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**L2 Learners' Achievement in Acquiring Academic Vocabulary in M-learning Environment**

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### **Abstract**

This paper aims to improve the academic vocabulary among tertiary level learners using mobile applications through self-study and monitoring modes. The mobile application, IELTSAcademic helps the learners with a wide range of vocabulary in a level feasible to the learner. The mobile applications employed during the study provided different understandability levels of words, their pronunciations and meanings. Furthermore, it was used to upload new flashcards with a set of functional words and meanings that were needed for the learners. The participants of the study consisted of 60 ESL learners from an Indian private university. The suggested mobile application provided the learners an improvement in an accurate usage of vocabulary with its visual learning. Hence, relying on the above records, this study emphasized on effective learning of academic vocabulary using IELTS Academic mobile app.

### *Keywords*

ESL, Vocabulary, M-learning, IELTS Academic, mobile application, self-study



## **Introduction**

The present study focuses on a suggested mobile application to pave way for teaching English vocabulary through m- learning to tertiary level learners resulting in the self-study mode as well as supervised by teachers. The main concerns of the study were based on teaching academic vocabulary in the current status of English as a Second language, rather than its confinement to native speakers and the advent of m-learning in the field of English language learning. The acquisition of vocabulary at first sight seems straightforward and a large number of words are needed to speak a language (Vivian Cook, 2008). Likely, a minimal amount of vocabulary is indispensable for effective communication (Hu, 2006, p.45). Vocabulary that serves as the base stone for a language is currently approached with the vibe of the hour, m-learning. M-learning, with its self-developed mobile devices and applications to the existing features of mobile phones for learning purposes, opens a wide choice of teaching materials. However, IELTS Academic , a mobile application was chosen for the study for its feasibility in all smartphones with different levels of vocabulary being designed for the proficiency levels of the learners.

## **Literature review**

### *Concept of M-learning*

This section reviews the studies on M-learning as a novice in language teaching methods and its relevance in English language teaching and learning. M-learning achieves popularity with the portability and ubiquity features to help learning on the move. It has become a drift in language learning since the advent of e- learning. M-learning, “an extension of e- learning” (Brown, 2005, p.299), contributes to learning from anywhere at any time. It has motivated a number of researches in novel applications in mobile learning (Frohberg et al., 2009; Pea & Maldonado, 2005). Mobile technologies have been found beneficial for supporting activities in the classrooms



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(Roschelle et al., 2010 & Zurita and Nussbaum, 2007) Some of the mobile devices have been used to assist note taking systems ( Anderson et al., 2004; Kan et al., 2005). Mobile devices are found comfortable to support problem solving activities (Looi and Chen; Nussbau, et al., 2009). Also, Mobile learning promises to deliver closer integration of language learning with everyday communication needs and cultural experience (Kukulka-Hulme, 2006). Especially, the wireless handled devices such as smartphones, tablet computers appear as a optimum means for encouraging students in collaborative learning activities (Alvarez et al., 2009; Zurita and Nussbaum, 2004). The wide adoption of mobile devices in supporting learning has opened up the possibility of using mobile phones in the classroom to support both individual and collaborative learning activities (Dillenbourg and Jermann, 2006). To put it in nutshell, a systematic involvement of mobile devices can serve for pedagogical purposes. Therefore, based on the objectives of the study, instructors need to customize different teaching and learning patterns into a suitable lesson plan towards the desired learning outcomes.

*Research on vocabulary learning and MALL*

A few studies show that learning through smartphones contributes a new trend to the language learning set-up as they provide better computability features and supportive files for most of the mobile learning applications than the window phones. Learning vocabulary through smartphones and their applications is likely more convenient for the learners owing to the portability of the devices. Vocabulary learning is however not confined to a word and its meaning in plain sense but acquiring long lists of words with their meanings, either through some direct link or translation into the first language. (Cook, 2008). Agca & Ozdemir (2013), created a mobile learning environment combined with printed course book and mobile devices which was limited to srelated course activities. Khazaie & Ketabi (2011) framed exercises by mini laptops through which 20 words per exercises were assigned to learners every day for enrichment of vocabulary. Lu (2008) used SMS lessons as a manageable chunk to offer a novel learning experience and a relaxing condition (p.522). As the students were more concerned about the convenience of the medium used for learning than the lessons as such, this study, was based on the mobile



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application, IELTSAcademic which helped to enhance the vocabulary of the target learners according to their needs irrespective of subjects or course books.

It is an undeniable fact that vocabulary learning is an important factor for acquiring English language.

One of the components to master English as a foreign language is vocabulary mastery. It means that the students have ability in understanding and using the words and meaning. The students know the words and their meaning. It also plays an important role in English language skills. The greater vocabulary students master, the better they perform their language. By having limited vocabulary, the students will find difficulties mastering English skill. (Zahedi and Abdi , 2012, p.2264)

Likewise, as indented, “without grammar very little can be conveyed, without vocabulary nothing at all can be conveyed” (Wilks, 1972, p.111). Language structures make up the skeleton of language, but it is vocabulary that provides the vital organs and the flesh (Harmer, 1994). Thus, vocabulary learning turns into a necessary component in acquiring English as a second language. IELTSAcademic is a mobile application in smartphones which helps the learners to learn words, their meanings and pronunciations in different levels of understandability. The levels of learning vocabulary are categorized to Very hard, hard, easy, and very easy according to the ability of the learners. Moreover, the words and their meanings in the application are highlighted with different colours according to the focus to be made on word or its meaning. The application can be used for both self-learning and traditional learning. The feature of the prescribed mobile application having different levels of vocabulary learning according to the learners' proficiency and learning capability marks it out to other mobile applications like Learn English, English Vocabulary or Advanced English. Another attractive feature of this application is the flashcard facility in which the teachers can add some necessary words needed for the learners' vocabulary building. The flashcard can be uploaded and further used by the later users' of the application. The paper focuses on vocabulary learning using th IELTSAcademic mobile



application for the entry level learners enabling the researchers to utilize the four levels of the application , i.e., from very easy to very hard.

### **Research questions**

The current study, with references to the above reviews, is intended to provide a new method to learn vocabulary within the classroom ambience as well as outside classroom. The experimental study is anchored by the following research questions,

1. Can m- learning be a more effective method for learning English vocabulary for academic and personal life than the traditional methods?
2. Will the mobile applications for vocabulary learning an alternative for classroom activities?

### **Methodology**

#### *Participants*

The participants of the study were the entry level students of the Bachelor of Commerce (B.Com) and Bachelor of Business Administration (BBA) at VIT University, Vellore, Tamilnadu, India. They were from a mixed educational and family background but who commonly lacked in exposure to English speaking environment. Though the learners were exposed to English learning environments, they were ignorant to the situations for developing vocabulary for their academic and personal life as the usage of second language was comparatively less. According to the survey conducted by International Data Corporation (IDC), India in 2013, the tertiary level learners, who belong to the age group of 19-23, are likely to be more obsessed with smartphones. This resulted in a choice of tertiary level learners as the sample group for the experiment.



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*Method*

A survey was conducted among 160 students of the university using questionnaires. The questionnaire consisted of two parts viz. the first section collected the personal details of the respondent and the second section on the use of mobile devices and their features for learning vocabulary. Both the open-ended and the close-ended questions were used to collect the data. Open-ended questions on their difficulties in learning vocabulary and their approaches to learn vocabulary during their school days brightened the researchers to approach the students more productively during experiment. The researchers were able to rectify the gap of the learning approach during their primary classes by throwing new approach of using mobile application for vocabulary learning. The close ended questions were on the use of smartphones and self-study mobile applications for vocabulary learning. The questions were used to assess m-learning approach for learning vocabulary using liker scale and yes/no pattern. According to the results, ninety percent of the sample used smartphones where as only a ten percent was aware of any vocabulary learning mobile application. Hence, they were ready to try a new method to second language vocabulary. Sixty participants from the sample were randomly selected for the study. IELTS Academic, a self-learning application, was modified in this study to be used by the researchers in a collective learning process. The flashcard facility of the application assisted the researchers to upload necessary words based on the level of the students which contributed to an exposure to rich vocabulary collection. The vocabulary learning through this application was not confined to a particular classroom but extended to the other classes through the flashcard feature available in the application that enriched the vocabulary in a wide area of learners.

This study aimed at enhancing vocabulary among the tertiary level learners to improve their English communication. IELTS grading criteria was used to test the vocabulary of the learners. The main aspects covered in learning vocabulary are the range and variety of vocabulary used by the learner, suitability of the words to the given situations, accuracy of the meanings expressed, ability to talk familiar and unfamiliar topics and paraphrasing. These five criteria are tested to analyse the speaking ability of the learners based on the vocabulary used in their academic and



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professional situations. The suitability and accuracy of the meaning helps to avoid the ornately sophisticated words that are not relevant to the situations prescribed. Moreover, the vocabulary can be easily counted with the learners' ability to talk unfamiliar topics which is possible only if he or she has a rich vocabulary. Paraphrasing is yet another important criterion required for the learners to express the meanings of the words the learners are not sure of or unknown. These criteria were used in the pre-test to evaluate the proficiency of the learners. The same criteria were evaluated in the post-test to observe the improvement of the learners.

*Procedure*

A twenty hours -session was conducted for the experiment between the pre-test and the post-test. A pre-test was conducted to sixty participants with the suggested criteria. The situations given to them during the pre-test were of daily life situations, say conversation between friends on an upcoming weekend plans, a conversation between a traveler and a student where the former asking for the way to church etc. The conversations demonstrated the poor proficiency level of the learners.

Sample 1

Student A: Hi, how are you....?

Student B: I'm fine. ...eh... What plans for the weekend?

Student A: I haven't planned anything. I think we should try something.... eh.... eh.... Something.... (The student trying to express the word "adventurous")

Student B: What are you trying to say, dude? I have a better plan to go for .... eh... I mean.... eh... climbing the hills (the student struggle to use the word "trekking")

Student A: oh, that's a good plan. This kind of tasks ("activities" or "practices" may be more suitable) are more interesting.

Sample 2

Student A (Traveler): Excuse me, may I know how to reach the nearby church?





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Student B (Student): Oh hi, sure. There are three churches in this locality. ..eh... I think the church at the back of (“behind” is the appropriate word) the railway station is nearer.

Student A: Oh that’s great. But may I know how to eh.... eh.... get (“reach” can be more suitable) there?

Student B: Sure, I will assist you (inappropriate use of “assist”. The student trying to impress the examiners to show she knows another word for “help” but sounds unsuitable here).....

The participants were divided into two groups of thirty learners. One group was prone to the experiment using the new method whereas the other group was the control group who followed traditional methods for vocabulary learning. During the sessions of twenty hours, the learners were provided with various words with their meanings and pronunciations shared through the smartphones. The learners were given choice to highlight the words or meanings of their choice using different colours to focus. The first five sessions were dealt with ‘very easy’ level vocabulary in which commonly used words such as gender, replace, and contribution were made familiar to the learners. The next five sessions were provided with the next level of learning, ‘easy’ in which daily used words like access, acquire, notion were taught within their contexts. The following five sessions were for ‘hard’ words such as fluctuate, negation, manipulate etc which have been appeared in their academics and career. The last five sessions encompassed the ‘very hard’ and rarely used words such as reverberation, compatible, flamboyance etc for the vocabulary usage of the learners in their everyday life. Each session for one hour comprised a total of five hours for each level of vocabulary and every session ended up with situational practice of the words learned by the target learners. This practice enabled them to familiarize with the vocabulary and usages. A post test was conducted after the twenty hours session to examine the vocabulary level of the learners. A visible difference was shown when they expressed their ideas using the words they came across during the sessions. The post test consisted of similar type of situational conversations in which they could effectively present their ideas using the words they learned during the sessions. The situations given during the post- test



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were the conversation between the secretary of a company and the applicant, conversation between two friends on the holiday trip they missed etc.

Sample 1

Student A(Applicant): Good morning ma'am. I'm John.

Student B(Secretary) : Good Morning, John. We have been waiting for you. Please take your seat.

Student A: I would like to know about my job nature

Student B: Sure. I can help you. But I apologise for the inconvenience caused last day in meeting you.

Student A: Oh tats fie... eh.... how about my salary and the additional payments?

Student B: Additional payments??

Student A: I meant.... eh....the extra payments for over-time, the commission for each businesses, some additional payments (the student trying to paraphrase)

Student B: Oh sure.... the increments... That will be surely paid according to your work....

Similarly, another activity was given provided with some unfamiliar topics as of the living status of Chinese food habits, the lifestyle of modern American expatriates etc. The students used the words such as “unfortunately”, “appetizer”, ”toppings”, “garnish”, “physique”, “alien” etc that they learned during the sessions. The data collected during pre-test and post- test were analysed using SPSS. Cronbach's Alpha test was used to test the reliability and paired sample t-test for effectiveness of the study was carried out using SPSS. Table.1 shows the total marks obtained by the respondents in the experimental group in pre-test as well as post test.

**Table 1** Pre-test and post test marks of experimental group

<b>Participants</b>	<b>Pre test(25)</b>	<b>Post test(25)</b>
Respondent 1	8.5	15
Respondent 2	12.5	16
Respondent 3	4	12.5
Respondent 4	8	15.5
Respondent 5	5.5	14
Respondent 6	14	16.5
Respondent 7	8.5	17
Respondent 8	9.5	15
Respondent 9	4.5	13
Respondent 10	12	15.25
Respondent 11	4.75	11.5
Respondent 12	8.5	14.5
Respondent 13	7	15
Respondent 14	8.5	14
Respondent 15	11.75	17
Respondent 16	6	12
Respondent 17	8	17.5
Respondent 18	4	13
Respondent 19	9.5	17
Respondent 20	11.5	15
Respondent 21	4.5	13
Respondent 22	3.5	9.5
Respondent 23	5	15
Respondent 24	7	13.5



Respondent 25	9.5	17.5
Respondent 26	6	13
Respondent 27	8	18
Respondent 28	8.5	14
Respondent 29	11.5	14
Respondent 30	2.5	5

However, the data with detailed variables was subjected to reliability analysis through Cronbach's Alpha test (Table 2).

**Table 2** Reliability Statistics

Cronbach's Alpha	N of Items
.959	10

Table.2 reports the results of the reliability test of variables of the pre-test and post test. Ten variables were tested and the Chronbach's Alpha value, 0.959, was comparatively higher to the expected value of more than 0.8. The value thus proved the dependability of the experiment.

## Findings

This section starts with the data from the pre-test and the post- test followed by the control group results.

### *Test results*

The results of the pre-test and post-test were analysed using paired sample t-test. The five criterions as mentioned in the previous sections were marked and evaluated to draw the

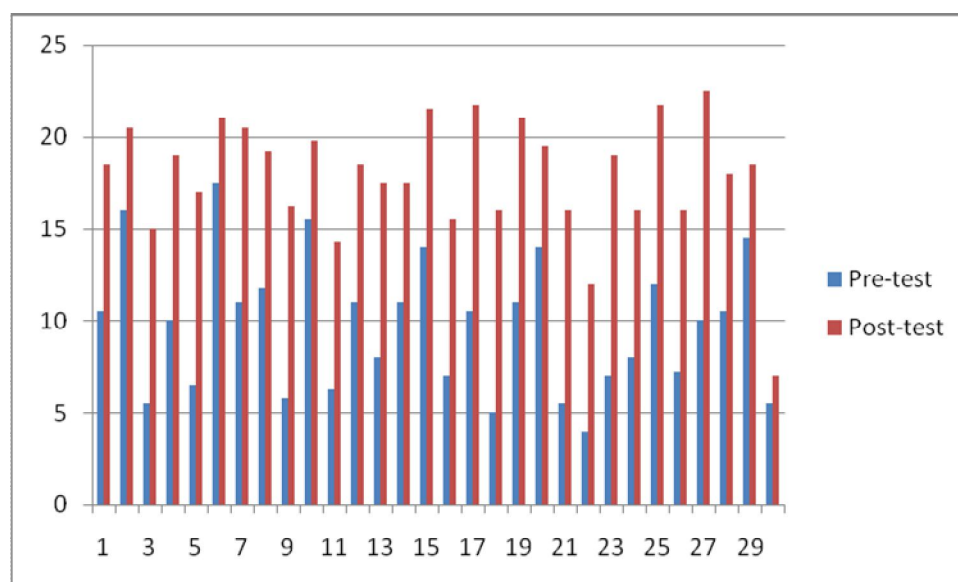


difference between the performances of learners before and after the experiment. The comparison of the test results was drawn using paired sample t-test (Table 3).

**Table 3** Paired sample t-test of Variables in Pre-test and Post-test

	Variables	Paired Differences			Signified (2-tailed)
		Mean	Std Deviation	Std. Error Mean	
Pair 1	Range - Range1	-1.558	.560	.102	.000
Pair 2	Suitability- Suitability1	-1.600	.706	.129	.000
Pair 3	Accuracy - Accuracy1	-1.700	.664	.121	.000
Pair 4	Management - Management1	-1.550	.514	.094	.000
Pair 5	Paraphrasing- Paraphrasing1	-1.658	.693	.127	.000

According to the analysis test, all components showed the differences with a signified  $p < 0.05$ . The  $p$  value attained signifies the difference between the variables of pre-test and post-test. The signified values of all variables were .000 indicating the productivity of the IELTS Academic mobile application to improve the vocabulary of second language learners. The study is consequently justified to potentiate the vocabulary of tertiary level learners the proposed mobile application via m-learning.



**Graph 1** Results of pre-test and post-test of experimental group

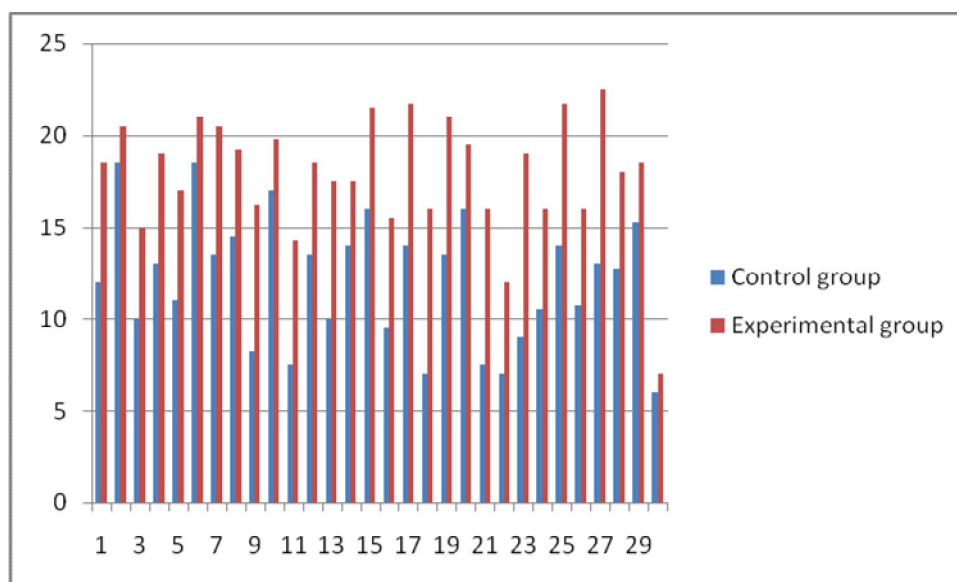
Graph 1 illustrates the poor performance of the participants in the pre-test. Most of them lacked the major criteria such as the range and variety of vocabulary used, suitability of words used and the accuracy of meanings that were tested in the pre-tests. They also faced difficulty to deal with an unfamiliar topic and paraphrasing the complex words. The scores scrutinized in the pre-test were comparatively low. After the study of twenty hours, a post test was carried out to assess the progress in the participants. The graph however shows a consistent improvement in the vocabulary usage of the learners. The maximum score as shown in the graph in the pre-test was



17.5 while that of the post-test was 22.5. The average marks in the post-test lies between 17 and 18 which was found to be the maximum mark in the pre-test. The graph thus manifests the effectiveness of the IETSAcademic application used for the study through m-learning.

#### *Effect of traditional learning in control group*

Another set of thirty students from the sample of sixty, were selected as the Control group of the study. The participants in this group were provided with the same set of topics and activities of experimental group. They were, in contrary, approached through traditional methods such as using passages to find out the meanings of unknown vocabulary. Notebooks were maintained to write down the unknown words and their meanings and learn it by-heart without situational activities and mobile application. However, the method was considered less effective as in terms of the study conducted by Mediha and Enisa(2014), "One of the main criticisms of using this method is that there are lots of words in the language and it takes a long time to teach through direct teaching". Moreover, the words which were taught in isolation were usually difficult to remember.



**Graph 2** Graphical representation of post-test results of control and experimental groups



The Graph 2 demonstrates the efficacy of the proposed mobile application for potentiating the vocabulary of the learners. The maximum scores as per the end results of the post-tests of control and experimental groups' figure out the effectiveness of the new method in vocabulary learning. The maximum score in the post-test of the control group was 18.5 where as it was 20.5 in the experimental group. The graphical representation of the test results highlights the efficiency of IELTSAcademic mobile application to augment the learner's vocabulary.

### **Discussion**

The aforementioned findings may draw some necessary factors the experiment that was carried out to potentiate the vocabulary of tertiary level learners of the experimental and control groups using different approaches resulted in different outputs. The post-test results revealed the efficiency of the new method used to teach and learn vocabulary. The experimental group showed comparatively evident variation from that of the performance of the control group .As a result, enhancing vocabulary using mobile applications derived to be more efficacious from the results of the post-tests. The outcome of the experiment was similar to the study conducted by Lakshmi & Nageswari(2014) in which the instant messaging applications like Whatsapp messenger, WeChat and Line were used for ameliorating the speaking skills of low- proficient learners. The mobile application, IELTSAcademic, used in the study was found to be more successful in imparting vocabulary to the target learners than the passages and articles from which the words and their meanings were learned devoid of their usages as in the traditional learning.





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## **Conclusion**

The study has thus substantiated that the recommended approach to vocabulary learning is more affirmative using the most popular IELTS Academic mobile application in smartphones than the traditional methods. M-learning, being more modish, has a better acceptance and move among the young generation in their learning process. The study points out that the usage of such self-learning applications with a motivation from teachers has been more effective which was assured through the analyses of paired sample t-test. IELTS Academic is however, recently modified with more options of vocabulary learning like four options in homepage, words arranged in both alphabetical order as well as shuffled ones for random learning. The limitations of the study is however the constant modifications of the application. The study can be further extended to wider groups and to the primary and secondary levels of learners. The extension of this study to these levels may help the learners in acquiring rich English vocabulary in the earlier stages of their academic life.

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