International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2013): 6.14 | Impact Factor (2013): 4.438

The Comparison of Computer Assisted Teaching and Traditional Explicit Method in Learning / Teaching English Vocabulary

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Abstract: ***Learning and teaching vocabulary has gained a considerable attention in the last decades. The advent of computer technology, on the other hand, has opened new windows to learning and teaching practices. The purpose of this study is to incorporate computer technology to teaching vocabulary practices by providing online contextualization of vocabulary. The participants of the study were 60 male EFL learners, aged about 15, from Zanjan city who were in two groups; traditional explicit group and technologically contextualized group. The data came from final post-test questions, open-ended questionnaire and subsequent informal interview with the students about their attitude toward the teaching practices. The data was analyzed using independent and paired sample t-test for quantitative data and systematic comparative analysis for qualitative data. The analysis of the results revealed that while both of the groups had improved significantly the technologically contextualized group could not outperform the traditional group. Students' attitude, however, toward the classroom activities was different in the groups. Pedagogical implications are presented.***

Keywords: Vocabulary, Context, CALL, TEFL

1. Introduction

More than three decades ago, Meara (1980) called for more research on the nature of vocabulary acquisition; since then, there has been a considerable amount of literature devoted to the role of vocabulary in second and foreign language learning and how vocabulary itself can and should be taught. (Bell, 2009; Churchill, 2008; Laufer, 1998; Laufer and Paribakht, 1998; Schmitt, 1998; Webb, 2008; Zheng, 2009). On the other hand, the so-called computer era has revolutionized most of the fields of human endeavor including ELT. This revolution in ELT has another noticeable aspect; the computer facilities and what they can offer to ELT is constantly changing. These changes have their repercussions in ELT and there is a need for revising previous findings and moving toward new theories. This study tried to compare two ways of doing vocabulary instruction; the traditional explicit one which has so far been with us (and most probably will continue to be) and an innovative one which tries to open new windows to contextualization of our vocabulary teaching practices and effective teaching of it through computer. Since technology is improving in almost daily bases, it is indispensable to interpret any claim in the context of the technology of that very particular day in which the claim is made. The purpose of this study is to determine and compare learning vocabulary through Computer Assisted Teaching (CAT) and learning it via traditional method. We will specifically try:

1. To determine the impact of computer assisted teaching on vocabulary learning.
2. To determine the impact of traditional explicit teaching on vocabulary learning.
3. To determine students' attitude toward two different vocabulary teaching strategy.

The secondary purpose of this study is to discuss the pedagogical implication of the findings of the study in the light of new developments in the views toward SLA and TEFL. That is, the implications for curriculum design; teacher and student roles as well as testing vocabulary are discussed. So the research hypotheses were as follows:

H01: There is no effect of explicit traditional teaching of vocabulary on first grade high school students' vocabulary achievement.
H02: There is no effect of technologically contextualized teaching of vocabulary on first grade high school students' vocabulary achievement.
H03: There is no difference between the performances of the group taught by technologically contextualized vocabulary and the group taught by using traditional explicit method.
H04: There is no difference of attitude among first grade high school students toward explicit traditional teaching of vocabulary and technologically contextualized teaching of vocabulary.

2. Contextualized Learning of Vocabulary

There exist conflicting views among language professionals concerning the relative superiority of two approaches of 'contextualized' and 'de-contextualized' ways of learning, the ideas which are termed as implicit and explicit teaching of vocabulary (Stoller&Grabe, 1993 and Sökmen, 2000). Oxford (1990), for example, observed that while 'de-contextualized learning' (word list) may

help students memorize vocabulary for tests; students are likely to forget rapidly words memorized from lists.

According to Nielson (2006) at early stages of language development, 'decontextualized 'vocabulary instruction has been found to be more effective in building a fundamental vocabulary than the contextualized reading. The relevant literature on facilitating vocabulary acquisition is vast and has covered various aspects.

On the other hand, research on vocabulary acquisition has been carried out by investigating vocabulary learning strategies by (Chen, 2001; Nation, 2001). Among them, most studies have concentrated on some types of strategies such as using dictionaries, guessing and mnemonics (key words). According to Schmitt and Meara (1997), a number of types of strategies for learning vocabulary have been identified, such as using guessing from context, using certain mnemonics like the key words method (Pressley, et, al., 1982), using inference from the context (Nation, 1982), using association and the keyword method (Pressley, et. al., 1982),using word lists (Nation, 1990), using guessing (Nation, 2001) and rote repetition (O'Malley & Chomot, 1990).

Nation (2001) discussed that vocabulary is a very important as well as challenging aspect of learning additional language(s). Nonetheless, some teachers may think that it is an easy task and left to their own devices, students can manage accomplishing it.

Wang (2009) in a quantitative study investigated 164 non-English major students from Jiaying University on the use of English vocabulary learning strategies. It was a comparative study focusing on high achievers versus low achievers, Science students versus Arts students and male students versus female students. The study found that, firstly, there are significant differences between high achievers and low achievers in the use of eleven strategies such as learner autonomy. Secondly, there are significant differences in the use of four strategies such as selective attention between Science and Arts students. Third, there are a few differences between male and female students.

In a study, Nemati (2010) meant to compare the impact of teaching vocabulary learning through memory strategies on experimental group in comparison to the control group. The subjects were 140 and 170 pre-university female students in India who served as control and experimental groups respectively. The results indicated that the students of the experimental group outperformed both in short-term and long-term scores. TRhe findings also revealed that for both short-term and long-term retention memory strategies were useful.

A number of researchers have made a contribution to vocabulary learning strategies research (Chen, 2001; Nation, 2001; O'Malley & Chamot, 1990; Wang, 1998; Wu & Wang, 1998). Among them, most studies have concentrated on some types of strategies such as using dictionaries, guessing and mnemonics.

Stoller & Grabe (1993) have discussed the idea from the same point of view, by saying that teaching new words can occur in one of the explicit or implicit method. However, recent research emphasizes a need for explicit vocabulary instruction at all levels of language proficiency.

Zhang, Gao and Liu (2002) found female graduates employed more vocabulary learning strategies than male students, and female students used eleven strategies more frequently than male students. On the other hand, Wang (2006) found that there was no significant difference between male and female students in the use of vocabulary learning strategies.

In the same way, Gao (2004) compared the differences in using vocabulary learning strategies between male and female students. He found that female students had significant differences from male students in the use of vocabulary learning strategies; however, female students used vocabulary learning strategies more frequently than male students. In the 70's and 80's the communicative approach and interactional approach focused on implicit, incidental learning. Incidental vocabulary learning is defined as learning that occurs when the mind is focused elsewhere, such as on understanding a text or using language for communicative purpose. In a review of 144 studies, Krashen (1989) argued that incidental acquisition of vocabulary occurs through the operation of his input hypothesis, which proposes that learners acquire a second language as they are exposed to comprehensible input.

A number of studies which support this hypothesis have shown that guessing from context can lead to vocabulary acquisition. So the notion of context, partly because of some philosophical development toward the nature of language, received more attention. Raptis (1997) showed that many current second language reading textbooks promote the assumption that vocabulary is best learned incidentally from context. Based on this learning theory, teachers encouraged their students to recognize clues to word meanings in context and to use monolingual rather than bilingual dictionaries, and textbooks emphasized inferring word meanings from context. In the review of contextualized vocabulary learning, Huckin and Coady (1999) stated some advantages of incidental vocabulary learning over explicit introduction: (1) It gives the learner paired-associate exercises, (2) it is pedagogically efficient in that it enables two activities – vocabulary acquisition and reading – to occur at the same time, and (3) it is more individualized and learner-based because the vocabulary being acquired is dependent on the learner's own selection of reading materials. However, Huckin and Coady in the same article point out some limitations of incidental learning: (1) guessing is imprecise because many reading tasks call for precise interpretation, (2) accurate guessing requires accurate word recognition and careful monitoring because there are many deceptive lexical items that can easily mislead the learner, (3) guessing takes time and thus slows down the reading process, (4) guessing is effective only when the context is well understood and almost all of the surrounding words in the text are known, (5) guessing requires good reading strategies, (6) guessing often does not translate into acquisition, and (7) guessing is not

effective in the acquisition of multiword lexical items. In spite of the above, they concluded that the contextualized and incidental learning can still be seen as an important part of vocabulary building, especially among advanced learners, but it requires a great deal of prior training in basic vocabulary, word recognition, metacognition, and subject matter. Contextualized vocabulary learning without these and other clear guidelines on how to conduct it in the class cannot have desired results, especially taking into account the fact that there are many vocabularies which are whether abstract or contain concepts that are difficult to contextualize using traditional equipment available to the teachers. And historically this has even led to some conclusions which highlight the superiority of traditional learning over contextualized learning.

As cited in Mijin Won (2008), Hulstijin (1992) reported that the number of new words learned incidentally is relatively small compared to the number of words learned intentionally. Incidental vocabulary learning tends to be incremental and slow even with the use of dictionary and the inferring strategy. He believed that second language learners could not have enough learning incidentally due to the following reasons:

(1) The learners fail to notice the new words,
(2) They notice the new words, but ignore them,
(3) They do not focus their attention on the unknown word,
(4) They infer the meaning from context incorrectly, and
(5) The low frequency of most unknown words prevents effective learning (quoted in p. 24).

It was emphasized by Hulstijin (1992) that both incidental and intentional learning should exist together in vocabulary instruction. Coady (1993) concluded after exploring the basic argument for a mixed approach to vocabulary acquisition in ESL that the basic or core vocabulary should be taught, but less frequent vocabulary will be learned "naturally" via context, but even in that case the techniques for that purpose should be taught.

There was the conclusion that in spite of the evident role of reading in much advanced vocabulary acquisition, there are some problems from the perspective of effective learning. In incidental acquisition through reading, the acquisition process is slow, often misguided, and seemingly haphazard, with different outcomes for various learners, word types and contexts. According to Sternberg (1987), even if most vocabulary is learned from context, one should not conclude that this is the fastest or most efficient way of learning specific vocabulary. These findings, however, date back to the time when the technology had not swept its ways into the classes, at least in way it has done now.

3. An overview of Computer Assisted Teaching

As the requirement for access to education grows and increasing numbers of adults come back to schools for education and training, the need for new technologies to make easy learning is becoming more important (Wang, et al, 2014). Contribution of computer to language learning gave rise to computer assisted language learning (CALL, henthforth) which has come to be known as learners' learning language in any context? structure?

The convergence of a variety of technological, instrumental, and pedagogical developments in recent decades has dramatically altered the process of teaching and learning of almost all high-school and university subjects across the world (Bonk & King 1998). According to Warschauer and Healey (1998), historical development of CALL shows that at first studies of CALL, researchers mainly focused on the design of system and software. They also started to discuss the role of computers in language learning, and the comparison of traditional and computer-enhanced classes. Later, as cognitive psychology was developed as the dominant school of psychology, CALL practices and research focused both on software design and task development. The roles of teachers and students in the environment of CALL also attracted researchers' attention. The last stage which has come to be known as integrative CALL, started in 1990s (which has continued to the present time) is based on multimedia and the internet. Under the influence of humanistic, communicative, and constructivist approaches, learners' needs, individual differences, experience, and feelings received considerable attention in education.

CALL has been used as a means of generating learners' opportunities for engaging in learning of the target language and thereby overcoming traditional classroom teaching limitations (Chapelle, 2003). Oblinger and Oblinger (2005) propose that present generation of the students have the opportunity of engaging in more visual communicators and therefore have better spatial skills than their predecessors; because they grew up with technology as an integral part of their lives. Computer Mediated Communications (CMC) and social media can enhance English language skills both effectively and functionally. Learners communicate with each other using chats, forums (bulletin boards), internet telephony, video conferencing, shared online white boards as well as more recent social networking systems like Viber, Tango, Whatsap, Line etc.

As Wang & Vasquez (2012) put it, the language learning environments which benefit from developments in computer technologies have given more opportunities for exploration of different topics and practices: the scope ranges from traditional focus on four language skills to more recent topics, such as identities of the students and teachers, online collaboration, and learning communities. Although the field demands closer scrutiny of learners' achievements, the general consensus is that students can experience more favorable learning conditions which can subsequently enhance their learning.

4. Learners' attitudes toward vocabulary

''Every man has reminiscences which he would not tell to everyone but only his friends. He has other matters in his mind which he would not reveal even to his friends, but only to himself, and that in secret. But there are other things which a man is afraid to tell even to himself, and

every decent man has a number of such things stored away in his mind"

Fyodor Dostoyevsky, Notes from the Underground (as cited in Todd & Pojanapunya, 2009)

It can be understood that we are not always aware of our attitudes and even if we are aware we cannot always say them. In course of their leanings students develop attitudes that subsequently guide their other activities and their engagement with learning processes. American Heritage Dictionary defines attitude as the 'state of mind' and Webster 9th New World Dictionary refers to it as the 'mental position related to a fact or state'. Regarding our purpose, we can define it as a state of mind about an object which in our case is vocabulary acquisition. Once it was thought that attitudes are unchangeable and once established, can be criteria for anticipating the future performance (Fleming, 1967). In this sense attitude was similar to previous views of intelligence; something that the learners are born with as well as motor movements were regarded to be the central component of attitude (Zajonc& Markus, 1984).

Attitude most of the time has been associated with negative or positive and its role in performance and deeds of individuals is emphasized (Masgoret& Gardner, 2003). Attitudes toward foreign language acquisition have also been a determining factor of success or failure closely being associated with motivation to learn. It can be implied from research on second and foreign language acquisition that attitude toward intentional vocabulary acquisition can predict future success or failure in this regard and contribute to the processes of acquisition. For example, a positive attitude toward how foreign language speakers think can pave the way for interpreting the words uttered with the lens of foreign language speakers.

5. Methodology

5.1 Participants and setting

A sample of 60 participants was selected for the present study. They were all male students whose age ranged from 14-16. They were studying in the same school in Zanjan city. The name of the school was kept confidential due to an agreement with school principal in return for his permission to conduct the research in the school. Five of the participants from each group (10 totally) were selected randomly for qualitative study. Their school was a public school and the classes were divided according to their previous year average, so, a kind of homogeneity could be assumed (this was later confirmed by pre-test given to them).

5.2 Variables of the study

One of the groups was taught vocabulary in explicit traditional way, i.e. giving the translation of them as they were taught in reading passages and the other one was taught by revealing the meaning of intended vocabulary by searching it online in Google image and some other online picture dictionaries. That is, the former group was presented with only the Persian equivalents of vocabulary but the latter was provided with ample opportunity to learn vocabulary in the context provided by an internet connected computer. So, there are two independent variables (1) explicit teaching of vocabulary and (2) technologically contextualized teaching of them. The dependent variable was the students' knowledge of the vocabulary gained as measured by multiple choice researcher made tests (see Appendix 1).

5.3 Instrument and material

The instrument used in the study was tests selected and piloted by the researcher-teacher. The tests involved two packages of 30 vocabulary items which were piloted for the purpose of this study from among 85 original tests (see Appendix 1). One set was used as pretests and the other set as post-test. The vocabulary tests mostly were taken from Paul Nation 4000 vocabulary and an online quiz (http://www.examenglish. com/KET/KET_vocab.htm). The criteria for this selection were the simplicity of the texts (students were at elementary level) and multiple exercises which were provided at the end of each lesson for vocabulary learning. Another instrument was an open ended questionnaire for 5 of the students from each of the groups (see Appendix 2). They were asked about their general attitude toward teaching vocabulary at the end of the experiment. The open-ended questionnaires provided the data for qualitative section of the study.

5.4 Procedures

5.4.1 Data collection procedures

The data for both pre-test and post-test as well as for open-ended questionnaires were collected at the same class in which the study were conducted. Because of the familiarity of the students with multiple-choice format no instructions were required on how to answer the questions. They were provided with an answer sheet. To reassure them that the scores they get are only used for research purposes they were asked to deliver only the answer sheet (and not the main papers involving the questions) with no names on it. This could also limit the possibility of cheating which could influence the findings of the study. For the questionnaire the researcher told the participants that there are no right or wrong answers and they only need to write down their thoughts.

5.4.2 Data analysis procedures

In the quantitative analysis of the study we used SPSS software program. The analysis involved two paired t-test for each of the groups to see the differences between their pre-tests and post-tests. Also two independent t-test were conducted; one for comparing two sets of pre-tests to ensure lack of significance differences before the treatment was applied and the other for comparing two sets of post-tests to look for possible differences.

The qualitative analysis procedure used in this study was Straus and Corbin's (1998) systematic approach. The data gathered through open ended questionnaire from 10 of the students were studied carefully. Then we used the constant comparative method which is the primary analysis technique in Straus and Corbin's model (Ary, 2010). In this model according to Ary (2010);

Open coding is used to develop major or core categories with axial coding to develop categories around the core. Think of a wheel with a center and spokes extending. The spokes are all related to the central category. A visual model is developed called an axial coding paradigm. Selective coding is then used to develop propositions or hypotheses based on the model, showing how the categories are related. The resulting theory can take the form of a narrative statement, a picture, or a series of hypotheses (p. 464).

The rational for using qualitative analysis was that they provide the researchers with a means for an in-depth analysis of research topic. As Genesee (2009) points out, they offer an opportunity to view the problem from many perspectives.

6. Data Analysis

As it was mentioned in previous chapter the data from this study comes from two sources; First, administrations of the vocabulary tests to the students of both of groups as well as open-ended questionnaire delivered to 10 of the students about their attitude toward the method that was adopted in their classes. The former aimed to address the first three research question regarding the effects of different vocabulary teaching methods on achieving them and the latter was aimed to provide the present researcher with the evidence by which to clarify how the learners view their foreign language vocabulary learning and how their learning processes interacts with the kind of teaching method they are exposed to.

6.1 Comparison of the pre-tests of two groups

To ensure that there were no pre-existing differences before the treatments, a pre-test was given to both of the groups. This test consisted of thirty vocabulary items. The descriptive statistics for this test for group one (technologically contextualized group) and group two (traditional explicit group) is presented in table 4.1. As it is clear from the table the means of the two groups before the start of the actual experiment are so close to each other 10.43 and 10.26 for technologically contextualized group and traditional explicit group, respectively.

Table 4.1: Descriptive statistics for pre-tests of the two groups

	N	Mean	Std. Deviation	Std. Error Mean
Group 1 Group 2	30	10.43	3.53	.64449
	30	10.26	3.25	.59487

To see whether the difference is only attributed to chance factors or it is significant, we ran an inferential statistics. The results of the comparison of two independent means were calculated using independent sample t-test and are presented in table 4.2.

Table 4.2: Independent t-tests for the two pre-tests

Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
.054	.818	.190	58	.850	.16667	.87706	-1.5889	1.92229

Since the significance is about 0.82(more than 0.05), we can say with certain degree of confidence that the groups has no differences (not more than chance differences) at the beginning of the experiment.

6.2 Traditional Explicit Group

The descriptive statistics for the group who received traditional instruction is presented in table 4.1which involves pretest [M: 10.43, SD: 3.53 and SEM: 0.64] and post-test [M: 13.66, SD: 4.50 and SEM: 0.82] statistics.

Table 4.3: Descriptive Statistics for traditional group pre-test and post-test

	Mean	N	Std. Deviation	Std. Error Mean
pretest	10.4333	30	3.53000	.64449
posttest	13.6667	30	4.50542	.82257

To see the effectiveness of instructing the students by traditional explicit method, the researcher run inferential statistics to compare the mean of scores on pre-test and post-test. Since it was within the same group, paired sample t-test was used. The results are presented in

As it is clear from the table the significance is less than .05, so we can say with considerable confidence that the instruction was effective and participants in traditional explicit group did gain some knowledge of vocabulary.

Table 4.4: Paired Sample t-test for traditional explicit group

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pretest - posttest	-3.23333	3.02499	.55229	-4.36288	-2.10378	-5.854	29	.000

6.3 Technologically Contextualized Group

The comparison of pre-test and post-test for this group revealed that the participants have significantly improved their vocabulary knowledge. Table 4.5 and table 4.6 show descriptive and inferential statistics for this group, respectively. This improvement shows that treatment was actually effective for this group.

Table 4.5: Descriptive Statistics for Technologically contextualized group pre-test and post-test

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pretest	10.2667	30	3.25823	.59487
	posttest	14.1333	30	3.85722	.70423

Table 4.6: Paired Sample t-test for technologically contextualized group

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pretest2 - posttest2	-3.86667	3.07081	.56065	-5.01333	-2.72001	-6.897	29	.000

6.4 Comparison of Two Post-Tests

The two groups under investigation were finally given post-tests. The purpose was to see whether there was any significance difference between two groups after they had been subject to treatment. The descriptive statistics for the two groups are presented in Table 4.7.

Table 4.7: Descriptive statistics for post-tests of the two groups

	VAR00001	N	Mean	Std. Deviation	Std. Error Mean
Group 1	1.00	30	13.6667	4.50542	.82257
Group 2	2.00	30	14.1333	3.85722	.70423

The means were 13.66 for traditional group and 14.13 for technologically contextualized group. As our later inferential analysis (Table 4.8) revealed there were no significant difference between the performances of the two groups. So the third null hypothesis cannot be rejected and it is retained.

Table 4.8: Independent t-tests for the two pre-tests

		t-test for Equality of Means						
							95% Confidence Interval of the Difference	
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
posttest	Equal variances assumed	-.431	58	.668	-.46667	1.08285	-2.63423	1.70090
	Equal variances not assumed	-.431	56.655	.668	-.46667	1.08285	-2.63533	1.70199

6.5 Qualitative analysis of students' attitude

The data gathered through the questionnaire in its raw form did not reveal much about the students' attitude toward what they experimented in the classes. That was partly because the students who answered the questionnaire had not spent much time on answering the questions and some of them had only replied 'yes' or 'no'. So, the researcher conducted an informal session with the students. The answers to the questions along with the conversation the researcher had with the students provided a rich resource for enabling the researcher to answer the fourth research question.

Generally, most of the students in traditional group had not felt any considerable difference between this class and the other classes they had except the material used in the classes were more attractive for them. They said the class was much like they have seen of English classes. They said they had gained some knowledge and the class was generally useful for them. Students in the technologically contextualized class also found the class useful in terms of what they had learned. Unlike the other group, they indicated that the class was more interesting. One of the students asked the teacher to hold all their other classes in this way. The other student said the pictures helped me to remember the words. Still other one said I will try to check the word meaning online like what we did in the class instead of using paper or cellphone dictionary.

7. Discussion of the Results

As long as three decades ago, Long (1983) in a state of art article mentions that instruction is generally good. He tried to remind us that we need to examine every measure we take in educating the EFL learners to find the effectiveness of our activities as language teachers. This study is an attempt to answer research questions set out at chapter one which are repeated here as a matter of convenience:

1. Does the explicit traditional teaching of vocabulary have any effect on first grade high school students' vocabulary achievement?
2. Does the technologically contextualized teaching of vocabulary have an effect on first grade high school students' vocabulary achievement?
3. Are there any differences between the performances of the group taught by technologically contextualized vocabulary and the group who was taught by using traditional explicit method?
4. Are there any differences of attitude of first grade high school students toward explicit traditional teaching of vocabulary and contextualized teaching of vocabulary?

Regarding the first research question we found that traditional teaching was effective and the students did actually learned by traditional teaching of the vocabulary. And our participants gained some knowledge of vocabulary through explicit method. For the second research questions, the findings also indicated that there was a significant improvement in students' learning. Though the mean of this group was generally higher than traditional explicit group, statistical analysis revealed no significant difference between the performances of the groups. We can, however, talk about tendency. Contextually teaching of the vocabulary raised higher interests among students and students in this group tend to perform better than traditional group. This is supported by the qualitative study we conducted. This claim is confirmed by our qualitative analysis. There are some other studies in the context of Iran (Kamalian & Sayadian, 2014 among them), however, which have found considerable improvement in students' learning through some forms of technology.

8. Conclusion

Vocabulary learning is now regarded as an important aspect of learning four language skills. Students of second and foreign language often relate their lack of comprehension in listening and reading and their lack of ability in production skills (i.e. writing and speaking) to their inability to understand or produce vocabulary of target language (Huckin& Bloch, 1993). Traditional presentation of vocabulary has been with us for a so long time and in most parts of the world it will still continue within the walls of the classes. But the technological advances are there calling for appropriation to our classes. This study was conducted with this purpose in mind; how can language teachers improve the efficiency of their teaching by adopting computer technology to their classes.

9. Pedagogical Implications

9.1 Teachers and teaching practices

There are many ways by which teachers can teach vocabulary. For example, Oxford (1990) suggests memory strategies to aid learning which can be divided into:

- Creating mental linkages: grouping, associating, placing new words into a context;
- Applying images and sounds: using imagery, semantic mapping, using keywords and representing sounds in memory;
- Reviewing well, in a structured way;
- Employing action: physical response or sensation, using mechanical techniques.

Vocabulary is commonly taught using strategies such as defining synonyms and antonyms, illustrating the word in its different texts and contexts, giving the context or co-text that the vocabulary cannot be used and trying to relate the words to students' own lives and things that they are more interested in. In all of these and other methods of teaching, teachers should be concerned with the fact that how they can make vocabulary accessible to the students. The teachers are required to present different uses of vocabulary to facilitate students learning and this is made easier by technology.

9.2 Curriculum designing

"Curriculum designing is a 'how-to-do-it' activity" (Nation & Macalister, 2010, p. xv) which is considerably based on needs analysis of the learners. The knowledge of what the students know and how is the mechanism of gaining this knowledge can be a valuable resource for curriculum designers. The findings of this study can inspire material developers and curriculum designers to devote a section to contextualized vocabulary learning.

References

[1] Ary, D., Jacobs, L.C. & Sorensen, C. (2010).Introduction to research in education. Belmont: Wadsworth, Cengage Learning.

[2] Bell, H., (2009). The messy little details: a longitudinal case study of the emerging lexicon. In: Fitzpatrick, T., Barfield, A. (Eds.), Lexical Processing in Second Language Learners: Papers and Perspectives in Honor of Paul Meara (pp. 111-127).Multilingual Matters, Bristol, England.
[3] Bogaards, P.&Laufer, B. (Eds.), (2004). Vocabulary in a Second Language: Selection, Acquisition and Testing.Benjamins, Amsterdam.
[4] Chomsky, N. (1957). Syntactic Structures. The Hague: Mouton.
[5] Churchill, E., (2008). A dynamic systems account of learning a word: from ecology to form relations. Applied Linguistics 29 (3), 339-358.
[6] Coady, J., Huckin, T. (Eds.), (1997).Second Language Vocabulary Acquisition: A Rationale for Pedagogy. Cambridge University Press, Cambridge.
[7] D'Acierno, M. R. (1990). Three Types of Bilingualism. Paper presented at the Annual Meeting of the International Association of Teachers of English as a Foreign Language (24th, Dublin, Ireland, March 27-30, 1990).
[8] Decarrico, J. S. 2001. Vocabulary Learning and Teaching.Celce-Murcia, M. (ed.). Teaching English as a Second or Foreign Language, pp. 285-299. Boston:
[9] Heinle&Heinle.
[10] Dale, E. (1965). Vocabulary measurement: Techniques and major findings. Elementary English, 42, 895-901.
[11] DeCarrico, J. S. (2001). Vocabulary learning and Teaching.In M. C. Murcia (Eds.) Teaching English as a Second Language. Boston, MA: Heinle and Heinle.
[12] Dörnyei, Z. (2003). Attitudes, orientations, and motivations in language learning: Advances in theory, research, and applications. Language Learning, 53(S1), 3-32.
[13] Fleming, D. (1967). Attitude: The history of a concept. Perspectives in American History, 1, 285–365.
[14] Gairns, R. & Redman, S.(1986).Working with words.CUP.
[15] Genesee, F. (2009).Preface. In J. Cenoz (Ed.), Toward multilingual education. Basque educational research from an international perspective (pp. 1-2). Toronto: Multilingual Matters.
[16] Grice, H.P. (1975). Logic and conversation. In P.Cole&J.L.Morgan(Eds.), Syntax and semantics. Volume 3: Speech acts (pp. 41-58). New York: Academic Press.
[17] Griffiths, P. (2006). An Introduction to English Semantics and Pragmatics. Edinburgh: Edinburgh University Press.
[18] Halliday, M. A. (1970). Language structure and language function. New horizons in linguistics, 1, 140-165.
[19] Huckin, T. & Bloch, J. (1993). Strategies for inferring word meaning in context: A cognitive model. In T. Huckin, M. Haynes, and J. Coady, (Eds.).Second language reading and vocabulary learning (pp. 153-178). Norwood, NJ: Ablex.
[20] Hunt, A. &Beglar, D. (2005). A framework for developing EFL reading vocabulary.Reading in a foreign language, 17: 1.
[21] Hymes, D. (1971). On communicative competence. Philadelphia: University of Pennsylvania Press.
[22] Hymes, D. (1972). On communicative competence. In J.B. Pride & J. Holmes (Eds.), Sociolinguistics (pp. 35-88). Harmondsworth: Penguin.
[23] Kamalian, A., &Sayadian, S. (2014). The role of short text messaging in Iranian EFL vocabulary learning and motivation. Science, 2(4), 101-107.
[24] Kroll, J. F., & Stewart, E. (1994). Category interference in translation and picture naming: Evidence for asymmetric connections between bilingual memory representations. Journal of Memory and Language, 33, 149-174.
[25] Kumaravadivelu, B. (2006).Understanding language teaching: from method to post-method. New Jersey: Lawrence Erlbaum Associates, Inc.
[26] Laufer, B., (1998). The development of passive and active vocabulary in a second language: same or different? Applied Linguistics 19 (2), 255-271.
[27] Laufer, B., Paribakht, T., (1998). The relationship between passive and active vocabularies: effects of language learning context. Language Learning.48 (3), 365-391.
[28] Lightbown, P., Spada, N. (1993). How languages are learned. Oxford: Oxford University Press.
[29] Long, M. H. (1983). Does second language instruction make a difference? A review of research.Tesol Quarterly, 17(3), 359-382.
[30] Masgoret, A. M., & Gardner, R. C. (2003). Attitudes, Motivation, and Second Language Learning: A Meta–Analysis of Studies Conducted by Gardner and Associates. Language learning, 53(1), 123-163.
[31] Meara, P. (1980). Vocabulary acquisition: A neglected aspect of language learning. In Language teaching and linguistics: Abstracts, 13, 4, 221-246.
[32] Meara, P., (2002). The rediscovery of vocabulary. Second Language Research 18 (4), 393-407.
[33] Monaghan, P., & Mattock, K. (2012).Integrating constraints for learning word–referent mappings.Cognition, 123(1), 133-143.
[34] Nagy, W. E. & Scott, J. A. (2000).Vocabulary process. In M, Kamil, P, B, Mothensal, P.D. Pearson, and R. Barr, (Eds.), Handbook of reading research volume III (pp 269-284). Mahon, NY: Lawrence Erlbaum Associates.
[35] Nation, I. S. P. & Macalister, (2010).Language Curriculum Design. Routledge: Taylor & Francis.
[36] Nation, I. S. P. (1990).Teaching and learning vocabulary. Boston: Heinle and Heinle.
[37] Nation, I. S. P., (2001).Learning Vocabulary in Another Language.Cambridge University Press, Cambridge, England.
[38] Oxford, R.(1990).Language learning strategies. Newbury House.
[39] Qian, D. D. (1999). Assessing the roles of depth and breadth of vocabulary knowledge in reading comprehension.Canadian Modern Language Review/La revue canadienne des languesvivantes, 56(2), 282-308.
[40] Richards, J. (1976). The role of vocabulary teaching. TESOL Quarterly, 10(1), 77-89.

[41] Rivers, W. M. (1968/1981). Teaching Foreign Language Skills (2d ed). Chicago: University of Chicago Press.
[42] Rivers, W. M. (1983). Communicating naturally in a second language: Theory and practice in language teaching. Cambridge: Cambridge University Press.
[43] Robinson, P., (ed.) 2001: Cognition and Second Language Instruction . Cambridge: Cambridge University Press .
[44] Saji, N. Mutsumi, I., Saalbach H., Zhang, Y. Shu, H. & Okada, H. (2011). Word learning does not end at fast-mapping: Evolution of verb meanings through reorganization of an entire semantic domain. Cognition, 118, 45-61.
[45] Schmitt, N. (1997). Vocabulary learning strategies.Vocabulary: Description, acquisition and pedagogy, 199-227.
[46] Schmitt, N., (1998). Tracking the incremental acquisition of second language vocabulary: a longitudinal study.Language Learning 48 (2), 281-317.
[47] Searle, J.R. (1973) What is a speech act. In P. Giglioli (Ed.), Language and social context (pp.136-154).Harmondsworth: Penguin.
[48] Sökmen, A. J., (1997). Current trends in teaching second language vocabulary.In N. Schmitt, and M. Mccarthy (Eds.).Vocabulary: description, acquisition and pedagogy, (pp. 237-257). Cambridge: Cambridge University Press.
[49] Stahl, S. A. (1983). Differential Knowledge and reading comprehension.Journal of Reading Behavior, 15, 33-50.
[50] Stewart, J. (2012). A multiple-choice test of active vocabulary knowledge.Vocabulary Learning and Instruction, 1 (1), 5359. doi:10.7820/vli.v01.1.stewart
Straus, A., & Corbin, J. (1998).Basics of qualitative research: Grounded theory procedures and techniques (2nd ed.) Newbury Park, CA: Sage.
[51] Sweet, H. (1899/1964). The practical study of languages: A guide for teachers and learners. London: Oxford University Press.
[52] ? Current trends in the development and teaching of the four language skills (Vol. 29). Walter de Gruyter.
[53] Van E., T., Bongaerts, T., Extra, G. van Os, C. & van Dieten, A. M. J. (1984). Applied linguistics and the learning and teaching of foreign languages. London: Arnold.
[54] Wang, D., Zou, B., & Xing, M. (2014).Vocabulary Learning and Consolidation with Mobile Application. International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT), 4(1), 101-112.
[55] Webb, S.A., (2008). Receptive and productive vocabulary sizes of L2 learners. Studies in Second Language Acquisition 30, 79-95.
[56] Yoshii, M. (2014).Effects of Glosses and Reviewing of Glossed Words on L2 Vocabulary Learning through Reading. Vocabulary Learning and Instruction, 19.
[57] Zajonc, R. B., & Markus, H. (1984). Affect and cognition: The hard interface. In C. Izard, J. Kagan, and R. B. Zajonc (Eds.), Emotions, cognition and behavior (pp. 73–102). Cambridge: Cambridge University Press.
[58] Zhang, X. (2013).The I don't know option in the Vocabulary Size Test. TESOL Quarterly, 47, 790811. doi:10.1002/tesq.98
Zheng, Y.Y., (2009). Exploring Chinese EFL learners' receptive and productive vocabulary knowledge: implications for EFL vocabulary teaching.The Journal of Asia TEFL 6, 163-188.
[59] Zimmerman, C. B. (1997). Historical trends in second language vocabulary instruction. In J. Coady, and T. Huckin, (Eds.), Second language vocabulary acquisition, (pp.5-19). Cambridge: Cambridge University Press.