e-Vocabulary (eVoc) Tools For Enriching the Vocabulary of the Engineering Students

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Abstract - The present paper highlights on some novel and simple eVoc (e-Vocabulary) tools to enrich the vocabulary of the engineering students. These eVoc tools seem to be well supported with research on effective vocabulary instruction (Pearson, Hiebert, &Kamil, 2007), and multimedia learning (Fadel & Lemke, 2008; Mayer, 2001), given the pace of technology integration into pedagogical methodologies. It not only allows teacher's autonomy to design tools but also provides learners' autonomy.

The present paper focuses on the effects of teaching vocabulary using eVoc tools under the umbrella term of information and computer technology (ICT) on vocabulary learning and retention of engineering students EFL/ESL learners. The methodology adopted for this study is, pre-test, intervention and post-test. A pre-test, for 30 students, was administered to measure the present level of their vocabulary. The test consisted of forty multiple choice questions, twenty to test their knowledge of synonyms and twenty to test their knowledge of antonyms respectively. The students were taken to the English Language Multimedia Laboratory and were introduced to a few English vocabulary sites which were tested and tried. The duration of the lab session was of two lecture hours. An instruction length of three sessions was given. During intervention the students were instructed to explore, understand and learn new vocabulary words-synonyms and antonyms, connotations and denotations. In this scenario, the teacher plays the role of a facilitator and makes the learning environment as learner- centred as possible.The students studied approximately around 80 of the highly new words of general vocabulary using the eVoc tools for ninety minutes (one lab session) per week and for three sessions. The data obtained and analyzed after the post test showed that students who used e-Voc tools got an opportunity to acquire highly new vocabulary and learned a significantly larger number of both the components of vocabulary words.

Key Words - ICT, e-Voc, Strategy, Digital Tools, Learner Autonomy, Vocabulary Learning

I. INTRODUCTION

Vocabulary is crucial to English language teaching and learning. Without sufficient vocabulary, people cannot communicate and express their feelings both in the spoken and written form effectively. Vocabulary is defined as the words of a language, including single items and phrases or chunks of several words which covey a particular meaning (Lessard-Clouston, 2013). Vocabulary is an essential skill for learning to read, speak, write and listen. Wilkins and Thornbury (2004: 13) state that without grammar very little can be conveyed, without vocabulary nothing can be conveyed. In Penny Ur's (1996: 60) words, vocabulary is one of the important things to be taught in EFL classrooms as it will be impossible for students to speak up. These statements establish the importance of teaching vocabulary to non-native speakers.

In these days of IoT (Internet of Things), learning and teaching using traditional methods to teach vocabulary is losing its sheen. The virtual world offers a plethora of interesting methods, tools and strategies to teach the language. Specifically to teach vocabulary a number of online tools like *Lexipedia*, *Snappy words, Vocabulary.co, Vocabgrabber, Visual Thesaurus, Thesaurus.com, Dictionary.com Power Thesaurus, Wordle, Worsift, WordStash, Wordia,etc. are available.*

India is a multilinguistic country where we can find large number of learners who learn English as their second language. Learning English is relevant and significant for it gives a number of employment and educational opportunities to L2 learners globally. English vocabulary is difficult to learn for an L2 learner as exposure to a number of words is limited. In addition, the spoken word is different from the written word, i.e., there is no one to one correlation between spelling and pronunciation of the words. Therefore, L2 learners of English often find difficulties in learning vocabulary.

Every language has its vocabulary and learning of this will give the desired flexibility for learner to express his ideas, thoughts, and feelings in both written and spoken form. The essential ingredient of vocabulary will also determine the extent and limitation of communication a learner can exercise in communication. The Limitation of vocabulary also means the learner will have reservations regarding Language Learning Opportunities, communication with native speakers, appreciation of literature and audio and verbal communication mediums. This has been well enunciated by, "Richards in Renandya (2002: 255), vocabulary is a core component of language proficiency and provides much of the basis for how learners speak, listen, read and write" regarding vocabulary.

"Vocabulary refers to a list or set of words for a particular language or a list or set of words that individual speakers of language might use", as defined by, Hatch and Brown (1995: 1). Richard in Schmitt (1997: 241) also states that vocabulary refers to knowing a word meaning, knowing how often it occurs, its appropriateness in different situations, its syntactic behavior, its underlying form and derivations, its word associations, and its semantic features.

Vocabulary is central to second language (L2) acquisition. As McCarthy (1990: 140) states that without words to express a wider range of meanings, communication in an L2 classroom just cannot happen in any meaningful way. Nation in Schmitt (2000: 5) proposes a list of the different kinds of knowledge that a person must master in order to know words: the meanings of words, the written form of the word, the spoken form of the word, the grammatical behavior of the word, the collocations of the word, the register of the word, the association of the word, and the frequency of the word.

Students' vocabulary knowledge is a building process that occurs over a period of time as they make connections to other words, learn examples and non-examples of the word and related words and use the word accurately within the context of the sentence (Snow, Griffin, & Burns, 2005). It is a step by step introduction to new words which culminates the sense of familiarity with these new words so that they can be used further on a regular basis.

Based on the statements, it can be assumed that vocabulary is a basic component of language proficiency which has a form or expression and contains aspects; they are meaning, use of word, form (pronunciation and spelling). Vocabulary is just the knowledge of words and how to use them, in the most basic of its sense.

II. TYPES OF VOCABULARY

The types of vocabulary as listed by various proponents of vocabulary:

Hiebert and Kamil (2005: 3) propose that a word has two forms, first oral vocabulary- which is the set of words for which we know the meanings when we speak or read orally. Second, print vocabulary- which consists of those words for which the meaning is known when we write or read silently. They also propose thatknowledge of words comes in at least two forms as follows:

a. Receptive vocabulary

Receptive vocabulary is that set of words for which an individual can assign meanings when listening or reading.

b. Productive vocabulary

Productive vocabulary is the set of words that an individual can use when writing or speaking.

III. ASPECTS OF VOCABULARY

There are several aspects of lexis that need to be taken into account when teaching vocabulary. The list below is based on the work of Gairns and Redman (1986) in Moras: vocabulary is not knowing the word or its meaning in isolation there are several aspects of vocabulary that need to be taught and learnt, like the denotation, connotation, contextual meaning, spelling, pronunciation, synonyms, antonyms, associations, affixation/word parts, collocations, grammar function, constraints in use. Penny Ur (2000) suggested that the aspects of knowing a word concerns, knowing word form (pronunciation and spelling), grammar, collocations, aspects of meaning (denotations, connotation, appropriateness, and meaning relationships), and word formations. In general, knowing a word means knowing its form and its meaning.

IV. ICT & VOCABULARY LEARNING

Information and computer technology (ICT) connected with internet (mobile phones, blogs, online resources) is one of the latest devices that has significant benefits to any learner and teacher. It enables students to learn independently. With some guidance, it brings in variety in learning the language by providing direct and indirect methods of vocabulary instruction (Graves: 2000), providesfeedback on learning activity, and it can also aid students to adapt easily to any kind of material for example audio, video, texts, etc..

Improving the vocabulary of the engineering students is the need of the hour as its benefits are two-fold: better employability and higher studies. As rightly cited by Graves, vocabulary development aids an intrinsic benefit of success in academics and beyond.(Biancarosa& Snow, 2006; Graves & Watts-Taffe, 2008).

Nowadays with so many new technologies emerging constantly and ideas sprouting in young minds, there is an important need for professional vocabulary which helps put these ideas in strong and convincing terms. There is a need for this new generation to take a step ahead of its previous ones, and only then can we progress in terms of communication effectively.

1. eVoc Tools

According to Michael Carrier, to make vocabulary learning more rewarding for students' online vocabulary tools have to be made easily accessible in the multimedia laboratory. He suggests that computer lessons need to be designed as a 'methodological sandwich' between traditional methods and modern methods.

eVoc Strategy, an electronic, or technology-based strategy that teachers can use to develop students' vocabulary learning. *eVoc* strategies uses digital tools and suggests the ***evoking*** of learning potential that is possible when technology and media are part of the instructional mix.

Bridget Dalton and Dana Grisham (2011) use two types of eVoc strategies to create interest in words. "An eVoc strategy is an electronic, or technology-based strategy that teacher can use to develop students' vocabulary learning and interest in words" (Dalton & Grisham, 2011, p. 306). Many online word reference tools are also excellent teaching resources. For example, the Visual Thesaurus website complements its free-based content with free information such as the Behind the Dictionary and Teachers at Work columns and teacher-created themed word lists.

The second strategy Dalton & Grisham recommend focuses on indirectly teaching vocabulary through wide reading. Excellent online locations that offer practice in reading complex informational texts include the following (Dalton & Grisham, 2011, p. 314):

2. The Need for the Study

It is an indisputable fact that learning vocabulary is the key component of any language as it facilitates the engineering students to prepare them to take academic as well as professional exams like GRE, TOEFL, IELTS, etc. for their Master Programme in foreign universities. It not only prepares them for the above-mentioned purposes and/or also to perform well in their interviews during their placements. It further enhances their communicative competence to perform well during the campus placements.

Liu Na and Nation (1985) have shown that the ESL learners need a vocabulary of about 3000 words which provides coverage of at least 95% of a text before we can efficiently learn from context with unsimplified text. The students of engineering colleges generally do not have the required amount of vocabulary as they are from different cultural, ethnic and sociolinguistic backgrounds and are not exposed to language much which results in less reading habits which inturn resulting in less or lack of required amount of vocabulary.

However, the vogue of ICT in all aspects of 21st-century generation is quite clear and well accepted, but it is not clear as how teachers might successfully blend/combine technology into vocabulary instruction. As, Biancarosa& Snow, 2006; Graves & Watts-Taffe, 2008, say that developing the students' vocabulary is the need of the hour if we have to develop the advanced literacy levels required for success in school and beyond. It has been highlighted by Berne & Blachowicz, 2008, that vocabulary is a demanding area where teachers are asking for guidance on instructional approaches, strategies, and materials. It has been believed that digital tools and media are available in the colleges that teachers could harness to improve vocabulary learning of the students. The good news is that teachers can improve vocabulary learning and address the gap by actively and systematically teaching vocabulary to the students by using these eVoc tools.

3. Aim of the Study

Based on the principles of vocabulary instruction and multimedia tools for teaching vocabulary, the present paper aims to study ways and methods to improve the vocabulary of the sophomores of Information Technology (IT).

3.1 Objectives

The objectives of the study are:

- To find effective methods of teaching vocabulary

- To introduce them to eVoc tools and encourage them using the tools like, **Visual Thesaurus**, **Power Thesaurus**, *and online vocabulary quiz.*

- To encourage them to use the eVoc tool to learn vocabulary.

- To demonstrate that eVoc tools can be effective in teaching vocabulary

3.2 Methodology

Developing breadth and depth of vocabulary depends on building connections between words and developing elaborate webs of meaning (Boulware- Gooden, Carreker, Thornhill, & Joshi, 2007). Graphic organizers and visual displays highlight the relationships between words (Baumann &Kame'enui, 2004).

The methodology adopted for this study is through conducting the pre-test and the post test with an intervention of three lab sessions, each session is of 90 minutes duration. A pre-test, for a sample of 30 students, was administered to measure the present level of their vocabulary. The test consisted of forty multiple choice questions, twenty to test their knowledge of synonyms and twenty to test their knowledge of

antonyms respectively. The students had to choose the correct synonym and antonym respectively out of four choices for the word given.

The sample was exposed to an interventions phase of three lab sessions. The students were taken to the English Language Multimedia Laboratory and were introduced to a few English vocabulary sites which were tested and tried. The students were taught how to use the eVoc tools, -*Visual thesaurus, thesaurus.com, power thesaurus and dictionary.com*. The students found these tools an easier and more convenient method to learn vocabulary. An instruction length of three sessions was given between pre and post tests. During intervention the students were instructed to explore, understand and learn new vocabulary words-synonyms and antonyms, connotations and denotations. Apart from this the students were taught the word associations using the tool *Visual Thesaurus.* In this scenario, the teacher plays the role of a facilitator and makes the learning environment as learner- centred as possible. The students studied approximately around 80 of the highly new words of general vocabulary using the eVoc tools for ninety minutes (one lab session) per week and for three sessions. After three sessions of intervention a posttest was conducted to assess the performance of these thirty students. The words for both pre and post tests were taken from the book *"501 synonyms and antonyms questions by Leaning Express Skill Builders in Focus, 501 synonym and antonym questions / Brigit Dermott.— 1st ed.p. cm.ISBN 1-57685-423-X (pbk.)*

As a part of the study, during the intervention the students were involved in activities like, weave a story using the words learnt from the list of 80 words given; jumbled letters, etc. to help learners improve their vocabulary by motivating them in the process of learning. During this activity, the learners learned new vocabulary words (synonyms and antonyms) used in different contexts.

4. *eVoc Tool Used for the study*
➢ *Visual Thesaurus*
➢ *Power Thesaurus*
➢ *Thesaurus*

4.1 The Visual Thesaurus (VT) is an interactive dictionary and thesaurus which creates word maps that blossom with meanings and branch to related words. Its innovative display encourages exploration and learning. Language is learnt in a powerful new way. For eg. if there is a word like "happy." The VT helps to find related words, from "cheerful" to "euphoric." The best part is the VT works like a human brain, not as paper-bound book.

Using the Visual Thesaurus as a tool the learner would be not only able to roll over the meaning of the word, its definition and example sentences that express that meaning. VT offers both American and British pronunciations of the word, it facilitates to check the spelling of the word if it has been spelt wrong. VT has an added feature; its interface helps the learner to find words through their semantic relationship with other words and meanings. Finally, it facilitates to develop a better vocabulary and master the word usage. It has another feature like, to personalize the learner's experience. The leaner can access the Visual Thesaurus from any with just one internet connection**.**
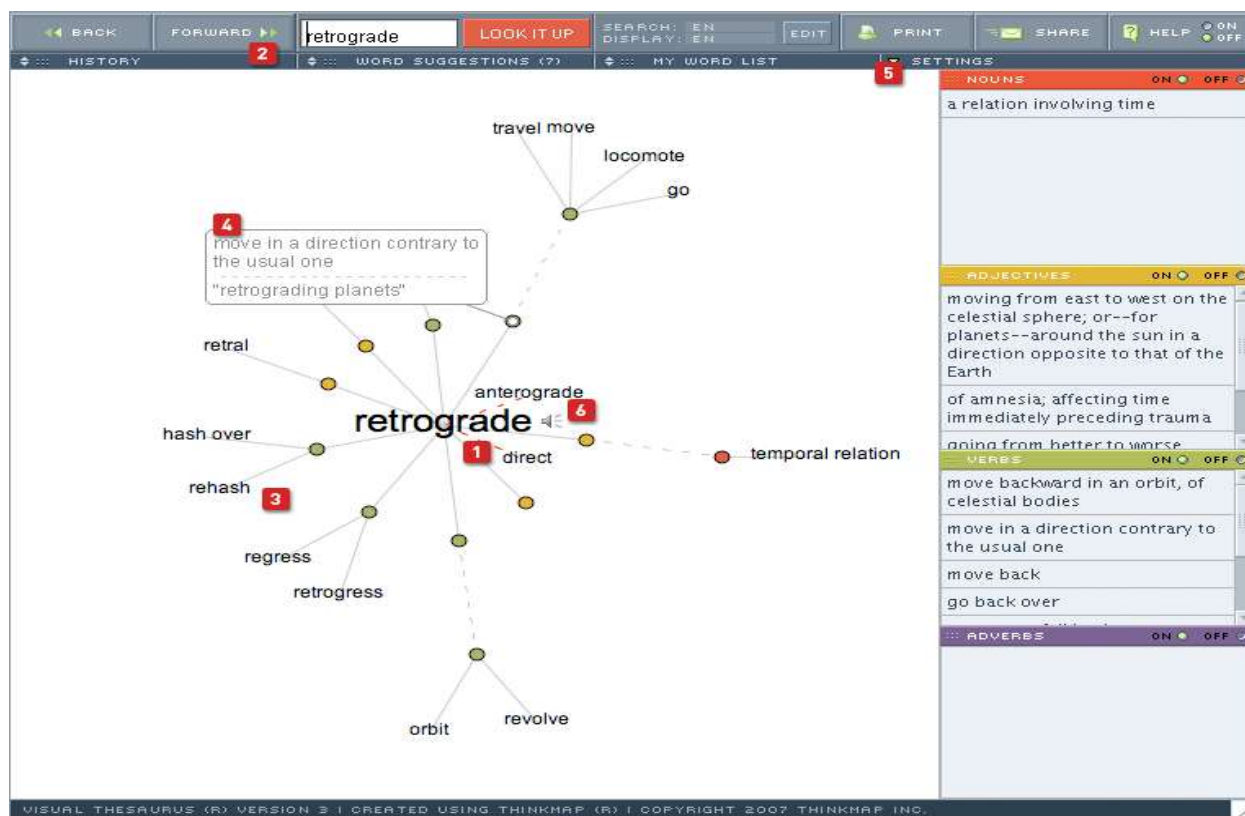
Figure 1.1 – A screenshot of Visual Thesaurus, one of the eVoc tools

4.2 Results/Findings

The test results showed that there is a marked improvement in the performance of the students afterusing eVoc tools during the intervention. When the results of the pre-and post tests were compared, it has been found that in the pretest there are 14 students in the range of 1 to 10, 8 students in the range of 11 to 20, 7 students in the range of 21 to 30, and 1 in the range of 31 to 40. The percentage of students who were in the range of 1 to 10 was 46.66; the percentages of the students in the range of 11 to 20 are 26.66; the percentage of students who were in the range of 21 to 30 was 23.33; and the percentage of students who were in the range of 31 to 40 was 3.33. The overall average percentage of the pretest result was 16.76 (7.5 for synonyms for antonyms 9.26).
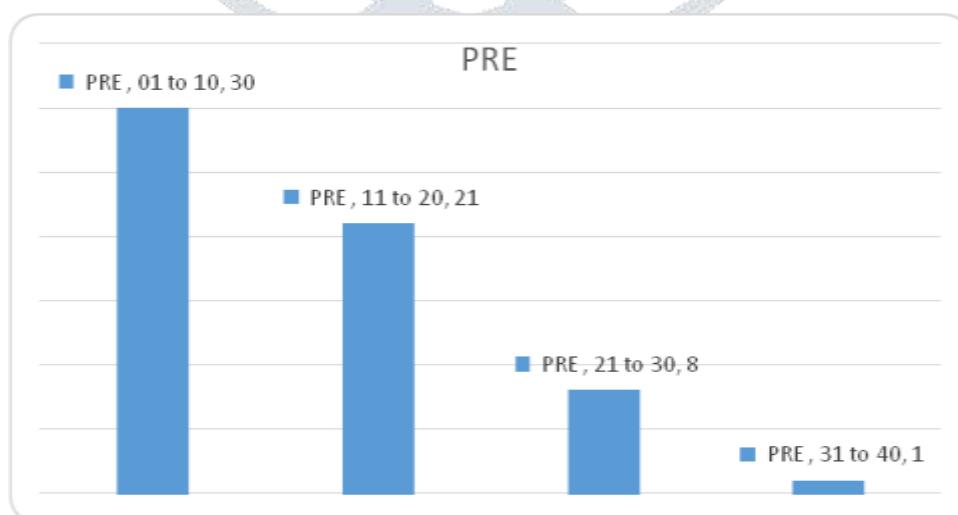

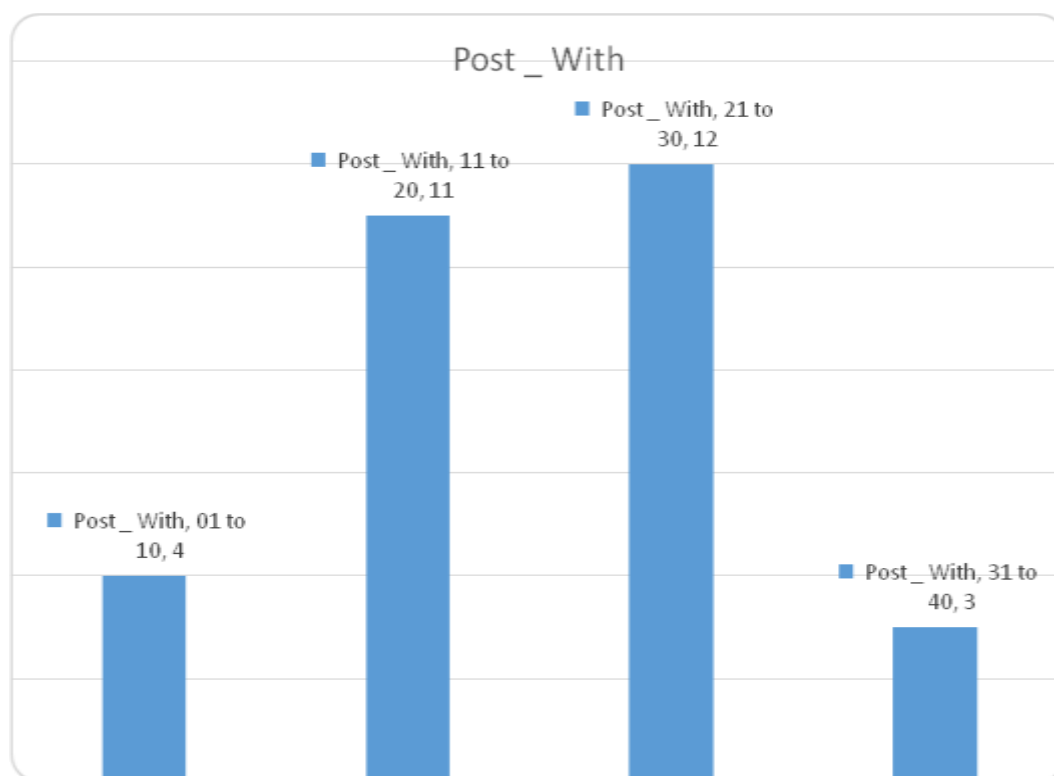**Figure 1.2 - Bar graph showing the results of the pre test**

Figure 1.3 - Bar graphs showing results of the tests conducted using eVoc Tool

The post test results show that 4 students were in the range of 1 to 10; 10 students in the range of 11 to 20; 12 students in the range of 21 to 30; and 4 students in the range of 31 to 40 the overall average percentage after intervention, using the eVoc tools was of 17.9 (synonyms 8.36 antonyms was 9.5).

The differences between pretest and post test results increased the percentage of marks increased in growth in the synonyms was 4.3, the percentage of marks in antonyms was 1.3 and the overall growth of marks in percentage was 5.66 (0.86 antonyms was 0.26 overall improvement in the marks). The contribution of growth in synonyms was proportionately high in comparision to antonyms.

When we compared the pre test and post test results it was evident that there was a marked improvement.

4.3 Findings& Recommendations

The results of the study show that there has been a marked improvement in the learning and performance of the students using these interesting eVoc tools. Since, the percentage of growth in the antonyms is less as compared to the percentage in the growth of the synonyms, it is concluded that eVoc tool has to focus more to improve the understanding and learning of antonyms.

It has become mandatory to have digital learning facilities for all engineering colleges affiliated to JNTUH and/or autonomous engineering colleges. Therefore, engineering colleges must make optimum use of digital/ multimedia laboratory facilities, for high quality language instruction. The teachers ought to be trained to use digital laboratories in their respective institutions.

V   CONCLUSION

In this age of technological development and growth a plethora of online learning tools are available. These tools have to be accessed by the teacher and should be made accessible for the students. These tools are very user friendly, very cheap and effective methods for teaching and learning the language. Students can learn

much better using these tools. It has been proved through this study that vocabulary teaching and learning can be made interesting and effective by using eVoc tools which are available for free and are easily accessible. It has been understood that students were enthusiastic about learning vocabulary using eVoc tools. Students found eVoc tools a fun way of learning vocabulary. Though various tools are available online a teacher's role is still crucial as a facilitator and guide in helping students learn. Students need to be shown how to use online tools for self –learning.

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