Characteristics of work-related movements and essential physical attributes of a specialist in adaptive physical education

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Abstract

Objective of the study was to characteristics of labor activities and the physical attributes that are essential for a specialist in adaptive physical education.

Methods and structure of the study. The research was conducted at Petrozavodsk State University for a period of three years. The sample consisted of 40 fourth-year students aged 20 to 22, pursuing a degree in 49.03.02 «Physical Education for People with Disabilities». All participants completed a practical, professionally-oriented internship, which lasted three months, at residential schools and the rehabilitation center of the Children's City Hospital.

Results and conclusions. The unique characteristics of the work and the essential physical attributes of an APC professional are explored. The authors suggest that the practical exercises in the course «Physical Culture and Sport (Elective)» for students of the course «Physical Culture for People with Disabilities» should include activities that involve measuring distances, distinguishing between muscle efforts, altering the pace and direction of movement, and enhancing speed.

Keywords: *professional and applied physical training, physical qualities, adaptive physical education, job description, specialist, professional competence.*

Introduction. The work of physical culture specialists is associated with constant physical interaction with people with various health problems and disabilities [3]. They have to help their charges perform physical exercises, provide insurance, carry and move sports equipment, which requires significant physical effort [6, 7]. Effective performance of various work functions is impossible without a sufficient level of physical fitness of the specialist himself. An important component of the professional training of physical culture specialists is the development of a job description. According to M.V. Shcherbakova [8], a job description is a model of the activity and personality of a specialist, reflecting his main functions, range of theoretical knowledge, list of pedagogical skills and abilities, integrative professional and personal qualities. Consequently, the job description models the result that should be achieved in the process of training and education at a university, as well as in the process of independent pedagogical activity. Another integral part of the professional training of specialists in adaptive physical education, based on the requirements of the job description, is professional-applied physical training (hereinafter referred to as PAPT). V.I. Ilyinich and S.A. Polievskiy [2] define professional-applied physical training as a specialized type of physical education aimed at the formation and improvement of the properties and qualities of the individual that are essential for specific professional activities.

As L.I. Lubysheva notes, the professional and applied focus of physical education classes is manifested in the fact that priority is given to methods of teaching professionally significant and applied skills, the formation of psychological stability, motivation and psychophysical readiness to perform future work functions [5]. At the same time, the means of PAPT

are selected taking into account the characteristics of the profession, work and rest regime, dominant motor actions, characteristic work postures, and the load on individual functional systems. Thus, the problem of professional and applied physical training of specialists in APC, the development of scientifically based job descriptions and PAPT programs in this area seems to be very relevant.

Objective of the study was to characteristics of labor activities and the physical attributes that are essential for a specialist in adaptive physical education.

Methods and structure of the study. The research was conducted at Petrozavodsk State University over a period of three years. The group of respondents consisted of 40 fourth-year students aged 20-22 studying in the direction 49.03.02 "Physical Education for Individuals with Health Disabilities". All respondents completed industrial professionally-profile practice for a total duration of 3 months in correctional boarding schools and the rehabilitation center of the Children's City Hospital. Of the total number of students who took part in the survey, 35% work in their free time in the direction of adaptive physical education.

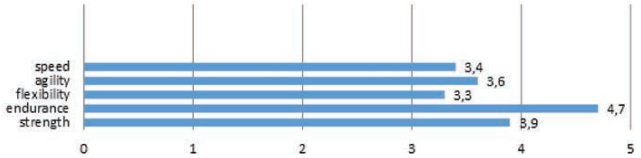
The survey conducted during the study was aimed at identifying the characteristics of work actions and professionally significant physical qualities necessary for the implementation of specialist functions, taking into account the specifics of professional activity. During the survey, respondents had to characterize the distribution of the load and the working posture of a specialist in physical fitness, assess the degree of visual strain, and note the most significant physical qualities in the profession. The degree of significance of a physical quality in the profession of a specialist in physical fitness was determined on a five-point scale, where 1 is a low degree of significance, 5 is a high degree of significance.

Results of the study and discussion. The analysis of the survey results showed that the majority of students believe that their profession is characterized by a free working posture (87,5%), rather than a fixed one. Professional activity is associated with movement (80%), the working area of movement is average (67,5%).

Respondents note that the work of a specialist in APC requires a lot of visual strain (i.e. the organ of vision is involved by more than 50 percent of the total work volume), 82,5% answered that visual strain is within 80-100%, 17,5% of respondents answered that visual strain is within 40-70%.

Fatigue is a symptom complex characterized by a feeling of weakness, lethargy, impotence, a feeling of physical and mental discomfort [4]. According to respondents, the load is distributed to a greater extent on the muscles of the legs (85%), back (75%), arms (65%) and neck (62,5%). Based on the analysis of the survey results, it was possible to identify the characteristics of the work activities of an APC specialist (Table 1).

When ranking professionally significant physical qualities, respondents noted that general endurance is more necessary (on a five-point scale – 4,7 points). Further, physical qualities are distributed by respondents in the following order: strength – 3,9 points, agility – 3,6 points, speed – 3,4 points, flexibility – 3,3 points (Figure 1).



Results of ranking professionally significant physical qualities of a specialist in APC

A.E. Burov and O.A. Erokhina, from the point of view of professional activity, suggest assessing the quality of «dexterity» using such criteria as: speed of reaction to the actions of a partner or a changing work (production) situation (speed of action), the correctness of the sensation of the position of the body or its individual links in space while maintaining a certain posture (vestibular stability) and the accuracy of assessing the distance, distribution of efforts, speed or direction of movement of work actions and operations, and the quality of «speed» as the speed of a single movement, speed of response and frequency of movements [1].

Table 1. Indicators of load distribution and working posture of an APC specialist

Working posture	Movement mode	Working zone of movement	Visual strain	Preferential load on muscles
Free 87,5%	Mobile 80%	Average 67,5%	80-100%	Legs 85%, back 75%, arms 65%

Table 2 Distribution indicators of agility and speed criteria

Criterion	Average score
Dexterity	
Accuracy of estimating the distance, distribution of efforts, speed or direction of movement of work actions and operations	4,5
Speed of response to the actions of a partner or a changing work (production) situation (speed of response)	4,1
Correctness of the sensation of the position of the body or its individual parts in space while maintaining a certain posture (vestibular stability)	3,2
Rapidity	
Reaction speed	4,1
Single movement speed	3,1
Movement frequency	3,0

Thus, with a more detailed analysis of professionally significant qualities, respondents first of all note the criterion of «accuracy of assessing the distance, distribution of efforts, speed or direction of movement of work actions and operations» - 4,5 points and «speed of response» - 4,1 points (Table 2).

C**onclusions.** The study revealed the features of work activities and professionally significant physical qualities of a specialist in physical culture and education. The survey results suggest that it is advisable to include exercises aimed at determining distance, differentiating muscle efforts, changing the speed and direction of movements, and developing speed in the content of the practical part of the work program of the discipline «Physical Education and Sports (elective discipline)» for students majoring in «Physical Education for People with Disabilities».

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