

Отримано: 6 червня 2019 р.

Прорецензовано: 11 червня 2019 р.

Прийнято до друку: 13 червня 2019 р.

e-mail: delivery4olya@gmail.com

DOI: 10.25264/2415-7384-2019-8-61-65

Tkachuk O. V. The connection between the rating of judgments of learning and the peculiarities of work with training material during the lecture. *Наукові записки Національного університету «Острозька академія». Серія «Психологія»* : науковий журнал. Острог : Вид-во НаУОА, червень 2019. № 8. С. 61–65.

УДК 378.147:159.955.5

**Ольга Tkachuk,***Postgraduate Student, Department of Psychology and Pedagogy, National University of Ostroh Academy*

## THE CONNECTION BETWEEN THE RATING OF JUDGMENTS OF LEARNING AND THE PECULIARITIES OF WORK WITH THE LEARNING MATERIAL DURING THE LECTURE

*The article deals with theoretical analysis of methods of work with learning material as a factor of judgments ratings about the studied material. The following factors of judgments of the learning material were singled out: group interaction, the use of schemes and presentations, the use of the method of problematic experience, the provision of feedback by the teacher, and the repetition of the material. An empirical study of the dependence of JOL ratings on the above-mentioned factors was carried out. It has been established that in the case of group interaction of students in the classroom and providing feedback to the teacher, JOL's ranking of judgments is at an average level. The use of schemes and presentations during the lecture, as well as the use of the method of problem-solving of experience, help to increase the ratings of judgments about the learned material. The highest JOL ratings are fixed during the material repetition.*

**Key words:** judgments about the learned material, metacognitive monitoring, educational process.

**Ткачук Ольга Володимирівна,***аспірант кафедри психології та педагогіки, Національний університет «Острозька академія»*

## ЗВ'ЯЗОК МІЖ РЕЙТИНГОМ СУДЖЕНЬ ПРО ВИВЧЕНЕ Й ОСОБЛИВОСТЯМИ РОБОТИ З НАВЧАЛЬНОЮ ІНФОРМАЦІЄЮ ПІД ЧАС ЛЕКЦІЙ

*У статті здійснено теоретичний аналіз методів роботи з навчальним матеріалом як чинником рейтингів суджень про вивчене. Виокремлено такі чинники рейтингів суджень про вивчене, як групова взаємодія, використання схем і презентацій, методу проблематизації досвіду, надання зворотного зв'язку, повторення матеріалу. Здійснено емпіричне дослідження залежності рейтингів JOL від вищеперерахованих чинників. Установлено, що в разі групової взаємодії студентів на аудиторному занятті та надання зворотного зв'язку від викладача рейтинг суджень JOL перебуває на середньому рівні. Використання схем і презентацій під час лекції, а також застосування методу проблематизації досвіду сприяють підвищенню рейтингів суджень про вивчене. Найвищі рейтинги JOL зафіксовано під час повторення матеріалу.*

**Ключові слова:** судження про вивчене, метакогнітивний моніторинг, освітній процес.

**Formulation of the problem.** The study of the peculiarities of the implementation of metacognitive judgments in educational activities is a relevant issue, since it determines the success of learning. Students' ability to accurately assess their level of understanding the learning material, its further processing and analysis helps to more successfully master the information and accordingly, make their own process of learning more effective.

The study of metacognitive monitoring is an important trend in the field of cognitive psychology. The accuracy of metacognitive monitoring is not only a factor in the success and effectiveness of learning activities, but also plays a key role in all areas of personality activity, since it allows to perform cognitive activity effectively. Metacognitive monitoring is the ability to assess the current state of cognitive activity and is aimed at tracking whether the subject correctly solves the problem, as well as checking their level of understanding of the processed material.

The key role of metacognitive monitoring in the learning process is obvious. Planning an educational task solution, tracking the understanding of the learned material, and assessing the effectiveness of learning tasks – all of this is a part of the meta-knowledge process, namely the manifestation of the level of development of precision metacognitive monitoring. The high level of development of this process is a prerequisite for the academic success of students.

The judgment on learning (JOL) is an important indicator of the development of metacognitive monitoring. In the case when unrealistic rating increases, the student overestimates his / her own level of mastering of the teaching material, which leads to the reduction learning efficiency.

**A brief overview of recent researches.** The question of the influence of methods of work with information on metacognitive monitoring of a subject are raised quite often. Thus, the connection between the level of success

and subjective confidence (M. Miller, D. Geraci) is studied. Dependence of the judgments on the evaluation of the material from the peculiarities of its repetition was considered by J. Danslocky and K. Ravson. Domestic scientists investigated the role of such educational methods as «problem-making of experience» and «feedback» during the implementation of metacognitive judgments by students (A. Fomin, N. Razumovskaya). The role of the visual method in the process of making judgments on the presentation of material was studied by M. Phodes and A. Castel. However, in our analyzed literature there is no comparative and generalized study of these factors, which determines the relevance of our article.

**The purpose of the paper** is to theoretically and empirically analyze the ratings of judgments of learning, depending on the way of work with information during the learning interaction.

**Presentation of the main material.** The research conducted by N. N. Razumovska confirms the influence of feedback on metacognitive judgments of students [2]. According to the research, the presence of feedback leads to a decrease in optimism in the predictions of the accuracy of the problem solving. In the same study, the influence on the accuracy of judgments was fixed not only in the feedback, but also in the group specifics. The study also revealed the effect of interaction between the factors «professional group» and «feedback» in their mutual influence on students' metacognitive judgments about how they performed the test tasks. This indicates that it is important not only to have the feedback, but also the group specifics where the corresponding psychological and pedagogical influence was carried out. T. Miller and D. Jerashy discovered the differences between the level of confidence in the knowledge of students with different levels of academic performance [6]. Thus, the students with a lower level of academic success have shown a higher level of false assurance of the accuracy of their knowledge.

A. E. E. Fomin distinguishes the factor of using the method of problem-solving of experience [4]. The method of challenging experience is to contrast the existing thoughts, ideas and assessments of the individual and the new experiences that are acquired during the learning process. An example of problematic experience can be a comparison of the subject's educational activities with subjective assessments of their own knowledge in response to test questions and objective test data, which the student then receives from the teacher. These data indicate that the psychological and pedagogical interaction of a student and a teacher influences the accuracy of metacognitive monitoring. The data received by the researcher indicate that the problematization of experience has a significant positive educational effect. The confidence in the accuracy of the formulations is reduced. We can talk about the positive role of problematization in the development of more accurate metacognitive monitoring.

The presence or the absence of material repetition may also affect metacognitive monitoring. Thus, in studies conducted by J. Dunlocky and K. Ravson [5], it was discovered that re-reading the material increased the accuracy of assessing of the assimilation of information. The authors compared the accuracy of material evaluation, depending on the time of recurrence – immediately after the first introduction of the information, and a week later. Differences were found in the accuracy of assessing of the assimilation of information, depending on the time allocated for repetition. So, in case of fast re-reading of information, students were less accurate

The experimental study consisted of the following phases (Figure 1): phases of direct learning interaction, during which the following forms of work with the material were implemented:

1. Group Interaction. Students were divided into groups of 4-5 people each. After that students were offered material for processing (different material for each group). After that, the students were divided into new groups so that the new group consisted of one participant-representative of the pre-formed groups. Accordingly, in the new groups, the subjects represented the processed material for others.

2. Use of schemes. During the explanation of the new material students were given a diagram illustrating the information that the lecturer spoke of.

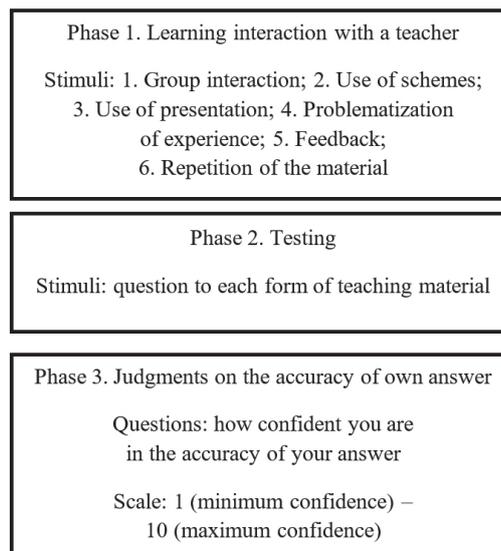
3. Use of presentation. Similar to the previous factor, the students simultaneously with the explanation of the material were viewing the presentation.

4. Problematization of experience. Consideration of the material is carried out with an emphasis on: a) the existing knowledge of students; b) analysis of the weaknesses of the information being studied; c) the possibility of using the knowledge acquired in the real situation.

5. Feedback. When studying the material, the teacher asks questions to students, primarily interested in their thoughts on the information. He then reviews the accuracy or inaccuracy of the student's thoughts.

6. The repetition of the material. The teacher briefly summarizes the material that has been learned, repeats the main points of the topic.

Note that all these stimuli were used during one lesson with one group while studying a new topic. This technique will allow us to control such side variables, such as the peculiarities of the presentation of the material by the teacher, the intergroup differences between the academic groups.

**Pic. 1. Stages of experimental research**

The information was divided into six blocks, each of which studied the specific form of work with the material.

After processing the material and in the end of each block students responded to questions related to the learned information. In addition, students were asked to evaluate the accuracy of their own assessment on a scale from 1 (minimum confidence) to 10 (maximum confidence).

The sample of our study was made up of 20 people, students of the second year of the Faculty of Romano-Germanic languages. The obtained quantitative data was processed using IBM SPSS Statistic 22.0. We used the method of descriptive data characteristics, a one-factor dispersion analysis (ANOVA) to determine the differences between the ratings of assessment judgments as for the correct answer, depending on the way the material was processed.

*Table 1.***Descriptive characteristics of the obtained results**

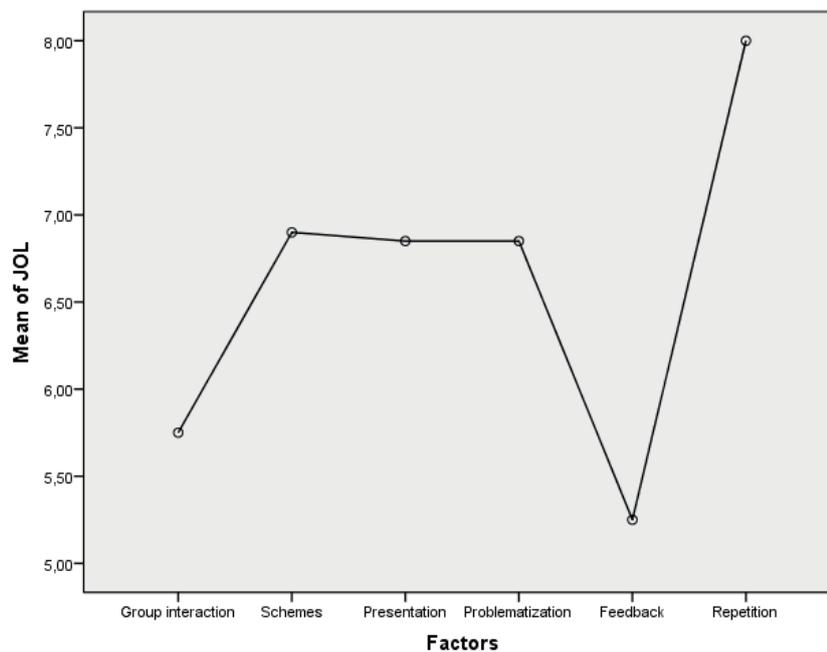
	N	Mean	Std. Deviation	Std. Error
Group interaction	20	5,7500	1,91600	,42843
Schemes	20	6,9000	2,07491	,46396
Presentation	20	6,8500	2,62127	,58613
Problematization	20	6,8500	2,47673	,55381
Feedback	20	5,2500	3,35410	,75000
Repetition	20	8,0000	2,22427	,49736
Total	120	6,6000	2,59411	,23681

As it can be seen from the table, the highest JOL indicator is inherent in the repetition of the material ( $M = 8.0$ ,  $SD = 2.22$ ), and the lowest is during the feedback ( $M = 5.25$ ,  $SD = 3.35$ ). The average values of judgments in the process of using the schemes ( $M = 6.9$ ,  $SD = 2.07$ ), presentations ( $M = 6.85$ ,  $SD = 2.62$ ) and problem-solving experience ( $M = 6.82$ ,  $SD = 2, 47$ ) differ to a lesser degree. The rating of judgments during group interaction is slightly lower ( $M = 5.75$ ,  $SD = 1.91$ ). Note that the overall rating of JOL is  $M = 6.6$ ,  $SD = 2.59$ . This indicator is above the average, which is confirmed by our analysis of the study of the tendency to re-evaluate their own knowledge among students (E. Savin, A. Fomin) [3]. The statistical significance of the differences was confirmed by a one-factor dispersion analysis ( $F = 3,047$ ;  $p = 0,013$ ). The obtained results are presented in Fig. 2.

According to the results, we can assert that some forms of work with the material during classes contribute to the increase of ratings of judgments about the accuracy of the gained knowledge. Depending on the rating of the judgments, we can distinguish three types of factors by their level of influence on the rating of JOL:

1. Factors that determine the high indexes of judgments about the accuracy (repetition of the material);
2. Factors that determine the ratings of judgments on learned material at the level above the average (schemes, presentations and problem-solving of experience);
3. Factors that determine the ratings of judgments on learned material on the average level (group interaction and feedback).

Note that the factors that determine the low ratings of judgments about the learned material were not found.



**Pic.2. Differences between JOL ratings depending on how the information is processed**

In particular, after repeating the material, students evaluate their own knowledge, in comparison with other factors. Obviously, the second listening of the material helps to better memorize, and, accordingly, the student is more confident in his/her knowledge. However, the question remains as to what the higher rating of judgments is due to: the best memorization of information (it is justified), or the orientation to the previous answer, and its support, regardless of the accuracy or inaccuracy (in this case the raising of the ratings of judgments is unjustified and negative.)

Visual methods for presentation of information (schemes, presentation) also determine high ratings of judgments about the correct answer. We can assume that this result is due to the fact that the information perceived by the visual analyzer is absorbed better than the information perceived by the auditory analyzer. Accordingly, the student may better remember such information (or think that he/she has memorized it better), and assesses the accuracy of an answer.

Similar indicators of ratings of judgments of learning were also found in the case of using the method of problematic experience. Actualization of existing knowledge among students, comparison of new information with existing one, critical assessment of the subject materials also contribute to increasing confidence in the accuracy of their own responses.

The lower indexes of judgments ratings in the accuracy of their own answers are recorded in the case of intergroup interaction. Students are more critical to their own knowledge. In our opinion, this is due to the fact that the process of introducing students to the assimilation of information is ineffective, because students remember only the part that they tell themselves. Accordingly, this leads to lower confidence in the quality of assimilation of the material.

When giving feedback to students, the lowest ratings of judgments about the accuracy of the acquired information appear. From this it follows that the teacher's comments do not lead to excessive confidence in the responses of the students. Assume that they contribute to an adequate assessment of the level of assimilation of the material.

**Conclusion.** Consequently, we analyzed the dependence of judgments' ratings on ways of working with information. It is established that the increase in the ratings of judgments on the learned material is influenced by such factors as repetition of the material, the use of visual teaching methods (schemes and presentations), the use of the method of problem-solving experience. In addition, it was found that the average ratings of judgments about the learned material causes the group interaction in the learning process and teacher's feedback.

The value of our study is that understanding the factors of judgment in the process of classroom interaction between the teacher and the student will allow the teacher to organize the learning process in such a way that it helps the student to more accurately monitor his or her cognitive activity.

It should be noted that in order to fully reflect the role of these factors, it is necessary to analyze the connection between judgments about the learned material and real knowledge of students, which is the next stage of our study and the subject of further work.

**References**

1. Пасічник І. Д., Каламаж Р. В., Августюк М. М. Метакогнітивний моніторинг як регулятивний аспект метапізнання. *Наукові записки Національного університету «Острозька академія». Серія «Психологія і педагогіка». Тематичний випуск «Актуальні проблеми когнітивної психології»*. 2014. №28. С. 3–16.
2. Разумовская Н. Н. Влияние обратной связи различного типа на метакогнитивный мониторинг решения тестов знаний. *European social science journal*. 2015. № 2. С. 175–182.
3. Савин Е. Ю., Фомин А. Е. Метакогнитивный мониторинг в решении учебных задач: соотношение обобщенных и предметно-специфических навыков. *Шестая международная конференция по когнитивной науке: тезисы докладов*. Калининград, 2014. С. 533–534.
4. Фомин А. Е. Эвристика доступности и метакогнитивный мониторинг решения учебных задач студентами. *Психология: вестник Брянского госуниверситета*. 2012. № 1. С. 175–179.
5. Dunlosky J., Rawson K. A. Why does relearning improve metacomprehension accuracy? Evaluating the levels-of-disruption hypothesis for the rereading effect. *Discourse Processes*. 2005. Vol. 40. No. 1. P. 37–55.
6. Miller T. M., Geraci L. Training metacognition in the classroom: The influence of incentives and feedback on exam predictions. *Metacognition and Learning*. 2011. Vol. 6. P. 303–314.
7. Rhodes M. G., Castel A. D. Metacognitive illusions for auditory information: Effects on monitoring and control. *Psychonomic Bulletin & Review*. 2009. №16. P. 550–554.