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**EDUCATIONAL TECHNOLOGIES FOR FORMING CULTURE OF  
HEALTH IN EXTRAMURAL STUDENTS**

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*Abstract*

The issue of education process organization to increase the healthy lifestyle motivation in extramural freshmen within the "Physical Culture" discipline is studied. The authors identified that these students possess a previously shaped health culture of varied level, manifesting in their lifestyle and forms of professional and applied physical culture. This study aims to solve the issue of determining organization of learning training materials within the minimum volume of classroom hours (10 hours), increasing the motivation to digest the knowledge about healthy lifestyle. Entry polling of 77 students allowed identifying their subjective assessment of their health and their mixed attitude toward healthy lifestyle, allowing adjusting the content of their independent and classroom assignments. The education process is built upon the mixed training model: classical education plus distance learning. Web technologies (Cross and Google services, H5P project, Moodle electronic medium) used during training allowed students to prepare their current and final (creative) works and increase their interest in training material, personal health monitoring. Results of the final poll allowed identifying that the percentage of respondents considering knowledge about healthy lifestyle as important and meeting its requirements as obligatory was 100%. However, the subjective physical health assessment matched the expected objective level only for 57 students (74%). Knowledge about healthy lifestyle increased in 50% of respondents. The education process organization taking into account extramural students' personal interest facilitates shaping of the general cultural competence of the "Physical Culture" discipline and healthy lifestyle, which is a socially significant component of overall health.

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**Keywords:** Health culture, self-esteem, classroom hours, distance learning, web technologies.



## 1. Introduction

The culture of health, as a socially significant integrated process, is shaped during the period of the development of a personality (The issue of the personal-values-driven motivations for physical culture being built in humanitarian university students may be ranked among the still underdeveloped matters of the national education theory...(Druzianov, Iakovlev, Pestriakov, & Garmaev, 2017, pp. 20). In a higher education institution, shaping of the basics of healthy lifestyle in students is laid in the "Physical Culture" discipline, which is reflected in the general cultural competence of all majors and training programs that is formulated as "is able to use the methods and means of physical culture to carry out comprehensive social and professional activity" (...contain general cultural and general professional competences, and the process of their formation is often ambiguous and may be problematic for higher education providers. (Akopova & Popova, 2015, pp. 8); (The combination of existing negative social and demographic factors along with poor health of students requires new approaches to the students' healthy lifestyle skills building process. (Bolotin, Mironova, Lukina, & Iarchikovskaia 2016, pp. 18); (...unification of competences virtually in every educational field that made it possible to optimize the academic programs in the relevant disciplines. (Zaitcev, Kovalenko, Soroka, & Ulianov, 2017, pp. 103); (However, a student must perform these loads to improve his level of knowledge. (Serikov & Serikov, 2016, pp. 6). Components of healthy lifestyle are addressed in this discipline's separate topics. Extramural students have a previously formed personal understanding and attitude to one's own health, which is manifested in one's lifestyle and professional activity (...personal physical culture building to make the individual fit for future professional responsibilities... (Kokoulina, Kopylova, Efremova, & Zaitcev, 2017, pp. 22).

## 2. Problem Statement

In the recent years, higher education majors and training programs incorporated new educational standards that make the "Physical Culture" discipline mandatory (...mastering the knowledge of healthy lifestyle and appropriate social and behavioral skills is a vital component determining general physical and mental health of university students (Bolotin, Mironova, Lukina, & Iarchikovskaia, 2016, pp. 18); (In the FSES 3+ implementation process, every such fundamental may be applied albeit each of them is subject to some legal and institutional limitations (Zaitcev, Kovalenko, Soroka, & Ulianov, 2017, pp. 103). The total workload of this discipline for extramural students is 72 hours (2 credit units). In our university, 10 hours is allocated for classroom activities (lectures) and 58 hours comprise the independent work. The small volume of classroom work suggests the increase in training material learning intensity and its organization by the materials' authors. The subject content of the discipline is constructed along with the formation of the general cultural competence, whose indicators are split into components and are formed within separate topics.

In addition to the discipline's educational objectives, it also considers the social objective of shaping students' personal value-based approach to motor activity and personal health (...policies designed on an integrated basis with the relevant contributions from modern education science, psychology, medicine, physical culture and sports theory... (Vaganova, Biktuganova, Kazantcev, Razumova, & Kharitonova 2018, pp. 98); (... laying a new technological foundation for the physical culture and sports sector with a special emphasis on the modern developments in physical education, athletic training, teaching science and

psychology... human resource and natural asset management in Russia». (Druzianov, Iakovlev, Pestriakov, & Garmaev, 2017, pp. 20); (Based on the set of the above regulatory documents, we may define the mission of the academic physical education as the personal physical culture... (Kokoulina, Kopylova, Efremova, & Zaitcev, 2017, pp. 22).

### **3. Research Questions**

The scope of the training (research) process included solving the issue of identifying the sequence of learning the material (topics) within the limits of the minimum amount of classroom hours as well as shaping the motivation to learning and gaining new knowledge about the components of healthy lifestyle (...the organization of classes, taking into account the needs of students ... in the process of sports activities, allows them to form a positive attitude to physical culture. (Iakovlev, Rudenko, & Mitin, 2011, pp. 213).

An entry poll of students was carried out in order to identify their attitude to and execution of the components of healthy lifestyle. The poll included 77 respondents, who were extramural freshmen including: by gender: 32 women and 45 men; by age group: 53 students (68.8%) younger than 35 years old, 24 students older than 35 years old; by major: 44 engineering (building, mining, energy) students, 33 pedagogy and economics students.

The analysis of the entry poll allowed to establish that 40 (90.9%) engineering students and 30 (90.9%) pedagogy and economics students consider the knowledge about healthy lifestyle important. Most of the respondents who did not consider such knowledge necessary belonged to the age group of younger than 35 years old. Women (94%) put health much higher in their hierarchy of values than men (67%) (Gender profiles of the health values are however indicative of the above variations being largely determined by the female students' attitudes as they outbalance their male peers in most rates and components of the health value (Pashin, Khmelkov, & Vasileva, 2017). 30 persons (39%, the most part of the pedagogy and economics majors) indicated the lack of optimal physical exercise and 28 (36%, the most part of the engineering majors) admitted to having bad habits. 97% of women and 87% of men consciously included executing the basic components of healthy lifestyle in their lives. 100% of the respondents consider their level of health average or high. The high subjective assessment of own health by all respondents necessitated the validation of such statements above all.

### **4. Purpose of the Study**

The obtained poll results allowed to organize practical types of classroom work with the purpose of raising the level of knowledge about healthy lifestyle and motivation as well as shaping the necessary competence in the discipline.

### **5. Research Methods**

During the first class, in order to determine the actual level of health and motivation to learn the training material, a quick assessment of the level of health was carried out according to the technique of Apanasenko (1993). While determining the personal physical condition parameters, they were compared against the age standards. The obtained result "below average" implied that the student further has to search for the means (designing a program) to increase health both by the lacking parameters and in general. Study

of the new material was organized in the following sequence: topic 1: "Biological and sociobiological basics of physical culture" (2 hours); topic 2: "Basics of a student's healthy lifestyle. Physical culture in ensuring health" (2 hours); topic 3: "General and special physical training" (2 hours); topic 4: "Self-control in physical exercises and sport" (2 hours); topic 5: "Professional and applied physical training of specialists" (2 hours) (...the basic theoretical blocks are defined (Khoda, 2014).

The industry of education currently sees the proliferation of online learning technologies with different models of integration into the classical process of education (Online and distance education technologies nowadays are commonly ranked among the top priority topics by the national and global education process researchers (Veselovskaia, Sidorova, Kuzina, & Stoliarova, 2018); (Modern digital information educational resources provide a communication channel for the communicator and target audience i.e. for the teacher and student in case of the academic educational process Zakrevskaia, Utisheva, Bordovskii, & Kameva, 2018); (The interest in the issue of implementation of interactive technologies in teaching practice of professional development of specialists is stipulated by the low level of learning motivation... (Shchegolev & Novoseltcev, 2015). In the process of training extramural students, we used the mixed training model: classical education plus distance learning. Such training model makes the "flipped classroom" technique (learning the theoretical material during independent learning) particularly efficient. The following disciplines are also assigned for independent learning: "Physiological characteristics of motor activity and formation of movements", "Medical and pedagogical control during physical exercise and sport" (...consistent increase in the share of productive activities of students in the process of self-education. (Abdrakhmanova & Shirobakina, p. 55). Training material digestion control was carried out at the beginning of a class or through the Cross online service to create crosswords using lists of selected words that match suggested definitions (or using other variants of presenting the material for checking), as well as using the H5P project to fill suggested forms. The lecture material and presentations for it was published in the Moodle electronic educational medium. Classroom hours were of practical nature and included performing assignments and making calculations. The necessary training material was presented electronically. Practical activities involved the reproductive training technique including the following types of student activity: observing the studied objects, carrying out research of various parameters of a physical condition. Google services (images, maps, sheets, slides) that allowed remote work were used to carry out group-based creative projects.

The first topic included learning the techniques of self-massage and muscle relaxation. The home assignment required to carry out all of these recreational procedures.

The second topic involved testing the constituent indicators of health: determining individual daily routine, working out diet regimen and individual motor activity regimen, determining conditioning types. The final work was designing an individual healthy lifestyle program that had to factor in the problem components identified during the poll and health check, as well as to include the possible means and techniques for sequentially mitigating them.

In the third topic, the students calculated the motor activity and daily energy expenditure: determining individual daily energy expenditure for basal metabolism through the Harris-Benedict equation, energy expenditure for different kinds of activity (by students' own choice), and general energy expenditure indicator during exercise days, and working out the daily food ration factoring in the individual

energy expenditure indicator for basal metabolism. Within this topic, the students analyzed the information related to the GTO complex: comparing personal indicators for mandatory and optional tests, selecting exercises to increase the individual level of development of physical qualities. Study of the structure of an exercise class was finished with a collective effort to prepare lecture notes of an exercise class in the chosen sport or physical exercise system.

Studying the topic of self-control included practical measurements of heart rate frequency at rest and in function tests, blood pressure measurements, breath-holding tests. Physical development was assessed using the methods of anthropometric standards, indices, and correlations. Comparison of the biological and real age parameters also facilitated the increase in motivation for healthy lifestyle. The topic was closed by presenting the final work: filling an individual self-control diary.

The fifth topic included learning the content of a job profile diagram (by types of professions). Attention was given to the requirements to medical condition and physical fitness, occupational diseases were considered. Students selected professionally-oriented and applied sports. The final creative work (individual or group-based) was designing an individual plan of prevention and rehabilitation activities.

The final assignments in the suggested topics in the form of tests (including web-based tests) or creative assignments allowed the teacher to evaluate the digestion of knowledge and the attainment of the competence (Control of knowledge considered running test jobs ... (Khoda, 2015, pp. 916).

Within a grade-rating system, an approximately equal amount of credit points was allocated among the students' independent activities, work in the practical classes, and final/creative assignments.

The scheduled types and forms of training activities were carried out in a special classroom equipped with computers and internet access. Presentation materials for the lectures on the "Physical Culture" discipline were published in the Moodle information environment along with the certified software "Test assignments bank" for ongoing assessment of student performance in the "Physical Culture" academic subject. Methodology guidelines were designed for carrying out practical assignments.

## 6. Findings

After the classroom course was complete, a final poll was performed to determine the dynamics of the indicators of the level of knowledge and motivation for healthy lifestyle.

The analysis of the final poll results allowed to establish that 100% of students consider the knowledge about healthy lifestyle to be important. Moreover, the population of those who intended to follow the terms of healthy lifestyle changed: middle-aged persons (following or intending to follow the healthy living terms (99% of the total middle-aged respondents) were joined by younger people (7 students, 9%) who previously had not considered it necessary to adhere to a healthy lifestyle. The indicator of subjective assessment of personal health condition matched the expected objective indicator for 57 students (74%), which signals that the remaining respondents have overestimated subjective information and lack objective information. 100% of students consider it important to implement the components of healthy lifestyle. Knowledge about healthy lifestyle increased in 50% of the respondents.

## 7. Conclusion

The model of class organization has an important meaning for the formation of the general cultural competence in the condition of a low amount of classroom hours. Use of a mixed classical plus distance learning model has proven to be efficient. The web technologies (Cross and Google services, H5P project, Moodle electronic medium) used in the process of training allowed students to prepare their current and final (creative) works and increase their interest in the training material, as well as in personal health monitoring. Implementation of the "Physical Culture" discipline for extramural students is necessary both to shape the general cultural competence and to form the socially significant personal value component.

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