

## ABSTRACT

Master's thesis: 102 pp., 26 images, 27 tables, 47 sources, 1 supplement.

**Topicality.** Humanity is constantly in need of training. Everyone is never limited to a school, college, or university. After receiving a diploma, you also need to constantly learn something new, train your skills, and develop yourself. After all, life does not stand still. Therefore, the question is about how this process can be improved, how the human brain and memory work, is it possible to mathematically calculate some kind of dependence and improve these results, guided by intuitive predictions or assumptions. This work is dedicated to this, in which the questions of training, the improvement of existing methods in matters of non-abstract study of new material, are examined, namely how this can be applied in practice. The results of study will be useful both for pupils and students, and for tutors who can use or improve the methodology of teaching material, as well as improve learning and remembering new things. In Ukraine, so far there is no such system or service that could solve this problem. So, certain online courses, services from training certain skills have already begun to appear, but they do not cover the described area. Therefore, this work is relevant today and introduces a certain novelty for the education system in Ukraine and the world.

In this regard, it is urgent to develop a software product to support the methodology of the educational process, based on the spaced repetition methods, which will facilitate the learning process and improve memorability of the material.

**Relationship of work with scientific programs, plans, themes.** The work was carried out at the Department of Automated Systems for Information Processing and Management of the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" within the terms of the theme "Methods and technologies in the searching and storing data problems" (state registration number 0117U000915).

**The purpose of the study** is to increase the effectiveness of support for teaching methods and their planning through the use of testing within the terms of a reasonable methodology.

To achieve the goal, the following **tasks** should be done:

- perform a review of the known results for solving the problem posed in the terms of the work;
- find the optimal time for self-testing, taking into account the limitations of the educational process;
- to develop a software implementation of the developed algorithm for planning a set of self-testing questions;
- perform an analysis of the results.

**The object of the research** is the process of supporting the educational methods based on spaced repetition learning, and training planning, taking into account the individual characteristics of students.

**The subject of the research** is support methods and training planning, taking into account the individual characteristics of students or pupils.

**The scientific novelty of the obtained results** consists in the developed approaches and methods for solving the problem “Determining the optimal term for self-testing, taking into account the limitations of the educational process” using the concept of spaced repetition learning and the Ebbinghaus forget curve. The created algorithm is used on the basis of the solved problem of finding the term for self-testing, which can significantly increase the memorability of the material during training.

**Publications.** The materials of the work were published in the theses of the scientific-practical conference of young scientists and students “Information Systems and Management Technologies” 2019, the article was accepted for contribution in the scientific publication “Scientific Notes. Series: Pedagogical Sciences” Volodymyr Vynnychenko Central Ukrainian State Pedagogical University.

TRAINING METHODS, SUPPORT SYSTEM, LEARNING MANAGEMENT SYSTEM, SEARCH OF SELF-TESTING TERMS, MEMORABILITY.