
DIAGNOSIS THROUGH TESTING OF THE NERVOUS SYSTEM LEARNING BY SECONDARY SCHOOL STUDENTS

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ABSTRACT

The present article deals with the issue for diagnosing knowledge and skills acquired during the process of learning the nervous system by eighth-grade students at the National Classical Lyceum in Sofia. The results from a designed non-standardized test on the topic are subject to analysis.

The definition for pedagogical diagnosis was suggested in 1968 by K. Ingenkamp based on analogy with medical and psychological diagnosis. A broader sense is put in the notion of diagnostics than in the traditional check of the knowledge and skills acquired by the students. The process observes the results related to the ways and means of their acquisition. The former discloses the thread and dynamics of forming the educational product as well. Thus, the pedagogical diagnostics has the mission, first of all, to optimize the process of individual education; secondly, to ensure the correct definition of the educational results according to the public interest; and, thirdly, to minimize the students' errors guided by the chosen criteria. The diagnostics that serves for the improvement of the educational process should be oriented towards achieving the following goals:

- 1. internal and external correction in case of false evaluation of the educational results;*
- 2. definition of the educational failures;*
- 3. planning the next stages of the educational process;*
- 4. motivation by means of stimulation towards success in the educational process as well as regulation the difficulty of the forthcoming steps;*
- 5. improving the conditions of the educational process.*

The diagnostic activity aiming at defining qualification depends to a great extent on the social structures and requirements.

Keywords: diagnosis, nervous system, testing

Introduction

The nervous system represents by itself an aggregation of organs comprised of nervous tissue. The common status of the organism and the processes running in it depend on this very system.

I chose the issue regarding the knowledge and skills of the students in the Biology classes as the object of my research. The aim was to show the impact of the Latin classes on the speed and safety of the adoption of terminology.

The subject of the research was a diagnosis (based upon a non-standardized testing) of the knowledge and skills acquired by students on the section 'Nervous system'

included in the Biology curriculum for the eighth graders.

The goal of the research was to be developed and approved a non-standardized test to the section 'Nervous system' as well as to be analyzed its results..

The main tasks were as follows:

Materials and methods

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- 1.** Analysis of the literature and choosing a method for diagnosis.
- 2.** Analysis of the educational goals to be achieved on this topic and defining criteria and key performance indicators for the evaluation.
- 3.** Defining the area of knowledge and skills that are to be

subject to diagnosis.

4. Designing and approving a non-standardized test that covers the topics from the section 'Nervous system'.
5. Quantitative and qualitative analysis of the results from the test.

The main functions of the testing are considered to be as follows: diagnostic, didactical, developmental, organizational, differentiating, pedagogical, managerial, informational.

The section 'Nervous system' aims at forming in the students knowledge regarding both to the entirety in the structure and functioning of the nervous system and to its differentiated organs. Part of the main accents is placed upon the role played by this very system in the assurance of unity in the functioning of all cells, tissues, organs and systems of the human body; upon its importance for the realization of the connection between the organism and the environment. Other important issues referred in the section are the reasons that could cause damaging to the nervous system together with the ways and methods for its preserving in best status possible.

My criteria for evaluation were the following:

- for excellent (**A**) mark – minimum 95 % of the total points given (25), i. e. 24 points at least;
- for very good (**B**) mark – minimum 80 % of the total points, i. e. 20 points at least;
- for good (**C**) mark – minimum 65 % of the total points, i. e. 17 points at least;
- for fair (**D**) mark – minimum 50 % of the total points, i.e. 13 points at least.

Having completed the section 'Nervous system', I gave the test with the four classes comprised of eighth-graders at the National Classical Lyceum 'Saint Constantine Cyrill the Philosopher' in Sofia. I decided to use for the aims of my analysis the results achieved by all four classes. By the way, I should point out that the students were quite eager to take part and almost all of them did participate in the test. Part of the questions required from the students to apply what they have learned describing the origin and/or meaning of some specific term.

Results and Discussion

The results acquired from the tests of 83 students and approximated on a five-grade-scale basis, could be summarized as follows:

- Excellent	– 31 students or 37.35 %
- Very good	– 33 students or 39.76 %
- Good	– 11 students or 13.25 %
- Fair	– 5 students or 6.02 %
- Poor	– 3 students or 3.62 %

Conclusions

Based on the results, the following conclusions could be drawn. The students are facilitated in the adoption of notions concerning the nervous system and they cope easier with the questions in the test due to the fact that they study Latin. I should add here that the Ancient Greek language is used for construction of part of the terms. However, since the tuition in this language starts with the ninth-graders, I shall abstain here from review on its beneficial influence on the educational process in my Biology classes. According to the opinion I have based on my practice, the checking by means of testing results in more objectivity concerning the diagnosis of the knowledge and skills acquired by the student. As a potential optimization of the educational process I could suggest the usage of more and more increasing variety of audiovisual devices, as well as tables, charts, schemes, diagrams, etc.

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