

УДК 378.016:811

**A PEG SYSTEM IN VOCABULARY LEARNING
FOR ESP STUDENTS**

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*Статья посвящена проблеме обучения лексике студентов неязыковых вузов.
Предлагается новая методика усвоения лексики.*

Ключевые слова: мыслительная обработка, зрительные образы, привязанные слова, кратковременная память, долговременная память, успеваемость.

The author conducted an experiment among students taking English for Science and Technology to find out whether a Peg system could or not increase students' resources of professional words, and impact on their learning achievements. In the frame of this research question the presenter raised hypotheses: H_0 – Applying the Peg system as a mnemonics for presenting English new words will have a negative impact on the quality of educational processes. H_1 – Applying the Peg system as a mnemonics for presenting English new words will have a positive impact on the quality of educational processes. In this experiment 100 new words were learned by 10 words in 10 lessons respectively. Firstly, English level knowledge of the test and control groups had been compared before the Peg system was applied in the lessons. Students' English knowledge level was almost the same. Then short and long-term memory quizzes were taken by students to compare how many words were stored out of 100 in a long run. The results revealed that first two hypotheses were accepted showing that the Peg system was effective. The presenter checked how the Peg system influenced the students' learning achievements analyzing outcomes of a pretest and a posttest. She applied some forms of descriptive analyses of data (SPSS). Findings stated that the Peg system was productive for vocabulary and influential for learners' study. In conclusion, the Peg system is suitable for teaching new words related to the fields of Science, Technology and Engineering as it leads students to memorize new words in unusual fun images that last in their memory and help to recall words.

Keywords: mental processing, visual imagery, peg words, short-term memory, long-term memory, learning achievement.

This paper is presenting the outcomes of an experiment to improve university students' ability to master vocabulary as a main tool for not only being the most important to learn any foreign languages, but also for understanding meaning of words and expressions and communicating with others is a must element of the foreign language teaching. The originality of this paper was to have conducted some experiments on increasing students' English vocabulary and learning achievement by using a Peg system. Moreover, the author checked short-term memory recall and long-term memory recall to get accurate results during implementing the experiment with the Peg system [1].

The Peg system is a mental filing system consisting of a series of pre-memorised concrete nouns. The concrete nouns are not arbitrarily selected; rather, they are selected in such a way as to correspond meaningfully with numbers. The Peg system can be traced to the mid-1600s, when Henry Herdson developed an extension of the Loci system. Henry Herdson dispensed with the spatial locations of the objects and merely used the objects themselves. Each digit was represented by any one of several objects the resemble the numbers

(for instance, 1=candle, 8=spectacles). A system that used rhyming syllables and words to represent the numbers was introduced in England around 1879 by John Sambrook. The nouns rhyme with the numbers they represent so that it is easy to remember what noun represents each number. The following is a widely used version of the Peg system based on rhymes, indicating the word that represents each number: one-gun; two-shoe; three-tree; four-door; five-hive; six-sticks; seven-heaven; eight- weight; nine-wine; ten-hen.

Does the Peg system in classroom training have any instructional impact on students' academic achievement?

H_0 – Applying the Peg system as a mnemonics for presenting English new words will have a negative impact on the quality of educational processes.

H_1 – Applying the Peg system as a mnemonics for presenting English new words will have a positive impact on the quality of educational processes.

We have tested the Peg system in presenting 100 English new words for the treatment group students within 10 lessons. Students have been offered 10 new words in each lesson. Before using the Peg system the students of the treatment and control groups took a level test to make sure that whether their English knowledge level was similar or different.

We chose the Peg system as efficient one in offering new words in each lesson. The pre-test and post-test taken by participants were our dependent variables. The method used was an independent variable.

Procedure: There were 36 participants of the experiment from School of Information & Communication Technology, Mongolian University of Science and Technology who were selected randomly and divided into two groups as a treatment and a control. They have never used the mental filing system before, never got education in one of English speaking countries. These students' English knowledge was average. These students studied "English for Science and Technology" course.

As we mentioned above, we determined the participants' English knowledge level. All participants had taken the pre-test before they learned new words using the Peg system. Then the teacher introduced ten new words/phrases with associating with peg words. Some 15–18 minutes was spent on presenting 10 new phrases in each lesson. After taking the level test the students studied 5 units consisting of two lessons each with traditional methods in acquiring new words had taken the pre-test. Then they studied 5 units consisting of two lessons each with help of the Peg in receiving new expressions. Each lesson had 10 new words to explain related to the science and technology. In overall, they learned 100 new phrases within 5 units. The participants of my experiment did this in the lessons where this approach was used as follows.

Step 1: Placement test

For the purpose of identifying English knowledge of the students involved in the experiment, the placement test was taken by the students of the treatment group and the control group. The test consisted of listening, vocabulary, grammar, reading and writing tasks. The results of the level test suggested that the participants' level of this experiment did not vary as mean showed 39.2% and 40.42% for the treatment and control groups respectively.

Step 2: Comparing short-term memory and long-term memory of the both groups' students

So the students of the treatment group used the peg system to memorize 100 words. They were asked to remember 10 new words by associating them with the same peg words. The students of both groups were asked to recall new words after learning them immediately (short-term memory) and a day and a week later (long-term memory). Data taken from this figure was analyzed with SPSS program. The students who used the Peg system recalled more than twice as many words as the students who were not taught the Peg system, immediately after learning as well as one week and even one month later. Although this approach can cause some interference if the same peg words are used on several successive lists of words, using the Peg system is remarkably better than there is no system to use, the results of the study proved.

Step 3: Pre-test and Post-test

Moreover, before using the Peg system the students of the treatment and control groups studied 10 units and they took the pre-test which was a variable to identify the effectiveness of the experiment. After the students of the treatment group had studied 10 more units and learned 100 new words by using the Peg system, and the students of the control group also learned 100 words without using the Peg system, the students of both groups took the post-test too. The tests were consisted of listening, vocabulary, grammar, reading and writing tasks like the placement test. The analysis suggests that observed mean difference of the pre and post –tests taken by the treatment group students equals -9.61. Since the value of it is 5.03 at $p < 0.000$, the mean difference (-9.61) between pretest and posttest is statistically significant. According to the Sig. of 0.000 (which is less than 0.05), the hypothesis is rejected. Therefore, it can be inferred that applying the Peg system as a mnemonics in presenting English new words had a positive impact on the quality of educational processes.

Conclusions

1. Studies of the researchers reveal that mastering words and vocabulary is the basics in learning a second language.
2. Short – term and long-term word recall of the treatment group students

was 73.33% and 72.55 % in other words 70-74 words out of 100 whereas those of the control group were 46.90% and 46.0% or 46-47 words. As a result, the study reveals that words remembered after learning transferred to the long memory means that the Peg system was effective in increasing word resources.

3. Due to the outcomes of the pretest and posttest of both treatment and control groups, the Null hypothesis was rejected, and the Hypothesis 1 was accepted. In other words, applying the Peg system as a mnemonics for presenting English new words had a positive impact on the quality of educational processes.

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