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ILMIY ELEKTRON JURNAL

EXPERIMENTAL WORK ON THE AESTHETIC EDUCATION OF STUDENTS IN HIGHER EDUCATION IN PHYSICAL EDUCATION LESSONS AND ITS EFFECTIVENESS LEVEL SUCCESS

Djoldasov R.F.

Karakalpak State University named after Berdakh

Annotatsiya

This article examines the content, organizational stages, and effectiveness of experimental work aimed at developing the aesthetic education of higher education students through physical education classes.

Kalit so'zlar

Scientific-theoretical, effective, study, research problem, emotions.

Introduction

Aesthetic education plays an important role in the personal and cultural development of university students. Physical education classes provide opportunities to develop not only physical abilities but also students' sense of beauty, discipline, harmony, and proper behavior. Therefore, integrating aesthetic education into physical education can contribute to the comprehensive development of students. This study focuses on evaluating the effectiveness of aesthetic education methods used during physical education classes in higher education institutions. Also, today, the introduction of changes to the content of physical education lessons and the methodology for organizing classes, as well as determining the level of its effectiveness, in this process, the development of procedures for using the aesthetic features of physical education lessons in the formation of students as harmoniously developed individuals and the methodology for its practical application have been identified as priority tasks. For the development of the methodology of this experimental work, such methodological approaches as observation of the process of physical education lessons for high school students; conducting a question-and-answer session, questionnaires, and conversations with them; studying advanced pedagogical experience and applying its exemplary aspects in practice; testing experimental materials in practical classes were used.

In ensuring a high level of educational and upbringing effectiveness achieved as a result of various methods used in physical education lessons, the selection of appropriate methods for this process, and the preliminary planning and design of the

content, essence, and methods of conducting the lesson are of important didactic importance. It is known that recently, a number of new approaches, such as innovative teaching technologies, non-traditional lessons, and interactive methods, have been introduced to all levels of the education system. Similar teaching technologies can be used in the use of various sports games in students' physical education lessons, and if applied appropriately, they will yield good results.

Experience shows that some physical exercises are difficult for some students to master. Therefore, when using certain physical exercises as a means of aesthetic education of students, sometimes additional explanation is required, that is, in order to improve the quality of the method of performing certain movements and provide deeper knowledge, explanatory work is additionally carried out using various visual aids.

In any activity, the principles of systematicity and regularity are considered important conditions for increasing the didactic potential of the process. Observance of the principle of regularity in physical education lessons, mastering its laws, forms the aesthetic skills of students, that is, if the lessons are conducted continuously and regularly, the functional capabilities, physical abilities, and aesthetic perceptions of students are formed steadily during physical education lessons.

To instill aesthetics in physical education lessons in students' minds, it requires continuous use of training topics appropriate to their age and physical capabilities (in accordance with the procedure established in the program). The breakdown of continuity leads to the gradual extinguishing of the skill.

In his world-renowned experiments, used the persuasive power of words to stop bleeding and alter the functions and working processes of internal organs. The renowned physiologist I.P. Pavlov, through experiments, substantiated that words are the strongest means of influence on a person.

Method

Using the following statistically classified variation of the experimental test, we obtain a series for determining the indicators of assimilation and the number of students in the experimental class and the number of students in the control class, respectively. Also, high indicators are marked with 3 points, average indicators with 2 points, and low indicators with 1 point. Performance indicators in the experimental class. [4].

$$\begin{cases} X_i & 3, \quad 2, \quad 1 \\ n_i & 42, \quad 76, \quad 425 \quad (n = 543) \end{cases}$$

Performance indicators in the control class

$$\begin{cases} Y_j & 3, \quad 2, \quad 1 \\ m_j & 39, \quad 81, \quad 404 \quad (m = 524) \end{cases}$$

The diagram that matches these samples looks like this:

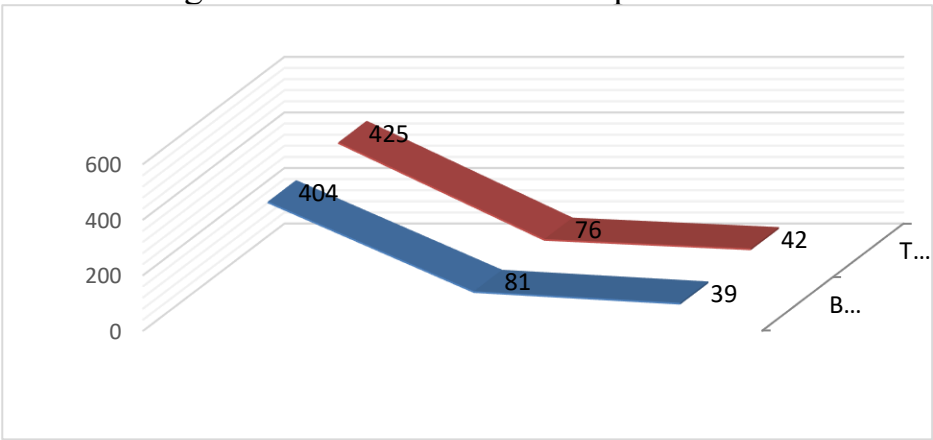

Figure 1. At the beginning of the experiment

To simplify statistical analysis, we can use the above variation series to determine the corresponding statistical probabilities of the frequencies (frequencies) n_i and n_j.

$$P_i = \frac{n}{n_i} \text{ and } q_j = \frac{m}{m_j} \qquad (1)$$

$$\begin{cases} X_i & 3, & 2, & 1 \\ P_i & 0{,}08; & 0{,}14; & 0{,}78. \end{cases} \sum_{i=1}^{3} P_i = 1 \quad \text{and} \quad \begin{cases} Y_j & 3, & 2, & 1 \\ q_j & 0{,}07; & 0{,}16; & 0{,}77. \end{cases}$$

$$\sum_{i=1}^{3} q_i = 1$$

We begin statistical analysis by calculating and comparing the average performance of both classes. The average learning outcomes were:

$$\overline{X} = \sum_{i=1}^{n=3} P_i x_i = 0{,}08 \cdot 3 + 0{,}14 \cdot 2 + 0{,}78 \cdot 1 = 0{,}24 + 0{,}28 + 0{,}78 = 1{,}3$$

Percent $\overline{X}\% = \frac{1{,}3}{3} \cdot 100\% = 43{,}3\%$

$$\overline{Y} = \sum_{i=1}^{n=3} q_j y_j = 0{,}07 \cdot 3 + 0{,}16 \cdot 2 + 0{,}77 \cdot 1 = 0{,}21 + 0{,}32 + 0{,}77 = 1{,}3$$

Percent $\overline{Y}\% = \frac{1{,}3}{3} \cdot 100\% = 42{,}3\%$

Thus, at the beginning of the experiment, the average assimilation in the experimental class $(43{,}3–43{,}3)\% = 0\%$ has. This, in turn,, $\frac{43{,}3\%}{43{,}3\%} = 1$ means that it is equal to. This is a very low indicator for achieving efficiency. From this, it is evident that no effectiveness was achieved in the experimental work conducted at the beginning of the experiment to determine the level of formation of the skill of understanding the aesthetic foundations of each movement technique in high school students.

Now, the indicators at the end of the experiment are reflected in the following table based on a comparison of the results achieved in the experimental and control classes:

Here we introduce the same notation as above:

Performance indicators in the experimental class $\begin{cases} X_i & 3, & 2, & 1 \\ n_i & 73, & 269, & 201 \end{cases} (n = 543)$

Performance indicators in the control class $\begin{cases} Y_j & 3, & 2, & 1 \\ m_j & 41, & 97, & 386 \end{cases} (m = 524)$

The diagram that matches these samples looks like this:

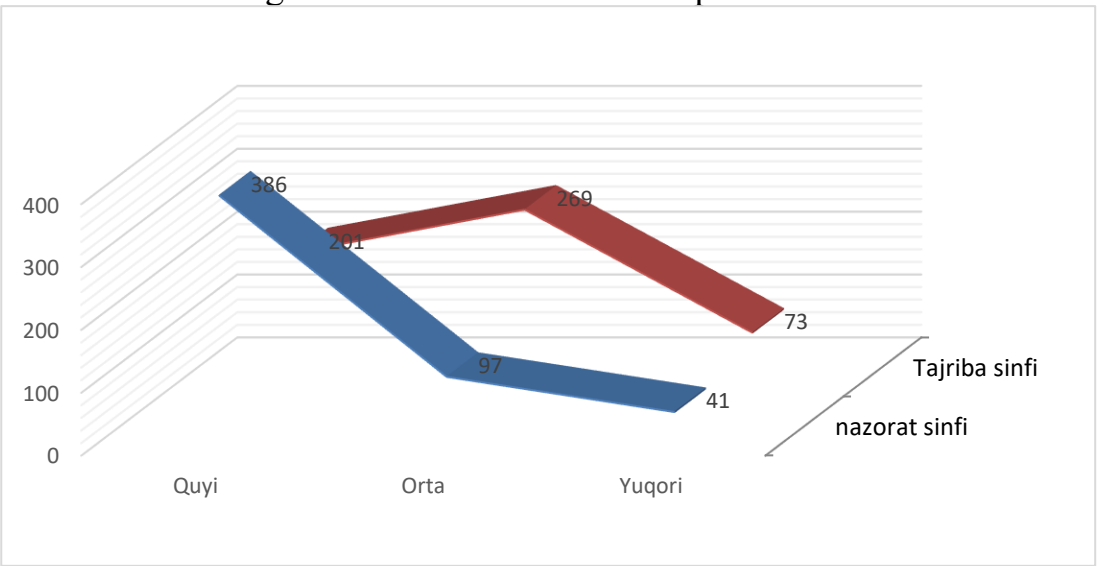

Figure 2. At the end of the experiment

In order to facilitate statistical analysis, based on formula (2), we find the following.

$\begin{cases} X_i & 3, & 2, & 1 \\ P_i & 0{,}13; & 0{,}5; & 0{,}37. \end{cases} \sum_{i=1}^{3} P_i = 1$ and

$\begin{cases} Y_j & 3, & 2, & 1 \\ q_j & 0{,}08; & 0{,}18; & 0{,}74. \end{cases} \sum_{i=1}^{3} q_i = 1$

We begin statistical analysis by calculating and comparing the average performance of both classes. The average learning outcomes were:

$$\overline{X} = \sum_{i=1}^{n=3} P_i x_i = 0{,}13 \cdot 3 + 0{,}5 \cdot 2 + 0{,}37 \cdot 1 = 0{,}39 + 1 + 0{,}37 = 1{,}76$$

Percent $\overline{X}\% = \frac{1{,}76}{3} \cdot 100\% = 58{,}7\%$

$$\overline{Y} = \sum_{i=1}^{n=3} q_j y_j = 0{,}08 \cdot 3 + 0{,}18 \cdot 2 + 0{,}74 \cdot 1 = 0{,}24 + 0{,}36 + 0{,}74 = 1{,}34$$

Percent $\overline{Y}\% = \frac{1{,}34}{3} \cdot 100\% = 44{,}7\%$

Therefore, the average assimilation in the experimental class (58,7 – 44,7) % =14 % it's higher than. This, in turn, $\frac{58,7\%}{44,7\%} = 1,31$ means twice as much.

To identify possible errors in the learning process, we first identify the root mean square and standard errors.

$$S_x^2 = \sum_{i=1}^{n=3} P_i x_i^2 - (\bar{x})^2 = 0,13 \cdot 3^2 + 0,5 \cdot 2^2 + 0,37 \cdot 1^2 - 1,76^2 = 0,13 \cdot 9 + 0,5 \cdot 4 + 0,37 \cdot 1 - 3,0976 =$$

$$= 1,17 + 2 + 0,37 - 3,0976 = 3,54 - 3,0976 = 0,4424$$

$$S_y^2 = \sum_{i=1}^{n=3} q_j y_j^2 - (\bar{y})^2 = 0,08 \cdot 3^2 + 0,18 \cdot 2^2 + 0,74 \cdot 1^2 - 1,34^2 = 0,08 \cdot 9 + 0,18 \cdot 4 + 0,74 \cdot 1 - 1,7956 =$$

$$= 0,72 + 0,72 + 0,74 - 1,7956 = 2,18 - 1,7956 = 0,3844$$

And the standard errors:

$$S_x = \sqrt{0,4424} = 0,67.\ S_y = \sqrt{0,3844} = 0,62.$$

Consequently, the standard error of the control class was greater than the indicators of the experimental class, i.e., 0.62> 0.67. To illustrate this more clearly, we calculate the accuracy of the mean for both statistical samples using the coefficients of variation, i.e., Vx and Vy: $V_x = \frac{S_x}{\bar{x}} \cdot 100\% = \frac{0,67}{1,76} \cdot 100\% = 38,1\%$

$$V_y = \frac{S_y}{\bar{y}} \cdot 100\% = \frac{0,62}{1,34} \cdot 100\% = 46,3\%$$

Consequently, the accuracy of the average assimilation indicator in the control class is 8.2% higher than in the experimental class.

Now let's test the null hypothesis based on Student's t-test, taking into account the similarity of the unknown means of the two populations:

$$H_0 : \mu = \mu_y$$

Based on this, we perform the following calculation:

$$T_{x,y} = \frac{\bar{x} - \bar{y}}{\sqrt{\frac{S_x^2}{n} + \frac{S_y^2}{m}}} = \frac{1,76 - 1,34}{\sqrt{\frac{0,4424}{543} + \frac{0,3844}{524}}} = \frac{0,42}{\sqrt{0,00081 + 0,00073}} = \frac{0,42}{\sqrt{0,0015}} = \frac{0,42}{0,039} = 10,77$$

Based on Student's t-test, we calculate the degree of freedom using the following formula:

$$K = \frac{\left(\frac{S_x^2}{n} + \frac{S_y^2}{m}\right)^2}{\frac{\left(\frac{S_x^2}{n}\right)^2}{n-1} + \frac{\left(\frac{S_y^2}{m}\right)^2}{m-1}} = \frac{\left(\frac{0,4424}{543} + \frac{0,3844}{524}\right)^2}{\frac{\left(\frac{0,4424}{543}\right)^2}{542} + \frac{\left(\frac{0,3844}{524}\right)^2}{523}} = \frac{(0,00081 + 0,00073)^2}{\frac{(0,00081)^2}{542} + \frac{(0,00073)^2}{523}} =$$

$$= \frac{(0,0015)^2}{\frac{0,00000066}{542} + \frac{0,00000053}{523}} = \frac{0,0000023}{0,0000000012 + 0,000000001} = \frac{0,0000023}{0,0000000022} = 1045,5$$

If we take the significance level of the statistical feature for this probability as 0.05, then p=1-=0.95 and the degree of freedom is equal to k=1045.5. $t_{1-\frac{(1-p)}{2}}(k) = t_{1-\frac{(1-0,95)}{2}}(1045,5) = t_{0,975}(1045,5) = 1,96$

Discussion

From the obtained results, it can be seen that the criterion for assessing the effectiveness of training is greater than one, and the criterion for assessing the level of knowledge is greater than zero. From this it is clear that the assimilation in the experimental class is higher than in the control class. Consequently, the experimental work conducted to determine the level of aesthetic education of high school students in physical education classes proved to be effective.

The psychological states that arise on the basis of skillful aesthetic education are extremely stable. They strengthen students' self-confidence, encourage them to be active, honest, relate to others, be energetic, strive for initiative, aspire to become qualified specialists, and demonstrate beauty in all situations.

The effectiveness of various sports exercises used in high school physical education classes largely depends, first of all, on the content of the state educational standard of the sphere, corresponding to students, as well as on the methodological support corresponding to this content. Also, when using sports as a means of forming aesthetic qualities in the personality of schoolchildren, the level of professional training of physical education teachers, their deep knowledge of the age and psychological characteristics of children in different grades, is of decisive importance. This model (Fig. 2.) occupies a special place in the scale of educational, upbringing, and health-improving features of upper-grade students in physical education lessons.

As is known from pedagogical science and educational practice, the teaching of each subject is based on its theory. In particular, physical education classes are planned based on the theory and methodology of physical education. We can see that the founders of the theory of physical education expressed a number of ideas about its harmony with mental, moral, and aesthetic education. Today, in general education schools, less attention is paid to the above-mentioned types of education in physical education lessons. For the comprehensive harmonious development of the student's personality, a comprehensive approach to the educational process is necessary.

Deeper consideration of the requirements for the activities of students in the State Educational Standard of physical education in the system of general secondary schools, development of a program for special medical groups and presentation of topics of theoretical knowledge. It is advisable to ensure the continuity of physical education lessons, develop model schedules and develop students' physical qualities in physical education lessons, as well as improve curricula based on moral and aesthetic aspects. [4].

Results

Considering that the editorial methods of physical education teachers and coaches occupy a special place in the aesthetic education of students in physical education classes, it is important to use these methods in their professional activities.

In the process of providing aesthetic education to high school students in the process of their participation in physical education classes, the correct formation of

concepts and ideas about the category of beauty in children is of decisive importance. An invaluable place in the formation of aesthetic education competence in students through physical education lessons is occupied by the inclusion of physical exercises and sports, in the structure of which elements of beauty are clearly visible.

Solving the tasks of aesthetic education of students in physical education classes is a complex and lengthy process. In this case, there cannot be any random and urgent things, and the aesthetic education of students does not occur spontaneously, therefore they must regularly and systematically engage in practical activities. It is necessary to create conditions and select aesthetic actions based on specific didactic requirements and pedagogical criteria that correspond to their age and physiological capabilities.

It should be noted that for the aesthetic education of high school students in the process of engaging in physical activity, it is important, first of all, to select physical movement techniques and various sports games with aesthetic properties, to describe their aesthetic aspects, and to understand that the effectiveness of the game increases when they are followed. Accordingly, it is necessary to create methodological guidelines and manuals that serve the aesthetic education of high school students in physical education lessons.

Due to the fact that great attention is paid to the sphere of physical culture and sports in our country, the development of forward-looking pedagogical foundations for the improvement and development of physical and aesthetic culture, the gradual increase in the didactic possibilities of aesthetic education of students requires the continuous continuation of this problem for many years as a socio-pedagogical issue.

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