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Научный редактор:
Скорикова Екатерина Николаевна

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СОДЕРЖАНИЕ

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THE EFFECTIVENESS OF SPACED LEARNING METHOD
IN TEACHING VOCABULARY

Mussanova G.

Zharimbetova R.

Master of Education

Senior lecturers

Al-Farabi Kazakh National University,

Almaty, Kazakhstan

Abstract. One of the most effective study techniques students of every age can use is called spaced learning practice. With the amount of new information students learn every day, remembering and understanding it all can be tough. Making sure your student develops the most effective study skills is the first step toward success. Spaced learning is a study technique where students review material over a long period of time. This gives their minds time to form connections between the ideas and concepts so knowledge can be built upon and easily recalled later. The spaced learning is an ever-present phenomenon, whereby memory is enhanced for the information that is learned across different points in time rather than being learned at once. The aim of this article is to find out language learners' perceptions of different spacing schedules (massed vs. spaced).

Key words: spaced learning, massed learning, spacing effect, perception, memory, short-term memory, long-term memory

Аннотация. Один из наиболее эффективных методов обучения, который могут использовать учащиеся любого возраста - это практика интервального обучения. С большим количеством новой информации, которую студенты изучают каждый день, запомнить и понять все это может быть непросто.

Убедившись, что ваш студент развивает наиболее эффективные учебные навыки, является первым шагом к успеху. Интервальное обучение - это метод обучения, при котором учащиеся просматривают материал в течение длительного периода времени. Это дает их разуму время сформировать связи между идеями и концепциями, чтобы можно было использовать знания и легко вспомнить их позже. Интервальное обучение - это вездесущее явление, благодаря которому память улучшается для информации, которая усваивается в разные моменты времени, а не сразу.

Цель этой статьи выяснить, как студенты воспринимают различные графики расстановки интервалов (групповые и интервальные).

Ключевые слова: *интервальное обучение, массовое обучение, интервальный эффект, восприятие, память, краткосрочная память, долговременная память*

1. Introduction

The most important meta skill you can learn is how to learn. Learning allows you to adapt. As Darwin hinted, it's not the strongest who survives. It's the one who easily adapts to a changing environment. Learning how to learn is a part of a "work smarter, not harder" approach to life - one that probabilistically helps you avoid becoming irrelevant. Your time is precious, and you don't want to waste it on something which will just be forgotten. For example, during the school years, most of us got used to spending hours at a time memorizing new words and word combinations, equations, the names of the elements, English verbs, and dates of key historical events. We found ourselves frantically cramming the night before a test. We probably read through our notes over and over, a cup of tea in hand, in the hope that the information would somehow lodge in our brains. Once the test was over, we doubtless forgot everything straight away. Even outside of formal education, we have to learn large amounts of new information on a regular basis: foreign languages, technical terms, sale scripts, speeches, or the names of coworkers. Learning through rote memorization is tedious and more important. If we want to remember something, we need to work with our brains, not against them. To do that, we need to understand cognitive constraints and find

intelligent ways to get around them or use them to our advantage. This is where the spaced learning method comes in. It's a wildly useful phenomenon: we are better able to recall information and concepts if we learn them in multiple, spread-out sessions. We can leverage this effect by using spaced learning method to slowly learn almost anything. It works for new words and word combinations, numbers, images, and skills. It works for anyone of any age, from school children to elderly people. The effect cuts across disciplines and can be used to learn anything from artistic styles to mathematical equations.

Spaced learning is a technique for efficient memorization which uses repeated review of new words following a schedule determined by a spaced repetition algorithm to improve long-term retention. Person's ability to remember a piece of information depends critically on the number of times he has reviewed it, the temporal distribution of the reviews, and the time elapsed since the last review, as first shown by a seminal study by Ebbinghaus [1, 176-179]. The effect of these two factors has been extensively investigated in the experimental psychology literature (2, 3), particularly in second language acquisition research [4, 124-129]. Moreover, these empirical studies have motivated the use of flashcards, small pieces of information a learner repeatedly reviews following a schedule determined by a spaced repetition algorithm [5, 245-248], whose goal is to ensure that learners spend more or less time working on forgotten informatio

Vocabulary has taken center stage of foreign language teaching in recent three decades. Many studies have shown that vocabulary knowledge is an essential prerequisite for reading comprehension. Schmitt reported that, in order to understand a text, learners are required to understand 95–98% of the words of the text [6, 329-363]. This means that foreign language learners need to learn a great number of word families in a limited-course time. However, acquiring a large number of words does not happen incidentally. Therefore, teachers need to use some deliberate second language vocabulary instructions as a supplement to incidental learning. In general, knowing a word means knowing its form (pronunciation and spelling), meaning, and usage [7, 324-328].

The research work on spaced learning has gone beyond the limits of laboratory

research to domain such as educational research to test theories and ideas in the field of second foreign language learning. For example, different studies have demonstrated the existence of spacing effect when words were used as stimuli [8, 245-248]. But there are still questions about how to use spaced learning method as a standard teaching methodology while taking into account how the spacing effect works while teaching vocabulary. There are also questions about how students perceive the use of different learning schedules. Therefore, it is important to investigate language learners' perceptions because it does not matter whether a specific teaching methodology (e.g., spaced learning methodology) is practical, interesting, or authentic, but whether it is perceived as such by second language learners. According to Gardner, perception, attitude, and other affective variables are as important as aptitude for second foreign language learning. Gardner also believed that the level of motivation often provides important insights into the learners' perceptions, attitudes, and beliefs [9, 348-355]. Therefore, it is important to investigate how to incorporate spaced-retrieval techniques in the language classrooms and how students perceive the use of these techniques in second language learning contexts.

In 1967, Paul Pimsleur proposed that "there may be a certain pattern or schedule of repetitions which is sufficiently frequent to raise the student's memory level appreciably, yet not so frequent as to preempt all the class time. What is needed is a schedule the teacher can follow in spacing the recall of previously learned materials [10, 271-275].

2. Experiment

This study began by briefly considering some favorable conditions facilitating an effective learning environment for vocabulary acquisition in two groups of the 1st course pre-intermediate level students of the Faculty of Law which met once a week for a three-hours lesson. Pimsleur's schedule of spaced repetitions was then followed for the introduction of new vocabulary items in these classes, in order to determine if there was enhanced retention of these vocabulary items in the short term.

In each of the two groups (Group London and Group New York) there were 24 pre-intermediate students with ages ranging from 16 to 18. These groups were chosen

because the students' level of English ability was similar, and they study the same English lessons each week. The groups were usually taught one basic two-line structure and six to ten new vocabulary words or phrases using "flash-cards" that have a picture and the corresponding words printed underneath. The vocabulary items on these flash-cards were chorused, then individually repeated a number of times in order to develop pronunciation, intonation and retention. These items were reinforced throughout the group through various games and activities such as Attention getter, Drag and Drop and Slow Motion. The students in both groups were generally positive and keen to learn English.

To gather data, we used 20 English–Kazakh word pairs. Twenty new English words were selected from the New English File Pre-Intermediate Textbook. Prior to the start of the study, a pretest was administered to make sure whether students had any background knowledge about the target words. The pretest showed that students did not have any prior knowledge about 20 stimuli words. The study encompassed two learning sessions that occurred either in an immediate succession or in a spaced learning. The first two learning sessions were tutorial sessions on the English–Kazakh word pairs. In the massed learning, students completed their learning trials all in one day with a 1-minute interval. In the spaced learning, students completed their learning trials in two sessions with a 7-day break in between. Both the order of the lists in the learning phase and the order of the tests in the test phase were counterbalanced.

The study experiment started with a fast-paced mode PowerPoint presentation of 20 English–Kazakh vocabulary words, accompanied with examples. Each learning session encompassed study-test-study-test trials in which the students learned the words. In total, students completed four consecutive study trials, which took about 20 minutes to be completed. Each learning trial proceeded through the learning phase as follows: at first, all 20 English–Kazakh word pairs were presented to the students one by one. The teacher read aloud the English words, their Kazakh translations, and their sample sentences along with PowerPoint slides. Students were instructed to quietly repeat the words along with their teacher. They were not allowed to read the words aloud or to take notes. Then, they were asked to turn to page one of the booklets. Page,

one consisted of two rows of six new English words each, and students were allotted five minutes to write down the meaning of each word in Kazakh. Next, they were allotted five minutes to practice page two. Page two of the booklet contained all 10 English–Kazakh word pairs and a sample sentence for each one. Teacher molded the word pairs and sample sentences, and students repeated them chorally. In addition, they were given five minutes to practice the meaning of new words. Finally, students were given five minutes to practice last page of the booklet by writing down the meaning of each English word in the provided space. On completion of all learning trials, the booklets were collected. After 10 minutes break, students participated in the spaced learning condition. In this condition, the learning trials were the same as those students conducted during the massed learning except those participants learned 10 other word pairs.

3. Results and Discussion

This study indicates that applying the findings of experiment-based research to language learning classes can have a great impact on vocabulary learning. This study had more ecological validity than the previous studies. That is, we made the conditions in which words were learned similar to those in real EFL classrooms at primary levels. For instance, drawing students' attention to both meaning and form of a word, having them practice the words in collaboration, having the learners repeat the words after the initial presentation and before practicing in pairs, etc. Thus, this study investigated the spacing effect in vocabulary learning by using educational materials with typical vocabulary learning activities presented within a meaningful context and with educationally meaningful time intervals. We also kept the duration of the learning sessions in session 1 and session 2 the same. In the study participants studied the words under three learning conditions in session 1 and one learning condition in session 2. Therefore, the duration of the learning phase was different for session 1 (day 1) and session 2 (day 6), and probably the words studied in session 2 (the spaced words) got more attention than the words studied in session 1. In our study, the duration of the learning phase was the same for the massed and the spaced condition within each learning session. Furthermore, this study used a balanced procedure to investigate the effects of

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spacing. That is, conditions were not confounded with presentation order. We computed the mean percentage of items correctly recalled during the retention test. Therefore, students who are taught by spaced learning method recalled more words than students in the massed learning. In general, students had a positive attitude toward using spaced learning methodology. They strongly agreed that spaced methodology helps to improve learning new vocabulary. They also believed that spacing leads to better recall than massing does. There are some limitations of this study that should be taken into account. Firstly, the participants in this experiment consisted of 24 foreign language learners of the 1st course of the Faculty of Law. In order to be able to improve the statistical power and generalize the results, a larger sample size is preferable. Secondly, since students retrieved the words once in the first test session, they had the opportunity to re-study the words, which this probably may have minimized the amount of forgetting after four weeks. Thirdly, the scope of this study was limited. In order to determine the underlying mechanisms of the spacing effect, further studies should be conducted over longer periods of time. This study took place in an English language classroom during the EFL students' regular class hours. The study was restricted to a limited-course time. Thus, the current study only looked at the retention of the words over 4 weeks.

4. Conclusion

The results of the experiment confirmed both of our predictions. The main aim of this study was to see whether or not students perceive spaced methodology as an effective approach compared with massed methodology. For this reason, we taught 24 pre-intermediate 1st course students the meaning of 20 English words by two different spaced schedules (massed vs. spaced), and we assessed recalling one week and four weeks after the second learning session. The results of the final tests showed that spacing effect emerged when learning sessions were spread over time. Furthermore, we prepared a survey questionnaire to find out language learners' perceived effectiveness of these learning schedules. In general, students perceived spaced learning to be more effective than massed practice. The questionnaire was developed to elicit students' answers in relation to cognitive and affective states. In general, language learners who

took part in this study highly believed that spaced learning leads to better recall than massed learning does.

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