

guesses about the meanings of unknown words, skipping unknown words, tolerating ambiguity, making predictions, confirming or disconfirming inferences, identifying the main idea, rereading, and using cognates to comprehend, to more recently recognized strategies such as activating prior background knowledge, generating questions, and recognizing text structure.

Brown et al. (1994) believe that clarifying the purpose of reading; activating relevant background knowledge; allocating attention and focusing on the major content, critical evaluation of content, monitoring ongoing activities, and drawing and testing inferences provide the basis for the reader's knowledge of strategies. Uses of these activities which are included in various intervention programmes permit the students to regulate their reading so as to improve comprehension. According to Ross (1999) reading has several different and independent underlying factors. He points out that through factor analysis, either one broad factor, or at most two factors including inferential reading comprehension and vocabulary can be identified. In sum, most studies support the multiple factor view of reading.

Cornoldi and Oakhill (2001) asserted that reading is a highly complex interplay of cognitive processes including attention, pattern recognition, memory, knowledge, reasoning, and problem solving.

Orlich et al. (1994) define comprehension as a constituent that involves transforming information into more understandable forms. This means that for comprehension to take place, the information, which has already been stored, should be processed in the mind in a way that

enjoyment (Lynch and Hudson, 1991).

Review of the Related Literature

There are many different definitions for reading comprehension. However, the nature of the process of reading is not exactly known. In the study of English, reading has often been at the center of debate among teachers and scholars. Theories about reading and numerous teaching techniques have created an awareness of the influence reading has on listening, speaking, writing, and even translating. According to Sheng (2000) reading is the process of recognition, interpretation, and perception of written or printed materials. In other words it is the process of perceiving a written text in order to understand its contents.

Grellet (1991) believes that reading is an activity involving constant guesses that are later rejected or confirmed. This means that one does not read all the sentences in the same way, but one relies on a number of words- or 'cues'- to get an idea of what kind of sentence (e.g. an explanation) is likely to follow. Carrel (1991) claims that the first process in reading is word recognition and the essential skill in reading is getting meaning from a written passage. Moreover, he believes that reading strategies are of interest not only for what they reveal about the ways readers manage their interactions with written text, but also for how the use of strategies is related to effective reading comprehension. Additionally, reading strategies run the gamut from such traditionally recognized reading behaviours as skimming a text to get the general idea, scanning a text for a specific piece of information, making contextual

were required to read the material and generate questions and the experimental group of summarizing were supposed to read the texts and write a summary, the subjects in the control group were asked to read the materials and use some other reading strategies.

At the end of the term, a newly developed reliable test was administered to determine the influence of the treatments on the groups. The results signified that self-questioning did not have much impact on improvement of students' reading comprehension ability, while summarizing affected their reading comprehension ability. Therefore, it was concluded that using summarizing in teaching reading could have positive effects on reading comprehension ability of EFL learners.

Key Words: Reading comprehension ability, Reading strategies, Text, Summarizing, Self-questioning

Introduction

One of the uses of language is reading materials and getting information. Reading opens door to an exciting world for any person, a world of shared adventure and humour, a world of information and amazing facts, and a world of thoughts and beauty. Obviously, reading is the most important activity in any language class, not only as a source of information, but also as a means of consolidating and extending one's knowledge of the language. The goal of reading is to read for meaning or to recreate the writer's meaning. However, the ability to read another language with direct comprehension and with fluency should be cultivated in progressive stages, and practiced at first with carefully selected material, in order to enable students to read with ease and

The impact of summerizing & self-questioning on the improvement of iranian efl learners' reading Comprehension ability

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ABSTRACT

The ability to read is acknowledged to be the most stable and durable of the foreign language modalities. Learners may use productive skills, yet still be able to comprehend texts with some degree of proficiency. Reading, whether in second or foreign language context, involves the reader, the text, and the interaction between the reader and text (Bernhardt, 1991).

The present study was aimed at exploring whether summarizing the text and making comprehension questions had any statistically significant impact on the improvement of Iranian EFL learners' reading comprehension ability or not and if they had, which one was more effective - *summerizing* or *self-questioning*.

In order to arrive at a logical answer to the aforementioned problems 127 university students were chosen from a pool of 160 students majoring in English Language Translation in Islamic Azad University at Garmsar. Three homogenized groups of students, who were taking a Reading course, participated as the subjects in one control and two experimental groups. While the subjects in the experimental group of self-questioning

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Top

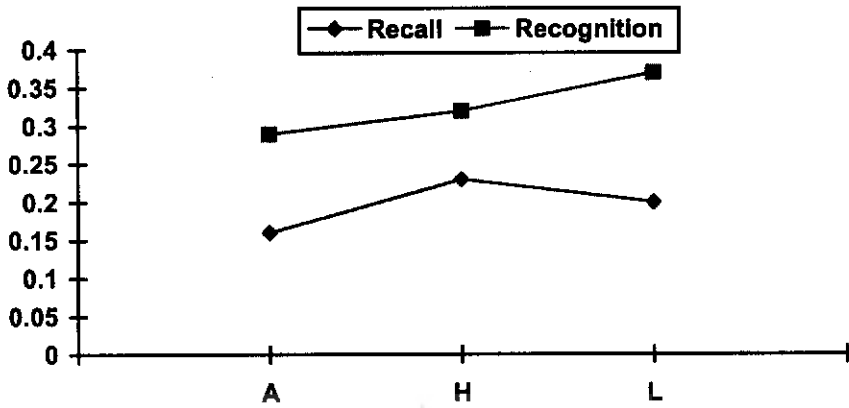


Figure 1

Top

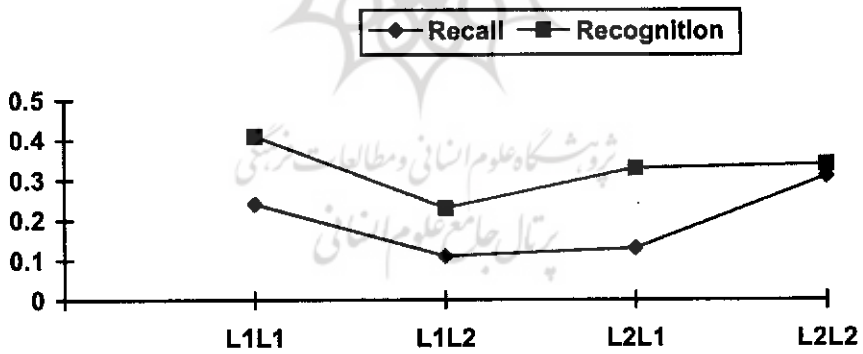


Figure 2

Table 6**The Effect of Intelligence on GE**

Task	Recall			Recognition		
Level of Intelligence	1 ^a	2 ^b	3 ^c	1	2	3
G-R ^d	.29	.22	.06	.36	.35	.26

Note. a High intelligence; b Average intelligence; c Low intelligence;

d The difference between generated and read items

Figure Captions

Figure 1. Superiority of the test of recognition to the test of recall regarding the GE, at advanced (A), high intermediate (H), and low intermediate (L) levels of language proficiency.

Figure 2. Superiority of the test of recognition to the test of recall regarding the GE, at both unilingual (i.e. L1L1 & L2L2) and bilingual (L1L2 & L2L1) conditions.

Table 4Comparison of Read and Generated Items on the Whole Data

Test	X _{1a}	X _{2b}	SD ₁	SD ₂	t	df	p
Recall	.22	.43	.18	.18	-9.13	286	0.0000
Recognition	.63	.97	.26	.13	-13.50	286	0.0000

Note. a= read items; b= generated items.

$t_{144} (0.05) = 1.6555$

Table 5

The Mean Score of the Differences between Generated and Read items (G-R) for the Three Levels of Proficiency on the Whole Data

L e v e l	Mean of the 4 Conditions in the Test of Recall	Mean of the 4 Conditions in the Test of Recognition
A	.16	.29
H	.23	.32
L	.20	.37

Note. A = advanced; H = high intermediate; L = low intermediate

	SD _R =.25 SD _G =.09 t=-5.70 p=.0000	SD _R =.17 SD _G =.11 t=-3.83 p=.0005	SD _R =.19 SD _G =.04 t=-1.96 p=.031	SD _R =.25 SD _G =.13 t=-4.59 p=.0001
High Int.	\bar{X}_R =.59 \bar{X}_G =.89 SD _R =.24 SD _G =.10 t=-3.90 p=.0004	\bar{X}_R =.65 \bar{X}_G =1.08 SD _R =.24 SD _G =.21 t=-4.59 p=.0001	\bar{X}_R =.75 \bar{X}_G =.02 SD _R =.25 SD _G =.09 t=-3.50 p=.0010	\bar{X}_R =.62 \bar{X}_G =.93 SD _R =.25 SD _G =.17 t=-3.49 p=.0011
Low Int.	\bar{X}_R =.41 \bar{X}_G =.91 SD _R =.24 SD _G =.10 t=-6.64 p=.0000	\bar{X}_R =.61 \bar{X}_G =.96 SD _R =.24 SD _G =.16 t=-4.22 p=.0002	\bar{X}_R =.62 \bar{X}_G =.94 SD _R =.23 SD _G =.10 t=-4.33 p=.0001	\bar{X}_R =.59 \bar{X}_G =.91 SD _R =.22 SD _G =.12 t=-4.27 p=.0002

Note. Adv. = advanced groups;

High Int. = high intermediate groups;

Low Int. = low intermediate groups

R = read

G = generate

For all conditions $\alpha = 0.05$

For all conditions $df = 22$

For all conditions $t_{12}(0.05) = 1.7823$

Table 2

The Mean Scores of the Difference between Generated and Read Items (G-R) for the Four Language Conditions on the Whole Data

Condition	Mean of the 3 Levels of Proficiency in the Test of Recall	Mean of the 3 Levels of Proficiency in the Test of Recognition
L1-L1	.24	.41
L1-L2	.11	.23
L2-L1	.13	.33
L2-L2	.31	.34

Table 3

Results of the t-test on the Read and Generate Items for the 12 Groups in the Test of Recognition

L e v e l	Condition			
	L1-L1	L2-L2	L1-L2	L2-L1
Adv.	$\bar{X}_R=.48$ $\bar{X}_G=.93$	$\bar{X}_R=.82$ $\bar{X}_G=1.06$	$\bar{X}_R=.89$ $\bar{X}_G=1.00$	$\bar{X}_R=.58$ $\bar{X}_G=.97$

involvement of both explicit or conscious memory and implicit or non-conscious memory. This finding is supported by another evidence, too. In the recognition test, some subjects had remembered the items they had 'not' written down in their booklets during the generate study phase. That is, non-conscious generating resulted in subsequent recognition of the words. This event did not take place in the test of recall.

The last finding of the present study which may have theoretical implications is the possible effect of intelligence on the GE, as the results reveal that participants with higher intellectual capacities produce greater GE. If the above statement will be supported by future research, the effect of intelligence on the GE should be nullified in future experiments.

Table 1

The Difference between the Mean Scores of the Generated and Read Items (G-R) Recalled in Advanced (Adv.), High Intermediate (High Int.), and Low Intermediate (Low Int.) Levels of Proficiency

G-R	L1-L1	L2-L2	L2-L1	L1-L2
Adv.	.24	.23	.15	.04
High Int.	.25	.38	.18	.15
Low Int.	.25	.32	.08	.16

instrument for the enhancement of memory. Another interesting finding regarding the comparison between unilingual and bilingual conditions is that unilingual conditions exhibit more GE than bilingual conditions. This might imply that switching from one language to another requires greater mental effort. By contrast, the use of only one language (either the source or the target) will relieve mental occupation for concentration on the to be learned material; more specifically learning through generating the targets. This finding has pedagogical applications in that, by restricting the use of two languages in foreign language teaching situations, where memory is to be enhanced by mental abilities, the performance will not lower down because of language switching.

This research, further, suggests that L2 Knowledge does not affect the GE. That is the degree of L2 knowledge does not change the degree of the GE significantly. This could theoretically imply that GE is an independent cognitive effort that works as a problem solver and can benefit the learner regardless of his level of knowledge in a second language. Language learning processes, therefore, might be fostered by allowing for maximal generation of stimuli on the part of the learners at low intermediate, high intermediate, and advanced levels of proficiency.

Another finding relates to the greater exhibition of the GE in the test of recognition compared to the test of recall. It has been stated (Haist, Shimamura, and Squire, 1992) that recall depends on declarative (conscious) memory, and recognition depends on declarative memory as well as nondeclarative (implicit or non-conscious) memory. Consequently, it can be hypothesized that generation requires the

participants. In the test of recognition the correlation was low ($r=0.10$, $p=0.19$). Low correlations, however, do not always mean that there is no relationship between two variables (Spotz and Johnson, 1989).

Theoretical Interpretations and Implications

Advanced, high intermediate, and low intermediate foreign language learners exhibited GE at sentence level. This finding extends the scope of GE hypothesis claiming the possibility of GE irrespective of the levels of L2 knowledge as the participants came from 3 levels of language proficiency. The scope is expanded also to encompass a broader range of nationalities with different background knowledge as a sentence-based GE is demonstrated with Persian English bilinguals. The findings of cognitive research on memory can provide teachers with insights about the nature of memory and memory enhancement. GE theory provides evidence in favor of better memory enhancement for generated items and can suggest student centered methodologies of teaching in which the learner is looked at as an active problem solver and generator, rather than teacher centered environments in which the teacher provides ready made solutions.

GE was evident at bilingual conditions as well as unilingual conditions. This finding is opposed to Slamecka and Katsaiti(1987) who reported no GE in the dual language learning, the reason of which was explained before(page 2 in this paper). This finding ; therefore, expands the scope of GE adding bilingual conditions in its domain. The possibility of GE in bilingual condition can imply that translation can be used as an

The results showed that recognition was significantly greater than recall ($t = -4.07$, $p = 0.0001$, $df = 286$). This finding is in agreement with previous studies in the literature stating that recognition test of retained information leads to better performance than a recall test, e.g., of Macdougall (1904), Postman et al. (1948), Postman (1950) and Jourabchi (1994).

Finally, the effect of intelligence on the GE was measured. table 6 shows that GE is greater as the level of intelligence increases.

The results of the ANOVA suggested that the difference is significant in the test of recall [$F(2,141) = 3.06$, $MSe = 0.06$, $F = 7.30$, $p = 0.001$], but not significant in the test of recognition [$F(2,141) = 3.06$, $MSe = 0.07$, $F = 1.55$, $p = 0.21$]. However, GE is greater as the level of intelligence increases. To find out which levels of intelligence differed significantly in the test of recall, pairwise comparisons were performed. The results are illustrated below.

Compared Levels	t_0	Results
1/2	1.371	$p > 0.05$
1/3	3.668	$p < 0.05$
2/3	2.997	$p < 0.05$

The above pattern shows that levels 1 Vs 3 and 2 Vs 3, differ significantly. In the case of 1 Vs 2, the difference is not significant, however, 1 is greater than 2 ($1 > 2$).

To further check the relationship between intelligence and GE, these two variables were correlated. In the test of recall the degree of correlation was $r = 0.22$, $p = 0.007$ which is significant regarding 144

unilingual and bilingual conditions, and for the three levels of language proficiency (see table 3).

Comparison of read and generated items regarding the performance of 144 participants revealed that the retention of generated items significantly surpassed the retention of read items on the whole (see table 4).

It should be mentioned that in the previous experiments which failed to obtain a GE in a bilingual situation (Slamecka and Katsaiti, 1987), where the level of L2 knowledge was a decisive factor, the participants had not been checked regarding their ability for performing the expected tasks. Moreover, in those experiments the tests were intentional; therefore, the participants' performance was affected by the prior knowledge about the test. In the present research both of these variables have been controlled.

The results of the present experiment are in agreement with that of O'Neil et al. (1993) where the participants were balanced French-English bilinguals and the subsequent tests of recall and recognition were incidental.

Then the effect of the test type on the GE was evaluated. Comparing the obtained means for the three levels of proficiency (see table 5) and four language conditions (see table 2), it can be observed that recognition is superior to recall at all levels of language proficiency and in both unilingual and bilingual conditions. Figures 1 and 2 illustrate the differences. Based on the performance of the individual participants (144 participants), recognition and recall tests were compared on the whole.

language to another will result in lower performance of the participants, regarding the GE. This assumption is in agreement with previous findings as Kolers (1966), Macnamara et al. (1968), Macnamara and Kushmir (1971). They all concluded that switching from one language to another takes additional time and effort.

What is to be discussed next is the degree of the GE regarding different levels of language proficiency. Unlike Jourabchi (1994) who found L2 knowledge as an effective factor on the GE, the present study found no indication of a significant effect of L2 knowledge on the generation effect. Her study (experiment 1) revealed that GE was not present in low levels of proficiency (p. 64) and it increased as the level of L2 knowledge rose. The researchers of the present study believe that subjects with different levels of L2 knowledge should not be measured with the same treatment and test materials without having previously been measured for their ability for the expected tasks. Doing so would make the tasks biased in favor of the advanced levels. In this research the ability of the subjects for doing the expected tasks was measured, and consequently, the effect of insufficient knowledge was nullified.

In order to find out if L2 learners produced GE at sentence level, the retention of read and generated items were compared by means of t-tests for each group separately. It was found that generated items outweighed read items on all occasions and the differences were significant. These results show the occurrence of the GE in both

the recall measures revealed that, the main effect of the level of L2 knowledge was not significant [$F(2,132) = 3.0648$, $MSe = 0.068$, $F = 1.03$, $p = 0.35$], whereas the main effect of study conditions was significant [$F(3,132) = 2.673$, $MSe = 0.68$, $F = 4.52$, $p = 0.005$]. The interaction between proficiency and study conditions failed to attain significance [$F(6,132) = 2.167$, $MSe = 0.068$, $F = 0.40$, $p = 0.875$].

In the recognition measures a pattern of effects similar to that for recall was revealed. The main effect of proficiency was not significant [$F(2,132) = 3.0648$, $MSe = 0.069$, $F = 1.05$, $p = 0.35$], whereas the effect of conditions was significant [$F(3,132) = 2.673$, $MSe = 0.069$, $F = 2.85$, $p = 0.04$]. The interaction between the proficiency and study conditions did not attain significance [$F(6,132) = 2.167$, $MSe = 0.069$, $F = 1.67$, $p = 0.13$]. This means that the level of language knowledge did not affect language condition regarding GE.

Comparison of conditions revealed that GE was greater in unilingual conditions than in bilingual conditions at all levels of language proficiency, namely, at advanced, high intermediate, and low intermediate levels (see table 1).

The magnitude of the G-R (i.e. the magnitude of the difference between the mean scores of the generated and the read items) regarding comparison of unilingual and bilingual conditions on the whole data also shows that GE is greater in unilingual conditions than in bilingual conditions (see table 2).

These results imply that when two languages are used during the learning task, the involvement of memory while switching from one

Persian, at the bottom of the same page. In L2-L2 condition, the participants read the English sentence and wrote the intended word in English. In L2-L1 condition, the participants read the first sentence in English, then they read the translation of the English sentence in Persian and wrote the intended word in Persian. In L1-L2 condition, the participants read the first sentence in Persian, then they read the translation of the sentence in English and finally wrote the target word in English.

The Analysis of Data

Recall and recognition measures were analyzed separately. The mean percentage and the standard deviation of the scores in each group of twelve participants were calculated. Two sample t-tests were performed on the read and generated items for each group. Based on the three levels of language proficiency and the four language conditions, a factorial design was used for the analysis of variance. Recall and recognition scores of all the participants were compared by means of two sample t-tests. Finally an analysis of variance (ANOVA) was performed on the three levels of intelligence. The Minitab was used for the statistical computations of the whole data.

Results and Discussion

GE was measured separately for recall and recognition while the three levels of language proficiency were compared within the four conditions (L1-L1, L2-L2, L1-L2, L2-L1) under study. The ANOVA for

position effect the order of the two tasks- read Vs generate- was counterbalanced across participants. Six participants in each group first read the whole sentences and then generated the target words in the incomplete sentences; the other six had a generate-read sequence.

Experimental Test. Following the completion of the study phase, the booklets were collected and the participants were given a blank sheet of paper and allotted 10 minutes to write down the targets recalled in any order. The experimenter emphasized the fact that the targets should be the exact words they had written on the booklets. Following this, the participants received the relevant recognition list and were asked to mark only the words they had written on the study list. The recognition test included 24 targets and 24 distractors. The distractors were selected among those in the pool of vocabulary screened out after ratings. The participants were allowed three minutes in this phase.

One reason for adopting two types of tests- recall and recognition- was to double check the results. Another reason was that the recall test was assumed to be aided by generating information rather than reading it, but recognition test could be accomplished by both of the two processes- a fast acting process like reading, and a slower, more effortful process like generating (Durgunoglu and Roediger, 1987). A combination of the two tests could, hopefully, provide more accurate results.

Conditions. All the participants followed the same procedure for reading and generating tasks and tests, regarding the four conditions; however, they differed in the following manner. In L1-L1 condition, the participants read the Persian sentence and wrote down the target word, in

Design and Procedure

Regarding their English proficiency, the participants were divided into 3 groups of low intermediate, high intermediate, and advanced. Each of the above groups was divided into 4 sub-groups to take part in either unilingual [Persian (L1L1) or English (L2L2)] or bilingual [English-Persian (L2L1) or Persian-English (L1L2)] conditions. There were 12 groups altogether, each of which were tested with 2 tests of recall and recognition. The intelligence variable was independently measured across the whole population.

The experiment was performed in a language laboratory. The participants were tested in groups of six. Upon arrival in the test room, they were instructed, in Persian, about the experimental task, but were not informed that retention tests were to follow. Intentional study procedures were not used, as previous experiments showed that the GE was abolished under intentional study procedures because of an enhancement of a reading-based retention (O'Neil et al., 1993).

Experimental Task. The booklets were then given to the participants. The experimenter told the participants to read the sentences and write the target words at the bottom of each page, under the related sentences. Half of the sentences in each booklet were incomplete. The participants were instructed to turn to the next page when signaled through earphones. The participants' voices were recorded on tape recorders. The reason for adapting this procedure was to make sure that the participants read the sentences and did not read just the target words. 10 seconds were allowed for each response. In order to nullify the serial

blank started with the first letter of the target word. If the initial letter did not acoustically match the first phoneme in the word, more letters were provided (e.g. A young hen is a ch-----). In order to prevent the completion of the sentences with other possible words, the first letter of the intended word was followed by dashes corresponding to the number of the letters in that word (e.g. A dog is an a-----). Furthermore, the plural ending 's' was given (e.g. This book has ten ch-----s.). Length and syntax variables were not controlled in sentence construction. Care was taken that the target word was not repeated in the same sentence.

An appropriate sample of examinees from each level completed the sentences with the required words. Only the sentences which had been completed correctly by 90% of the examinees were used in the experiment. Belonging to the advanced group, only 24 sentences were completed correctly. In the literature, a list of 24 sentences had been realized as appropriate in length (Anderson et al., 1971). In order to keep the balance, 24 sentences were randomly selected among those completed by 90% of the examinees in high and low intermediate groups, also. Therefore, there were, altogether, 72 English sentences. This amount was doubled by Persian translations of the English sentences which were used in bilingual conditions. Furthermore, following the same procedure adapted for selection of English sentences, 24 sentences were selected to be used in L1-L1 conditions. All the 168 Persian and English sentences were checked by 3 fluent bilingual judges.