студентів. Бердянськ, Вінниця, Житомир, Івано-Франківськ, Ізмаїл, Кам'янець-Подільський, Київ, Кропивницький, Мукачево, Полтава, Ужгород, Умань, Херсон, 2020. Вип. 7. С. 56–58.

- 7. Ткаченко Л. Креативність і творчість: сучасний контент. *Освіта та розвиток обдарованої особистості*. 2014. № 9. С. 32–35.
- 8. Чорноус В. Творчі здібності особистості: визначення, сутність, структура. *Проблеми підготовки сучасного вчителя*. 2017. № 5. С. 82–87.

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# EFFECTIVENESS OF USING MENTAL MAPS FOR STUDENTS WHEN STUDYING THERAPEUTIC DENTISTRY

# ЕФЕКТИВНІСТЬ ВИКОРИСТАННЯ МЕНТАЛЬНИХ КАРТ ДЛЯ СТУДЕНТІВ У ПРОЦЕСІ ВИВЧЕННЯ ТЕРАПЕВТИЧНОЇ СТОМАТОЛОГІЇ

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For students studying the subject "therapeutic stomatology" in the 5th year, it is important to actively acquire information, apply it and try to connect the acquired knowledge with each other, in order to carry out diagnostics and differential diagnosis of diseases. Students often lack such a broad and comprehensive approach. Most achievers, however, rely on memorization of facts and engage in "rote memorization," which is easily forgotten. As a result, students are unable to apply the acquired knowledge to problem solving. A negative consequence is that students may become unable to apply their knowledge to problem solving situations [1, p. 426–427].

Recently, a technique for mastering the received information by memorizing information in the form of mental maps appeared. Mind maps are a research method in which information from different and/or one source is transformed into a schematic image represented by keywords that are closely related to a topic. From the central part there are several branches containing subheadings, each of which is associated with a corresponding keyword. The most detailed information is contained in the most distant parts of the hierarchy. At the same time, each student can choose the necessary set of keywords that are most appropriate for him. It is important to make associations that will form the necessary scheme. Having made a detailed description and branching of the first branch, you can move to the next, moving along the time arrow [2, p. 7]. There are a number of studies that confirm that spider diagrams (mental maps), which are created on the basis of individual association with the use of color and a certain visualspatial arrangement, are an effective method of assimilating information, compared to the usual note-taking and repetition of material. Thanks to mental maps, you can develop the technique of divergent thinking [3, p. 278].

It is recommended to use color as a necessary tool for differentiating the information of a self-generated visual image [4, p. 30]. However, recall improves when research methods include the use of these components surprisingly. Even when used individually, all of these components support cognitive processes that are reported to improve memory [5, p. 25–26].

The theory of levels of processing suggests that the success of assimilation of information depends on the level of processing of materials and subsequently dictates the success with which it will be remembered [6, p. 677–678]. According to the theory, we can get a deeper level of processing when analyzing and extracting information from the source material. The surface level of processing is listening, rehearsal. The main difference is that students must build associations based on both

new and information that is already in memory (proactive facilitation) [7, p. 80].

Visual maps can be classified as: mind maps, concept maps, concept diagrams and visual metaphors, etc. [8, p. 391]. The main advantage of using mental maps is the individualization of the information processing process. That is, each student creates a visual map as he sees it, as it is convenient for him to do it, and it will be easy to reproduce in the future.

The use of mental grids as a teaching tool in the subject "Therapeutic Dentistry" for students of the 5th year showed that it is an effective method of information design, which improves learning and promotes the rational thinking of students, which is confirmed by higher scores during the exam and feedback.

#### References:

- 1. Farrand P., Hussain F., Hennessy E. The efficacy of the `mind map' study technique. *Medical Education*. 2002. Vol. 36, no. 5. P. 426–431. URL: https://doi.org/10.1046/j.1365-2923.2002.01205.x
- 2. Bellezza F. S. The spatial-arrangement mnemonic. *Journal of Educational Psychology*. 1983. Vol. 75, no. 6. P. 830–837. URL: https://doi.org/10.1037/0022-0663.75.6.830
- 3. Bellezza F. S., Reddy B. G. Mnemonic devices and natural memory. *Bulletin of the Psychonomic Society*. 1978. Vol. 11, no. 5. P. 277–280. URL: https://doi.org/10.3758/bf03336829
- 4. Jamieson D. G., Schimpf M. G. Self-generated images are more effective mnemonics. *J. Ment. Imag.* 1980. Vol. 4. P. 25–33.
- 5. 3. Bower G. H. Organizational factors in memory. *Cognitive Psychology*. 1970. Vol. 1, no. 1. P. 18–46. URL: https://doi.org/10.1016/0010-0285(70)90003-4
- 6. Fergus I.M. Craik, Robert S. Lockhart. Levels of processing: A framework for memory research. *Journal of verbal learning and verbal behavior*. 1972. Vol. 11. P. 671–684.
- 7. Lockhart R. S., Craik F. I. M. Levels of processing: A retrospective commentary on a framework for memory research. *Canadian Journal of Psychology/Revue canadienne de psychologie*. 1990. Vol. 44, no. 1. P. 87–112. URL: https://doi.org/10.1037/h0084237 (date of access: 25.10.2023).
- 8. Anderson, J. R., & Reder, L. M. (1979). An elaborative processing explanation of depth of processing. In L.S. Cermak & F.I.M. Craik (Eds.), *Levels of processing in human memory*. 1979. P. 385–404.