

# Second Language Learners' Attitudes towards the Methods of Learning Vocabulary

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## Abstract

The paper aims at investigating students' learning attitudes after they are exposed to three vocabulary learning methods, namely Contextual Clues, Dictionary Strategy and Computer Assisted Language Learning (CALL). The study involves 123 undergraduates, who were surveyed to identify the factors that affect their attitudes in learning vocabulary using these methods. Findings from the study using ANOVA revealed that students who were exposed to CALL showed more positive attitudes in learning vocabulary compared to other methods. This is due to the tools matching their aptitude for learning. In fact, the tools are regarded as 'part and parcel' of the students' lives. The results of the study also showed that the usefulness and limitation of the respective methods depend on students' approaches in using them to learn vocabulary. The implications for language teaching and learning of vocabulary demand practitioners to incorporate the use of computers in their lessons. Nonetheless, they may also integrate the use of Contextual Clues, Dictionary Strategy and CALL in their teaching to accelerate the expansion of students' vocabulary.

**Keywords:** Vocabulary learning, Vocabulary acquisition, Language learning, Contextual clues, Dictionary strategy, Computer Assisted Language Learning (CALL)

## 1. Introduction

Students' learning attitudes largely depend on their beliefs about language learning (Ellis, 1994). Further, Ellis (1994) asserts that individuals learning a language have shown that they have certain perspectives about how they can acquire a language. They may have thought of the concepts and approaches that enable them to learn the language. Also, their beliefs about learning strongly affect their affective states. Thus, some learners are fearful while others are confident in learning the language. To cope with the situation, Nazary (2008) believes that teachers' attitudes should correspond to their learners' aptitude and motivation in learning English. The success factor of learning English therefore does not rely on the students alone. Teachers' approaches in teaching the language are also vital in creating experiences conducive to learning.

This study attempts to investigate students' learning attitudes when they are exposed to the use of Contextual Clues, Dictionary (English-English) Strategy and Computer Assisted Language Learning (CALL) in learning vocabulary. It attempts to identify their feelings of accomplishment and thoughts after a teacher teaches them the use of the three methods of learning vocabulary. More specifically, it tries to record their implicit anticipatory evaluation (Ajzen & Madden, 1986) in terms of their favour and disfavour on the use of the methods (Eagly & Chaiken, 1993). Meanwhile,

other methods present several major problems for students at tertiary level. For instance, the mnemonics technique, i.e. keyword methods, is more useful for young learners (Fulk, Lohman&Belfiore, 1997; Howard, DeDappo, De La Paz, 2008; Zhang &Schumm, 2000), the vocabulary notebook does not offer any ease with which to retrieve the vocabulary learnt (Nation, as cited in Hinkel, 2005), and the use of flashcards lacks the context of learning the target words (Yoneoka, 2006).

## 2. Literature Review

### 2.1 Importance of Vocabulary Learning

Folse (2004) asserts that it is a myth to say that learning vocabulary is not as important as learning grammar or other areas of language learning, when in reality vocabulary learning has an extremely important role in English language learning (Chen & Chun, 2008; Shoebottom, 2007). This is because the more words that students know, the more they are able to understand what they hear and read, hence the better they are able to say what they want when speaking or writing (Shoebottom, 2007). Moreover, the vocabulary learning of L2 is not similar to learning one's first language (L1). Folse (2004) maintains that unlike learning L1 vocabulary, L2 learners need to retrieve the form, the meaning, or the usage of the word that can be achieved by doing several classroom activities.

Wilkins (1972, as cited in Herbertson, 2010) describes the importance of learning vocabulary in his quote, "Without grammar very little can be conveyed, without vocabulary nothing can be conveyed." The statement shows that without lexis, someone's attempts to communicate his/her message to others could be to no avail. However, a message could still be understood even though he/she does not use grammatically correct sentences. Yet, problems might occur if one does not know the right word to decode his/ her message. The statement also entails that one could not read or listen without the knowledge of vocabulary (Herbertson, 2010).

### 2.2 Students' Attitudes in Learning Vocabulary Using Contextual Clues

Yue (2009) argues that students' attitudes of learning from context depend on their attitudes towards learning the English subject itself. It was reported that a majority of the students in Yue's (2009) study did not favour learning English. Hence, anything related to English was boring and not enjoyable to the majority of 117 primary five school students in the study. Yue (2009) believes that a research, or rather a need analysis, on the needs of the students at the beginning of the course is essential. Such is necessary to understand the students' learning attitudes so that materials and tasks could be tailored to meet their needs.

On the same vein, students' preferences with regard to the methods of learning vocabulary may promote positive attitudes among learners. A study conducted by Mei (2005) revealed that on average, 69 primary school students in her study preferred the use of picture clues and phonics, instead of guessing meaning from context, to learn vocabulary. This was so since the primary school pupils were frequently guided to look at the pictures first whenever they came across a new book. It was also reported in Mei's (2005) study that teachers' approaches in conducting the classes affected the way in which students learnt vocabulary. In guessing meaning from context, one of the teachers only elicited from students words related to the unknown word. The teacher did not assign students to look at the surrounding words to guess the meaning of the unknown words. As a result, they learnt little of the strategy of cracking the meaning of the words.

### 2.3 Students' Attitudes in Learning Vocabulary Using Dictionaries

Students have different attitudes in the course of learning vocabulary using dictionaries. Chow (2001) reported that the pre-university students in her study were generally positive in using the English-English dictionary. However, they were unable to make full and proper use of the dictionaries as they only consulted the resources for definitions. In addition, students' learning of vocabulary using dictionaries can be promoted when it is chiefly used for their semester studies (Chi, 1998). The researcher found that the pre-university students benefitted from the use of monolingual dictionaries to find definitions of a word, although they did not use it frequently.

On the other hand, Tan and Zarei (2011) maintain that L2 dictionary users may tend to show negative attitudes towards using the tools when they are unable to conceptualise the meaning of a word. The survey research reported that a majority of 40 students claimed that they were effective users of the resources. Yet, they did not see the significance of using help devices such as cross-referencing and numbering of senses when they used the monolingual dictionaries. Martínez (2008), in her survey which employed 60 Pre-Basic English students, reported that they would rather use the bilingual dictionaries than the monolingual dictionaries in English classes. They disliked the use of the monolingual dictionaries for three simple reasons: it took longer to look up words, it was boring to look up words and it was a nuisance to the eyes during look-up.

#### 2.4 Students' Attitudes in Learning Vocabulary Using CALL

The use of CALL in learning vocabulary has different effects on students, depending on the nature of the programmes. Iwanski (2000) compares the CALL programme with that of the traditional method of learning vocabulary. The study revealed that a hypermedia-based programme produces positive learning attitudes among 82 undergraduates because of the features that were not present when blackboards and overhead projectors were used. The use of the CALL programme can also encourage an exploratory attitude towards learning vocabulary. Kukulska-Hulme (1998) reported that a simple database, namely WORDSTORE, eased the problem of the storing of words learnt. Students were able to engage in a systematic and interactive learning of vocabulary. They were able to record the forms and meanings, share information and remember the words individually. Yet, its use was more suitable for advanced learners as they already possessed sizeable vocabulary knowledge.

The full autonomy in controlling the pace of learning using computers encourages positive learning attitudes among students. Kuen's (2000) study showed that a majority of the subjects in her study found that using computers was more interesting than just working with paper. In fact, they claimed that the use of computers created enjoyment and fun in the quest to acquire a newly learnt vocabulary. Moreover, the interactive exercise in the learning programme allowed a deeper level of processing of the new words. In a study conducted by Can and Cagiltay (2006), they found that students' positive attitudes to learning vocabulary might be hampered if teachers were unable to master the skills to handle a CALL lesson. This was especially more observable among the 'senior' teachers, who were not able to fully utilise the CALL programme due to their limited computer skills and technological knowledge. As a result, these teachers were not very comfortable in integrating computers – in particular, games in their courses – simply because they did not have strong technical support. This denotes that it is necessary for the teachers to be literate and equip themselves with the appropriate technology know-how on the CALL programme that will be used in the language classrooms. Their ignorance may lead to ineffectiveness in using the resource to learn vocabulary.

#### 2.5 Limitations of the Previous Studies

The research reviewed in the earlier discussions has given the researchers some basic ideas about students' vocabulary learning attitudes when they are instructed to use Contextual Clues, Dictionary Strategy and CALL. However, one of the limitations of the previous studies was the use of secondary school students as their sample (e.g. Chi, 1998; Mei, 2005; Yue, 2009). This contrasts with the present study that employs tertiary-level students. Another limitation is the fact that there is no study which has empirically investigated students' relative learning attitudes using Contextual Clues, Dictionary Strategy and CALL in a single study. Previous researchers have only concentrated on the use of one of the methods, individually, in their studies. Moreover, their methods have tended to rely solely on descriptive measures, rather than experimental (e.g. Martínez, 2008; Tan and Zarei, 2011). The current study, however, conducted experimental design by administering lessons and tests before requiring subjects to complete a survey. In light of these arguments, the study aims at investigating students' learning attitudes when they are exposed to Contextual Clues, Dictionary Strategy and CALL. The research questions below are formulated in response to the purpose of conducting the study:

1. Is there any significant difference in students' learning attitudes after Contextual Clues, Dictionary Strategy and CALL are used in learning vocabulary?
2. What advantages do students experience in using Contextual Clues, Dictionary Strategy and CALL in learning the target words?
3. What difficulties do students encounter in using Contextual Clues, Dictionary Strategy and CALL in learning the target words?

### 3. Methodology

#### 3.1 Pilot Study

Thirty-seven first-year students were sampled, based on convenience and availability, for the pilot study. It was conducted to refine the questionnaire as well as to determine its reliability. Cronbach alpha is used to determine the reliability of the instrument since the items in the instrument are not scored simply as right or wrong (Santos, 1999). The alpha coefficient of 0.90 indicates a high level of reliability (Fraenkel & Wallen, 2003). Besides that, the validity of the questionnaire was also accessed by consulting lecturers in and outside the university. Their suggestions were noted and, thus, changes were made.

#### 3.2 Participants

A survey was conducted with 123 first year students in Universiti Malaysia Pahang (UMP). Table 1 shows the number of students, faculties and their respective groups. The study employs purposive sampling. Samples are

selected based on the judgement that they are typical or representative of the population (Fraenkel&Wallen, 2003). They are believed to represent the first-year students, and thus able to provide the data that is needed for the study. Besides that, consent forms ensuring the students' confidentiality are distributed to them prior to the study.

### *3.3 Instrument*

A questionnaire is used to gauge students' learning attitudes and learning feedback after receiving tuition in Contextual Clues, Dictionary Strategy and CALL (Table 2). Walonick (1993) argues that a questionnaire is used because it is cost-effective. Also, most statistical analysis software can be used to process the data that is received from it (Walonick, 1993).

The questionnaire in the study consists of three parts. Part A concerns with demographic information of the subjects. Students are required to write their names, faculties' names, matric numbers, genders and semester of studying. Part B relates to vocabulary learning attitudes. It consists of 14 closed-ended items. A Likert Scale is used to measure the students' responses by choosing any of these responses: '5' for Strongly Agree (SA), '4' for Agree (A), '3' for Neutral (N), '2' for Disagree (D) and '1' for Strongly Disagree (SD). These scales are used as they are one of the most widely used techniques to measure attitudes (Ary, Razavieh& Jacobs, 2003). Finally, Part C concerns with vocabulary learning feedback. It consists of four open-ended items. Altogether, there are 18 items composed for the questionnaire.

All the items in the questionnaire were formulated after consulting several studies on vocabulary learning. The researchers and the items that were adapted for the questionnaire are listed in Table 3. As far as permission is concerned in using the items, the researchers sought permission from Nah, White and Sussex (2008) as well as Chen and Chun (2008). Other researchers were unable to be contacted since they did not provide contact addresses. Moreover, the items were obtained from their theses.

### *3.4 Vocabulary Selection*

In selecting the target words for the current study, an analysis of target vocabulary was done by examining the words contained in the Vocabulary Workshop of the software, i.e. Tell Me More (TMM). The software is an e-solution programme to learn or teach languages ("Amadeus and Tell Me More-Auralog", 2010). Next, the levels in TMM - Intermediate, Intermediate Plus, Advanced and Advanced Plus - were examined to identify the target words. Then, a careful examination of the activities in the Vocabulary Workshop was conducted. A fill-in-the-blanks activity was identified to be used for the current study since there was a variety of word choices compared to other activities. The researchers randomly pre-selected 52 words. Later, four highly proficient students were appointed to make sentences using the target words. They were only able to make sentences of 10 target words after checking was done by three teachers, as examiners. Hence, 42 target words were selected for the study. The words are characterised as nouns, verbs and adjectives (Table 4). They were also confirmed by the English lecturers and teachers to enrich students' vocabulary.

### *3.5 Procedures of Conducting the Study*

The study lasted for seven weeks. In the first week, students took a pre-test. Students were taught on the use of the vocabulary learning methods in the second and third weeks. In this period they were assigned vocabulary activities individually, in pairs, and in groups. Two immediate recall tests were also administered in those weeks. More specifically, they were conducted two days after the lessons took place. A two-week break was allocated in the fourth and fifth weeks. In week six, students took a delayed recall test. They were also instructed to answer the questionnaire in this week. In the final week, two competent and two basic learners in each vocabulary learning group, making a total of 12 respondents, were called for interview. However, the findings for this study only discuss the data that is obtained from the survey.

### *3.6 Methods of Instructions*

The methods of instructions discuss the teaching of Contextual Clues, Dictionary Strategy and CALL. Inductive approach to guessing from context is taught to students in the Contextual Clues' group since it can be used by any level of learners (Hunt & Beglar, 2005). In this study, Clarke and Nation's (1980) inductive procedure is used in teaching students to guess meaning from context. Besides that, think-aloud protocol is also taught to the students in this group. Meanwhile, Schofield's (1982) procedures of looking up words in dictionaries are taught to the students in the Dictionary Strategy group. Also, phonetic symbols are taught indirectly, to increase their awareness of the sound of the word (Mompean, 2005). They learn the use of grammatical information and examples of sentences as well, in the lesson. Finally, students who use CALL are assigned to use TMM by accessing the Vocabulary Workshop. They are instructed to use the various hyperlinks in the programmes, for example 'Find out more about a word', 'Pronounce the word', 'Listen to the word' and 'Conjugation'.

#### 4. Results and Discussion

Exploratory Data Analysis (EDA) was conducted to reveal the possible errors, i.e. outliers in the data. Detecting them enables the researchers to establish the normal distribution of the data, and hence determine whether parametric or non-parametric tests should be used (Field, 2009). The preliminary data analysis confirmed that the data were correctly entered and the distributions of the variables were normal. The discussion that proceeds concerns with reporting the findings of the research questions in the study.

Research Question 1: Is there any significant difference in students' learning attitudes after Contextual Clues, Dictionary Strategy and CALL are used in learning vocabulary?

Table 5 shows the evaluation of learning attitudes for respective treatment groups. Item 7, concerning the opportunity to learn vocabulary using CALL, obtained the highest mean ( $M = 4.28$ ,  $SD = 0.67$ ). This indicated that students in the CALL group favoured learning vocabulary using TMM, compared to other students who were exposed to the Dictionary Strategy and Contextual Clues' methods. On the other hand, preliminary analysis in Table 6 shows that the CALL group had the highest mean ( $M = 3.95$ ,  $SD = 0.34$ ), followed by the Contextual Clues' group ( $M = 3.89$ ,  $SD = 0.41$ ), and finally the Dictionary Strategy group ( $M = 3.67$ ,  $SD = 0.40$ ). A one-way ANOVA was used to further explore the differences in students' learning attitudes with regards to the use of Contextual Clues, Dictionary Strategy and CALL in learning vocabulary. Table 7 shows that there was a statistically significant difference at the  $p < .05$  level in their learning attitudes [ $F(2, 120) = 6.317$ ,  $p = .002$ ]. The effect size calculated using eta squared ( $\eta^2$ ) was 0.10. The actual difference in mean scores among the groups was medium (Cohen, 1988).

A post hoc test using the Gabriel test was used to analyse which group differed from the other groups, since the sample sizes were slightly different (Field, 2009). Table 8 shows that the mean score for the CALL group ( $M = 3.95$ ,  $SD = 0.34$ ) was significantly different from the Dictionary Strategy group ( $M = 3.67$ ,  $SD = 0.40$ ). Likewise, the mean score for the Dictionary Strategy group ( $M = 3.67$ ,  $SD = 0.40$ ) was significantly different from the Contextual Clues group ( $M = 3.89$ ,  $SD = 0.41$ ). This suggested that students in the CALL group had a more positive learning attitude compared to other groups. The use of computers to facilitate students' learning instruction matched their particular aptitude for learning since they were competent using the tools (Ellis, 2008). In fact, the 21<sup>st</sup> century students have grown up using computers for learning and entertainment (Martyn, 2007). A study by Nakata (2008) also revealed that computers were evaluated more favourably compared to list and card groups. Students in Nakata's (2008) study found that they enjoyed learning vocabulary using computers because it was like playing a video game. Besides that, they felt that the computer programme helped them to memorise and learn words quickly.

Research Question 2: What advantages do students experience in using Contextual Clues, Dictionary Strategy and CALL in learning the target words?

Table 9 shows the advantages of using Contextual Clues in learning vocabulary. Item 1 - for using think-aloud protocol - had the highest frequency. Forty students in the group claimed that the technique enabled them to process sentences that they were reading. Empirical studies (Hamada, 2009, Riazi & Babaei, 2008) demonstrated that the think-aloud technique allowed guessers to reveal the thought process in order to complete the task of word-meaning inference. This was done by looking at the entire sentence, the whole text and by understanding the immediate text (Riazi & Babaei, 2008). Moreover, by internalising and assimilating the text through thinking-aloud, students tend to remember the context of the words better (Peters, 2007).

Table 10 shows the advantages of learning vocabulary using the dictionary. Item 3 had the highest frequency in that 22 students stated that the dictionary enabled them to know various definitions of a single word. This implies that students look at all the meanings that are in the dictionary to know the meanings of the target word. However, such a finding is a 'double-edge sword', in that definitions may either benefit or hinder them in learning vocabulary. On one hand, they may check the appropriate meaning of the target words by looking at how they are used in the examples of sentences in the dictionary (Chow, 2001). On the other hand, they may not be able to figure out the appropriate multi-sense meanings of particular words or the correct usage of a target word (Chan, 2005). Therefore, to overcome the problem requires teachers to conduct training to students so as to make them effective users of monolingual dictionaries (Chow, 2001). Using bilingual dictionaries is another approach. Hayati and Fattahzadeh (2006) argue that using bilingual dictionaries is more feasible as the translations provide the definitions to be more specific. Moreover, students' sense of comfort and familiarity with or in their mother tongues enables them to attend to the comprehensible input from the translations (Chen, 2008). It raises concern, therefore, in selecting the kind of dictionary that is "appropriate" for students at tertiary level. Waring (2000) suggests that students should be autonomous in using a dictionary, and therefore the monolingual dictionary seems to meet this purpose because students do not have to depend on their teachers' knowledge to provide them with the context of the words. Besides, it is rather inappropriate for the teacher to spoon-feed them as they are studying at tertiary level. They have other

options to create their own learning in that they assimilate the techniques and apply those they find suitable when doing exercises in the lessons.

In response to the advantages of using CALL to learn vocabulary, Table 11 shows that Item 1 had the highest frequency, with 23 students claiming that TMM promoted interactive learning. In the present study, students experienced interactive learning situations because the interactive drag-and-drop feature enabled them to drag their answers and drop them into a blank space to complete a sentence structure. The programme responded instantly to their input through error messages that were indicated by red texts, while correct input was in green texts. Hufton (2006) points out that the feature provides considerable control over the use of a CALL vocabulary programme. However, such a feature benefits users more if visuals are used, as in the matching picture exercise (Hufton, 2006). Contrary to Hufton (2006), Hill (1998) found that the drag-and-drop feature was interactive for matching a target item with a given meaning exercise. Students in her study commented that the vocabulary programme “Words in Your Ears” enabled them to drag a target word and drop it into a box if it matched the meaning shown on the screen. If the answer was correct they could proceed to the next question. But, if the answer was incorrect, feedback was provided in the form of the definition and contextualised example of the inappropriate response. This suggests that the usefulness of the drag-and-drop feature depends on the objectives of the exercise. If teachers aim at requiring students to analyse the use of target words in a sentence, a fill-in-the-blanks activity, as in the current study, seems to be appropriate for the purpose. A picture-matching exercise, however, is suitable to assist students in remembering previously met words (Nation, 2005).

Research Question 3: What difficulties do students encounter when using Contextual Clues, Dictionary Strategy and CALL to learn the target words?

It was apparent from Table 12 that determining clues was the most difficult task for the students in the Contextual Clues’ group. Thirty-one students claimed that they were confused in determining the clues in a sentence. Oftentimes, this led to choosing the wrong words from the clues identified and, thus, making mistakes in answering the tests’ questions. Goodman (1967) asserts that it is the way that people read, in that they predict and anticipate on the basis of the information which is available to them. They sample the information, which is just enough to confirm their guesses (Goodman, 1967). However, Nassaji (2006) believes that the successfulness of lexical inferencing attempts is significantly mediated by the learner’s depth of vocabulary knowledge. His study showed that lexically less skilled (LLS) readers and lexically skilled (LS) readers differed in terms of their successfulness in inferencing unfamiliar words from context. The former were not successful in attempting to make correct guesses because of the failure to integrate information across and within sentences, and to generate accurate syntactic and semantic inferences about words. The arguments entail that students need to possess a sizeable vocabulary in order to guess the meaning of words. As a measure, Robb (1989) suggests that extensive reading may improve their effort in guessing from context since it involves a meaning-focused activity (Hunt & Beglar, 2005).

In terms of difficulties in learning vocabulary using the dictionary, Table 13 indicates that 23 students disliked the size of the dictionary, as shown in Item 6. Size was also lamented by Chan’s (2005) subjects as they found it a burden to carry the heavy dictionary to school. However, Chan (2005) stated that the complaint is common to any printed dictionary users. Similarly, more than two thirds of undergraduates in Martínez’s (2008) study claimed that they did not use the dictionary because it was too big. They assumed that bringing and using a dictionary which was more than 6 ½ inches long and 4 inches wide was not feasible in the tutorial. It is noted that a monolingual dictionary consists of almost two thousand pages. Yet this seems unavoidable, due to the appendixes that contain visual representations of words, instructions on the use of the dictionary, grammar parts and other useful information.

For the difficulties that students faced in learning vocabulary using CALL, Table 14 shows that Item 1 had the highest frequency. Twenty-nine students in the CALL group felt that hypertext - for meaning that was not available in TMM - caused difficulty for them in trying to learn and understand the target words. Previous research (Haseltine, 2006; Koren, 1999; Svenconis & Kerst, 1995) illustrated the usefulness of hypertext to obtain the meaning of the vocabulary. Our study reinforces this finding; students felt that hypertext benefitted them in the course of learning vocabulary. It enabled them to infer the meanings of target words (Koren, 1999). This could be done by referring to the translation of the words and the relationship to other words or sounds (Svenconis & Kerst, 1995). In fact, de Ridder (2002) argues that students should make the utmost use of the dictionary definitions which the software provides by the hypertext link since it can add depth to word learning (Lehr, Osborn, & Hiebert, 2004).

## 5. Conclusion

The study has attempted to investigate the differences in students’ learning attitudes after Contextual Clues, Dictionary Strategy and CALL are used in learning vocabulary. It has also investigated the advantages and

difficulties in using the three methods. The findings of the study can be concluded in several ways. Firstly, it lends empirical support to the idea that computers can promote positive learning attitudes compared to the conventional methods (Iwanski, 2001; Kukulska-Hulme, 1998). Findings from the present study indicate that students in the CALL group generally find that the use of computers has changed their attitudes in learning English vocabulary, compared to those in the Contextual Clues and Dictionary Strategy groups. The students in the CALL group feel comfortable using computers as they consider that the tools are 'part of their life'.

Secondly, findings from the study demonstrate that positive learning attitudes can be developed if they tie up with students' abilities. In order to motivate students, teachers, therefore, may incorporate the use of computers for interactive vocabulary learning experiences in the classrooms. Instead of having a pre-package programme similar to the current study - that needs to be purchased - future researchers may develop websites using Hot Potatoes. Robb (2002) argues that using the programme enables teachers to provide interactive vocabulary activities such as crossword puzzles or drag-and-drop matching, to name a few.

Finally, teachers may integrate the use of Contextual Clues, Dictionary Strategy and CALL in a single English course, since employing one technique or strategy for vocabulary presentation results in little learning (Zaid, 2009). For fast vocabulary expansion, using different approaches may help learners to solve the new words and their meanings (Burns, 1967). Hence, in teaching the methods of learning vocabulary to tertiary students at the entry level, they should teach the strategy of using Dictionary Strategy and Contextual Clues in at least the first few weeks after the semester begins. In between the teaching of both methods, students can do self-access activities using the CALL resources. This implies that, in the teaching plan, Dictionary Strategy may be taught first, followed by the teaching of Contextual Clues, the rationale being that the latter takes a longer time to learn (Saji, Imai, Saalbach, Zhang, Shu, & Okada, 2011). Between the teaching of Dictionary Strategy and Contextual Clues, any self-access activity using CALL should focus on the learners' needs (Chen, Liu & Wong, 2007).

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Table 1. Number of Students, Faculties and Respective Groups

Groups	Faculty	No. of students
Dictionary Strategy	Industrial Sciences & Technology	37
CALL	Chemical Engineering & Natural Resources	43
Contextual Clues	Civil & Environmental Engineering	43
Total		123

Table 2. Questionnaire for Contextual Clues/ Dictionary Strategy/CALL

You have had an opportunity to learn vocabulary using Contextual Clues/ Dictionary Strategy/CALL. Please evaluate the use of the method by marking your responses in this questionnaire. Your identification is confidential.

**Part A: Demographic Information**

Name: \_\_\_\_\_ Matric No. \_\_\_\_\_  
 Gender: \_\_\_\_\_ Faculty: \_\_\_\_\_  
 Semester: \_\_\_\_\_ Year of Study: \_\_\_\_\_

Please circle the items below according to the following scales.

Strongly Agree (SA)      Agree (A)      Undecided (U)      Disagree (D)      Strongly Disagree (SD)

**Part B: Learning Attitudes**

Nos.	Items	SA	A	U	D	SD
1.	I could enrich my vocabulary knowledge using Contextual Clues/ Dictionary Strategy/CALL	5	4	3	2	1
2.	I could increase my skills in learning vocabulary using Contextual Clues/ Dictionary Strategy/CALL	5	4	3	2	1
3.	I could improve my vocabulary using Contextual Clues/ Dictionary Strategy/CALL	5	4	3	2	1
4.	I could follow or keep up with the learning of vocabulary using Contextual Clues/ Dictionary Strategy/CALL	5	4	3	2	1
5.	I could make the best use of the method in learning vocabulary	5	4	3	2	1
6.	I could increase my knowledge about the words I learnt using Contextual Clues/ Dictionary Strategy/CALL	5	4	3	2	1
7.	I had a good opportunity to learn vocabulary using Contextual Clues/ Dictionary Strategy/CALL	5	4	3	2	1
8.	I was motivated to use the method in learning vocabulary after I was introduced to Contextual Clues/ Dictionary Strategy/CALL	5	4	3	2	1
9.	I noticed that my understanding of vocabulary learning have changed after being exposed to Contextual Clues/ Dictionary Strategy/CALL	5	4	3	2	1
10.	I could memorise the meaning of words I learnt easily using Contextual Clues/ Dictionary Strategy/CALL	5	4	3	2	1
11.	I could recall the meaning of words I learnt easily using Contextual Clues/ Dictionary Strategy/CALL	5	4	3	2	1
12.	I enjoyed learning vocabulary using Contextual Clues/ Dictionary Strategy/CALL	5	4	3	2	1
13.	I found that it is interesting to use Contextual Clues/ Dictionary Strategy/CALL in learning vocabulary	5	4	3	2	1
14.	I found that Contextual Clues/ Dictionary Strategy/CALL was suitable for my kind of vocabulary learning	5	4	3	2	1

**Part C: Learning Feedback**

Instructions: You may write in Bahasa Malaysia for this section

15. What difficulties have you encountered in using the method to learn vocabulary?  
 16. What are the aspects that you like about the method? Why?  
 17. What are the aspects that you dislike about the method? Why?  
 18. Other comments and suggestions?

Table 3. Researchers and Adapted Items for Questionnaire

Nos.	Researchers	Research topics	Items
1.	Iwanski's (2000)	CALL	1, 2, 3, 4, 5 and 6
2.	Nah, White & Sussex (2008)	CALL	7, 8, 9 and 13
3.	Chen and Chun (2008)	CALL	10
4.	Kuen's (2004)	Vocabulary learning strategies	11, 15, 16 and 17
5.	Researcher herself	-	12, 14 and 18

Table 4. List of Words According to Alphabetical Order

accent	crumbs	marmalade	stiff
aisle	cutlets	pasture	stitches
ancient	drawbridge	poach	suppositories
arch	drizzly	precipices	tack
ascent	flippers	reefs	tapestries
brochettes	gliding	shipwreck	tempted
bunk bed	gruelling	slate	tickles
catamaran	hedgehogs	soloist	veal
corduroy	inanities	sorbet	vicinity
corkscrew	jib	spinnaker	
crevasses	laundrette	stale	

Table 5. Evaluation of Students' Learning Attitude for Respective Groups

Nos.	Items	Contextual Clues		Dictionary Strategy		CALL	
		Mean	SD	Mean	SD	Mean	SD
1.	I could enrich my vocabulary knowledge using the method	3.95	0.53	3.92	0.43	4.09	0.75
2.	I could increase my skills in learning vocabulary using the method	3.93	0.55	3.78	0.54	4.02	0.71
3.	I could improve my vocabulary using the method	4.00	0.58	3.84	0.50	4.05	0.75
4.	I could follow or keep up with the learning of vocabulary using the method	3.84	0.80	3.76	0.64	4.00	0.65
5.	I could make the best use of the method in learning vocabulary	3.93	0.61	3.70	0.66	3.95	0.58
6.	I could increase my knowledge about the words I learnt using the method	3.98	0.63	3.81	0.74	4.02	0.77
7.	I had a good opportunity learning vocabulary using the method	3.91	0.64	3.97	0.60	4.28	0.67
8.	I was motivated to use the method in learning vocabulary after I was introduced to it	3.78	0.72	3.68	0.82	4.02	0.67
9.	I noticed that my understanding of vocabulary learning have changed after being exposed to the method	3.51	0.81	3.43	0.77	3.49	0.70
10.	I could memorise the meaning of words I learnt easily using the method	3.67	0.80	3.19	0.91	3.58	0.66
11.	I could recall the meaning of words I learnt easily using the method	3.98	0.75	3.30	0.85	3.51	0.83
12.	I enjoyed learning vocabulary using the method	4.00	0.71	3.65	0.68	4.16	0.75
13.	I found that it is interesting to use the method in learning vocabulary	3.98	0.58	3.49	0.870	4.14	0.64
14.	I found that the method was suitable for my kind of vocabulary learning	3.98	0.60	3.70	0.57	4.00	0.58

Table 6. Mean and Standard Deviation of Students' Learning Attitudes

Groups	No. of Subjects	Mean	Standard Deviation
Dictionary Strategy	37	3.67	0.40
CALL	43	3.95	0.34

Table 7. ANOVA of Students' Learning Attitudes

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.854	2	.927	6.317	.002
Within Groups	17.613	120	.147		
Total	19.467	122			

Table 8. Gabriel Post Hoc Test of Students' Learning Attitudes

Group	(J) Group	Mean Difference (I-J)	Sig.
Dictionary	CALL	-.29353*	.003
	Contextual Clues	-.22874*	.026

\*. The mean difference is significant at the 0.05 level.

Table 9. Advantages of using Contextual Clues in Learning Vocabulary

No.	Item	Frequency
1.	Using think-aloud protocol when reading	40
2.	Guessing meaning of target word	20
3.	Making prediction of meaning of target word	10
4.	Finding clues to relate with answers in sentences	6
5.	Justifying meaning of target word	6

Table 10. Advantages of using Dictionary Strategy in Learning Vocabulary

No.	Item	Frequency
1.	Able to know how words are pronounced by looking at the phonetic symbols	16
2.	Able to be aware of grammatical information	13
3.	Able to know various definitions of a single word	22
4.	Learning symbols	9
5.	Able to know how target words are used by looking at the example of sentences	14

Table 11. Advantages of Learning Vocabulary using CALL

No.	Item	Frequency
1.	Interactive learning	23
2.	User-friendly	10
3.	Improve grammar by clicking 'Grammar Explanation'	18
4.	Guided vocabulary exercise	16
5.	Immediate feedback for wrong answers	17

Table 12. Difficulties in Learning Vocabulary using Contextual Clues

No.	Item	Frequency
1.	Interpret meaning of target words after guessing was done	11
2.	Pronouncing target words	7
3.	Confusion in determining clues	31

Table 13. Difficulties in Learning Vocabulary using Dictionary Strategy

No.	Item	Frequency
1.	Memorising all of the meanings in an entry	21
2.	Choosing the most suitable definition of a word	17
3.	Time consuming to flip one page to another to find target words	8
4.	Understanding English-English definitions	9
5.	Unable to understand definitions	12
6.	Bulky and too heavy to use	23
7.	Know how words are pronounced by looking at the phonetic symbols	14

Table 14. Difficulties in Learning Vocabulary using CALL

No.	Item	Frequency
1.	Absence of hypertext for meaning of target words	29
2.	Taking too much time for loading	27
3.	Need to use headphone	28
4.	Imitating native speaker's slang	26