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INTERDISCIPLINARY APPROACH IN SCIENTIFIC RESEARCH OF STUDENTS FROM THE FACULTIES OF SPORT

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Abstract. *Currently, the students and the teaching staff must assume roles and responsibilities, make decisions for the people around, respond quickly and well to the various challenges of life so that their success and performance will only be achieved if they will have integrated knowledge, perceiving reality as a unitary image based on flexible, critical and creative thinking. Thus, we can mention that through the interdisciplinary approach in the instructive-educative process, including in the research one can be ensured save time in the accumulation of information and didactic / specialist terminology, according to the ratio between the amount of knowledge and the volume of learning. The interdisciplinary approach is gaining ever more ground in modern lessons and international research. Interdisciplinary represents, according to the literature, a way of organizing learning content with implications on the entire curriculum design strategy, which provides a unitary picture of the phenomena and processes studied in the various educational disciplines and allows the contextualization and application of the acquired knowledge*.

Keywords: *scientific research, interdisciplinary, conceptualization, process.*

Introduction. Knowledge is a fundamental and intrinsic process of human society, and through scientific research it is possible to improve intangible intellectual resources of the capital of knowledge available to the individual. Knowledge impact is now becoming increasingly visible in scientific research in the field, and the roles it can have in the new economy are significant, as the knowledge-based entity is sustainable. Contemporary reality puts in front of higher education of physical education and sport a multitude of problems and very few solutions, fact which requires us to bet on scientific research, on innovation and, last but not least, on an optimistic attitude. We are currently witnessing the first challenges in the form of massification and globalisation phenomena. According to Professor Ovidiu Nicolescu (2007), "the massification has occurred as a result of the reconsideration of the social function of higher education and the transition from an elite education to a table education." Thus, we are witnessing an increase in the number of students in universities, a diversification of study programs, and educational structures tend to find convergence as a result of the phenomenon of globalisation.

The correlation of the scientific research with the didactic activity represents a current requirement in the fulfillment of the accreditation standards of the higher education institution involved in the evaluation procedure of the study programs, which implies a proper application of the division of labor [2, 4]. Ensuring the continuity of the teaching activity is another condition for the correlation of the two activities. In this context, teachers need to run through the special field cyclically, know the evolution of knowledge and process the data in such a way as to reflect the novelty elements, to make known the methods of solving the problems and the practical implications of taught discipline [3]. Considering all these arguments, complemented by the need to rationalize scientific research to an increasing extent in the future, the literature refers to four main

approach tendencies and orientation of this activity, as follows:

- reorientation research methodology towards effective cooperation between disciplines;
- enhancing mutual comprehension between different disciplines;
- development of automated systems of ordering and transmitting scientific information;
- expanding interdisciplinary in academic scientific research.

The purpose of the research is in the conceptualization of the interdisciplinary in the scientific research activities of teaching staff / students from the profile faculties, taking into account the significant role it plays in developing their thinking and creativity.

Objectives of the research:

- establishing the role of interdisciplinary approach in profile scientific research;
- interdisciplinary studying from the perspective of its influence on the development of students thinking and creativity;
- the conceptualisation of interdisciplinary in the scientific research activities of the teaching staff / students.

Methodology of the research: literature analysis, straw poll based on questionnaire, pedagogical monitoring, modeling and project.

Scientific novelty lies in the conceptualisation of interdisciplinary in the scientific research activities of teaching staff / students.

The scientific approach of realisation the proposed goal focuses mainly on the formation of a logical and innovative thinking of teaching staff / students, to tackle interdisciplinary in the scientific research activity.

Interdisciplinary sciences reflected in the study plans from the specific programs to profile faculties arise, usually, by the existence of common by structure, theoretical and functional components between two or more basic sciences. According to the literature, "the secant of these disciplines has a processual character which leads to the emergence of a new heuristic category as far as it provides a theoretical basis and proper methodology, and the results gain specific interpretation, significance and validation" [6].

The study was conducted within the State University of Physical Education and Sport with the students and teaching staff from the faculties of Sport and Pedagogy. In order to achieve the proposed goal, we applied the straw poll based on questionnaires for two focus groups (teaching staff and students from those two faculties), whose cumulative quantum was 157 respondents. In order to understand this we have in fact monitored the opinion of the students and of the teaching staff that ensures the didactic process, about the tackling of the interdisciplinary in the scientific research, respectively the descriptors realization of the individual performance evaluated and recorded until completing studying of certain disciplines from the planned and completed educational trail. In the training process, we can identify a number of concrete situations in which learning can be accomplished with the help of or by applying the specific elements of scientific research. In this context, through communication with the teaching staff we tried to determine the degree of interdisciplinary approach in the scientific research activities, and the data obtained are reflected in Figure 1.

From Figure 1 we can observe that only 11% of students tackle interdisciplinary in the research projects (generally in license / master theses), 10% in case studies carry out in the individual work activities, and 5% of students carry out these kind of studies and present them at conferences organized annually by the reference university. Thus, we can mention that the 26% cumulative percentage is very low, and the 74% difference could lead to the stimulation of attention of teachers in asking students to tackle interdisciplinary in a more significant percentage in scientific research activities. This is important because the

students' cultivation of the observation spirit, of the scientific curiosity, embodying in the ability to apply interdisciplinary in obtaining concrete results by wanting to experimentally check the truths discovered during the process of learning disciplines of studies, their creative combination and the involvement of critical thinking in explaining the phenomena identified, discovered and researched, of the formation of scientific language, is established the defining elements of the reform of the higher education of physical education and sport [4, 5].

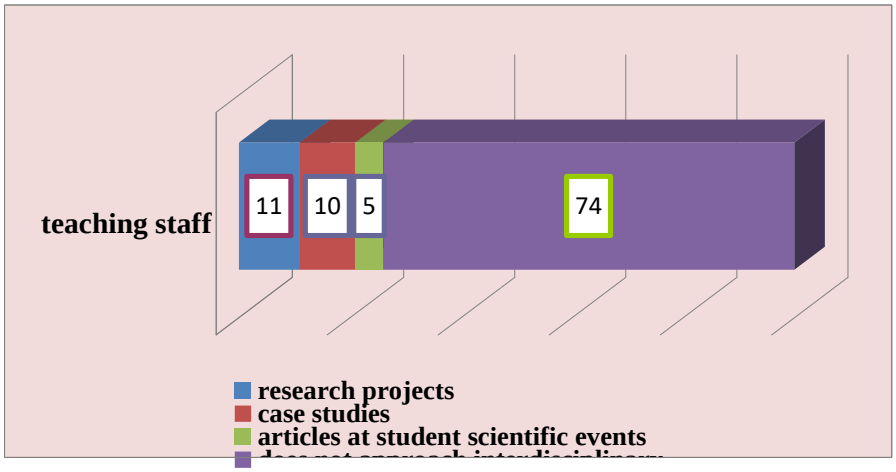

Fig. 1. Graphical reflection of the degree of interdisciplinary approach in the students' scientific research activities

Another important aspect we wanted to find out from the respondents regarding to the need for constitution of some interdisciplinary interest groups within the specialized departments at the university level and which jointly carry out modules for acquiring knowledge and methods of their implementation towards upgrading thinking and the activity of university scientific research, including the efficiency of the carried out investigations. In Figure 2, we graphically reflect the opinion of the respondent categories on this aspect.

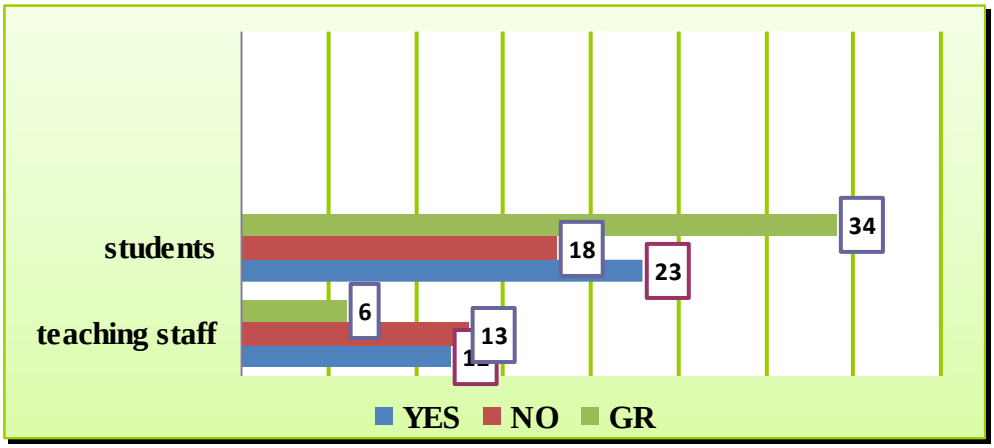

Fig. 2. Graphical representation of the answers regarding to the need for constitution interdisciplinary interest groups at university level

From the Figure 2 we can observe that there is a reticence regarding to the formation of such groups to carry out interdisciplinary scientific research, especially reflected in teaching staff that do not support the tackling of these studies (only 6% confirm the necessity and effectiveness of these researches).

The following is a possible model of conceptualization of interdisciplinary in the scientific research activities of the teaching staff / students from the profile faculties (Figure 3).

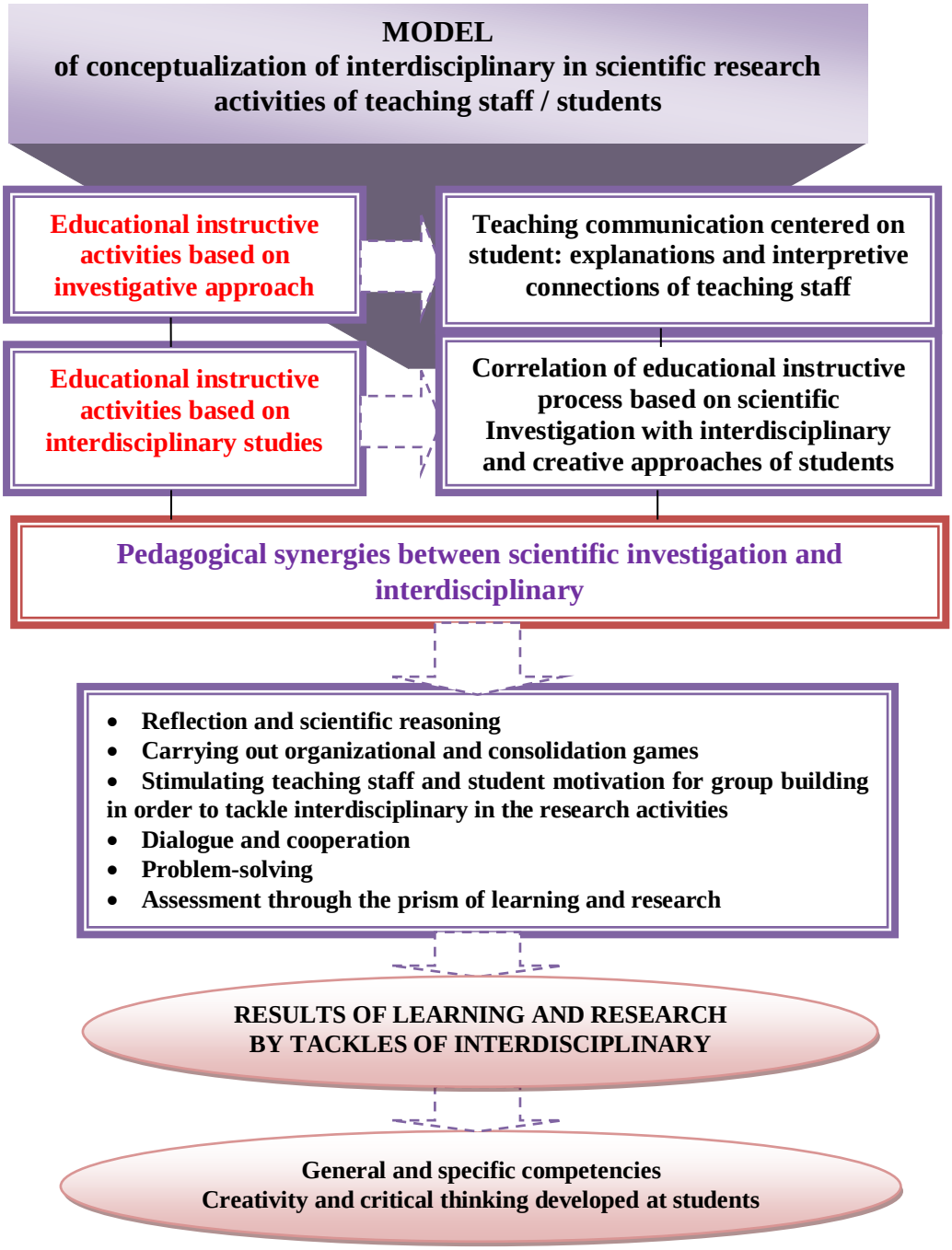

Fig. 3. A possible model of conceptualization of interdisciplinary in the scientific research activities of teaching staff / students

At the same time, in order to ensure success in investigations carried out by teaching staff or students, it is necessary to overcome some tendencies of incomplete understanding of the meaning of interdisciplinary [2, 4]. To this end, according to the opinion of the authors, it would be necessary to acquire some basic guidlines in this field, namely from a theoretical standpoint accumulation and the practical adoption of the need for totalizing and integrating of knowledge, based on an epistemological program [3, 4] to insist on:

- systematic approach
- interdisciplinary research
- modeling and computer simulation of investigative steps;
- developing a methodology of totalizing thinking;
- conjugating interdisciplinary research with its virtues by the classical method in order to acquire information;
- combining the two great requirements of scientific knowledge: differentiating, understanding and ensuring the interaction of scientific research with social and economic practice;
- tackling multiple pathways of communication between sciences and disciplines, as well as cooperation based on some language and common methodologies;
- training the mentality of researchers able to collaborate with other specialists, thus achieving an intramental interdisciplinary.

In conclusion, we can mention that promoting interdisciplinary in the higher education of physical culture, including in scientific research activities, has become a necessity if we were to refer to cognitive changes and accumulations in multiple areas of knowledge, as well as to the complexity and diversity of the problems that society currently faces. Teaching content from an interdisciplinary perspective has multiple benefits: it allows students to get information that can be deepened in the years to come; discovers various issues that can be raised and debates in discussion, stimulating creativity and critical thinking; creates the opportunity to correlate and acquire terminological languages for different study disciplines; allows the application of knowledge into practice. In this context, we recommend the implementation of interdisciplinary as a concrete method of realizing the scientific researches, as well as its approach in the teaching of theoretical subjects by the teaching staff. Thus, teachers would be desirable to acknowledge the significant role of scientific investigation and interdisciplinary in didactic work, identify the motivation to tackle these methods in research studies, and understand examples of good practice in the field.

References:

1. Bybee, R.W. (2010). *The teching of science*. 21 st Century Perespectives, NSTA Press.
2. Budevici-Puiu, L. (2018). *Drept, etică și deontologie în sport*. Monografie. Chișinău: Valinex. 272 p.
3. Ciascai, L. (2016). *Model ciclic de predare – învățare bazat pe investigație*. Presa universitară Clujeană, p. 58.
4. Duca, G., Petrescu, I. (2015). *The academic management*. Central Scientific Publisher.
5. Nicolaescu, O., Verboncu, I. (2007). *Managementul organizației*. București: Editura Economică, p. 646.
6. Repko, A. (2008). *Interdisciplinary Research: Process and Theory*. Los Angeles, Sage Publ.