



# Interdisciplinary integration as a condition for the implementation of the competence-based approach in vocational education

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## Abstract

**Objective of the study** was to experimentally substantiate the pedagogical conditions of interdisciplinary integration in the implementation of the competency-based approach in the educational process of the University of Physical Culture.

**Methods and structure of the study.** Theoretical (analysis and generalization of literature, normative documents, pedagogical experience) and empirical research methods (pedagogical observations, pedagogical and psychological testing, peer review, pedagogical experiment) were used in the scientific work; two Wilcoxon sampling criteria were used to process the experimental data. The pedagogical experiment, in which 30 students participated, was carried out on the basis of the Department of Pedagogy of the Lesgaft National State University of Physical Education, Sports and Health, St. Petersburg in order to test the effectiveness of theoretically based pedagogical conditions for interdisciplinary integration.

**Results and conclusions.** It has been established that the implementation of interdisciplinary links is carried out through all components of the educational process. The logic of designing the interdisciplinary content of an academic discipline is determined. Evaluation funds were developed for the disciplines "Pedagogy", "Pedagogy of physical culture and sports", "Scientific and methodological activity" taking into account the requirements of the professional standards "Coach-teacher", "Coach". Pedagogical conditions of interdisciplinary integration were identified and experimentally substantiated in the course of implementation of the competence-based approach in the educational process of the University of Physical Culture.

**Keywords:** *pedagogical conditions of interdisciplinary integration, interdisciplinary connections, competence-based approach, educational process at the University of Physical Culture.*

**Introduction.** Integration processes in higher education in the field of physical culture and sports at the present stage determine the relevance of training a competitive specialist who is in demand on the labor market and who is able to adapt in the modern information space. This necessitates building the logic of passing academic disciplines, applying a competence-oriented approach in building the main professional educational program. An important aspect in this process is the definition of a block of academic disciplines that form competencies, the establishment of interdisciplinary links in their content, which makes it possible to eliminate duplication of subject content and design a model for mastering the competencies

being formed. It should be taken into account that the very definition of the concept of "competence" contains the principle of interdisciplinary integration [6].

**Objective of the study** was to experimentally substantiate the pedagogical conditions of interdisciplinary integration in the implementation of the competency-based approach in the educational process of the University of Physical Culture.

**Methods and structure of the study.** To achieve the goal of the study, theoretical (literature analysis, regulatory documents, pedagogical experience) and empirical methods (pedagogical observations, pedagogical and psychological testing, peer review, pedagogical experiment) were used, and the two-sample



Wilcoxon test was used to process the experimental data. A pedagogical experiment, which involved 30 students, was conducted to test the effectiveness of theoretically based pedagogical conditions for interdisciplinary integration.

#### **Results of the study and their discussion.**

An analysis of many years of experience in teaching pedagogical disciplines at the University of Physical Culture shows that the implementation of an interdisciplinary approach, which requires the integration of interdisciplinary knowledge, the establishment of continuity and interdisciplinary connections, is carried out through all components of the educational process [2]. The greatest difficulties for teachers in the context of the implementation of the competency-based approach are caused by the activity component, which requires the use of active teaching methods and non-traditional forms of organization, the development of funds for assessment tools in the discipline from the standpoint of interdisciplinarity.

In order to form competencies, the design of the content and procedural components of the process of studying an academic discipline is carried out [1]. In this regard, the interrelation of the subject content of academic disciplines is established, which jointly form these competencies, as well as interdisciplinary connections are built with the content of disciplines-prerequisites and postrequisites.

The logic of designing the interdisciplinary content of an academic discipline includes: defining the goals and objectives of studying the academic discipline; determination of indicators of achievement of competence and formed learning outcomes in the discipline; construction of subject content, taking into account the definition of educational elements, establishing a relationship with the content of other disciplines; identification of the procedural component of the study of the academic discipline, taking into account the possibilities of interdisciplinary integration. At the same time, it is necessary to take into account the requirements of professional standards, within the framework of which a specialist is trained in a specific direction and profile.

In order to form students' ability to "establish and maintain interaction that ensures successful work in a team" as a component of the universal competence "Able to carry out social interaction and realize their role in a team" [7], in the process of studying the discipline "Pedagogy", a system of methods was developed and experimentally substantiated active learning

in the process of organizing teamwork of students to complete competence-oriented tasks.

So, for example, on the theme of the seminar "Methods of pedagogical research", a team work of students was organized to complete the educational task: "Develop questions and conduct a conversation in order to identify factors that positively or negatively affect productive pedagogical interaction. Make a conclusion based on the results of the survey.

The results of the formative experiment indicate that the organization of teamwork to solve problematic problems in the course of applying active learning methods contributed to an increase in the level of social interaction in the experimental group, namely, the activity of students from the level of "below average" to the level of "above average" ( $p < 0.001$ ), compliance with ethical standards during communication from the level of "below average" to the level of "above average" ( $p < 0.001$ ), listening skills from "average" to "above average" ( $p < 0.001$ ), and the level of group cohesion increased (method Sishora) from "average" to "high" level ( $p < 0.001$ ), which positively affected students' mastery of knowledge ( $p < 0.01$ ) and skills ( $p < 0.001$ ) in the discipline [3].

For the formation and assessment of the ability to "educate socially significant personal qualities, form the moral values of fair sports competition" (Professional standard "Coach-teacher" Labor function A / 06.6) [5] as a component of general professional competence related to the category "Education" [7], in the course of studying the discipline "Pedagogy", students acquire knowledge of the essence of the educational process and the ability to be guided by them in solving pedagogical problems; in the discipline "Pedagogy of Physical Culture and Sports" (PFCS), they perform competence-oriented tasks, for example, "Describe the pedagogical situation in which students (indicate the age of students, the stage of education / sports training) at a physical education lesson or a training session for sport violated the requirements imposed on them by the teacher. Determine the reasons for this behavior of those involved. Based on the analysis of the pedagogical situation, formulate general and particular educational tasks, ways to solve them.

Successful completion of tasks required the students to apply interdisciplinary knowledge, and the teacher to create a number of pedagogical conditions: the development of guidelines for completing the task; updating previously acquired knowledge, establishing relationships with related disciplines and



private didactics; giving examples, an algorithm for setting educational tasks; reliance on the experience of educational and training activities of students; creating an atmosphere of cooperation, goodwill, etc.

Within the framework of the academic discipline "Scientific and methodological activity", the formation of universal competence in the category "Systemic and critical thinking" and general professional competence in the category "Scientific research" is carried out [7]. So, for the formation and evaluation of the ability to "systematize and aggregate information from various sources, including interviews, special literature, statistical collections, reporting data on sports training by sport (group of sports disciplines), group of sports" (Professional standard "Coach ", qualification: Coach-consultant, labor function: E / 01.6 - Generalization and dissemination of best practices in coaching) [4] the following task is proposed: "Compose abstracts on the proposed scientific texts" (this is one of the types of current control within the academic discipline) .

Thesis training is a significant fact in the formation of the skills of research activities. This is due to the adequacy of the selection and application of the necessary methods of pedagogical research, the demonstration of the ability to analyze, synthesize, generalize theoretical information, the formation of the logic of scientific research. It should be noted that in the process of forming students' knowledge and skills in mastering the logic of pedagogical research, we use the "Saw" method, which allows us to implement a group form of work in the classroom, which contributes to a more detailed and high-quality study of all aspects of this educational task.

In the process of forming this skill, students get acquainted with the main ways of obtaining and processing information, model the structure of the logic of pedagogical research, select the necessary information, adequately use the methods of pedagogical research, which allows designing the writing of educational research papers, term papers, final qualifying work, as well as carry out writing a scientific article, report, speech at scientific, scientific-practical and methodological conferences. All this makes it possible to implement interdisciplinary connections with such academic disciplines as "Theory and Methods of the Chosen Kind of Sports", "Theory and Methods of Physical Culture", "Pedagogy", "PFCS".

Conclusions. Pedagogical conditions for interdisciplinary integration in the educational process have

been identified: the establishment of interrelationship and continuity in the study of disciplines, as well as interdisciplinary connections with the content of disciplines-prerequisites and postrequisites, which together form the competencies specified by the work programs; development of funds of evaluation tools for the discipline from the standpoint of interdisciplinary integration; the establishment of interdisciplinary links through the performance of competence-oriented tasks by students, close to the conditions of professional activity, requiring search independence and manifestations of creativity; in accordance with the competencies being formed, the widespread use in the educational process of active teaching methods, modern educational technologies and various forms of learning organization; integration of educational and research activities of students.

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