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# Improvement of the Master's Training in the University in the Context of Educational Standards of the New Generation

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#### Abstract

The topic of the investigation is considered relevant due to the fact that at the moment in the higher education establishments of the Russian Federation the federal educational standard of a new generation (three plus plus) has commenced in many majors. This standard implies the formation of general professional and universal competencies among university graduates. Professional competencies can be established as compulsory or recommended by the main educational program. In this regard, the theoretical necessity and practical development of the content of educational programs, which will include not only general professional competencies, but also professional ones, which will solve the tasks of developing the skills required by a professional standard by type of activity, is an urgent need. The goal is to develop new approaches, forms and criteria for assessing professional competency (PC-1) formulated in the main educational master degree program in the major 44.04.01 Pedagogical education, "Educational technologies in the field of physical education". The leading method of research on this topic is the analysis of existing approaches to the implementation of the FSES (Federal State Educational Standard, 2018) three plus plus, the development of the content of the discipline "Modern educational technologies in the physical education of children and adults", as well as the criteria for assessing professional competencies in the process of studying the discipline in the master's program. The article discusses examples of a project assignment and contextual task for master degree students, the implementation of which determines the degree of formation of skills to implement modern educational technologies of PE for teaching and development of children and adults engaged in educational activities, to analyze the process of their effectiveness using modern science methods, as well as information and innovative technologies. Materials can be applied to improve the quality of PE teachers training on the level of Master's program and organize the control and evaluation activities of future teachers in order to objectively evaluate the achieved learning outcomes.

**Keywords:** Teacher, Master's program, Educational standard, Basic educational program, Professional competencies, Forms for assessing learning outcomes

# 1 Introduction

Master's training in the Russian Federation is one of the stages in the implementation of basic professional educational programs in the multi-level structure of higher education. The integration of Russian higher education in the European space also affects the requirements for graduate students [1, 2, 3]. "The master must be able to consciously apply the acquired knowledge in solving new non-standard problems, have the ability to solve problems with incomplete or limited information, communicative and organizational managerial skills, be prepared for a systematic independent development and increase the level of education. For the successful implementation of the tasks set, it is necessary to build a flexible and dynamic system of master training, capable of transformation, which is based on principles that promote the development of competitive highly qualified personnel" [4, 5, 6, 7].

Currently, pedagogical universities are implementing the third generation standard, the so-called standard "three two plus". This standard focuses educational institutions on the formation of three types of competencies: universal, general professional and professional. Moreover, the first two types of competencies are proposed by the standard as compulsory. Professional competencies established by the educational program are formed on the basis of professional standards that correspond to the professional activities of students and can be formulated by the educational institution on their own. These professional competencies can be established as compulsory or recommended by the main educational program [8, 9]. Thus, the urgent need is the theoretical justification and practical development of the content of educational programs, which will include not only general professional competencies, but also professional ones, which will help to solve the problems of

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developing skills required by a professional standard by type of activity [10, 11, 12].

## 2 Methodological Framework

The methodological basis for conducting research aimed at developing new approaches to improving the training of master students in teachers training was the activity approach, which laid the foundation for the design of the FSES, which focuses on the inclusion of students in the activity, thereby making it possible to describe the results of educational and cognitive activities of students using educational results [13-15].

From the standpoint of the Professional Standard of the teacher and in the logic of the activity approach, the structure of educational results can be described on the basis of the following components: knowledge needed to perform actions; actions; skills as a personal characteristic of mastery of actions. This means that in order to assess the degree of formation of competencies among graduates of a certain major, taking into account the Professional Standard, it is necessary to decompose the competencies at the level of PPEP (Principle Professional Educational Program), putting each set of educational results in accordance with each competency [16–18].

By educational results, we mean the student's activity indicators presented in the form of a description of their identifiable actions. The formulating of these indicators, as O.I. Rebrin points out, should reflect what "the student needs to know, understand and / or be able to demonstrate at the end of the learning process or part of it." This procedure allows the selection of academic disciplines, to fill them with content and to determine the objects of assessment by discipline (module) in the form of sets of educational results.

#### 3 Results and Discussion

At Minin University Principle Professional Educational Program 04.04.01 Pedagogical education, major "Educational technologies in the field of physical education" is currently implementing. The goal of the Principle Professional Educational Program (PPEP) is the development of students' personal qualities and the formation of universal, general professional and professional competencies in accordance with the Federal State Educational Standard [12] of Higher Education in 04.04.01 - Pedagogical education (master degree).

The main types of professional activity in this program are pedagogical, organizational, managerial and research activities. In developing the curriculum for the implementation of the PPEP (Principle Professional Educational Program), in accordance with FSES (Federal State Educational Standard of Higher Education) 3 ++, the following professional standards were analyzed and selected for the formation of compulsory professional competencies: professional standard "Teacher", professional standard "Teacher of professional training and further professional education". As a result of this analysis and the correlation of types of professional activity, the professional competency PC-1 was formulated - "To be able to justify and implement modern physical education teaching technologies for teaching and developing children and adults, to analyze the process of their effective use in educational establishments".

To build competency PC-1, the module "Management Technologies in Physical Culture and Sports Organizations" in the amount of 27 credits is provided by the curriculum. The

main goal of the module is to prepare masters in the field of physical education to implement the design of educational space and manage it, as well as to manage the process of self-development as an individual and professional. These factors are considered to provide a social, personal and professional readiness to increase professional, pedagogical and managerial skills [19-22]. During the implementation of this module, students receive basic competencies in the field of organizational, managerial, design and reflective and evaluative activities that provide the optimal level of readiness for building a career in the field of physical education and sports [23-26].

The main target group is made up of bachelors and specialists in the field of PE who are professionally focused on realizing their potential in the field of physical education and sports (future physical education teachers, trainers and teachers in additional educational institutions, instructors in fitness centers, etc.).

The curriculum of the discipline "Modern educational technologies in the physical education of children and adults" is oriented to full-time master degree students of the program: 44.04.01- Pedagogical education, major "Educational technologies in the field of physical education." In the structure of the module, the discipline "Modern educational technologies in the physical education of children and adults" is compulsory. In the course of studying the discipline, students master theoretical and practical material on the design of modern technologies for the physical education of children and adults.

The discipline aims at creating the conditions for the formation of competencies among master degree students necessary for further education in the field of physical education and sports.

To create the competency of PC-1 in the framework of the study of the discipline, educational competencies were formulated on the basis of the following labor activities presented in the professional standard "Teacher":

- A / 01.6.1 Development and implementation of curriculum programs within the framework of the basic general educational program
- A / 03.6.3 The use of tools and diagnostics and assessment of indicators of the level and dynamics of child development (professional standard "Teacher of Additional Education" A / 01.6. Labor function: Organization of students' activities aimed at developing an additional general educational program).

The Indicators of Competencies Achievement and Labor Actions (ICA) were also pointed out:

PC-1.1. To operate methods of designing, implementing and determining the effectiveness of modern physical education teaching technologies for teaching and developing children and adults.

PC-1.2. To implement modern physical education teaching technologies for training and development of children and adults engaged in educational activities, analyzes the process of their effectiveness using modern methods of science, as well as information and innovative technologies. Table 1 and 2 presents the content of the discipline with the decomposition of the competencies of the PC 1.1. and PC 1.2. on the sections of the program and relevant assessment tools to assess their formation.

Table 1: The content and forms of assessing the formation of the Indicators of Competencies Achievement of the discipline "Modern educational technology in the physical education of children and adults"

ICA	Competencies decomposition	Unit (topic)	Assessme	Grade	Criteria	
code			nt tools	point	(% accomplishment)	
II semeste	ſ					
PC-1.1	Knows: modern concepts of physical education of students in Russia and abroad; Can: use the methods of designing, implementing and	Unit 1. Modern concepts of physical education.	Report	7-10	Completeness	
	determining the effectiveness of modern physical education teaching technologies for educating and developing children and adults.	Topic 1.1. Concepts of physical education abroad. Topic 1.2. Models of physical education in Russia. Unit 2. Modern technologies of physical education in educational establishment. Topic 2.1. Technology of physical training at secondary school. Topic 2.2. Technology for the development of planning documents for educational material on the subject "Physical Education" within the framework of the Federal State Educational Standard	Project	12-18	Accuracy	
			Context task	7-12	Accuracy	
			Project assignmen t	12-18	Completeness and accuracy Accuracy	
			Context task	7-12		
	Total PC-1.1		45-70			

Table 2: The content and forms of assessing the formation of the ICA of the discipline "Modern educational technology in the physical education of children and adults"

	Can				
PC-1.2.	Develop and implement modern	Unit 3. Modern technologies of	Report	7-10	Completene
	physical education teaching	physical education of youth and			SS
	technologies for training and	adults.			
	development of children and	Topic.3.1. Modern			
	adults engaged in educational	technologies of physical	Project	12-18	Completene
	activities, analyze the process of	education of students.	assignment		SS
	their effectiveness using modern	Topic 3.2. Fitness technologies			
	methods of science, as well as	for adults.		14-24	Accuracy
	information and innovative		Creative task		
	technologies.				
	Total PC-1.2	45-70			

Thus, to assess the degree of formation of the indicator PC 1.1 the following forms of assessment were used: report, project assignment, context task. These forms make it possible for students to evaluate the knowledge of modern concepts of physical education of students in Russia and abroad, as well as some skills in using the methods of designing, implementing and determining the effectiveness of modern physical education teaching technologies for training and developing children and adults. Table 2 presents the content of the discipline with the decomposition of the competencies of PC 1.2. According to the sections of the program and the corresponding assessment tools to assess their formation.

Based on the statute on midterm assessment of Minin University, the levels of formation of professional competence PC-1 were developed. Based on the situation, the master student can receive 70 points during the semester, according to the results of completed tasks on the ICA - 1 from 25 to 42 points in the first semester and ICA - 2 in the second semester (table 3) .The greatest difficulty is the development of forms

and criteria for their assessment, which would allow us to assess the degree of formation of knowledge and skills of master students in the study of discipline "Modern educational technology in the physical education of children and adults." For example, imagine 2 forms for assessing the ICA - 1 competency PC-1, such as the project assignment and context task.

The project assignment contains the following content: "Develop a technology (model) of physical education in an educational establishment using one of the models of physical education". To complete the task, an instruction was developed: "The project assignment is carried out by each student. In a project it is necessary to give arguments for the choice of approach (concept) for the development of technology (model) of physical education in an educational establishment. Formulate the goal, objectives, expected results of the project. Develop the content of the model in accordance with the chosen approach. Identify development prospects, educational effects, pedagogical risks. Draw conclusions. Project protection is

carried out in the form of a public presentation at the lesson, as part of a contact independent work or in an electronic educational environment. Also, criteria and a rating scale for the project, where the maximum mark for a project assignment, according to the discipline rating, is 18 points, and the minimum mark is 12 points (table 4) were developed. The content of the context task "Development of physical training in a secondary school" was developed on the topic of the discipline "Technology of physical training in a secondary school" and is formulated as follows: "One of the primary tasks of physical education lessons at school is to achieve the proper level of development of endurance, as the most important physical quality that affects the indicators of the functional capabilities of the body of schoolchildren, and thereby contributes to the preservation and strengthening of health. The problem of planning the endurance physical quality in the process of physical education of schoolchildren is due to the difficulty in achieving a cumulative effect, a small arsenal of adequate methods for developing endurance, as well as difficulties in assessing the level of development of this quality depending on the age and physical characteristics of the students. In this regard, the problem arises of developing a technology for the development of physical qualities for endurance training for students of various age groups. Choose one age group (7-11 years old, 12-15 years old, 16-17 years old) as agreed with the teacher and for the selected age group, complete the following tasks." After reviewing the content, master students need to complete the following tasks: 1. Develop a training program for 1 month (mesocycle) to educate the various types of endurance that you deteided for this age group. Justify the selected tools and methods. Plan your classes at least 3 times a week (the duration of the lesson (or part of the lesson aimed at developing endurance) is from 20-30 minutes). 2. Describe the means, methods and select the load for each training day. Select control exercises (tests) to assess the level

of endurance with the procedure and units, justify their choice. Tests must meet the requirements of information content and reliability. Table 5 presents the assessment scale for the context task, where the maximum score for the case is 15 points, the minimum score is 12 points.

#### 4. Conclusion

To sum up, the need to build the ability of teachers to complete the labor functions presented by the professional standard of a teacher and additional education teacher for master degree students require the formation of professional competencies developed by the educational establishment itself and which are compulsory for the educational programs of higher education establishments in the educational program "Pedagogical Education".

Formation of the competency PC - 1 - "Able to justify and implement modern physical education teaching technologies for training and developing children and adults, to analyze the process of their effective use in organizations engaged in educational activities" within the discipline of the educational program "Pedagogical education" with the major "Educational technologies in the field of physical training" will contribute to the formation of skills in the practical implementation of the basic theoretical and methodological principles in professional activities, use the psychophysiological, sociopsychological and biomedical laws of the development of physical abilities and motor skills of students, the principles and methods of physical education for various contingents involved in the learning process, as well as generate knowledge on the use of modern educational technologies for various contingents of students, projecting skills, implement and determine the effectiveness of modern physical education teaching technologies and development of children and adults.

Table 3: Levels of competency formation PC-1 and labor activities A / 01.6.1, A / 03.6.3

Code	ICA	Grades	Levels of competency formation			
PC-1	decomposition		Ideal	Satisfying	Critical	Not satisfying
	I semester	mester				
	PC-1.1.	45-70	42-46	33-41	25-32	Less 25
	Credit test	10-30				
	II semester					
	PC-1.2	45-70	42-46	33-41	25-32	Less 25
	Exam	10-30				

Table 4: Criteria and scale for the evaluation of the project.

Criterion of the project assessment / Indicators	Grade points			
1. The methodological apparatus of project activities possession, 0 – 6				
1) The relevance of the project idea substantiation				
2) correct formulation of goals, objectives and expected project results				
3) the content of the project idea corresponds to the problematic of the task				
2. The quality of the content of the project task, $0-8$				
1) a technology for the development of physical qualities for the academic year was developed in accordance with				
the physical education program implemented in the educational establishment				
2) means of physical education selected in the technology and the load are adequate to the age characteristics of				
the contingent				
3) work load regulation during the academic year meets the specific principles of physical education				
4) the methods used to assess physical qualities are informative and correspond to the age characteristics of the				
contingent				
3. The quality of the presentation of the project assignment products (presentations, handouts, photo-video reporting				
1) compliance of the presented materials content with the topic, type and content of the project				
2) originality and presentability of positioned products of activity				
3) conciseness and maximum information content of the text in the slide				
4) presentation material: fluency in the content, communication with the audience				

Assessment criteria **Markers** Grade 1. The degree of the task The correct and complete answer to each task is received. 3 accomplishment The correct answer to one question is received. 2 Only scattered answers to questions are given. 1 The arguments are logically structured, the statements are justified with the help 3 of existing knowledge in the field of professional activity. There are mistakes in the logic of constructing arguments, statements are either 2 2. Answer validity not sufficiently substantiated with the help of existing knowledge in the field of professional activity, or some of the arguments given and their justifications do not correspond to the tasks. Misunderstanding of the professional situation, professional knowledge in the

field of professional activity corresponding to the tasks has not been demonstrated.

Table 5: Criteria, levels and scale assessment.

The assessing forms for professional competence developed and presented in the article will allow you to assess objectively the degree of formation of this competency in students studying for master's degree in the course of studying the discipline "Modern educational technologies in the physical education of children and adults", students of the educational program 04.04.01 Pedagogical education, in the basic curriculum module "Management Technologies in Physical Education and Sports Organizations".

#### Recommendations

When developing the content of the main professional educational programs in accordance with Federal State Educational Standard three plus plus of the educational prigram 44.04.01 Pedagogical education, it is necessary to take into account the requirements of professional standards for the type of activity. Professional competencies can be established as coppulsory or recommended by the main educational program. It is recommended to analyze and select the following professional standards for the formation of compulsory professional competencies: professional standard "Teacher" professional standard "Teacher of professional training and further professional education". As a result of such an analysis and the correlation of types of professional activity, to formulate professional competencies that allow to form professional skills that correspond to the main types of activities indicated in the Principle Professional Educational Program and labor activities presented in professional standards.

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