

Materials of Conferences

**PHYSICAL EDUCATION
OF FITNESS GROUP STUDENTS
OF UGRA STATE UNIVERSITY**

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One of the problems of higher education system is maintenance and strengthening of population health, giving the youth access to physical training. The analysis of science and special literature (A.A. Andriyevskiy, 2005, T.M. Bulkova, 2007, G.A. Bulatova, 2004, J.I. Busheva, 2009) shows that the problem of improvement of physical education process in higher school is of great importance. This problem is especially urgent for students with health deviations. As some specialists note (E.G. Bulitch, 1986, V.M. Krilov, 2000, A.A. Sidorov, 2000), there is a number of contradictions in the approach of fitness groups composing, in organizing and form of conducting the classes, in their orientation and content, in the means and methods applied. Efficiency of teaching in fitness groups is impossible without valid organization of educational process, which will contribute to health strengthening, organism training, rise of physical and functional readiness level, improvement of organism adaptation to physical load and environment. The problem given is of especially great importance for students studying in severe climatic conditions of Khanty-Mansi Autonomous Area. Thus, necessity to raise the efficiency and quality of modern professional education on the one hand, and insufficient development of process organizing approaches in physical education of fitness group students in higher education on the other hand, determine the urgency of our research. **The object of research** is the process of physical education of fitness group students of Ugra State University. **The subject of research** is methodology of physical education of fitness group students of Ugra State University. **The purpose of research** is to improve methodology of physical education of fitness group students of Ugra State University.

Research tasks:

- 1) To study organizational and pedagogical conditions of physical education process at Ugra State University in the period from 2006 to 2008.
- 2) To analyze the process organization of physical education of fitness group students at Ugra State University in the period from 2006 to 2008.
- 3) To devise innovative methods of physical education of fitness group students.

4) To prove efficiency of developed innovative methodology of physical education of fitness group students.

Research methods: analysis of scientific and methodological literature, pedagogical observation, educational experiment, structured modeling, questionnaire survey, mathematical statistics methods.

Research organizing

Research was carried out at Ugra State University from September 2006 till May 2008. 147 first-, second- and third-year students of fitness group of Ugra State University took part in this research.

The first stage (2006-2007) included pedagogical observation of organizing the process of physical education of fitness group (FG) students. Organizational and pedagogical conditions of physical education process conducting at Ugra State University were studied.

At the second stage (2007-2008) educational experiment with adoption of innovative methods of physical education of FG students was carried out. Effectiveness of methodology was defined by the results of attendance and academic performance.

The number of excused and unexcused absences was analyzed, and also FG students academic performance according to the results of progress assessment in the middle of the term (October, April). The questionnaire survey of FG students was carried out. The form included 10 questions aimed at determination of interest in physical training classes.

For statistical data manipulation the software Statistica 6.0 was applied. The following factors were calculated: sample size (n), mean value (\bar{x}), minimum, maximum, standard deviation (σ), standard error. Distinction reliability was assessed by Wilcoxon test. Correlation analysis was carried out with the help of Spearman rank correlation factor.

Results of research

The analysis of organizational and pedagogical conditions of conducting physical educational process at Ugra State University in 2007-2008 indicated that the legislative basis in the large had remained the same. It is possible to note that there is considerable improvement of sporting facilities and equipment. The number of instructors working with FG students increased, their level of proficiency raised. The number of

innovative training programs in physical education of FG students of Ugra State University increased. The number of students in academic year 2007–2008 was 343, that is by 2,3% more than the previous year. Average headcount of students in a learning group increased by 3 students in comparison with academic year 2006–2007 and made up average 15 students.

Educational process of physical training of fitness group students is possible to present as a pedagogical model reflecting its structure in different periods of teaching. In 2006–2007 it can be shown in three blocks: organizational, educational-training, progress testing. In 2007–2008 five blocks were distinguished: organizational, prognostic, educational-training, diagnostic and remedial.

Organizational block provides with «targets and development lines of the planning process» (L.P. Matveyev, 1991). This block integrates information about such factors as: program-regulatory basis; facilities and equipment; type of contingent diseases; climatic and geographical conditions.

In 2007–2008 the pedagogical model structure was supplemented with prognostic block. In its structure *prognostic* block consisted of: assessment of physical readiness level; chart of physical development and functional state assessment; self-assessment of health (health scale SF-36v.2). While in the academic year 2006–2007 forming of fitness group was carried out only according to the students' medical cards.

Educational-training block in both models was aimed at solving the problems of appropriate training programs. In 2007–2008 for the first time the training program included physical training competition «Wellness Latino» for FG students of higher school. Training of FG students for participation in the contest was put into practice in educational-training block.

In 2006–2007 FG students' performance score and control was carried out in progress-testing block. In 2007–2008 differentiated and objective process monitoring and assessment of students' learning activity results were provided by the diagnostic block. Efficiency criterion of mastering of curricular material on physical education, both theoretical and practical parts of the program, was getting a credit for the course.

Remedial block provided for individualization and remedy of students' learning activity. The structure of remedial block included: involvement of modified students into educational process; giving an opportunity for students with initially low health status to attend remedial physical training classes; making the theme research work.

Results of repeated questionnaire survey revealed heightened interest of fitness group students to physical training classes.

Analysis of absence from classes of FG students in the academic year 2006–2007 and 2007–2008 indicates decrease of number of excused absences average by 7,4%, and unexcused absences – by 14%. Distinction between attendance indexes for the given researched periods is statistically reliable ($p < 0,05$).

Comparative analysis of students' progress assessment results showed that in the second term of the academic year 2006–2007 the indexes decreased by 5,1% in comparison with the first term. In the second term of 2007–2008 this index increased by 12,6% compared with the first term.

Rank correlation factor between indexes of students' attendance and progress assessment in the first term of 2006–2007 was $r = 0,94$, in the second term it was $r = 0,92$. In 2007–2008 this factor decreased and it was $r = 0,85$ и $r = 0,68$ respectively. It is possible that the decrease of correlation dependence in 2007–2008 compared with the previous academic year reflects, to some extent, increase of quality of students' mastering of curricular material, which influenced the progress assessment.

Thus, summing up the results of educational experiment it is possible to conclude the following:

1. Organizational and pedagogical conditions of physical education process at Ugra State University in 2008 compared with 2006 are characterized by better facilities and equipment basis and by higher proficiency of academic staff.

2. The structural model of organizing the process of fitness group students physical education of Ugra State University in 2008 compared with 2006 was expanded from three to five blocks due to availability of modern diagnostic equipment for examining functional state of organism. To the organizational and educational-training blocks prognostic, diagnostic and remedial ones were added.

3. Developed innovative methodology of physical education of fitness group students at Ugra State University has proved to be more effective than the one used in 2006–2007. Attendance of classes increased average by 41,7%. The number of unexcused absences decreased average by 41%. It provided for increase of FG students motor activity.

4. Comparative analysis of progress assessment results of fitness group students showed that in 2007–2008 this index increased by 55,9% compared with 2006–2007. This index corresponded to the two-point mark. Rank correlation factor be-

tween attendance index and progress assessment index in 2007–2008 decreased average by 17,7%.

5. Developed innovative methodology of fitness group students physical education contributes to broadening of theoretical knowledge and practical skills. During the survey the number of answers «I don't know» was by 61,5% less than it had been before. The number of students who found difficulty in replying the question about influence of physical education on people's health decreased average by 69,3%.

6. Individualization of the training classes, optimization of exercise load in accordance with functional abilities of students had a great influence on their interest to the training classes, on the forming of correct attitude to their health and healthy life style. By 89,7% more students began training regularly at the end of academic year 2007–2008. Average by 50,7% less students pointed out the reluctance and lack of interest to independent physical training. The key motive for physical education of fitness group students was training for the competition «Wellness Latino» which combined theoretical and practical parts.

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**THE FORMATION OF A TUTOR
AS A SPECIALIST WITHIN THE PROCESS
OF SCIENTIFIC-PEDAGOGICAL
RESEARCH ACTIVITY WHILE
STUDYING THE NATURAL SCIENCE**

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Modern society that is interested in its own development and the solution of numerous scientific, economic, and other problems, shows the demand for the upbringing of creative pedagogues, that would help it to solve those problems. Changes, that happen in modern society demand the correction of not only the content, but also methodological, pedagogical, and technological aspects of the tutor's training.

In this research we will speak about the preparation of the natural science faculties students of pedagogical higher educational institutions to their professional activity within their scientific-research work process. A committed comprehension of subjects and phenomena of our reality within the educational system that is carried out according to a plan is attributed to scientific research in pedagogy. In our work the natural science circle disciplines that are studied in pedagogical higher education institutions will be analysed. Natural science that is used by a man for the cognition of the world is being developed intensively nowadays. It differs much from separate special learnings by its integral view upon the processes and phenomena and gives us the ability to overcome the crisis of the modern knowledge system that can be observed in physics, biology, chemistry [6, P. 5]. The questions of classification and interaction of the natural sciences are still being discussed. The most common point of view is that physics, biology, and chemistry are the basic sciences [6, P. 14-15].

In the textbook «Modern concepts of natural science» the following categories are outlined: mathematics (chapter 2. Natural science and mathematics), physics (chapter 3. Scientific revolutions within the concept basics of physics), chemistry (chapter 5. Chemical concepts), geography (chapter 6. Conceptual content of the Earth sciences), biology (chapter 7. Biological conceptions), and physiology (chapter 8. Anthropological conceptions) [1, P. 3-6].

Nowadays a sufficient number of textbooks on ecology has emerged («Ecology» – V.I. Korobkin, L.V. Peredelskiy; «General ecology» – A.S. Stepanovskiy; «Ecology» – N.A. Brodskaya, O.G. Vorobiev, and others; «Ecology» – A.I. Adgirevich; «Ecology» – T.A. Akimova, V.V. Haskin and other textbooks). Almost all the textbooks claim that ecology as a science is based upon the studying the natural science disciplines, and that the questions of the combination of modern biosphere and technosphere, that has been created by men (the system «human-economy-biota-environment») are studied here.

The point of the studied question is the formation of ecological culture of the future tutor through natural science cognition within his scientific-research, scientific-pedagogic, and scientific-methodological activity. The ecological culture is an affirmation of the natural management principles and the skills to solve social-economical problems without the impact on the environment