Research article

Comparison of Memorizing Nouns: Random Nouns versus Categorized Nouns with Objects

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Abstract

This paper investigates the acquisition and memorization of English as a second language (L2). It is applied through testing a group of 40 first year learners of English at the department of English language, Faculty of Arts, Al-neelain University Khartoum/ Sudan. The problem of memorizing nouns is discussed in details. The researcher tries to find the best method for acquiring vocabulary. According to the hypotheses, nouns are best learned through either randomly chosen nouns or categorized nouns accompanied with their objects. The tests are composed of 20 nouns from each of these groups of words i.e. random nouns versus categorized nouns with their objects.

A questionnaire, composed of 20 statements, is also organized to be answered by instructors randomly chosen from four government universities in Khartoum state / Sudan.

The paper is composed of an abstract, an introduction, a brief description of the methodology of the study, data collection, analyses, results and recommendations . The paper is in the field of psycholinguistics. It gives an idea of the methodology that the researcher applies in detail. Then the researcher reviews the data collection and analyses. Last the results and recommendations appear as follows:

First, it is found that teaching categorized nouns accompanied with their objects gives good reasonable results since learners are able to score high marks. Lower marks are obtained when randomly chosen nouns are used.

Second, nearly all instructors support the above shown hypotheses of using categorized nouns accompanied with objects. As a result, the null-hypotheses is refused.

Finally, the researcher recommends that researchers have to make more researches in the field of psycholinguistics because it needs searching. He also recommends that instructors have to use visual aids in the teaching process. He adds that categorized nouns and their objects are necessarily be used. Overhead projectors and overhead transparencies should also be used both in teaching and presentation.

Key words:

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Introduction

This paper, in the field of psycholinguistics, deals with memorization of nouns and how vocabulary items are acquired and processed in the human brain which is the only brain that is capable of language production, storage and processing. The human brain processes a wide capacity of generating an infinite number of sentences based on a systematic principle called, 'Recursion'. It is found that an individual has three recursive mechanisms to generate sentences indeterminately. These mechanisms are: Relativization, complementation and co-ordination. It is also known that the difference is the production of meaningful utterances. Animals communicate through signaling to things around them. Here we notice the lack of arbitrariness of human vernaculars, since animals don't produce meaningful utterances.

"Psycholinguistics is the study of the relationship between language and the mind with special attention being paid to the language acquired, stored and processed in the mind. Todd, T. (1987) p. 126."

It can be said that memorization is a means of acquiring and storing vocabulary items structures and the different means of building one's background knowledge in English language as a foreign language (L2). As a result one can reproduce information whenever he/she needs to communicate with others. So the researcher needs to examine the best method for acquiring and memorizing English vocabulary items Either under categories accompanied with their pictures Or randomly chosen lists of words.

Field & Routledge (2003) stated that psycholinguistics deals with ideas and knowledge from different areas such as phonetics, semantics and pure linguistics. There is also a relation between psycholinguistics that study how language is processed in the brain. Besides there are close links with studies in artificial intelligence. Early interests in language processing were derived from designing computer programmes that change speech into writing, beside the programmes that recognize human voice.

Scovel, (1998) stated that the term psycholinguistics is a term that was first founded in 1936 by Jacob Ropert kantor in his book, 'An objective Psychology of grammar' and was used by his team at Indiana University and then appeared in 1948 in "Language and psycholinguistics: a review", by Jacob's student Nicholas Pronko to talk for the first **time** on coherent interdisciplinary science.

Scovel, (1998) continued stating that the term Psycholinguistics appeared in a book under the title, "Psycholinguistics: A survey of Research problems," in 1958 by Charles E. Osgood and Thomas A. Sebeok.

The research population are 40 students chosen randomly to be subjected to tests. They were first year students at the department of English Language, Faculty of Arts, Al-Neelain University, Khartoum, Sudan. They study English language as a foreign language (FL). Three instructors were chosen from four government universities in Khartoum to state their views on 20 statements from five options. Three scholars were interviewed. As experts, they were subjected to direct questions to give their views about the best methods of teaching vocabulary items.

Material and Method

There are four major theories of language teaching and learning which many psycholinguists and applied linguists are familiar with. They are Behaviorism, neo-behaviorism, cognitive and humanism.

The comparative method is applied here since the researcher intends to make comparisons between two groups of students in order to test and analyze the results of the tests. He should also find answers for the questions of the study and to find the results of the study according to the hypotheses set in the proposal of the study.

- **Population**

Students

The first population of this study are randomly chosen students from first year university, aging between 18 and 20. At the department of English language, Faculty of Arts Al-Neelain University Khartoum / Sudan. They speak Arabic as their first language (F1).They are majoring in English Language as a foreign language (FL).

The population of the study also includes instructors of English language in the departments of English language in four Sudanese government universities. A sample of 20 instructors filled in a questionnaire. They are all holders of degrees in English language ranging between BA and PhD.

A questionnaire of 20 items has been designed and directed to a group of English instructors who were chosen randomly from four universities in Khartoum/Sudan, i.e. Al-Neelain, Khartoum, Omdurman Islamic Universities and The International University of Africa. They were asked for their views in the options included in the questionnaire about the problem included in the research.

They were asked to express their opinions by ticking an option from a five-point Likert scale which according to Oppeneim (1966:133) has a high level of reliability.

A test has been designed for the students who were asked to answer some questions on a material provided. It is about a list of words accompanied with their objects to memorize. There is another list of random nouns that the students have to memorize. Then tables showing the number of the students who are subjected to the tests are organized. The material is given to the students to memorize. Then they answered the test questions.

The paper here discusses compiling and analyzing the data collected. Forty first year students who study English as a foreign language (FL) at Al-neelain University are chosen to be tested. They are subjected to two tests for memorizing. The first, contains twenty random words without objects, but the second, is composed of twenty words under categories accompanied with their pictures. They are names of fruits and vegetables. So the analyses is divided into two parts that appear as follows:

First, the students' tests appear in three graphs, the first shows the graphs of the results of the students' tests based on the words randomly chosen, but the second results from words accompanied with objects under categories. The third graph shows the comparison between the two tests.

The analyses of the first students' test of random words without objects Results of the tests which the subjects (students) answered.

Forty students are subjected to two tests. The first is on random words and the second are on words accompanies with their objects under categories.

The following table includes three columns, the first of which contains the number of the 40 subjects who answer the tests, the second includes the results of the words accompanied with their objects under categories. The third column shows the results of the test of the random words.

Table: ……….

No. of subjects	Result of the test of the words with objects under categories. (Marks)	The result of the tests of the random words
1	20	18
2	20	16
3	18	16
4	20	2
5	20	13
6	20	15
7	20	20
8	20	15
9	20	10
10	20	12
11	20	13
12	17	4
13	19	16
14	15	18

15	20	17
16	16	18
17	20	10
18	18	17
19	16	12
20	18	18
21	20	12
22	17	1
23	13	13
24	20	15
25	16	14
26	19	17
27	20	16
28	19	13
29	18	12
30	20	16
31	17	12
32	18	13
33	20	14
34	20	16
35	18	17
36	18	12
37	16	18
38	18	18
39	19	13
40	18	14

Al-neelain University

Faculty of Arts

Department of English

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Teachers' Questionnaire

Latest degree	
University	
Faculty	

Please read each of the following statements and put a tick in the box to the right of alternative that best represents your opinion.

NO.	Statements	Strongly agree	agree	No option	disagree	Strongly disagree
1	It is essential to use visual aids in teaching process.					
2	Words under categories are easy to memorize.					
3	Objects make it easy for learners to memorize words.					
4	It is difficult to memorize random words.					
5	It is easier to learn words under categories. e.g. things in a classroom, a kitchen … etc.					
6	Words with irregular spelling such as daughter, neighbour are difficult to memorize.					
7	Words with multiple syllables are always difficult					

	to remember.					
8	Abstract nouns are easy to teach.					
9	Most learners find it difficult to learn abstract words.					
10	Opposition and similarity of words' meanings make them easy to recognize.					
11	Designing vocabulary syllabuses implies classifying words according to their number of syllables.					
12	Abstract words should be taught later.					
13	It is important to train teachers to teach vocabulary properly.					
14	Successful vocabulary acquisition depends on learners competence.					
15	Successful vocabulary acquisition depends on teachers competence.					
16	Successful vocabulary acquisition depends on the competence of both learners and teachers.					
17	It is better to teach words in context.					
18	Visual aids such as projectors, posters and flash-cards are essential in vocabulary teaching.					
19	Words under categories accompanied with objects are better used in teaching vocabulary.					
20	Abstract nouns are difficult to memorize.					

3- General Questions for Experts in the field of English language teaching.

The following three questions are prepared to be answered by experts in the field of teaching English language as a second language (L2).

Question one:

What are your views about the importance of using visual aids in the teaching process? (Write as long as you like.)

………
………

Question two:

How is it important to teach vocabulary items under categories? (Elaborate as you wish)

………
………
…

Question Three:

Do you think that there is any difference between teaching vocabulary items randomly or under categories, and why? (You can write between 10 and 20 lines)

………
………
………………
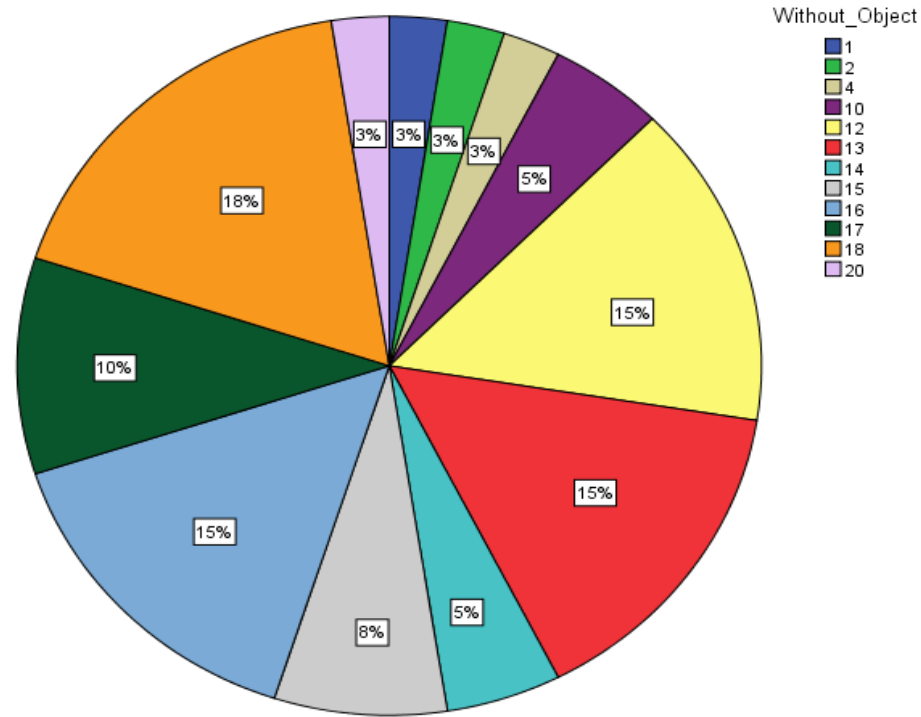
From the above graph (1), it appears that the marks obtained by the students are weak. Only one student got 20 marks. The lowest mark is 1 out of 20. The marks 3, 5,6,7,8,9,11 and 19 are not obtained by any of the forty subjects.

It can be noticed that 15% of the subjects got 12 marks each, 15% got 13 marks each, 15% got 16 marks each, 10% got 17 marks each, 18% got 18 marks each and 30% of the subjects got lowest marks between 1& 3 marks. So these analyses reflect lower marks when the words are taught randomly without objects.

With_Object

- 13
- 15
- 16
- 17
- 18
- 19
- 20

3% 3%
10%
8%
48%
20%
10%
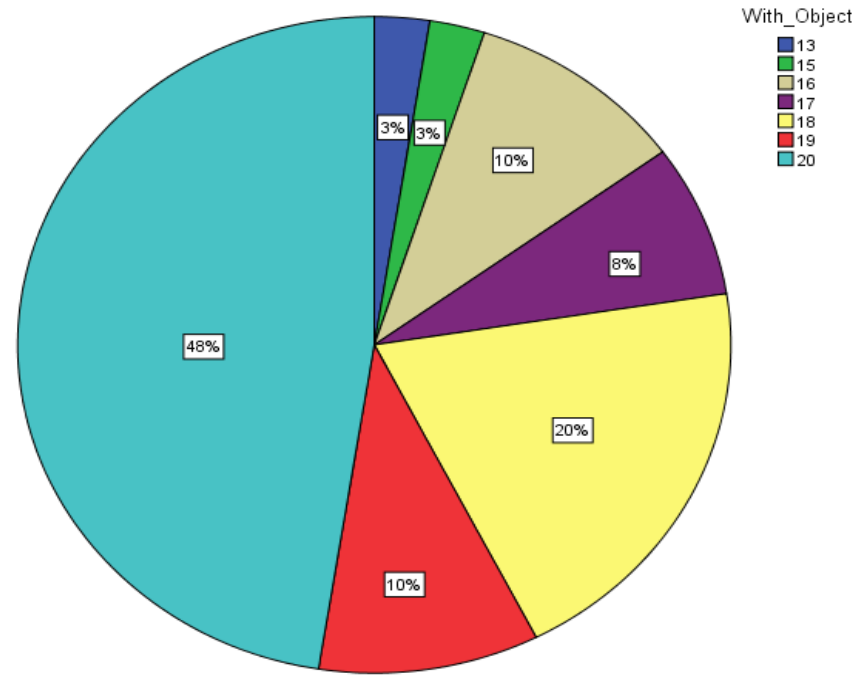
It is found that words under categories accompanied with objects are better memorized as shown: 18 students scored full mark (20 marks each) but the lowest mark is 13 out of 20, compared with 1 student that scored 20 out of 20 marks as the highest mark and the lowest mark is 1 out of 20 when the tests are composed of randomly chosen words.

According to the analyses of the tests when the words are accompanied with their objects under categories nearly 48% of the students scored the full mark 20/20 i.e.18 students. 52% of them scored between 19 and 13 marks i.e. 22 students. The lowest mark is 13 out of 20. So we notice from the above analyses that the words are better memorized through objects under categories.

 The majority of the students scored 20 marks when the words are accompanied with objects under categories. i.e. 57% of the subjects scored high marks each, compared with 43% in case of random words without objects.

Results

From the above analyses it is clear that the students memorize words accompanied with their objects better than random words without objects. So the

null hypothesis mentioned below is refused. Therefore
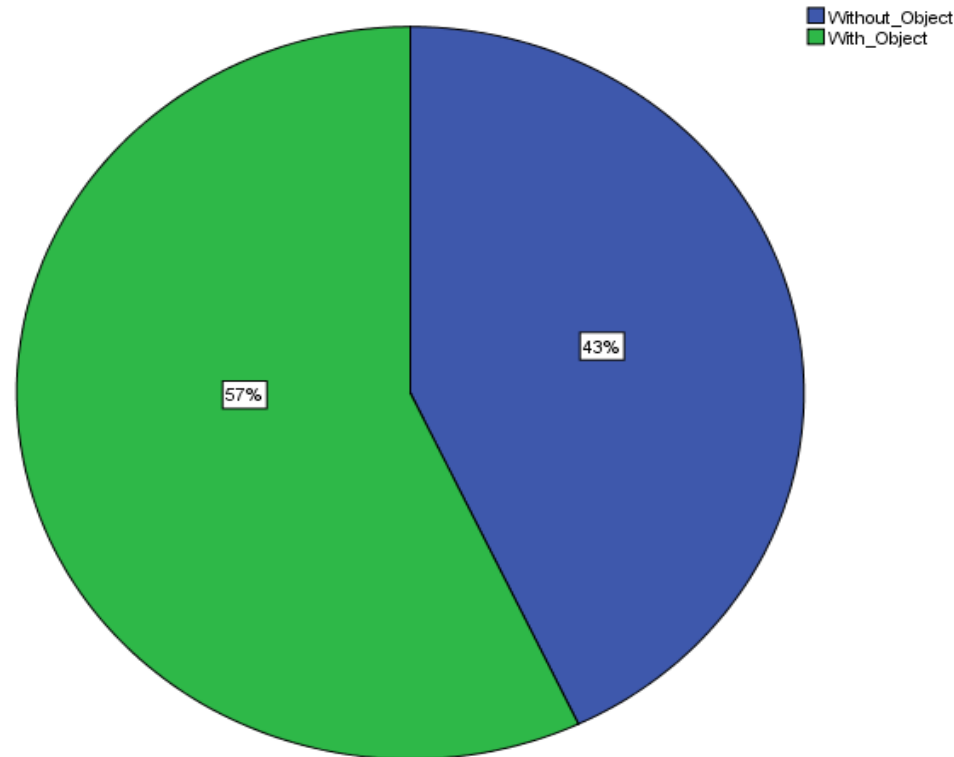
According to the previously shown results it appears that it is easier to remember lists of nouns with their objects under categories. Therefore it is necessary to use these visual aids in the teaching process. But randomly chosen words are not easy to memorize.
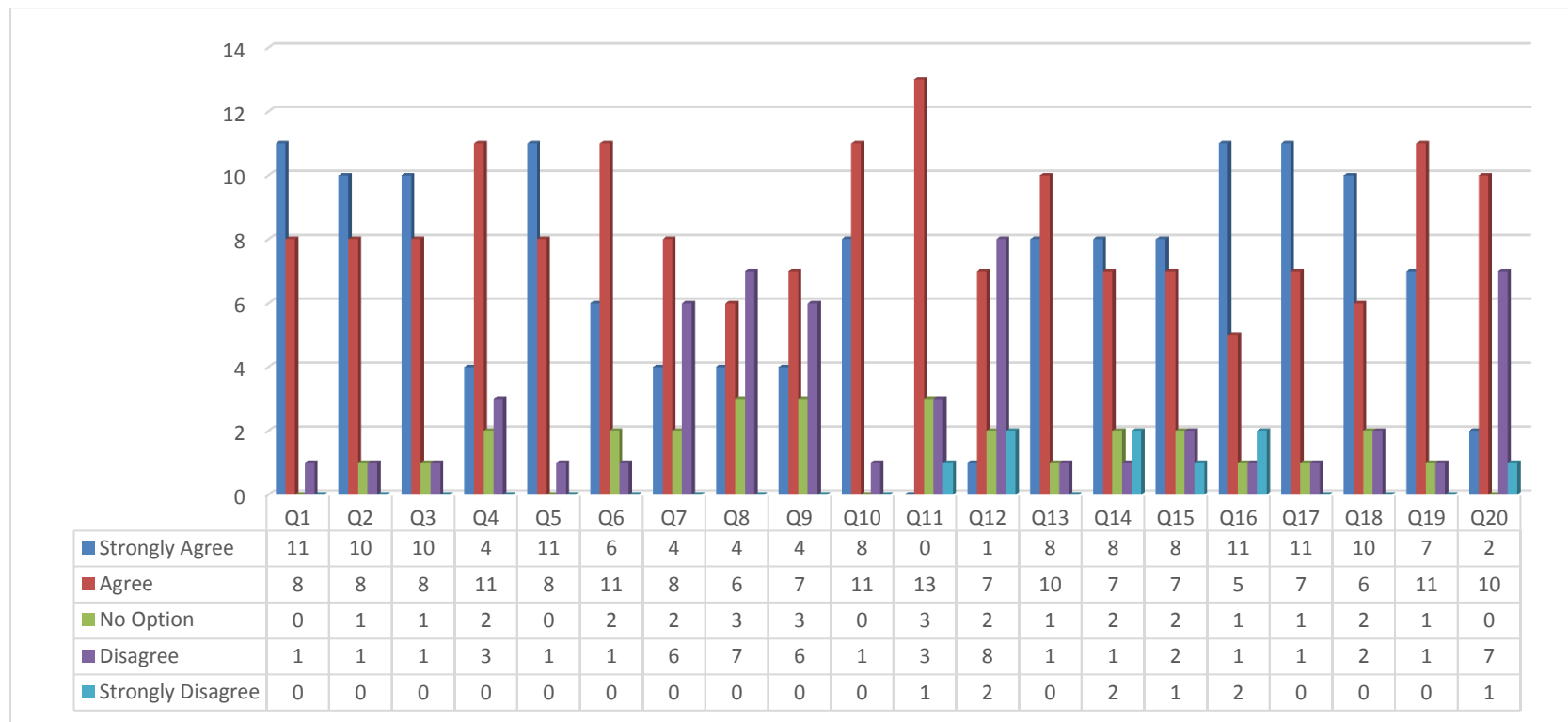
a/ Hypotheses

1. It is easy to remember lists of names of things randomly written.

2. It is equally easier to remember things with their objects under categories.

3. It is necessary to use visual aids in teaching English as a second language (L2)

According to the above tables and the graphs that follow, the above hypotheses are accepted. But the following Null Hypotheses are completely refused.

b/ Null hypotheses

It is equally easy or difficult to remember objects that you have seen under categories as to remember the names of objects that you have seen written down randomly.

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
Strongly Agree	11	10	10	4	11	6	4	4	4	8	0	1	8	8	8	11	11	10	7	2
Agree	8	8	8	11	8	11	8	6	7	11	13	7	10	7	7	5	7	6	11	10
No Option	0	1	1	2	0	2	2	3	3	0	3	2	1	2	2	1	1	2	1	0
Disagree	1	1	1	3	1	1	6	7	6	1	3	8	1	1	2	1	1	2	1	7
Strongly Disagree	0	0	0	0	0	0	0	0	0	0	1	2	0	2	1	2	0	0	0	1

Graphs (1) to clarify the first table.

When the Mean is approximately 4, the result becomes more positive (more than 2) but when the result is nearly (0) the result becomes more negative (less than 2) and when the degree of freedom is (2) the result is neutral, as it appears in the following analyses

Analyses of the questionnaire statements from 1 to 20

Chi-Square Test

In comparison to the options given in all the 20 questions answered by 20 instructors, 34.5% of the subjects chose the option strongly agree 42.5%% chose the option agree but 7.3% of the subjects chose (No option),13.8% disagree and 2.3% Strongly disagree. Therefore, the results are possitive and the hypotheses are supported by the instructors. These results appear through the following analyses.

Statement (1) It is essential to use visual aids in the teaching process.

From the above table (1), it is clear that the subjects answering Q1 support the hypotheses that appear at the beginning of the paper. It is observed that 8 subjects chose the option Agree and 11 instructors chose the option Strongly agree. Therefore the result is positive. It shows that it is essential to use visual aids in the teaching process

Statement (2) Words under categories are easy to memorize.

It appears from the above table and the graph that follows that 8 subjects chose the option Agree and 10 ones chose option strongly agree. So this result supports the previously mentioned hypotheses and it is clear according the options supported by the instructors that words under categories are easy to memorize.

Statement (3) Objects make it easy for learners to memorize words.

From the above table (1) and graph, one can notice that the result of the subject's choices concerning the above statement was supported by 6 subjects who chose the option Agree and 10 ones who chose the option strongly agree. Here also the hypothesis that *objects make it easy for learners to memorize vocabulary,* is clearly supported by the subjects.

Statement (4) It is difficult to memorize random words.

According to the above table (1) and graph, the subjects supported the hypothesis that says that it is difficult for learners to memorize randomly chosen vocabulary. This is because 11 instructors chose the option Agree and 4 ones chose the option Strongly agree. On the other hand 3 subjects chose Disagree and 2 chose the option: No option. So the previously mentioned statement is clearly supported by the majority of the subjects.

Statement (5) It is easier to learn words under categories such as things in a classroom, a kitchen … etc…

The above statement is strongly supported by the subjects because 8 of them chose the option 'Agree' and 11 chose the option Strongly agree. But only one chose the option Disagree. So we can simply decide that the statement is supported by the instructors. Accordingly, we can say that it is easier to learn words under categories that to learn them randomly chosen.

Statement (6) Words with irregular spelling such as daughter, neighbour etc… are difficult to memorize.

From the above table and graph it is noticed that 11 subjects chose the option Agree and 6 ones chose the option Strongly agree. But only 1 instructors chose the option Disagree and 2 ones chose the option 'No option'. So it can be said that the above statement is supported by the majority of the instructors. Therefore it can be said that words with irregular spelling are difficult to memorize.

Statement (7) Words with multiple syllables are always difficult to remember.

It appears from the above table, that 8 instructors chose the option Agree and 4 ones chose the option Strongly agree. At the same time 6 subjects chose the option 'Disagree' and 2 subjects chose 'No option'. Here the statement in Q7 is supported by 40% who chose the option ' Agree and 20% who chose Strongly agree. Therefore it can be said that 60% percent of the total number supported the statement that suggest that words with multiple syllables are always difficult to remember.

Statement (8) Abstract nouns are easy to teach.

From the above table and the graph it appears that, the subjects are divided between the options agree (6 subjects), Strongly agree (4 subjects), and those who disagree (7 subjects) and the ones that choose 'No option' (3 ones). This shows that 10 instructors support the statement mentioned above and 10 are against it. Therefore it can be said that abstract nouns are not easy to teach.

Statement (9) Most learners find it difficult to learn abstract nouns.

The above table and graph on data review show that most instructors supported the hypothesis that says "*most learners find it difficult to learn abstract nouns*" since 7 subjects chose the option 'Agree' and 4 of them strongly agree with the above mentioned statement, but 6 instructors choose the option Disagree and 3 choose No option. From these results together with the residual numbers and the above graph, it is clear that the hypotheses are supported by the majority of the subjects. So it can be said that most learners find it difficult to learn abstract nouns.

Statement (10) Opposition and similarity of words' meanings make them easy to recognize.

From the above table and graph it appears that the number of the subjects who agree with the statement are 11 and those who strongly agree are 8, but only 1 instructor chooses the option disagree. So it can be said that the above statement is strongly supported by the subjects with a percentage of 95%. As a result, it can be said that opposition and similarity of words meanings make them easy to recognize.

Statement (11) Designing vocabulary syllabuses implies classifying words according to their number of syllables.

From the above table and the graph below it, it appears that 13 subjects support the option that says " Agree", 3 choose 'No option', 3 Disagree and only one Strongly disagrees. It also appears from these numbers that the statement above is supported by most instructors. Accordingly it can be decided that designing syllabuses implies classifying words according to their number of syllabuses.

Statement (12) Abstract nouns should be postponed to later stages.

From the above table and graph, we notice that this statement is not highly supported because only one subject strongly agrees with it by choosing the option strongly agree and 7 ones agree with the option agree. On the other hand 2 instructors choose the option strongly disagree and 8 choose the option Disagree. Therefore the majority of the subjects haven't supported the statement. As a result it can be decided that the statement is rejected or at least not plainly supported by the instructors as it appears from the above table and the graphs below.

Statement (13) It is important to train teachers to teach vocabulary properly.

From the above table and graph, it can be seen that only one subject *disagrees* with the statement in question 1 and only 1 chooses *'no option'*, but 10 instructors *agree* with it and 8 ones *strongly agree* with this option. So it can be said that the statement is confirmed by the subject. As a result it can be said that it is important to train teachers teach vocabulary properly.

Statement (14) Successful vocabulary acqustion depends on learners competence.

The above table and graph show that 2 subjects strongly disagree with the above statement and 1 subject disagrees with the statement. 'No option' is chosen by 2 instructors. But 7 subjects agree to tho option above and 8 ones strongly agree with the above statement. Therefore it can be said that the subjects support the statement that says "successful vocabulary acqusition depends on learners competence".

Statement (15) Successful vocabulary acquisition depends on teachers' competence.

From the above table and the graph that follows, it appears that I subject strongly disagrees to the above statement, 2 disagree to it and 2 seem to have no option. On the other hand, 7 instructors agree to the option above and 8 ones strongly agree to it. So 75% of the total number support the above statement. So it can be said that successful vocabulary process depends on the competence of learners.

Statement (16) Successful vocabulary acquisition depends on the competence of both learners and teachers.

According to the analyses shown in the above table and graph, 2 instructors strongly disagree with the above statement in Q16. One subject disagrees and 1 is not concerned with the options. At the same time, 5 instructors agree and 11 ones strongly disagree. Therefore we can say that the statement in Q16 is strongly supported by the instructors revealing the fact that successful vocabulary acquisition depends on both learners and teachers.

Statement (17) It is better to teach words in context.

The above table and graph show that 1 subject disagrees with the statement shown above and 1 chooses 'No option' but 7 instructors agree and 11 Strongly agree with the above statement. Therefore is can be said that the above statement is supported by most instructors. So words are better taught in context.

Statement (18) Visual aids such as projectors, posters and flash- cards are essential in vocabulary teaching.

The above table and the graph following it it appears that 2 subjects choose the option 'Disagree' 2 others choose the option 'No option'. On the other side 6 choose the option 'Agree' and 10 choose the option 'Strongly agree'. Therefore it can be said that most subjects support the above statement in Q18. As a result it can be said that visual aids such as projectors, posters and flash-cads are essentials in vocabulary teaching.

Statement (19) Words under categories accompanied with objects are better used in teaching vocabulary.

The above table and the graph following it indicate that, 1 instructor disagrees with the above statements and 1 chooses 'No option'. At the same time 11 subjects choose the option 'Agree' and 7 ones choose 'Strongly agree'. So it can be said that the above mentioned statement is sported by the majority of the instructors. From these results of the analyses it appears that words under categories accompanied with their objects are better used in teaching vocabulary.

Statement (20) Abstract nouns are difficult to memorize.

The above table and the graph following it, show that 1 subject disagrees with the statement mentioned above and 7 ones choose the option 'Disagree'. But 10 instructors choose the option 'Agree' and 7 choose the option 'Strongly agree'. As a result one can say that most of the instructors support the statement stated above. So it can be reported that abstract nouns are difficult to memorize.

Findings and Recommendations

- **Summary**

The researcher reported the results of the paper after the careful analyses he had done and his comments on the data collected. He had also set the suitable recommendations he thought fruitful for those who dealt with the field of teaching English language as a second language. He also tried to encourage those who intended to do some researches in the field of psycholinguistics. From the previously done analyses it was clear that the students memorized words accompanied with their objects better than random words without objects. So the Null Hypothesis mentioned above was refused. But the Alternative Hypotheses were accepted. According to the questionnaire, it appeared that the instructors supported the hypotheses and refused the null hypotheses.

- **Results of Students tests**

From the data collected and analyzed previously, the following results emerged:

1. A number of 40 students from both sex were chosen for the tests as a sample. They obtained poor results when they were tested in randomly chosen vocabulary items. Only one student got the full mark i.e. 20 marks. The lowest mark was 1 out of 20. So 39 students scored less than 20 giving a result of 43% of the total number. Therefore, it could be said that when the subjects were given randomly chosen word, they didn't give good results. It was also noticed that the rate of processing and memorizing these randomly chosen words in the brain was somewhat weak.

2. When the students were subjected to tests on words accompanied with their objects under categories the results differed. The students scored high marks.18 students out of the whole number which is 40, scored the full mark i.e. 20 marks. But 22 students scored between 19 and 13 marks. The lowest mark in this case was 13.

Therefore it could be said that words accompanied with their objects under categories were better processed in the brain and memorized easily.

With comparison to both tests appeared in graphs 1 and 2 and 3 above, the final results graph (3) showed that 57% of the whole number of the forty students when the words were accompanied with objects under categories, scored high marks compared with 43% in case of randomly chosen words.

At last we came to the results that confirmed the hypotheses that words accompanied with their objects under categories were better memorized and processed in the brain.

Therefore the Null- Hypotheses are totally rejected and refused, but the hypotheses are confirmed.

- The results of the questionnaire

The data collected and analyzed about the questionnaire in chapter four gave the following results that strongly confirmed the hypotheses that words under categories accompanied with their objects were better memorized.

The sample of the instructors (20) from the four universities of Khartoum, Al-neelain, Sudan University and the international University of Africa, participated in answering the questionnaire coming to the following results:

First, with regard to the hypotheses summary table, all subjects rejected the null hypotheses in all the statements included in the questionnaire except three statements that appeared in statements 7, 8 and 9.

As a result of chi-square analyses concerning the questionnaire, the following results emerged:

According to the above analyses, the hypotheses of using objects, pictures and related vocabulary items under categories were supported. That showed that it was easier for learners to memorize and acquire new words accompanied with visual aids under categories than subjecting learners to random words that were not related to the same categories.

Therefore it could be said that words are obviously better taught, by presenting the items through objects or pictures as visual aids for the following reasons:

First, learners are like children being exposed to words for the first time, find it quite helpful to see the object or picture of the word.

Second, Objects presented to learners under categories, make it easier for them to recall words from the memory.

- **Recommendations**

According to the above results, the researcher found it helpful to teachers and researchers to focus on the following recommendations:

First, Instructors should use visual aids that should be introduced by using overhead transparencies (OHT) that are presented through overhead projectors (OHP).

Second the above means of presentation should be applied from the early stages of teaching English language vocabulary.

Third, since flash cards are easy to get and use the researcher encourages teachers of English language invent their own slots and flash cards for presenting new vocabulary items.

Fourth, it is advisable for instructors to arrange words' objects under categories since it proved that it is more effective than to use randomly chosen words.

Fifth, both the teacher and the learner can benefit from using visual aids in teaching and learning since the former finds it suitable for teaching and the later can memorize easier and quicker than memorizing words without using visual aids.

It is noticed that abstract words that have no objects to present like the words 'remember, think, recognize etc. imply that teachers should be knowledgeable in order to explain these abstract words through giving their meanings clearly.

The field of psycholinguistics first appeared in the nineteen thirties but little research was done till the nineteen eighties. It began to grow in the nineteen nineties and onwards. So the researcher recommends that researchers should focus on this field since it needs more search and investigations.

Acknowledgement

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Department of English Language

Research title: Comparison of Memorizing Nouns: Random Nouns versus Categorized Nouns with Objects

Teachers' Questionnaire

Latest degree	
University	
Faculty	

Please read each of the following statements and put a tick in the box to the right of alternative that best represents your opinion.

NO.	Statements	Strongly agree	agree	No option	Disagree	Strongly disagree
1	It is essential to use visual aids in teaching process.					
2	Words under categories are easy to memorize.					
3	Objects make it easy for learners to memorize words.					
4	It is difficult to memorize random words.					
5	It is easier to learn words under categories. e.g. things in a classroom, a kitchen … etc.					
6	Words with irregular spelling such as daughter, neighbour are difficult to memorize.					

7	Words with multiple syllables are always difficult to remember.					
8	Abstract nouns are easy to teach.					
9	Most learners find it difficult to learn abstract words.					
10	Opposition and similarity of words' meanings make them easy to recognize.					
11	Designing vocabulary syllabuses implies classifying words according to their number of syllables.					
12	Abstract words should be taught later.					
13	It is important to train teachers to teach vocabulary properly.					
14	Successful vocabulary acquisition depends on learners competence.					
15	Successful vocabulary acquisition depends on teachers competence.					
16	Successful vocabulary acquisition depends on the competence of both learners and teachers.					
17	It is better to teach words in context.					
18	Visual aids such as projectors, posters and flash-cards are essential in vocabulary teaching.					
19	Words under categories accompanied with objects are better used in teaching vocabulary.					

22

20	Abstract nouns are difficult to memorize.					

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
Chi-Square	7.900[a]	13.200[b]	13.200[b]	10.000[b]	7.900[a]	12.400[b]	4.000[b]	2.000[b]	2.000[b]	7.900[a]	17.600[b]	10.500[c]	13.200[b]	10.500[c]	10.500[c]	18.000[c]	14.400[b]	8.800[b]	14.400[b]	10.800[b]
Df	2	3	3	3	2	3	3	3	3	2	3	4	3	4	4	4	3	3	3	3
Asymp. Sig.	.019	.004	.004	.019	.019	.006	.261	.572	.572	.019	.001	.033	.004	.033	.033	.001	.002	.032	.002	.013

The following table is a summary of chi-square analyses of the twenty groups of the questionnaire.

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
Chi-Square	7.900[a]	13.200[b]	13.200[b]	10.000[b]	7.900[a]	12.400[b]	4.000[b]	2.000[b]	2.000[b]	7.900[a]	17.600[b]	10.500[c]	13.200[b]	10.500[c]	10.500[c]	18.000[c]	14.400[b]	8.800[b]	14.400[b]	10.800[b]
Df	2	3	3	3	2	3	3	3	3	2	3	4	3	4	4	4	3	3	3	3
Asymp. Sig.	.019	.004	.004	.019	.019	.006	.261	.572	.572	.019	.001	.033	.004	.033	.033	.001	.002	.032	.002	.013

Table (4-23)

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 6.7

b. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 5.0.

c. 5 cells (100.0%) have expected frequencies less than 5. The minimum expected cell frequency is 4.0.

Degree of freedom (df) is equal to the actual answers - 1.

The table below shows the correlations between the twenty questions in the questionnaire.

Table (4-24)

Correlations

		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
Q1	Pearson Correlation	1	-.013	-.098	.423	.269	.097	.393	.460*	-.124	-.255	.103	.138	-.375	-.327	-.090	.005	.034	.221	.108	-.014
	Sig. (2-tailed)		.957	.681	.063	.251	.685	.087	.041	.602	.277	.665	.562	.104	.159	.705	.983	.888	.350	.649	.952
Q2	Pearson Correlation	-.013	1	.681**	.299	.073	-.058	-.367	-.189	-.348	-.186	-.262	-.326	.185	.035	.128	-.083	.726**	-.283	.725**	.067
	Sig. (2-tailed)	.957		.001	.200	.761	.810	.111	.425	.133	.433	.265	.161	.434	.883	.591	.729	.000	.226	.000	.779
Q3	Pearson Correlation	-.098	.681**	1	.027	.073	.025	-.198	.085	-.178	-.186	-.193	-.216	.021	-.015	.563**	.257	.805**	-.090	.641**	.388
	Sig. (2-tailed)	.681	.001		.909	.761	.918	.404	.722	.453	.433	.415	.359	.931	.950	.010	.273	.000	.705	.002	.090
Q4	Pearson Correlation	.423	.299	.027	1	.204	.168	.145	.299	.087	.166	.388	.159	.141	-.145	-.009	-.274	.040	-.011	.202	.275
	Sig. (2-tailed)	.063	.200	.909		.388	.478	.543	.200	.716	.484	.091	.503	.554	.541	.969	.243	.866	.963	.394	.241
Q5	Pearson Correlation	.269	.073	.073	.204	1	.449*	-.212	-.009	-.003	.028	.029	-.331	.331	-.005	.259	-.151	.287	.497*	.289	-.129
	Sig. (2-tailed)	.251	.761	.761	.388		.047	.371	.971	.990	.905	.902	.154	.155	.982	.270	.526	.220	.026	.217	.588
Q6	Pearson Correlation	.097	-.058	.025	.168	.449*	1	.116	.017	.356	.036	-.341	-.096	.212	.320	-.163	-.010	-.065	.239	.139	.193
	Sig. (2-tailed)	.685	.810	.918	.478	.047		.625	.943	.124	.879	.141	.687	.369	.169	.493	.967	.785	.310	.558	.414

Q7	Pearson Correlation	.393	-.367	-.198	.145	-.212	.116	1	.252	.220	-.063	.146	.330	-.496*	-.461*	-.135	-.069	-.335	.183	-.418	.361
	Sig. (2-tailed)	.087	.111	.404	.543	.371	.625		.283	.351	.793	.538	.155	.026	.041	.571	.773	.148	.441	.066	.118
Q8	Pearson Correlation	.460*	-.189	.085	.299	-.009	.017	.252	1	.111	.055	.341	.190	-.269	-.354	.237	.010	.065	.337	.093	.304
	Sig. (2-tailed)	.041	.425	.722	.200	.971	.943	.283		.642	.819	.141	.422	.252	.125	.314	.967	.785	.147	.697	.193
Q9	Pearson Correlation	-.124	-.348	-.178	.087	-.003	.356	.220	.111	1	.081	.361	.247	-.073	-.039	-.137	-.169	-.313	.101	-.227	.637**
	Sig. (2-tailed)	.602	.133	.453	.716	.990	.124	.351	.642		.733	.117	.294	.760	.870	.565	.477	.179	.673	.335	.003
Q10	Pearson Correlation	-.255	-.186	-.186	.166	.028	.036	-.063	.055	.081	1	.504*	-.006	.502*	.200	.199	-.032	-.298	.057	-.019	-.208
	Sig. (2-tailed)	.277	.433	.433	.484	.905	.879	.793	.819	.733		.023	.980	.024	.398	.400	.892	.203	.811	.938	.379
Q11	Pearson Correlation	.103	-.262	-.193	.388	.029	-.341	.146	.341	.361	.504*	1	.294	-.071	-.268	.254	-.034	-.286	.189	-.117	.232
	Sig. (2-tailed)	.665	.265	.415	.091	.902	.141	.538	.141	.117	.023		.209	.766	.253	.280	.888	.221	.424	.624	.326
Q12	Pearson Correlation	.138	-.326	-.216	.159	-.331	-.096	.330	.190	.247	-.006	.294	1	-.524*	.093	-.193	.277	-.423	-.239	-.487*	.396
	Sig. (2-tailed)	.562	.161	.359	.503	.154	.687	.155	.422	.294	.980	.209		.018	.697	.416	.237	.063	.310	.029	.084
Q13	Pearson Correlation	-.375	.185	.021	.141	.331	.212	-.496*	-.269	-.073	.502*	-.071	-.524*	1	.388	.126	-.326	.082	-.067	.174	-.402
	Sig. (2-tailed)	.104	.434	.931	.554	.155	.369	.026	.252	.760	.024	.766	.018		.091	.595	.160	.733	.780	.462	.079

Q14	Pearson Correlation	-.327	.035	-.015	-.145	-.005	.320	-.461*	-.354	-.039	.200	-.268	.093	.388	1	-.243	.403	-.159	-.308	.021	-.286
	Sig. (2-tailed)	.159	.883	.950	.541	.982	.169	.041	.125	.870	.398	.253	.697	.091		.303	.078	.504	.187	.929	.221
Q15	Pearson Correlation	-.090	.128	.563**	-.009	.259	-.163	-.135	.237	-.137	.199	.254	-.193	.126	-.243	1	.368	.398	.317	.472*	.192
	Sig. (2-tailed)	.705	.591	.010	.969	.270	.493	.571	.314	.565	.400	.280	.416	.595	.303		.111	.082	.174	.036	.417
Q16	Pearson Correlation	.005	-.083	.257	-.274	-.151	-.010	-.069	.010	-.169	-.032	-.034	.277	-.326	.403	.368	1	-.038	.063	.236	.016
	Sig. (2-tailed)	.983	.729	.273	.243	.526	.967	.773	.967	.477	.892	.888	.237	.160	.078	.111		.872	.793	.316	.946
Q17	Pearson Correlation	.034	.726**	.805**	.040	.287	-.065	-.335	.065	-.313	-.298	-.286	-.423	.082	-.159	.398	-.038	1	.089	.702**	.106
	Sig. (2-tailed)	.888	.000	.000	.866	.220	.785	.148	.785	.179	.203	.221	.063	.733	.504	.082	.872		.708	.001	.656
Q18	Pearson Correlation	.221	-.283	-.090	-.011	.497*	.239	.183	.337	.101	.057	.189	-.239	-.067	-.308	.317	.063	.089	1	.218	-.087
	Sig. (2-tailed)	.350	.226	.705	.963	.026	.310	.441	.147	.673	.811	.424	.310	.780	.187	.174	.793	.708		.355	.716
Q19	Pearson Correlation	.108	.725**	.641**	.202	.289	.139	-.418	.093	-.227	-.019	-.117	-.487*	.174	.021	.472*	.236	.702**	.218	1	.000
	Sig. (2-tailed)	.649	.000	.002	.394	.217	.558	.066	.697	.335	.938	.624	.029	.462	.929	.036	.316	.001	.355		1.000
Q20	Pearson Correlation	-.014	.067	.388	.275	-.129	.193	.361	.304	.637**	-.208	.232	.396	-.402	-.286	.192	.016	.106	-.087	.000	1
	Sig. (2-tailed)	.952	.779	.090	.241	.588	.414	.118	.193	.003	.379	.326	.084	.079	.221	.417	.946	.656	.716	1.000	

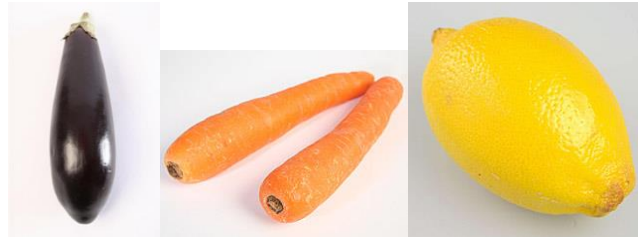*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

   a.   List wise N=20

Students' tests

1. Vegetables
Study the following words carefully and answer the exercises that follow

aubergine   **carrots**   **lemon**

olives   tomatoes   garlic

| Greenbeans | peppers | peas | onion |

2. Fruits

Study the following words carefully and answer the questions below:

Fruits

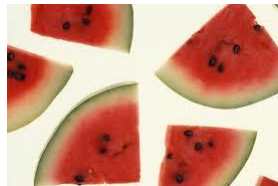| Oranges | mango | strawberry |

Jauava   figs

Pineapple   an apple   pomegranate

Water melons   bananas   custard apple

30

3. Random words

Study The following words then answer the questions that follow

Cupboard	knife	classroom
Picture	school	skeleton
River	continent	beautiful
Building	mountain	television
Daughter	country	fan
Tortoise	lecture	definition
Category	summary	

Complete the following spaces with the correct words from the list provided

List:

Knife – summary – lecture – country – beautiful – skeleton

Classroom – continent – river – tortoise – daughter –category

Definition – school – picture – building – fan – cupboard

Television – mountain

1- …………………………. is a thing that we keep our clothes in.
2- …………………………. is a room where student have their lessons.
3- An institute for learning is sometimes called a ……………………………. .
4- We use a ………………… . for cutting things.
5- A ……………………. . Is a shape of something.
6- A mass of running water is called a ………………………….. .
7- Africa is a big ……………………….
8- A group of flats is called a ……………………………… .
9- ………………………….. is a high rocky shape.
10- ……………………….. is an electrical set that shows pictures and other materials.
11- My name is Ali. Amina Ali is my ………………………….. .
12- Sudan is one of the big ,,,,,,,,,,,,,,,,,,,,,,,,,,,, .
13- A …………………………. Is a slow animal.
14- We have to attend a ………………………. Of English at ten.
15- When it is hot we have to use a ………………. .
16- A …………………………. Is a group of related things.
17- ……………………………. is the opposite of ugly.
18- A ……………………….. is composed of bones of humans or animals.
19- A ……………………….. is a brief writing of a long passage.
20- A …………………………. Is a meaning of something.

Students' tests

1. **Vegetables**

Put the following words with their objects in the spaces provided

Olives   lemon   peas   carrots   onion

Peppers   tomatoes   garlic   aubergine   greenbeans

………………   …………………   ……………

………………………   ……………………………   ………………..

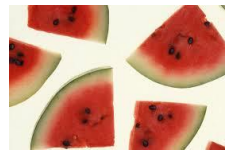……………….   ……………   …………….   …………

1. Fruits

Study the following words carefully and answer the questions below:

Pineapples – figs – jauavas –oranges – water melon- mango – strawberry – an apple – bananas – custard apples

…………………….   …………………….

………………   …………..

………………   …………   ………………

………………   …………..   …………..

Results of the tests which the subjects (students) answered.

Forty students are subjected to two tests. The first is on random words and the second are on words accompanies with their objects under categories.

The following table includes three columns, the first of which contains the number of the 40 subjects who answer the tests, the second includes the results of the words accompanied with their objects under categories. The third column shows the results of the test of the random words.

Table: ……….

No. of subjects	Result of the test of the words with objects under categories. (Marks)	The result of the tests of the random words
1	20	18
2	20	16
3	18	16
4	20	2
5	20	13
6	20	15
7	20	20
8	20	15
9	20	10
10	20	12
11	20	13
12	17	4
13	19	16
14	15	18
15	20	17
16	16	18
17	20	10
18	18	17
19	16	12
20	18	18
21	20	12
22	17	1
23	13	13
24	20	15
25	16	14
26	19	17
27	20	16

28	19	13
29	18	12
30	20	16
31	17	12
32	18	13
33	20	14
34	20	16
35	18	17
36	18	12
37	16	18
38	18	18
39	19	13
40	18	14