IRSTI 03.77.17 **DOI 10.47649/vau.2024.v72.i1.04**
UDC 371.134

A.E. Burov*

Astrakhan State Technical University
Astrakhan, 414056, Russian Federation
*e-mail: burovae_65.65@mail.ru

PROFESSIONAL GRAPHIC JUSTIFICATION OF TEST PROGRAMS FOR PROFESSIONALLY SIGNIFICANT QUALITIES ASSESSMENT OF FUTURE SPECIALISTS (ON THE EXAMPLE OF KH. DOSMUKHAMEDOV ATYRAU UNIVERSITY)

Abstract.

Professional education and development involve not only learning extensive theoretical knowledge but also applying it through practical skills, especially those involving motor abilities that are crucial to the profession.

The current vocational education system integrates professional diagnostics most effectively when it incorporates methods from professionally oriented physical culture. This approach is key to developing the physical competence and readiness required for specialists to excel in their fields.

This study aims to establish comprehensive testing programs to evaluate the conditioning qualities that are important for the professional development of students as they train to become specialists. The methodology used for this study involves a professional analysis of the university's specialty training programs. This includes categorizing professions into standard groups based on the core subject matter and defining broad professional categories with common features. A detailed professional structure was outlined for each faculty, and specialties were categorized by profession type: “H-H”; “H-S”; “H-T”; “H-N”; “H-AR”. On the basis of analysis of special features and conditions of learned types professional activity were created their generalized profiles (professiograms) with highlighting a block of professionally important qualities, properties and functions. Subsequently, for each typical group of professions were selected motor test tasks to assess the level of professionally important formation for these quality professions.

Key words: professional education, skill assessment, vocational training, profession-specific motor skills, professionogram, specialty analysis.

Introduction.

The development trends of any state are determined by its economic and technical progress, the level of professional development of its workforce and the ability to apply this maturity to the dynamics of modern economic and geopolitical realities. In such circumstances, the issue of educating highly competent specialists becomes very important.

According to E.V. Viktorova, “a defining feature of modern world economic development is the transition of leading countries to building a knowledge-based economy”. Highly qualified personnel become the primary production resource, and investments in intellectual human capital become the most efficient resource allocation strategy” [1].

Most countries throughout the world, including Kazakhstan, give the responsibility of educating and reproducing highly educated specialists for all sectors of the economy to the system of ongoing professional education, especially higher education.

The authors of the paper argue that “one of the key requirements for specialist training is a clearly expressed professional orientation of the educational process to develop in students and students skills related to the nature of the upcoming work activity” [2].

Obtaining vocational education must meet all of society’s requirements for education as a strategic resource, as well as capitalize on all of the chances afforded by modern societal,

technological, and technological development to produce specialists competent of tackling the issues of an inventive economy [3].

A large number of new professions have emerged in all areas of human activity, and they are increasingly essential to the structure of the country's labor potential and in demand in the labor market. The system of professional training for professionals of various levels has also evolved. Professional training has grown more uniform and compressed, and different degrees of professional development have emerged. Professional development of a prospective professional's personality throughout the term of study at a university, in general, aims to create a real state and promising foundations of a person's preparedness for successfully mastering a profession and optimizing its professional activity.

The direct process of professional education and subsequent professional development entails mastering a vast amount of specialized theoretical knowledge, and the need for their application in practical activities necessitates the presence of an appropriate level of professionally relevant motor skills. Underestimation or misunderstanding of this results in a drop in the population's degree of professional preparation and professional working ability, which, in turn, has a detrimental impact on the country's economic potential [4], [5].

It is well known, that success in any professional activity during times of heightened competition for labor resources is heavily influenced by the presence of particular genetically determined motor predispositions to specific types of activities that each individual possesses [5].

Today, it is undeniable that the initial level of development of significant professional qualities and personality traits unique to a given profession, which characterizes the initial readiness for successful implementation in this type of professional activity, determines high efficiency and competitive advantages. The percentage of errors in the structure of various sectors made by high-tech industry specialists during their professional activities as a result of insufficient development of professionally relevant competences averages 20.1%.

The importance of an employee's professionally significant qualities, personal characteristics, and abilities does not decrease as a result of the relative reduction in direct muscular costs in labor, but rather increases, because in modern areas of the economy, the increase in high-tech production, the introduction of advanced technologies, the transition to a digital economic model, a significant increase in labor productivity, and so on all play an increasing role. According to expert data, the success of the production activities of representatives of certain current professions is 60% or more dependent on personal factors, including up to 50% on the psychophysiological and psychophysical preparedness of workers and specialists in certain sectors of the economy [6].

At the same time, only 8-10% of workers in industries, for example, match the profession's psychophysiological and motor characteristics, resulting in about 11 thousand cases of occupational diseases and 40 thousand cases of occupational injuries each year [7]. These data indicate that the physical dependability and readiness of production experts for demanding labor is progressively rising.

Furthermore, given the current economic climate, success necessitates the full development of your creative potential [4. – 6].

As a result, there is an urgent need to determine an individual's level of preparedness for upcoming professional activities by assessing their current development of professionally significant features and major competencies.

Domestic and worldwide experience with professional diagnostics has demonstrated high productivity and economic viability in the process of ensuring physical dependability and readiness for professional activities.

In the current state vocational education system, the means and methods of professionally oriented physical culture provide the most effective and up-to-date practical implementation of professional diagnostics, as they ensure the physical reliability and readiness of future and current specialists for highly productive work in their chosen field. Following the creation of a general

description of professional activity (professiogram), evaluation tests are chosen based on the identified professionally essential features and functions.

The use of specialized test tasks for professional selection and vocational training results in a 17% reduction in the number of occupational and professionally caused diseases, a 30-50% reduction in student dropout from educational institutions due to professional inability, a 10-15% increase in the reliability of assimilation of formed professional competencies, and a 30-40% reduction in the cost of training specialists [6. – 12], [8].

A prospective method for assessing psychophysical preparedness for upcoming activities looks to be one that does not investigate individual PVCs but instead creates complex diagnostic tools using standard test tasks, thereby defining the significance of this professional research.

Materials and methods of research.

Based on the relevance and objective of this study, the following tasks were assigned:

1. Determine the professional structure of the specialties for which the university provides training.
2. Form professional groupings based on the nature of the activity, as well as the specialties and areas in which training is provided.
3. Compile generalized professionograms of professions organized by type of labor and discover common professionally important characteristics.
4. Create a battery of standard test items to assess professionally important attributes for diverse occupations.

To achieve the established aims and objectives, vocational research methods were mostly used, including vocational analysis, the formulation of professional plans, the identification of professionally important qualities and functions, and the selection of standard test items for PVC assessment.

The "Differential Diagnostic Questionnaire" by E.A. Klimov was used to conduct a professional examination of the organization of the university's educational activities [9].

Professional plans, a generalized theoretical reference model of defined occupational groupings, were developed using a sample obtained by the All-Russian Scientific Research Institute of Vocational Education.

Professionally significant psychophysical and psychophysiological traits and functions were determined through a study of the professional characteristics of the groupings of specializations in which training is provided at the university.

Standard test items were chosen with the goal of assessing defined professionally relevant qualities and functions in mind, as well as their availability and broad use during testing.

Results and its discussion.

At the first stage, all specialties in which training is conducted at the university were classified using the DDO methodology by type of profession in order to determine the professional structure of educational activities of structural divisions (faculties) of the university. The following results were obtained:

Faculty of Innovative Education: Preschool education and upbringing (H-H); Basic military training (H-H); Pedagogy and methods of primary education (H-H); Psychology (H-H); Defectology (H-H); Physical education and sport (H-H).

Faculty of Natural and Agricultural Sciences: Chemistry. Biology. Geography (education) (H-N); Chemistry. Biology. Ecology. Agronomy (H-N); Technology of production of livestock products (H-N); Aquatic bioresources (H-N) and water use (H-N); Fisheries (H-N) and industrial fisheries (H-N); Tourism (H-H).

Faculty of Physics, Mathematics and Information Technologies: Mathematics. Physics (education) (H-H); Information systems (H-S); Computer technology (H-T) and software (H-S); Computer Science (H-S); Standardization, metrology and certification (H-S).

Faculty of Humanities and Arts: History. Journalism (H-S, H-H); Vocal art. Traditional music (H-AR); Music Education (H-T); Fine Arts and Design (H-AR).

Faculty of Economics and Law: Jurisprudence (H-S); Customs Affairs (H-S); Economy. Management (H-S); Accounting and Auditing. Finance (H-S); State and local self-government (H-S, H-H).

Faculty of Multilingual Education: Foreign Language (Education). Translation Studies (H-H); Kazakh, Russian language and literature (H-H); Philology (H-S).

Next, based on the identified data, groupings of the studied types of professions by subject of labor were formed (Table 1).

Table 1 – Grouping of professions by subject of work

Type of profession by subject of work	Specialties
Human-to-human (H-H)	Preschool education and upbringing Basic military training Pedagogy and methods of primary education Psychology. Defectology Physical education and sports. Tourism Chemistry. Biology. Geography (education) Mathematics. Physics (education) Foreign language (education). Translation business Kazakh, Russian language and literature
Human and sign system (H-S)	Information systems (H-S) Software. Computer science Standardization, metrology and certification Story. Journalism. Philology Jurisprudence. Customs business. Finance Economy. Management. Accounting and Auditing. State and local government
Human and Technology (H-T)	Technology of production of livestock products. Water use Industrial fishing Musical education. Fisheries
Human and nature (H-N)	Chemistry. Biology. Ecology. Agronomy Aquatic biological resources.
Human and artistic image (H-AR)	Traditional music Fine art and design
Note: Compiled by the author	

At the next stage, based on the tasks assigned to this study, generalized professionograms were developed for the identified types of professions in which training is conducted at the university, regardless of territorial affiliation with a particular faculty. The object of labor, type of activity and form of work, working conditions, psychophysiological characteristics of professional activity, psychological requirements, etc. were studied. This made it possible to identify for each generalized group of professions the professionally important qualities and functions that are most significant for successful implementation in this type of professional activity. The following results were obtained:

Professionally important qualities of a group of professional type
"Human and Nature"

Mental: emotional stability; long-term memory; RAM; visual memory; operational thinking; concentration, switching, concentration and stability of attention; developed sense of time; noise immunity; adequate self-esteem.

Physical: general and static endurance; *muscle strength of the upper shoulder girdle, back and legs* ; overall coordination; gross motor skills of arms and legs; fine motor skills of fingers; speed and accuracy of motor reactions; active, dynamic flexibility; endurance of the visual analyzer; neuromuscular sensitivity, mobility of the joints of the arms and legs; developed sensory-motor reactions; ability for spatial orientation; resistance to adverse weather conditions factors of

the production environment; resistance to fatigue; rational long walking skills.

Professionally important qualities of a group of professional type
"Human and Artistic image"

Mental: long-term and short-term memory; stress resistance; concentration; concentration, switching and distribution of attention; *sense of symmetry; spatial and figurative thinking.*

Physical: general endurance; static endurance of the trunk muscles; back muscle strength; developed fine motor skills of the fingers (fluency of the hand, fingers and radial part of the hands); speed and accuracy of motor reaction; hand-eye coordination; *good eye (linear, angular, volumetric);* spatial differentiation of muscle efforts; joint mobility.

Professionally important qualities of a group of professional type
"Human and Technology"

Mental: mental and emotional stability; concentration, distribution and switching of attention; operational thinking; operational and long-term memory; spatial orientation; high noise immunity; stability of the nervous system, high speed of nervous processes; risk appetite; technical, mathematical and analytical skills,

Physical: general and static endurance; static endurance of arm muscles; relative muscle strength of the upper and lower extremities; vestibular stability, general coordination of movements (at the level of the hands); fine motor skills of the fingers; good mobility of the wrist joint; dosed muscle efforts; *speed and accuracy of simple and complex motor reactions;* speed of visual-motor reactions; good eye (linear, angular, volumetric); resistance to monotony, hypokinesia, physical inactivity, and the influence of unfavorable external meteorological and production factors.

Professionally important qualities of a group of professional type
"Human and Sign system"

Mental: analytical, mathematical and communicative capabilities; long-term memory; RAM; memory for symbols (signs, symbols, plans, diagrams, graphs); logical objective-active thinking; efficiency of thinking (speed thought processes); stability, concentration, distribution and switching of attention; stress resistance; stability and lability of nervous processes.

Physical: general endurance; static endurance of the back muscles (to maintain a working posture) and arms ; dynamic and static endurance of the visual and auditory analyzer; muscle strength of the back, neck and arms; speed and accuracy of simple and complex (reactions of choice) motor reactions ; accuracy and speed of movements; active flexibility; developed fine and medium motor skills of the fingers; assessment of time and space intervals; sufficient level of development vestibular reactions (static and dynamic balance); skin and muscle-joint sensitivity; resistance to hypokinesia and monotony.

Professionally important qualities of a group of professional type
"Human-to-human"

Mental: verbal abilities (ability to speak clearly, clearly, expressively); communication and analytical skills; emotional and mental stability; communication skills; operational and logical thinking; long-term and operational memory; concentration, distribution and switching of attention; visual and motor memory; strong-willed quality; stress resistance; strength of the nervous system.

Physical: general endurance; static endurance of the trunk and leg muscles (long stay in a forced standing position with intense attention); coordination endurance; relative muscle strength of the upper and lower extremities; general coordination of movements; speed and accuracy of motor actions (speech motor, sensorimotor, vestibular); differentiation of muscle efforts; good eye (volume and depth of vision); resistance to fatigue.

After identifying professionally important qualities (PVK), we, taking into account the infrastructural capabilities for testing, compiled batteries of tests, combined into test programs to

assess the identified professionally important qualities, properties and functions for each group of professions. Below, as an example, is presented a test program for assessing PVC for the grouping of professions “Human and artistic image”:

1. *Strength of the muscles of the back and arms*. Lying along the gymnastic beam (bench), clasping it with your legs, torso hanging. Hold dumbbells weighing 3 kg for a while with your arms at your sides.

2. *Static endurance of the back muscles*. First, the maximum effort on the deadlift dynamometer is determined. Then, the time of holding 50% of the deadlift dynamometry from the obtained maximum result is recorded.

3. *Test for the accuracy of motor reactions*. Four targets are drawn on the wall at a distance of 50 cm from each other in this order: 1-in the middle; 2-to the right of the first; 3-to the left of the first; 4-above the first. Next, four consecutive passes of the basketball are performed in the following sequence: the first to target 1; the second to target 2; third to target 3; the fourth to target 4. In total, from 3 to 5 series of passes are performed. The number of accurate hits on targets is assessed (total number and each separately).

4. *Test for the speed of motor reactions*. Running in place with knees raised to an angle of 90 °at maximum pace. Completed in 10 seconds, the number of steps is counted.

5. *Spatial differentiation of muscle effort*.

I.P. – main stand,

1 – forward somersault,

2 – main stand,

3 – step left forward, put right,

4 – step the right one to the side, place the left one,

5 – in in a half-squat place the stone on your outstretched arm

The location of the production is marked with chalk. Performed once with visual control, 5 times with a blindfold. The average error is measured in centimeters.

6. *Assessment of deep vision*. The subject performs three series of throws of the ball into the basket, three throws each: Series I – 3.5-5.5-4.5 m; II series – 4.5-3.5-5.5 m; III series - 5.5-4.5-3.5 m. The number of hits in series, as well as the total number of hits, is calculated.

7. *Assessment of visual and motor reaction.* Subject 1 is located at a distance of 10 m from the moving ball and is positioned with his back forward in relation to the ball.

At a distance of 3 m from one another, assistants are located who pass the ball with both hands from the chest to each other. At the examiner’s command, subject 1 turns to face them and, gaining maximum speed, runs forward to intercept or touch the ball moving at a uniform speed. The time of movement of the subject and the result of touching or intercepting the ball are recorded.

8. *Assessment of the functional state of peripheral vision*. The test is performed on half of the basketball court. Subject 1 with the ball in his hands is on the free throw line. Assistants 2 and 3, also with the ball, are located at a distance of 4 m to the right and left of it at an angle of 75. On command, subject 1 throws into the basket. As soon as he is freed from the ball, assistant 2 standing on the right quickly passes his ball to him for the next throw. Having freed himself from the second ball, subject 1 receives the ball from assistant 3 standing on the left and performs another throw. In total, the subject performs 10 throws (5 from each assistant), while counting the number of hits and accurately determining the moment of catching the ball, which the partners pass to him without delay. The examiner counts the number of losses when catching the ball and hits, which he checks with the examinee.

9. *Distribution and switching of attention.* A form with 8 x 8 squares with two-digit numbers is used. The subject is asked to find 10 minimum or maximum numbers in ascending or descending order (as directed by the teacher) on 6 squares. The time it takes to find the numbers in the correct sequence for each square is recorded. The results are recorded in the protocol in the appropriate columns.

10. *Concentration and stability of attention* (table of Anfimov). The subject must cross out two conventional letters that are next to each other (for example, “DK”). Duration of work – 2 minutes.

It should be noted that all the tests used are copyrighted, there are corresponding links, publicly available and are often used in the practice of professional applied physical culture.

Conclusion.

Thus, summing up the study, it should be noted that the professional structure of educational activities at the university is varied by type of profession. Based on the professional analysis carried out, the following conclusions can be drawn:

1. High efficiency and advantages in competitive professional activity are determined by the initial level of development of important professional qualities and personality traits characteristic of a given profession, which characterizes the initial readiness for successful implementation in this type of professional activity.

2. All professions and specialties in which training is conducted at the university make up five generalized groupings of professions according to the subject of work, regardless of the territorial affiliation to the structural unit of the educational institution, namely: Human-to-human (H-H)»; Man and sign system (M-S); Man and Technology (M-T); Man and Nature (M-N); Man and artistic image (M-AI).

3. In order to identify professionally important qualities and functions that are most significant for successful professional self-realization, it is necessary to develop generalized characteristics of the types of professional activity being studied.

4. Assessing professionally important qualities as a criterion indicator of psychophysical readiness for upcoming activities is most successfully implemented using diagnostic tools of professionally applied physical culture. At the same time, a promising approach seems to be not the assessment of individual PVCs, but the construction of complex diagnostic techniques.

5. The justification for comprehensive test programs for assessing the professionally important qualities of future specialists should take into account accessibility and information content, the possibility of mass application of the proposed standard test tasks, as well as the infrastructural capabilities of the university for testing.

REFERENCES

1 Viktorova E.V. (2018) Double degree programs as a factor in the formation of an innovative university environment. Education and Innovation. №12 (146). P. 27-31.

2 Burov A.E., Lakeikina I.A., Begmetova M.Kh., Nebratenko S.V. (2022) Physical culture and sports in modern professions: textbook. Saratov: University education. 56 p.

3 Realising the European Higher Education Area. Achieving the Goals/Conference of European Higher Education Ministers. Available at: — URL: http://www.bolognabergen2005.no/EN/Part_org/EU/050511_ European_Commission (accessed: 16.10.2023)

4 Burov A.E., Erokhina O.A. (2022) Diagnostics and assessment of professionally important qualities in the practice of professional and applied physical culture: workshop. Saratov: University education. 77 p.

5 Erokhina O.A., Burov A.E. (2020) Vocational studies in the process of professional-applied physical training of students of the mining institute. Modern science: current problems of theory and practice. Series “Humanities”. №1. P. 53-55.

6 Raevsky R.T. Kanishevsky S.M. (2018) Professional-applied physical training of students of advanced basic knowledge. Science and Technology. 380 p.

7 Egorychev A.O. (2018) Psychological and pedagogical foundations of professional and applied physical training of students: monograph. M.: Federal State Unitary Enterprise Publishing House "Oil and Gas" Russian State University of Oil and Gas named after. THEM. Gubkina. 8 p.

8 Korotkov E. Human capital management: efficiency, business reputation, creative potential. International journal “Problems of theory and practice of management”. Publishing house of the International Research Institute of Management Problems. Available at: — URL: http://uptp.ru/content/DispArt.php?Num=2113 (accessed: 16.11.2023)

9 Psychodiagnostics and career guidance in educational institutions. (2018). Rostov n/D: Phoenix. P. 352-358.

БОЛАШАҚ МАМАНДАРДЫҢ КӘСІБИ МАҢЫЗДЫ ҚАСИЕТТЕРІН БАҒАЛАУҒА АРНАЛҒАН ТЕСТ БАҒДАРЛАМАЛАРЫН КӘСІБИ НЕГІЗДЕУ (Х.ДОСМҰХАМЕДОВ АТЫНДАҒЫ АТЫРАУ УНИВЕРСИТЕТІНІҢ ҮЛГІСІНДЕ)

Андатпа.

Тікелей кәсіптік білім беру және кейінгі кәсіби даму процесі арнайы теориялық білімдердің үлкен көлемін меңгеруді білдіреді, ал оларды практикалық іс-әрекетте жүзеге асыру қажеттілігі кәсіби маңызды моториканы қалыптастырудың тиісті деңгейінің болуын талап етеді.

Қолданыстағы кәсіптік білім берудің мемлекеттік жүйесінде кәсіби диагностиканы іс жүзінде жүзеге асыру кәсіби бағдарланған дене шынықтыру құралдарымен және әдістерімен неғұрлым тиімді және заманауи деңгейде қамтамасыз етіледі, өйткені оның көмегімен болашақ және қазіргі кезеңнің физикалық сенімділігі мен дайындығы қалыптасады. мамандардың таңдаған мамандығы бойынша жоғары өнімді жұмыс істеуі қамтамасыз етіледі.

Бұл зерттеудің мақсаты ЖОО-да оқыту жүргізілетін мамандықтарды кәсіби талдау негізінде болашақ маман-студенттердің кәсіби маңызды кондициялық қасиеттерін тестілеу мен бағалаудың кешенді тестілік бағдарламаларын негіздеу болып табылады. Зерттеуге қойылған міндеттерді шешу білім беру қызметінің кәсіби құрылымын зерделеуді, жұмыстың негізгі тақырыбына сәйкес кәсіптердің типтік топтарын қалыптастыруды және типтік топтамалардың жалпылама кәсіптік топтарын құруды қамтитын кәсіби талдау әдісін қолдану арқылы жүзеге асырылды. Талдау барысында әрбір факультетке қатысты университеттің білім беру мамандықтарының кәсіби құрылымы құрастырылды. Кәсіп түрлері бойынша мамандықтардың топтары қалыптастырылды: «А-А»; «А-Ж»; «А-Т»; «А-Т»; «А-Ө» Зерттелетін кәсіптік қызмет түрлерінің негізгі белгілері мен шарттарын талдау негізінде кәсіби маңызды сапалардың, қасиеттер мен функциялардың блогын бөліп көрсететін олардың жалпылама сипаттамалары (профессиограммалары) әзірленді. Әрі қарай, кәсіптердің әрбір типтік топтамасы үшін осы кәсіптер үшін кәсіби маңызды қасиеттердің қалыптасу деңгейін бағалау үшін моторлы тест тапсырмалары таңдалды.

Негізгі сөздер: кәсіби талдау, кәсіптердің топтастырылуы, профессиограмма, кәсіби маңызды қасиеттер, сынақ бағдарламалары, кәсіби қолданбалы дене шынықтыру.

ПРОФЕССИОГРАФИЧЕСКОЕ ОБОСНОВАНИЕ ТЕСТОВЫХ ПРОГРАММ ОЦЕНКИ ПРОФЕССИОНАЛЬНО ЗНАЧИМЫХ КОНДИЦИОННЫХ КАЧЕСТВ БУДУЩИХ СПЕЦИАЛИСТОВ (НА ПРИМЕРЕ АТЫРАУСКОГО УНИВЕРСИТЕТА ИМ. Х.ДОСМУХАМЕДОВА)

Аннотация.

Непосредственно процесс профессионального образования и последующего профессионального совершенствования подразумевает овладение огромным объемом специальных теоретических знаний, а необходимость их реализации в практической деятельности требует наличия соответствующего уровня сформированности профессионально значимых двигательных навыков.

В существующей государственной системе профессионального образования практическая реализация профессиональной диагностики наиболее эффективно и на современном уровне обеспечивается средствами и методами профессионально-ориентированной физической культуры, так как именно с её помощью осуществляется обеспечение физической надежности и готовности будущих и действующих специалистов к высокопродуктивной работе по избранной специальности.

Целью данного исследования является обоснование комплексных тестовых программ тестирования и оценки профессионально важных кондиционных качеств студентов-будущих специалистов на основе профессиографического анализа специальностей, по которым ведётся обучение в вузе. Решение поставленных перед исследованием задач осуществлялось с помощью метода профессиографического анализа, предусматривающего изучение профессиологической структуры учебной деятельности, формирование типовых группировок профессий по основному предмету труда и составление обобщённых профессиограмм типовых группировок. В процессе анализа составлена профессиографическая структура учебных специальностей университета применительно к каждому факультету. Сформированы группировки специальностей по типам профессий: «Ч-Ч»; «Ч-С»; «Ч-Т»; «Ч-П»; «Ч-И». На основании анализа основных особенностей и условий изучаемых видов профессиональной деятельности разработаны их обобщённые характеристики (профессиограммы) с выделением блока профессионально важных качеств, свойств и функций. Далее для каждой типовой группировки профессий подобраны двигательные тестовые задания для оценки уровня сформированности профессионально важных для этих профессий качеств.

Ключевые слова: профессиологический анализ, группировки профессий, профессиограмма, профессионально важные качества, тестовые программы, профессионально-прикладная физическая культура

REFERENCES

1 Viktorova E.V. (2018) Double degree programs as a factor in the formation of an innovative university environment. Education and Innovation. №12 (146). P. 27-31. [in English]

2 Burov A.E., Lakeikina I.A., Begmetova M.Kh., Nebratenko S.V. (2022) Physical culture and sports in modern professions: textbook. Saratov: University education. 56 p. [in English]

3 Realising the European Higher Education Area. Achieving the Goals/Conference of European Higher Education Ministers. Available at: — URL: http://www.bolognabergen2005.no/EN/Part_org/EU/050511_ European_Commission [in English]. (accessed: 16.10.2023)

4 Burov A.E., Erokhina O.A. (2022) Diagnostics and assessment of professionally important qualities in the practice of professional and applied physical culture: workshop. Saratov: University education. 77 p. [in English]

5 Erokhina O.A., Burov A.E. (2020) Vocational studies in the process of professional-applied physical training of students of the mining institute. Modern science: current problems of theory and practice. Series “Humanities”. №1. P. 53-55. [in English]

6 Raevsky R.T. Kanishevsky S.M. (2018) Professional-applied physical training of students of advanced basic knowledge. Science and Technology. 380 p. [in English]

7 Egorychev A.O. (2018) Psychological and pedagogical foundations of professional and applied physical training of students: monograph. M.: Federal State Unitary Enterprise Publishing House "Oil and Gas" Russian State University of Oil and Gas named after. THEM. Gubkina. 8 p. [in English]

8 Korotkov E. Human capital management: efficiency, business reputation, creative potential. International journal “Problems of theory and practice of management”. Publishing house of the International Research Institute of Management Problems. Available at: — URL: http://uptp.ru/content/DispArt.php?Num=2113 [in English]. (accessed: 16.11.2023)

9 Psychodiagnostics and career guidance in educational institutions. (2018). Rostov n/D: Phoenix. P. 352-358. [in English]

Information about authors:

Alexander Burov – **corresponding author,** Doctor of pedagogical sciences, professor of the Department of “Physical Culture and sports” FGBOUVO Astrakhan State Technical University, Astrakhan, Russian Federation

E-mail: burovae_65.65@mail.ru

ORCID: https://orcid.org/0000-0001-6839-4833

Информация об авторах:

Александр Буров – **основной автор,** доктор педагогических наук, профессор кафедры «Физическая культура и спорт» ФГБОУ ВО «Астраханский государственный технический университет», г. Астрахань, Российская Федерация

E-mail: burovae_65.65@mail.ru

ORCID: https://orcid.org/0000-0001-6839-4833

Авторлар туралы ақпарат:

Александр Буров – **негізгі автор,** педагогика ғылымдарының докторы, Астрахань мемлекеттік техникалық университеті Федералды мемлекеттік бюджеттік жоғары оқу орнының «Дене шынықтыру және спорт» кафедрасының профессоры, Астрахань қ., Ресей Федерациясы

E-mail: burovae_65.65@mail.ru

ORCID: https://orcid.org/0000-0001-6839-4833