words and to enhance their speaking skills through group discussions. However, the focus was on enabling the students to achieve the target word limit and to use appropriate and relevant vocabulary which will get them the highest scores in essay writing tasks. Each class offers the students well planned oral and writing tasks to build their confidence, knowledge, motivation and to enhance their writing skills.

7.1 Limitations of the Study

Flipped classroom technique is an innovative tool for teaching language skills. However, this technique requires students to check their mails every day to know about the next day's learning objectives and to prepare well for the next class. If the students fail to check the mail due to forgetfulness or any other technical problem, they will have difficulty in following the next day's class since the teacher assumes that all students have checked mails and come prepared with activities. Besides, the teachers need to be technologically sound and they need sufficient time to prepare and upload materials, and to plan for the next day's class. Thus, this technique needs more time to prepare, plan and conduct classes, which in turn may affect syllabus completion.

7.2 Recommendation

The following are recommended in the light of the findings of the study:

1. Tertiary institutions should encourage teachers of English to flip English classes to develop second language learners' vocabulary strength in view of the importance of vocabulary in language acquisition.
2. Teachers and students should be trained regularly to maximise the use of technology for learning English as a second language.
3. English language teachers should incorporate computers and internet in the teaching of English language for developing tertiary students' LSRW skills holistically.

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