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## **TEACHING ASPECTS ON THE EXAMINATION OF STUDENTS PERFORMANCES IN SOME BIOLOGICAL DISCIPLINES**

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**Abstract.** This work examine some teaching methods on students performance assessment from biologists specialties: biology- chemistry, biology and ecology.

**Keywords:** performance, biology, education.

## **ASPECTE DIDACTICE PRIVIND EXAMINAREA PERFORMANȚELOR STUDENȚILOR LA DISCIPLINE BIOLOGICE**

**Rezumat.** În acest articol se examinează câteva metode didactice de evaluare a performanței studenților la specialitățile biologice: biologie-chimie, biologie și ecologie.

**Cuvinte cheie:** performanță, biologie, educație.

### **1. The student and information dominance**

Currently, it is trying to place education in a new socio-cultural context, and the student from the higher education school is oriented towards choosing, from several alternatives, those that lead to the autonomy gain in personal action. A first element that facilitates this in terms of applicability is the concept of performance and its pedagogical values. Thus begin to outline even to achieve some of the essentials goals, such as: transmission of knowledge and forms of knowledge that allow the student formation of realistic and rational vision of the world; facilitating the achievement of each student's unique potential through skills training; preparation of new specialists for the needs manifested in economic, social and cultural. Results of education aimed at personality that has formed conscience affirm social interest through variety behaviors and attitudes. Therefore, education stands out as a value, which responds to a complex of existential problems, the performance has an important role.

Performance study placed in the context of the new realities of modern pedagogical information generated dominance, and students within an educational space defined by the organization and connecting information in a performative perspective, in an educational environment near the complex reality than they are formed. Although we are currently talking about the centrality of the subject in the formative action, capital conceptual education is not sufficient evidence for the independence and freedom of students to translate into behaviors, skills and performance [1-6].

### **2. Performance and learning**

Achieving academic performance by students is possible but it involves a significant pedagogical effort for the elaboration of the appropriate methodological landmarks and the efficient use of the possibilities available to them.

Based on the above, the following served as purpose observing the students' performance in the following biological disciplines: Plant anatomy and morphology; *Plant systematics*.

In this connection we have developed the following objectives:

- examining the performance categories as a reference point at which the student's purchases are articulated in the educational activity;
- establishing the functional differences between competence (as a possible behavior) and performance (as a real, observable operative behavior);
- researching the performance from the perspective of the result that the vast majority of students have to reach in the biological disciplines in the study.

### 3. Results and discussions

The research was carried out within the Faculty of Biology and Chemistry. The experiment was conducted in several groups of students with different specialties: Biology and Chemistry -10 students; Biology -10 students; Ecology -10 students. In the experimental part it was taken into account: analysis of situations, comparison and generalization of association, collaborative learning activities, the Zig-Zag method, Brainstorming method [1-3].

The control experiment was carried out in the groups of year I. Of the existing forms, the lesson was considered the basic form of the education process, and the teacher - coordinator of the didactic action. They made observations on student activity and meetings Botanical circle.

The two student samples the experimental sample and the control sample - were created so that the differences of success are not explained by differences of pedagogical conditions, personality traits, instrumental difficulties. The participating students were part of three specialties of university education, and the experiment was carried out at the level of some biological disciplines, starting from the Plan and Curriculum of studies, describing the levels of development of students' communicative competences, necessary and possible to be achieved in the training process. The first experimental stage aimed to determine the level of achievement of the performing students and was carried out in two samples.

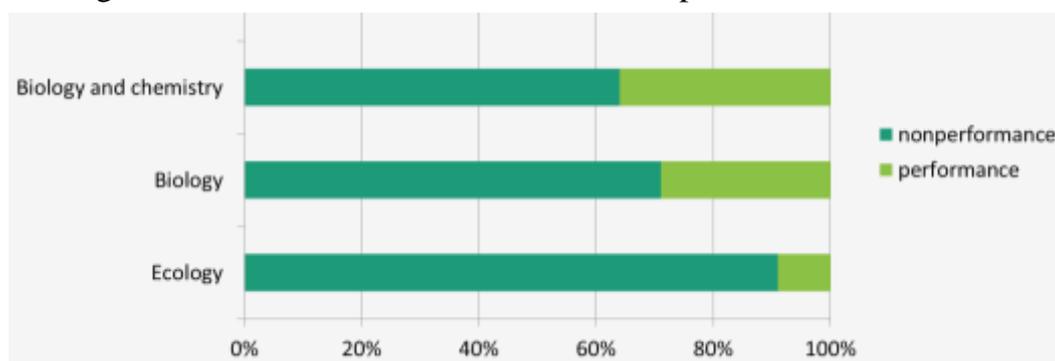


Figure 1. Student performance on analysis and description skills

Sample I provided for the examination of the students' performances regarding the competences of analysis and description of the morpho-structural features of the lower plants, respectively, of the vegetative and generative organs within the higher plants (fig. 1).

This has been carried out tests and questionnaires among students above specialties. Students performing in the category were included those who recorded scores between 9:10 in the evaluation process. The rest of the students were included in the non-performance category. The results show a worrying trend: the number of students who record performances in the monospecialty, decreases by about 7% -17% compared to students from the specialty biology-chemistry where the performance is about 36%. The highest percentage of non-performance was registered by the student-ecologists. This is explained by the following: students from traditional double specialties are better prepared from the perspective of interdisciplinarity in the field of real sciences [4]; students from the monospecialty have more limited visions regarding the understanding of some biological phenomena. For these reasons, the faculty members in the faculty are looking for high school graduates with a good background in the biological sciences determined to teach in education. Unfortunately, at present, there is a decrease in the number of high school graduates who want to become teachers in the pre-university system and for these reasons the quality of training in higher education is dropping.

Sample II was based on the evaluation of the students' performances regarding the competences: informative exploration, updating information, comparison and generalization, association, of synthesis in the following sequence: identifying the differences between different plant structures in the upper and lower plants [5,6]; their identification at the level of the photonic microscope, elaboration of models inspired by nature (fig. 2).

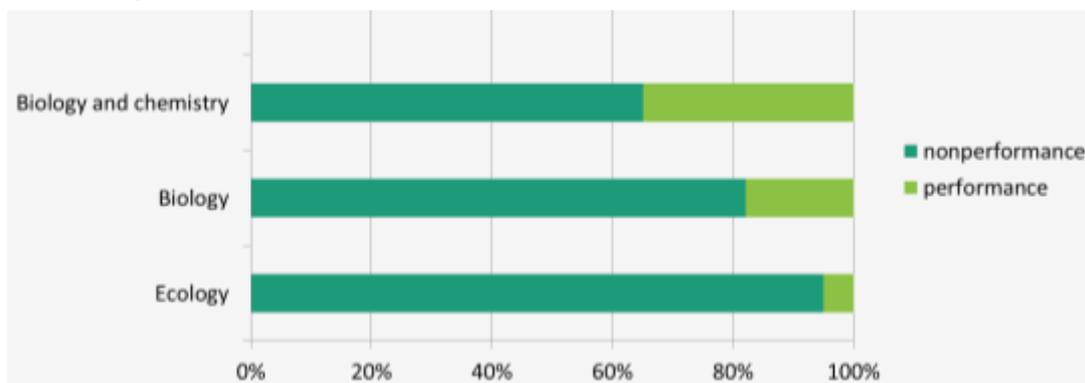


Figure 2. Student performance on informational exploitation skills, updating information, rationalization, comparison and generalization, of association and synthesis

In the examined situation, likewise, the students from the specialty biology-chemistry registered the best results. About 35% of the students tested were included

in the performing students category, compared to 18% in the biology specialty and 5% in the ecology specialty. It is interesting to note that the study programs in the analyzed specialties are basically the same. The same teachers are involved in the teaching-learning process but, unfortunately, the students from the mono-specialties registered weaker results. The explanations mentioned above remain valid in this case.

The second experimental stage included a single sample and was based on two performance pedagogical formulas:

- The first formula (20 minutes) included the following: writing a scientific essay based on the references given by the teacher, using previous skills (it has been observed if the student respects the reference elements and if he / she correctly senses the essence).
- The second formula involves working with information. The student analyzes the content of the essay from another point of view, elaborating in 25 minutes, the following: interpreting the content of the essay from the perspective of the inter / transdisciplinarity of the real sciences, arguing with concepts and notions from other fields such as: mathematics, chemistry, physics. It was examined how many arguments the student makes and their persuasive character (fig. 3).

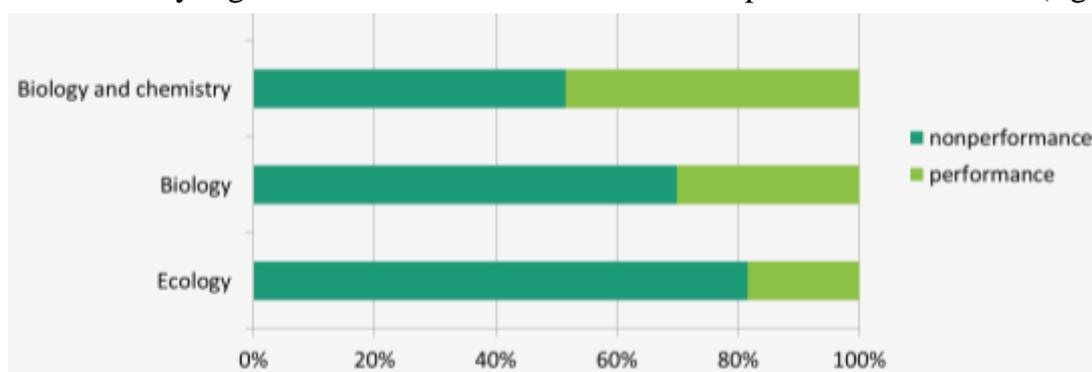


Figure 3. Student performance on the achievement of the experimental stage II

The results obtained in the second phase based on pedagogical formulas show a clear improvement of the students' performances in all the studied specialties. Thus, in the specialties of biology and chemistry, biology and ecology The performances are respectively registered 48.5%, 30, 1% and 18,5%. These results are due, first of all, to the pedagogical benchmarks established by the teacher, which guide students to the topics examined in depth at the course and laboratory hours. Undoubtedly, intelligent and imaginative students are the determining factor, what follows in the near future to make a significant contribution both in education as well as the socio-economic development of the country.

#### 4. Conclusions and recommendations

- Biology students from the biology-chemistry specialty have a higher level of preparation compared to students from monospecialties. his, in our opinion, is

due to fundamental theoretical and practical training, students in terms of inter / transdisciplinary and wider vision on understanding biological phenomena

- The teaching-learning process should focus not only, exclusively, on the curriculum but also on the development of students' skills and abilities.. In this context, clearly, the assessment must also take into account not only the academic progress and performance, but also the growth and development of the students' innate skills.
- The teaching career is not attractive for young talented, dynamic and entrepreneurs who see perspectives in education in Moldova. Not reinforce existing educational system in terms of quality because young talented, and well known for objective reasons, refuse to work in education.

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