

# The Effect of Inferencing the Meaning of New Words from Context on Vocabulary Retention by Iranian EFL Learners

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**Abstract**—The purpose of this study was to determine the effect of inferencing the meaning of new words from context on vocabulary retention by Iranian EFL learners. The participants were 67 Iranian university students of Tehran Islamic Azad University. They were sophomore English translation students who had enrolled in reading comprehension course in two different classes. To assign homogeneity, all students took language proficiency test. One group was assigned randomly as the control group (CG) & the other as experimental (EG). A pretest was administered to ensure that the new words were unfamiliar to them. During the 6 sessions of treatment, 48 selected items were exposed to the control group in the conventional way. (The vocabularies were taught through giving explanation, definition, synonyms or antonyms). But in the experimental group, the students inferred the meanings from the context and wrote down their inferences. Then, the surprised post-test was administered to both groups to evaluate their vocabulary retention. After applying t-test, the results showed that the experimental group did much better on the final test.

**Index Terms**—inferencing word's meaning, context, vocabulary retention

## I. INTRODUCTION

One cannot learn a language without vocabulary. (Krashen, 1989; Nation, 1990). Scholars believe that vocabulary is one of the most significant, if not the most significant, component in learning a foreign language, and foreign language curriculum must reveal this (Carter & McCarty, 1988; Coady, 1997; Nation & Newton, 1997; Ruutemets, 2005).

When asked, learners often emphasize vocabulary because they know how communication and comprehension stop when they lack the necessary words. English language learners who experience slow vocabulary development are less able to comprehend text. Such students are expected to perform weakly on measurements in these areas and generally are diagnosed as learning disabled (August & Carlo, 2005).

According to Nation (1990), giving attention to vocabulary is unavoidable, and teaching must include needed vocabulary even when the teacher uses communicative-directed approaches to language teaching. Wilkins (1972), a prominent advocate of communicative approach, also proclaimed that, “without grammar very little can be conveyed; without vocabulary nothing can be conveyed”.

In the early 1980s, we witness serious criticism for neglecting of vocabulary studies (Meara, 1980; 1984). Despite this, the importance of vocabulary was not completely overlooked in language pedagogy, even during the glory days of CLT. Wilkins (1972; 1974), clearly indicated that learning vocabulary is as important as learning grammar.

Allen (1983) also highlighted that “lexical problems frequently interfere with communication; communication breaks down when people do not use the right words”. Nonetheless, at that point in time the notional and functional aspects of language teaching were emphasized to help learners get communicative competence, so the teaching of vocabulary was not the priority in many ELT classrooms.

From the late 1980s, vocabulary attracted researchers' attention within the mainstream of L2 acquisition (Nation, 1997). One of the research suggestions about the importance of vocabulary is that “lexical competence is at the heart of communicative competence” (Meara, 1996).

Recently, vocabulary gains its central and essential position in discussions about learning language. Particular approaches were developed, like *discourse-based language teaching* (Carter & McCarthy, 1988), the *lexical phrase approach* (Nattinger & DeCarrico, 1992), the *lexical approach* (Lewis 1993, 1997), and the *lexical syllabus* (Sinclair & Renouf, 1988; Willis, 1990). Selection of core vocabulary by modern technology of (Birmingham COBUILD corpus) was also expanded.

However, how best to learn vocabulary has long been a topic of controversy. The problem lies not just in learning L2 words, but in remembering them. Anderson (1980) stated that, "The most troublesome problem educators face, is ensuring long-term retention". Chastain (1988) also noted that, "The value of learning correlates directly with the amount of learned information that is stored in memory and the proportion of that material that the individual can recall". In fact, unless individuals can store, retain, and recall information, they have not really learned it. They may have attended to it and understood it, but they have not learned it."

Several factors seem to affect retention and recall of information. One is the type of encoding and the depth of processing in preparation for storage in long-term memory. Craik & Lockhart (1979) stated that "memory trace is a function of depth of analysis & shallow processing like oral rehearsal does not lead to long-term retention."

For longest retention, new knowledge must be associated with previous knowledge (Ausubel, 1968). Lawson and Hogben (1996) explained that, "The act of drawing out relationships between parts of the sentence on the basis of known words would establish strong links between the new word and other known words. These links could then be used to facilitate the retrieval of the meaning later." Hulstijn (1992) also presents experimental support for a *levels of Processing* hypothesis of vocabulary learning. He adds that inferred word meanings were remembered better than those presented to the learner through the use of marginal glosses.

Schmitt (2000) proposed seven factors that affect inferring success, this factors are as follows: a) The context must be rich enough to offer adequate clues to guess words meanings. b) Readers can use local definition near an unknown word. c) Learners may slip an unfamiliar word for one they already familiar. d) Cognates can help guessing from context. e) Background knowledge about the topic and the culture aids inferring. f) Learners need to be skilled in guessing. g) Guessing a word from context does not mean that it will be remembered.

One of the prominent theories about vocabulary acquisition in which an attempt has been made to combine certain findings from linguistics and learning psychology in to a systematic way of word acquisition is a theory of Schouten Van Parreren, as proposed in her doctoral thesis. Her theory is that inferring the meaning of new words from the context has a clearly positive effect on vocabulary retention.

Thornbury (2002) also believed that "guessing from context is probably one of the most useful skills learners can acquire and apply, both inside and outside the classroom". Thus it can be taught and used as one of the important strategies for vocabulary learning.

However, there are some counter arguments in this regard. Nation (2000) claimed that most studies carried out in this issue failed to reveal any obvious advantage of learning in context over translation learning; he also believed that a deliberate intentional emphasis on developing the skills and strategies is required to vocabulary learning. Bialystok (1983) found that giving the meaning of words was better than inferring. Moreover, Prince (1996) investigated the role of context and translation in vocabulary learning. He suggested that "effective vocabulary learning requires a stage in which the word is in fact isolated from its context and submitted to elaborative processing" (p.489).

Schmitt (2000) claims that if the word in the text is easy to guess, then learner may not pay any attention to the word, and the therefore be unable to recall the word after finishing the reading. On the other hand, if the process of guessing the word is relatively more time-consuming and needs more attention, then the word is more likely to be remembered.

From the empirical studies performed by Nassaji (2003) and Bengelil & Paribakht(2004), it is clear that lexical inferring may not be completely successful or may not guarantee vocabulary gains; however, those researchers still claim that lexical inferring really has an important positive effect on vocabulary learning.

Ziad (2009) in his study explored the effect of two strategies in teaching vocabulary. One strategy emphasized direct and explicit teaching of individual meanings for a group of unknown words and the second strategy encouraged students to get word meaning from context. The results demonstrated that both approaches were effective in helping students acquire, retain and further recall the lexical items instructed.

As could be seen from this brief review of available literature, there is ambivalence to the desirability of presenting new lexicon in context, especially when it comes to long-term retention and recall.

Some researchers favor mental effort hypothesis, which expects that the retention of an inferred word meaning will be higher than the retention of a given word meaning.

Other researchers, however, are against using context. They claim that: a) context rarely offers enough information for the inferring; b) learners may make wrong inferences, and this leads to obtaining the wrong meaning; c) the inferring method only help learners with good problem-solving skills.

As it can be seen, finding the effective way for second/foreign vocabulary acquisition and retention has been one of the much debated issues. Thus, concerning the importance of lexical inferring in foreign language research and its effect on vocabulary retention, the present study tries to answer this question:

Does inferring the meaning of the new words from the context have any effect on vocabulary retention by Iranian EFL learners?

## II. METHOD

### A. Subjects

The subjects were 67 Iranian university students of Islamic Azad University, Tehran-North branch. They were sophomore English translation students who had enrolled in reading comprehension 3, in two different classes. The sample included 5 males and 62 females.

### B. Instrumentation

#### Tests

Three major English tests were used to collect data during the course of the study:

1. A language proficiency test consisting of 70 items was compiled on the basis of the BARRON'S TOEFL test, consisting of two parts: structure and written expression, and reading comprehension. But since it was not a standardized test, the researcher carried out an item analysis procedure, including item facility (IF) and item discrimination (ID) procedure. As a result the number of items for data analysis was reduced from 70 to 37.

2. A pretest of 105 vocabulary items in a form of word list was developed by the researcher and was administered to ensure that the new words were unfamiliar to the students. On the basis of the result of this test, 48 items, all entirely unknown by subjects were selected as the target items. The words were tested in the isolation so that no contextual clues were provided. The researcher was interested in the subject's prior knowledge of vocabulary i.e. the amount of words they could understand without any contextual clues. The vocabulary items were taken from among the new words of lesson 10 and 11 of the book "Expanding Reading Skills-Advanced". The subjects were asked to provide either a translation or a definition of target words. The time allocated to the pretest was 40 minutes.

3. After performing the treatment those selected items from the pretest were administered as a post test to investigate the effect of the treatment. This test consisted of 48 vocabulary items, and the time allocated to the test was 30 minutes.

#### Texts

The difficult words of lesson 10 and 11 of "Expanding Reading Skills-Advanced" the university text book of reading comprehension 3 were selected. The main criterion for choosing words was a high probability of being unknown to subjects. It is worth mentioning that, there was no limitation on vocabulary types; they included verbs, adjectives and nouns – abstract nouns as well as concrete ones.

### C. Procedure

This study was carried out in four phases:

*Phase one:* To determine the homogeneity of the subjects a language proficiency test of 70 items on the basis of BARRON'S TOEFL test (1996, Eighth edition by Sharp) was administered.

In order to standardize the test the researcher carried out an item analysis procedure and the characteristics of individual items including item facility (IF), an item discrimination (ID) were determined. As a result the number of items was reduced from 70 to 37 for data analysis.

After applying an F-test, the results indicated that the two groups were homogenous. Then one class was randomly assigned as the control group and the other as the experimental group.

*Phase two:* One week after phase one, a pretest was administered to both groups. The allocated time to this test was 40 minutes. The main purpose of pretest was to determine a set of lexical items that were not known by any of the subjects.

*Phase three:* This phase was conducted 2 weeks after the second phase. During this phase, 48 selected items were thought to the subjects in two different ways. The control group was exposed to the vocabulary items in the traditional way, and continued with regular class program; the vocabularies were thought through explanation, definition and giving synonyms or antonyms.

But in the experimental group, 48 target words were thought through having the students infer their meanings from the context. The EG had the inferencing activity for about 45 minutes each session. In EG the sequence of the lessons was changed in order to make sure that the subjects had not checked the meanings of vocabulary items before.

In the EG, first the subjects were asked to read the reading text once in silence. Meanwhile, the target words were written on the board. Then they were asked to read each paragraph separately and try to infer the meaning of words based on the context. Moreover the subjects were asked to write down their inferences and try to justify the meaning of words based on the context. Inferring the meaning of words and consequently the subjects' mental activity was the researcher main concern, rather than correct guessing.

After their papers being collected, the students could check the meaning of words from dictionary. As Knight (1994) and Luppescu & Day (1993) mentioned, looking up in a dictionary, possibly after inferring, led to higher retention than inferring. These procedures were conducted throughout the six treatment sessions similarly.

*Phase four:* The surprised post-test in a form of word list was administered one week after the treatment to both groups. The subjects received one point for each correct answer.

### D. Data Analysis

To compare the difference between the means of control and experimental group in a post-test, t-test procedure was performed. The number of subjects at the final data analysis was reduced from 67 to 61 due to experimental mortality.

## III. RESULT

In the first step, as it was mentioned, language proficiency test was administered to both groups. An item analysis procedure was done to standardize this test.

Then An F-test statistical procedure was employed to identify homogeneity of the two groups.

TABLE. I  
F-TEST FOR THE HOMOGENEITY OF THE TWO GROUPS IN THE LANGUAGE PROFICIENCY TEST

Groups	N	Mean	SD	Variance	F- observed
EG	32	22.53	6.57	43.22	
CG	35	18.14	6.16	37.94	1.139

$F\text{-critical} = 1.80$

As table.1 shows, since the observed F-value (1.139) did not exceed the F-critical (1.80), it can be concluded that the two groups were homogeneous.

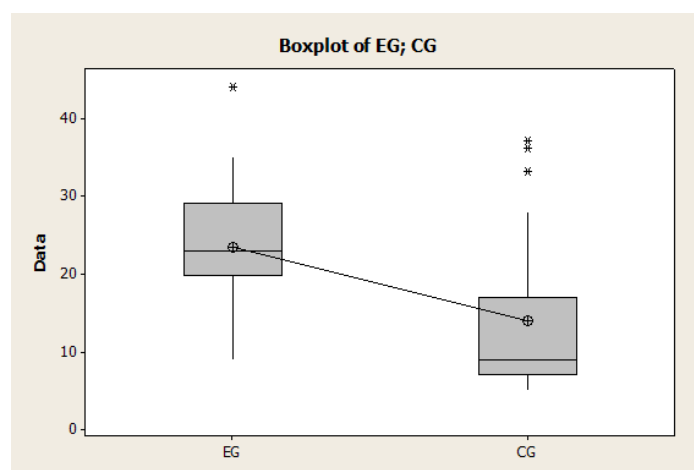
Then one group assigned randomly as an EG and the other as a CG.

After carrying out pretest and performing treatment, a post-test was administered to measure the degree of retention of the two groups. Then, the t-test was employed to compare the two mean scores. According to table 2, the calculated mean and variance for EG were 23.4 and 59.35 and for CG, they were 14 and 88.73. The t-observed was 4.29.

TABLE. II  
THE T-TEST FOR THE POST-TEST SCORES

Group	N	Mean	SD	S2	t-observed
EG	30	23.4	7.7	59.35	
CG	31	14	9.41	88.73	
					4.29

$p < 0.05$   $df = 59$   $t\text{-critical} = 2.00$



Considering table 2 & its box plot, a remarkable difference was observed between the two groups in the post-test ( $t\text{-observed} = 4.29 > t\text{-critical} = 2.000$ ).

The two groups scored differently on the posttest, and the difference was statistically significant. So it can be concluded that the treatment received by the EG was effective. The students who inferred the meaning of new words from context did much better on the final test than the CG who learned the vocabulary through the conventional method.

#### IV. CONCLUSION

Teaching methodologists have long been trying to explore the possibilities of improving teaching qualities. For many scholars and teachers, who want to help learners, understanding how information is stored in memory is very essential. For language teachers, this knowledge would lead to development of more effective classroom procedure.

As Chastain (1988) noted "the value of learning correlates directly with the amount of learned information that is stored in memory and the proportion of that material that the individual can recall" (p.39).

According to one cognitive view, meaningfully processed materials enhance learning and retention. In contrast, rote processed materials are more prone to limited retention. So it is believed that vocabulary is not a separate item to be learned; it is a basic part of discourse and is expanded along with reading strategies like contextual guessing and inferencing. As a matter of fact, how well people remember something depends on how profoundly they process it; using the meanings of words in context is the deepest level of processing and leads to the better memory. Similarly, Schouten Van Parreren (1985) encouraged the introduction of new words in context. The reason is that text provides many valuable clues for the retention of new words.

Although in our educational system most of the Iranian university students have several years of EFL study behind them, they are over dependent upon translation links, and so have failed to develop certain processing strategies crucial

to the effective use of the context. Unluckily, as Krashen(1989) mentions, since most novice L2 learners are not devoted linguists, between a high-effort strategy such as inferencing and a low-effort strategy as translation, they will generally prefer the low-effort activity.

In the process of inferencing, as Schouten Van Parreren (1985) noted, the reader engage in mental processing on the word-form, making associations between the context and his own background knowledge (both linguistic & world knowledge), and thus establishing a cognitive foothold. Moreover, inferring results in a strong affective involvement on the part of guesser.

The results of the present study confirm the above mentioned learning theory. The subjects' mental activity, which was vocabulary inferencing, caused a significantly improved retention of words in the EG in comparison with the CG. Their cognitive search and evaluation activities are conducive to retention (Laufer & Hulstijn, 2001).

The results validated these assumptions stated by Jacoby, Craik and Begg (1979) that when learners are encouraged to infer the solution of a problem, they will have more mental effort and this mental effort can lead to better retention.

## V. IMPLICATION FOR TEACHING

Thus what solutions may be found for teaching practice? First, teachers can make students think and participate in learning process. They can encourage learners to learn the new words directly in the L2 sentence context and give proper training in this regard. Learners should be trained to use all the semantic and syntactic clues available. It might be very helpful to train learners to determine meaning from the context consciously and choose the most relevant meaning associated with the word to be learned.

Second, the development of metacognitive strategies and attitudes can be very beneficial in this domain. Discussion about the probable pitfalls of low-effort strategies like translation increase learners' awareness. . Consequently, it seems that we need to discuss strategies in our class to raise conscious awareness of the learners and help them manage their own learning of lexis.

Moreover, fostering pleasure in learners when they search for meaning of words can be very useful. This is arguably the most important aspect of any language teacher's work.

## REFERENCES

- [1] Allen, V.F. (1983). *Techniques in teaching vocabulary*. England: Oxford University Press.
- [2] Anderson, J. R. (1980). *Cognitive psychology and its implication*. San Francisco: W. H. Freeman.
- [3] August, D., Carlo, M., Dressler, C., & Snow, C. (2005). The critical role of vocabulary development for English language learners. *Learning Disabilities Research and Practice*, 20(1), 50-57.
- [4] Ausubel, D. (1968). *Educational psychology: A cognitive view*. New York: Holt. Rinehart & Winstone.
- [5] Bengeleil, N. F., & Paribakht, T. S. (2004). L2 reading proficiency and lexical inferencing by university EFL learners. *The Canadian Modern Language Review*, 61(2), 225-249.
- [6] Bialystok, E. (1983). Inferencing: testing the "Hypothesis-Testing" hypothesis. In Seliger, H.W. and Long, M.H (eds), *Classroom-Oriented Research in Second-Language Acquisition*. Rowley, Mass.: Newbury House, 104-123.
- [7] Carter, R., & McCarty, M. (1988). *Vocabulary & language teaching*. London: Longman.
- [8] Chastain, K. (1988). *Developing second language skills: Theory and practice* (3<sup>rd</sup> ed.) U.S.A.: Harcourt Brace Jovanovich. Inc.
- [9] Coady, J. (1997). L2 vocabulary acquisition: A synthesis of the research. In J. Coady & T. Huckin (Eds.), *Second language vocabulary acquisition* (pp. 273-290). NY: Cambridge University Press.
- [10] Craik, F. I. M., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior*, 11,671-684.
- [11] Hulstijn, J. H. (1992). Retention of inferred and given word meanings: Experiments in incidental vocabulary learning. In P.J.L. Arnaud & H. Bejoint (Eds.), *Vocabulary and applied linguistics*, 113-125.
- [12] Jacoby, L. L. Craik, F. I. M. & Begg, I. (1979). Effects of decision difficulty in recognition and recall. *Journal of Verbal Learning and Verbal Behavior*, 18, 586-600.
- [13] Krashen, S. D. (1987). *Principles and practice in second language acquisition*. London: Prentice Hall International.
- [14] Krashen, S. (1989). We acquire vocabulary and spelling by reading: Additional evidence for the input hypothesis. *The Modern Language Journal*, 73(4), 440-464.
- [15] Laufer, B., & Hulstijn, J. (2001). Incidental vocabulary acquisition in a second language: The Construct of task-induced involvement. *Applied linguistics*, 22, 1-26.
- [16] Lawson, M. J. & Hogben, D. (1996). The vocabulary-learning strategies of foreign-language students. *Language Learning*, 46 (1), 101-135.
- [17] Lewis, M. (1993). *The lexical approach: The state of ELT and a way forward*. London: Language Teaching Publications.
- [18] Lewis, M. (1997). *Implementing the lexical approach*. Hove: Language Teaching Publications.
- [19] Luppescu, S., & Day, R. R. (1993). Reading, dictionaries, and vocabulary learning. *Language learning*, 43,263-287.
- [20] Meara, P. (1980) "Vocabulary acquisition: a neglected aspect of language learning." *Language Teaching and Linguistics: Abstracts* 13, 221-246.
- [21] Meara, P. (1984). "The study of lexis in interlanguage," in Davies, A., Criper, C. and Howatt, A. R. P. (Eds.), *Interlanguage*, 225-235.
- [22] Meara, P. (1996). "The dimensions of lexical competence". In Brown, G., Malmkjaer, K. and Williams, J. (Eds.) *Performance and Competence in second Language Acquisition*, 35-53, Cambridge: Cambridge University press.

- [23] Nassaji, H. (2003). L2 vocabulary learning from context: Strategies, knowledge sources, and their relationship with success in L2 lexical inferencing. *TESOL Quarterly*, 37(4), 645-670.
- [24] Nation, I. S. P. (1982). Beginning to learn foreign vocabulary: A review of the research, *RELC Journal*, 13(1), 14-36.
- [25] Nation, I. S. P. (1990). Teaching and learning vocabulary. New York: Newbury House.
- [26] Nation, I. S. P., & Newton, J. (1997). Teaching vocabulary. In M. H. Long & J.C. Richards (Eds.) & J. Coady & T. Huckin (Eds.), *Second language vocabulary acquisition. The Cambridge Applied Linguistics Series*. 238-254. New York: Cambridge University Press.
- [27] Nation, P. (1997). "Bring today's vocabulary research into tomorrow's classrooms," in Jacobs, G. M. (Ed.) *Language Classrooms of Tomorrow: Issues and Responses*, 170-182.
- [28] Nation, P. (2001). Learning vocabulary in another language. Cambridge: Cambridge.
- [29] Nattinger, J. & DeCarrico, J. (1992). Lexical phrases and language teaching. Oxford: Oxford University Press.
- [30] Prince, P. (1996). Second language vocabulary learning: The role of context versus translation as a function of proficiency. *The Modern Language Journal*, 80, 478-493.
- [31] Ruutemets, K. (2005). Vocabulary learning strategies in studying English as a foreign language. Master's thesis. Retrieved from <http://www.utlib.ee/ekollect/diss/mag/2005/b17557100/ruutemets.pdf> (30.4.2006).
- [32] Schmitt, N. (2000). Vocabulary in language teaching. Cambridge: Cambridge University Press.
- [33] Schouten Van Parreren, C. (1992). Individual differences in vocabulary acquisition: A qualitative experiment in the first phase of secondary education. In P. Arnaud & H. Bejoint (Eds.). *Vocabulary and applied linguistics* (pp.94-101). Basingstoke: Macmillan.
- [34] Sharpe, P. J. (1996). Barron's TOEFL (8<sup>th</sup> ed). U.S.A.: Barron's Educational Series, Inc.
- [35] Sinclair, J. M. & Renouf, A. (1988). A lexical syllabus for language learning. In R. Carter & M. McCarthy (Eds.), *Vocabulary and language teaching* 140-160. London: Longman.
- [36] Thornbury, S. (2002). How to teach vocabulary. Harlow: Longman.
- [37] Willis, D. (1990). The lexical syllabus. London: Collins Cobuild.
- [38] Wilkins, D. A. (1972). Linguistics in language teaching. London: Edward Arnold.
- [39] Ziad, M. A. (2009). A comparison of inferencing and meaning-guessing of new lexicon in context versus non-context vocabulary presentation. *The Reading Matrix*. 9 (1), 1-11.

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