

INTENSIVE WELLNESS PROGRAM – A METHOD FOR OPTIMIZING MOTOR CONDITION

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Abstract. The present material derives theoretical foundations with an emphasis on the development of the motor state, based on the application of an intensive wellness program. The scientific state of teaching methodology in physical education and sports in the first high school stage of the educational degree is monitored. An intensive program for the development of general motor conditions according to the Tabata interval method has been approved in the first high school stage to achieve a high educational standard and increase the efficiency in motor-oriented training. Statistical verification of the effectiveness of a tested intensive wellness program with the organization of an experimental, ascertaining, training, and control stage is presented. Scientifically based conclusions and generalizations are drawn.

The purpose of the research is to create an intensive wellness program for the development and improvement of general motor condition, based on the Tabata method in the first high school stage, by implementing and proving its practical effectiveness through testing in the PES¹ training consisting of an author's complex of motor exercises, for wellness-interval training according to the Tabata method. The subject of analysis is the indicators allowing harmonization and individualization of the differences in the students' motor potential between the two target groups – experimental and control, as well as establishing the effectiveness of the practical application of the implemented intensive wellness program. Scientifically based conclusions will allow establishing changes in the number of students who have covered a high educational standard, as well as improving the effectiveness of motor-oriented learning.

The object of the present experimental research is the learning process in the discipline of physical education and sports in the first high school stage of the educational degree. The research scope of the present study is 50 students from two classes of the eighth grade, divided into 25 students each in two target groups – experimental and control. All examined individuals are in good physical and mental condition. To derive a relationship between tracked motor indicators, an analysis of dynamics was applied through mathematical-statistical processing to establish variation and correlation coefficients. The application of the innovative technology took place within the academic year 2022/23.

Keywords: intensive wellness program, optimizing motor state, interval training, motor activity, motor potential, motor directionality

Introduction

In the largest aspect, the activity of secondary school students, as well as their conscious attitude to the work in the lesson of physical education and sports, depends on the motives that manifest themselves, develop and undergo changes under the influence of various interacting factors, and this includes the purposeful impact of the sports pedagogue (Dimitrova 2019a; 2019; 2021; Tseneva, Ignatov 2002). His abilities and opportunities to communicate with adolescents, to apply various approaches and methods of motivation are essential in order to be able to influence them successfully (Ignatova 2021; Ignatova, Iliev 2022; 2020; Simeonova, Momchilova 2012).

The Tabata method is not part of the curriculum of physical education and sports, but nevertheless it is a new and innovative method, with the application of which significant achievements are observed in the lives of sportsmen. As a teacher of physical education and sport, I have the opportunity to find that students are interested in practicing different exercises in the field of interval training. Some of the schools have a limited sports base, which requires the teacher to show creativity in a limited space, the lesson should have a high motor density. Part of the eighth-graders also practice other sports such as football, volleyball, taekwondo, basketball, baseball. The application of Tabata interval method – an innovative complex of motor exercises helps to improve the motor activity in the respective sport. Due to the topicality and interest of the students in this innovative method, I decided to track what the motor success rate is from the applied innovative technology for the development of motor condition, based on the Tabata method in the first high school stage of the educational degree.

Methods

The object of the present experimental research is the process of learning in the discipline of physical education and sports in the first high school stage of the educational degree. The subject of research are the students' motor achievements and the effect of the practical implementation of the innovative technology. 50 students from two classes of the eighth grade took part in the research, divided into 25 students in two target groups – experimental and control. All subjects were in good motor condition. The research goal is to create an innovative technology for the development and improvement of general motor condition, based on the Tabata method in the first high school stage, by implementing and proving its practical effectiveness. Based on the goal, the following research tasks were formed:

- Analysis of theoretical literature on the problem.
- An effective approach to improving the motor condition of students through interval training activities.

- Development of an innovative technology for developing general motor condition, based on an innovative complex of motor exercises based on the Tabata method in the first high school stage and proving its practical effectiveness.

- Collection of empirical data in the cognitive stages of experimental research.
- Mathematical-statistical processing of the collected empirical material, as well as construction of correlation-structural models.

- Proving the practical effectiveness of the innovative technology.
- Analyzing the results of the application of the innovative technology.
- Practical application and multiplication of the effect of technology in practice, creation of theoretical and practical-applied contributions.

The working hypothesis of the present study is that if an innovative technology for the development of general motor condition, based on the Tabata interval method, is applied in the first high school stage, the number of students who have covered a high educational standard will increase and the effectiveness of motor training will be improved.

Results and analysis

Both target groups took part in the ascertainment stage. The control and experimental groups are with 25 students in each of them. Participants in both groups performed eight exercises, each lasting 20 seconds, which established the entry level of the study. All motor exercises are aligned with the goals and expected outcomes of the eighth grade physical education and sports curriculum.

In order to better visualize the data obtained from the first experimental study conducted for the two target groups, determining the general motor condition, summarized results were obtained, reflected in two circular quantitative diagrams, according to the level of success – low, average, good, very good and excellent. Figures 1 and 2 show the results of the two target groups according to the levels of their motor achievements.

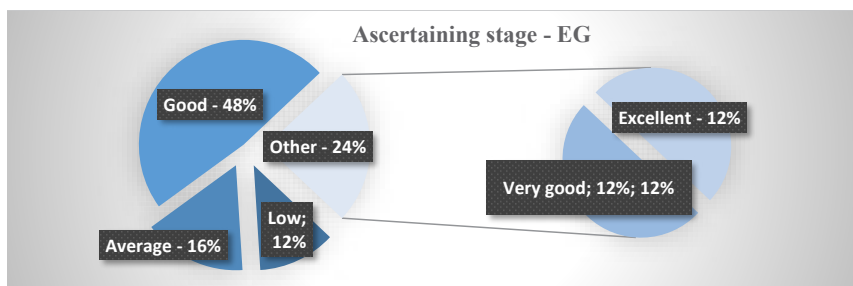


Figure 1. EG – ascertaining stage

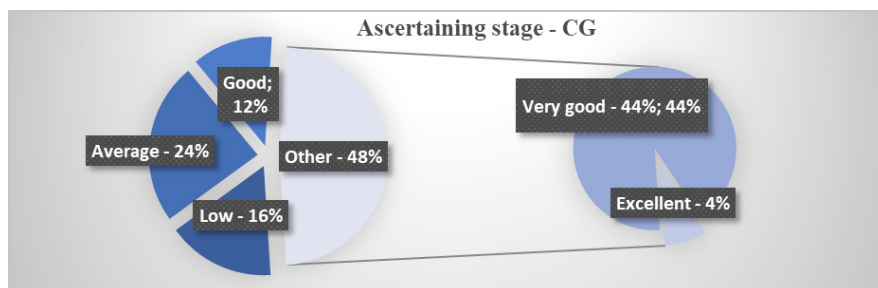


Figure 2. CG – ascertaining stage

When presenting the graphical image of the obtained results from figure 1, the results of 8a stand out, which generated the same results for: excellent, very good and poor success rate – 12% for each group. As the largest relative share, the students from the experimental group – 8th grade, registered results falling to the good level of success rate – 48%, which is almost half of all examined persons who took part in the ascertaining stage. The students who demonstrated an average level of achievement are a total of 16%. From the results in Figure 2, the results of the control group - 8b grade stand out, demonstrating a very good level of success – 44%, which is nearly half of all those who took part in the study. A weak level was registered by 16%, and by 8% more – 24% of students from 8b gave an average level. 12% of the students showed a good level, and only 4% of all got into the excellent level of success. It is positive that the students from both target groups largely covered the standards above the average level. In order for the research to be complete, the parameters of the elements were determined according to their various indicators: central tendency: arithmetic mean – $\bar{x}$, median – Me, mode – Mo; distribution: kurtosis – Ex and coefficient of asymmetry – Ka; scatter: standard deviation – σ , variance – σ^2 , range – R and coefficient of variation – V%.

The summarized data according to different criteria and investigated elements of variation series in ascertaining stage for the two target groups are presented in tables 1 and 2.

Table 1. EG – signs of ascertaining stage

Symbol	Name	Formula	Value
M_0	Mode	С най-много повторения (3) в числото 148	$M_0 = 148$
M_e	Median	$Me = \frac{Xn+1}{2} = \frac{25+1}{2} = \frac{26}{2} = 13$ $M_e = X_{13}$	$M_e = 146$

$\bar{x}$	Arithmetic mean value	$\bar{x} = \frac{\sum x_i \cdot f_i}{n} = \frac{3666}{25} = 146,66$	$\bar{x} = 146,66$
$X_{\max}$	Maximum value	$X_{\max} \{X(1), X(2), \dots, X(n)\} = X(n)$	$X_{\max} = 182$
$X_{\min}$	Minimum value	$X_{\min} \{X(1), X(2), \dots, X(n)\} = X(1)$	$X_{\min} = 120$
R	Amplitude	$R = X_{\max} - X_{\min}$	$R = 62$
σ	Standard deviation	$\sigma = \sqrt{\frac{\sum_{i=1}^k (\dot{x}_i - \bar{x})^2 \cdot f_i}{n}}$	$\sigma = 16,40$
σ^2	Dispersion	$\sigma^2 = \frac{\sum (x_i - \bar{x})^2 \cdot f_i}{n-1}$	$\sigma^2 = 270,20$
E_x	Excess	$E_x = \frac{1}{n} \sum_{i=1}^n \left(\frac{\dot{x}_i - \bar{x}}{\sigma^4} \right) - 3$	$E_x = 0,16$
K_a	Asymmetry factor	$K_a = \frac{\bar{x} - Mo}{\sigma}$	$K_a = 0,63$
$V\%$	Coefficient of variation	$V = \frac{\sigma}{\bar{x}} \cdot 100$	$V\% = 11,20$

The coefficient of variation $V\%$ stands out, which is between 10 and 30% ($V\% = 11.20$), therefore the sample is satisfactorily uniform. After substitution according to the formula for calculating kurtosis – E_x , a result equal to $E_x = 0.16$ is reported, which is a positive value and this gives reason to conclude that the distribution has relatively higher elevation than the normal distribution.

When calculating the coefficient of asymmetry, a positive number $K_a = 0.63$, ($K_a > 0$) is obtained, from which it follows that the peak of the empirical distribution is above the peak of the normal, therefore the distribution is right-skewed.

Table 2. CG – signs of the ascertaining stage

Symbol	Name	Formula	Value
M_0	Mode	С най-много повторения (2) са числата 127, 155, 166, 167	$M_{01} = 127$ $M_{02} = 155$ $M_{03} = 166$ $M_{04} = 167$

M_e	Median	$Me = \frac{Xn + 1}{2} = \frac{25 + 1}{2} = \frac{26}{2} = 13$ $M_e = X_{13}$	$M_e = 150$
$\bar{x}$	Arithmetic mean value	$\bar{x} = \frac{\sum x_i \cdot f_i}{n} = \frac{3670}{25} = 146,66$	$\bar{x} = 146,80$
X_{max}	Maximum value	$Xmax \{X (1), X (2) \dots X(n)\} = X(n)$	$X_{max} = 173$
X_{min}	Minimum value	$Xmin \{X (1), X (2), \dots X(n)\} = X (1)$	$X_{min} = 118$
R	Amplitude	$R = X_{max} - X_{min}$	R = 55
σ	Standard deviation	$\sqrt{\frac{\sum_{i=1}^k (x_i - \bar{x})^2 f_i}{n}}$	$\sigma = 17,70$
σ^2	Dispersion	$\sigma^2 = \frac{\sum (x_i - \bar{x})^2 f_i}{n - 1}$	$\sigma^2 = 313,30$
E_x	Excess	$Ex = \frac{1}{n} \sum_{i=1}^n \left(\frac{x_i - \bar{x}}{\sigma^4} \right) - 3$	$E_x = -1,32$
K_a	Asymmetry factor	$K_a = \frac{x - Mo}{\sigma}$	$K_a = -0,26$
$V_{\%}$	Coefficient of variation	$V = \frac{\sigma}{\bar{x}} \cdot 100$	$V\% = 12,10$

It is observed that the coefficient of variation $V\%$ of the control group is between 10 and 30% ($V\% = 12.10$), therefore the sample is satisfactorily uniform. After substitution according to the formula for calculating kurtosis – E_x , a result equal to $E_x = -1.32$ is reported, which as a result is a negative value and it can be concluded that the distribution has a relatively lower elevation than the normal distribution. When calculating the asymmetry coefficient, a negative number $K_a = -0.26$ ($K_a < 0$) is also obtained, from which it follows that the peak of the empirical distribution is below the peak of the normal, therefore the distribution is left-skewed. In order to present data from results obtained by different indicators, research elements of the variation order from the control stage, determining the initial level of general motor condition of the students from the two target groups, data are summarized according to different researched criteria in tables 3 and 4.

Table 3. Various signs EG – control stage

Symbol	Name	Formula	Value
Mo	Mode С най-много повторения (2) са числата (157, 170, 173, 174, 179, 180)		Mo1 = 157 Mo2= 170 Mo3= 173 Mo4 = 174 Mo5 = 179 Mo6 = 180
Me	Median	$Me = \frac{Xn + 1}{2} = \frac{25 + 1}{2} = \frac{26}{2} = 13$ Me = X13	Me = 176
$\bar{x}$	Arithmetic mean value	$\bar{x} = \frac{\sum x_i \cdot f_i}{n} = \frac{4459}{25}$ $\bar{x} = 178,36$	$\bar{x} = 178,36$
X max	Maximum value	X max {X (1), X (2)X(n)} =X(n)	$X_{\max} = 213$
X min	Minimum value	X min {X (1), X (2),X(n)} =X (1)	$X_{\min} = 152$
R	Amplitude	R= X max – X min	R = 61
σ	Standard deviation	$\sqrt{\frac{\sum_{i=1}^k (x_i - \bar{x})^2 f_i}{n}}$	$\sigma = 15,7$
σ^2	Dispersion	$\sigma^2 = \frac{\sum (x_i - \bar{x})^2 f_i}{n-1}$	$\sigma^2 = 246,9$
Ex	Excess	$Ex = \frac{1}{n} \sum_{i=1}^n \left(\frac{x_i - \bar{x}}{\sigma^4} \right) - 3$	Ex = 0,03
Ka	Asymmetry factor	$Ka = \frac{\bar{x} - Mo}{\sigma}$	Ka = 0,58
V%	Coefficient of variation	$V\% = \frac{\sigma}{\bar{x}} \cdot 100$	V% = 8,8

A coefficient of variation V% in the experimental group for the 8th grade is outlined – under V% = 10 – 8.8%, therefore, the dispersion of the sign is small and a uniform outgrowth is recorded. According to the formula for calculating

kurtosis – Ex, a result equal to Ex = 0.03 is reported, which as a result is a positive value – the degree of elevation compared to the normal distribution is small. The calculation of the asymmetry coefficient - Ka also gives a positive number Ka = 0.58, (Ka > 0), from which it follows that the peak of the empirical distribution is above the peak of the normal, which indicates that the distribution at the control stage is also with right drawn asymmetry.

Table 4. Results of various CG signs – control stage

Symbol	Name	Formula	Value
M_0	Mode С най-много повторения (2) са числата (120, 131, 143, 151)		$M_{01} = 120$ $M_{02} = 131$ $M_{03} = 143$ $M_{04} = 151$
M_e	Median	$Me = \frac{Xn + 1}{2} = \frac{25 + 1}{2} = \frac{26}{2} = 13$ $\square M_e = X_{13}$	$M_e = 150$
$\bar{x}$	Arithmetic mean value	$\bar{x} = \frac{\sum x_i \cdot f_i}{n} = \frac{4459}{25} = 178,36$	$\bar{x} = 147,08$
X_{max}	Maximum value	$X_{max} \{X(1), X(2) \dots X(n)\} = X(n)$	$X_{max} = 174$
X_{min}	Minimum value	$X_{min} \{X(1), X(2), \dots X(n)\} = X(1)$	$X_{min} = 120$
R	Amplitude	$R = X_{max} - X_{min}$	R = 54
σ	Standard deviation	$\sigma = \sqrt{\frac{\sum_{i=1}^k (x_i - \bar{x})^2 f_i}{n}}$	$\sigma = 16,4$
σ^2	Dispersion	$\sigma^2 = \frac{\sum (x_i - \bar{x})^2 f_i}{n - 1}$	$\sigma^2 = 268,7$
E_x	Excess	$Ex = \frac{1}{n} \sum_{i=1}^n \left(\frac{x_i - \bar{x}}{\sigma^4} \right) - 3$	$E_x = -1,01$
K_a	Asymmetry factor	$K = \frac{x - M_0}{\sigma}$	$K_a = -0,15$
$V_{\%}$	Coefficient of variation	$V_{\%} = \frac{\sigma}{\bar{x}} \cdot 100$	$V_{\%} = 11,10$

It is distinguished, the coefficient of variation V% in the control group between 10 and 30% (V% = 11.10), therefore the sample is satisfactorily uniform. After substitution according to the formula for calculating kurtosis – Ex, a result equal

to $Ex = -1.01$ is reported, which is a negative value, from which it is found that the distribution is relatively less elevated than the normal distribution. When calculating the coefficient of asymmetry – Ka , a negative number $Ka = -0.15$, ($Ka < 0$) is also obtained, from which it follows that the peak of the empirical distribution is below the peak of the normal, which means that the distribution is left-skewed asymmetry.

According to Fechner's formula, proposed in the experimental study, the correlation coefficient – R between the two variables is determined.

$$\text{Where: } R = \frac{a \cdot d - b \cdot c}{\sqrt{(a + b)(c + d)(a + c)(b + d)}}$$

a – high values for the test and high values for independent work

b – low values for the test and high values for independent work

c – high values for the test and low values for independent work

d – low values for the test and low values for independent work

The strength of correlation dependence between EG – input X and output Y – table 5.

Table 5. Correlation dependence EG – input X / output Y

Input EG	Factor (X)	Output EG	Consequence (Y)	X.Y	X ²
122	0,67	152	0,71	18544	14884
136	0,75	164	0,77	22304	18496
148	0,81	180	0,85	26640	21904
133	0,73	167	0,78	22211	17689
149	0,82	185	0,87	27565	22201
135	0,74	170	0,80	22950	18225
144	0,79	180	0,85	25920	20736
120	0,66	157	0,74	18840	14400
124	0,68	157	0,74	19468	15376
132	0,73	163	0,77	21516	17424
141	0,77	173	0,81	24393	19881
146	0,80	176	0,83	25696	21316
143	0,79	174	0,82	24882	20449
149	0,82	186	0,87	27714	22201
139	0,76	174	0,82	24186	19321
163	0,90	195	0,92	31785	26569

	177	0,97	208	0,98	36816	31329
	148	0,81	173	0,81	25604	21904
	167	0,92	196	0,92	32732	27889
	182	1,00	213	1,00	38766	33124
	143	0,79	170	0,80	24310	20449
	148	0,81	179	0,84	26492	21904
	178	0,98	205	0,96	36490	31684
	147	0,81	179	0,84	26313	21609
	152	0,84	183	0,86	27816	23104
Σ	3666	20,14	4459	20,93	18544	14884
	K _{cp} = 0,81		K _{cp} = 0,84		y = 0,8017x + 0,1914	
R = 0,98					R ₂ = 0,9635	
y=a+b.x						

To build the regression model of dependence, the data from table 5 were used and the parameters were estimated by the following regression equation:

$y = a + b \cdot x$ where:

y – Dependent variable

a – Free member

b – Regression coefficient

x – Factor variable

The following formulas were used to find the free term ‘a’ and the regression coefficient ‘b’:

$$b = \frac{n \cdot \sum x \cdot y - \sum x \cdot \sum y}{n \cdot \sum x^2 - (\sum x)^2}$$

$$a = \frac{1}{n} \cdot (\sum y - b \cdot \sum x)$$

Parameter 1 – a = 0.19

Parameter 2 – b = 0.80 (regression coefficient) at n=25

In the case of coefficient of determination – R² = 0.96 and shows how much percentage is due to the change of the factor.

Completed, the regression model looks like this:

$$y = 0.19 + 0.80 \cdot x$$

The equation is interpreted as follows: Increasing the scores of the incoming EG examination by one point will increase the score by 0.8 points on the outgoing EG examination score. In order to make the study more precise between the

interrelationships of the EG (input level – X) and EG (output level – Y) results, a scatter plot was constructed, on which, along the abscissa axis (X), the results of the input were plotted study, and on the ordinate axis were positioned the results of the exit study of the experimental group. Figure 3 graphically presents the distribution of the empirical data along the two variables X and Y, as well as the correlation found between them.

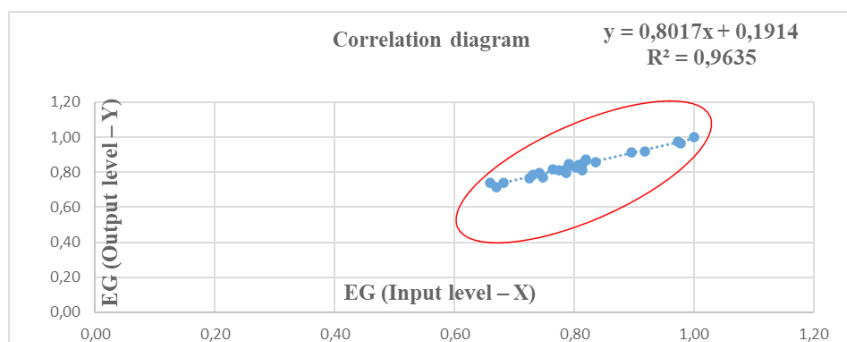


Figure 3. Scatter plot of the two variables X and Y

From the diagram in Figure 3, it is clearly observed that the variation of the unit definitions is very close, which gives reason to assume a strong correlation dependence between the quantities X and Y. The shape of the scattering cloud resembles the shape of an ellipse whose axis is not parallel on the coordinate axes, which gives reason to conclude that the correlation dependence is unidirectional (ascending) and has a linear form. In order to examine the interrelationships between the results of CG (input level – X) and CG (output level – Y), a scatter diagram was constructed, on which the results of the input study are plotted on the abscissa (X) and the results of the ordinate are plotted on the ordinate axis are the results of the control group's exit survey. Figure 4 presents the statistics in the form of a graph.

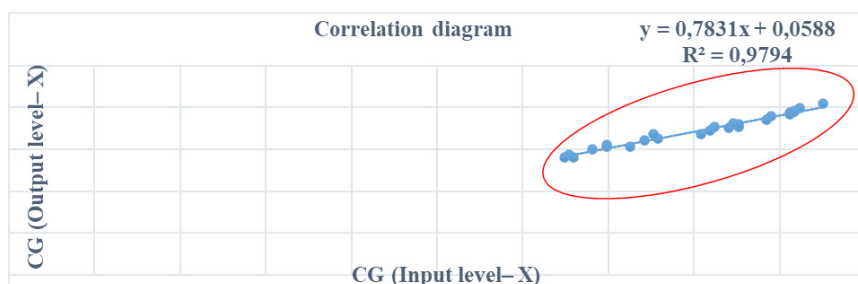


Figure 4. Scatterplot of the two variables X and Y

From the diagram in Figure 4, it is clearly observed that the variation of the unit definitions is very close, which gives reason to assume a strong correlation dependence between the two variable quantities – X and Y. The shape of the scattering cloud resembles the shape of an ellipse, whose axis is not parallel to the coordinate axes, which gives reason to conclude that the correlation dependence is unidirectional (ascending) with a linear form. When examining the interrelationships between the results of EG (input level – X) and CG (input level – Y), a scatter diagram was constructed, on which the abscissa (X) is plotted with the results of the experimental group's input study, and the ordinate is the results of the entrance examination of the control group are positioned. Figure 5 presents the statistics in the form of a graph.

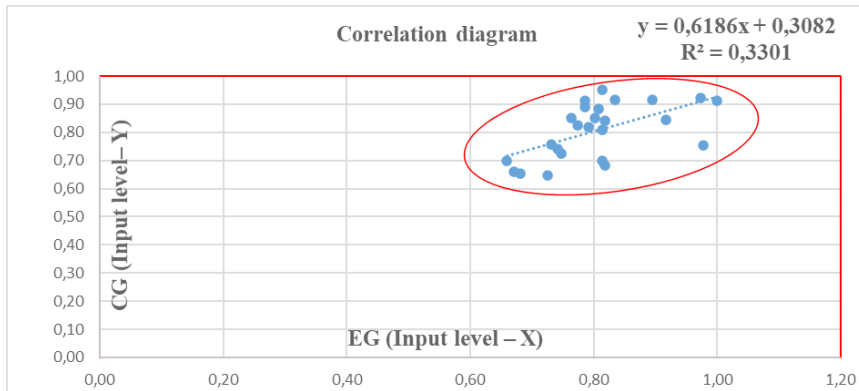


Figure 5. Scatterplot of the two variables X and Y

From the diagram in Figure 5, it is clear that the variation of the unit definitions is not as close as the previous two comparisons, which suggests a significant correlation between the two variables X and Y. The shape of the scatter cloud resembles the shape of the ellipse, although it is much more elongated, its axis is parallel to the coordinate axes, which gives me reason to state that the correlation dependence is one-way (ascending) and has a linear form.

In the study of the interrelationships between the results of EG (initial level – X) and CG (initial level – Y), a scatter diagram was constructed, on which, on the abscissa axis (X), the results of the initial examination of the experimental group were plotted, and on the y-axis is the outcome of the control group. Figure 6 presents statistical data in the form of graphical interpretation.

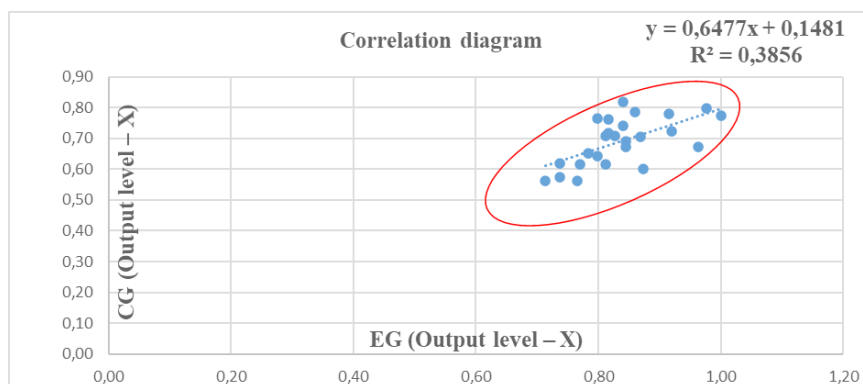


Figure 6. Scatter plot of the two variables X and Y

From the diagram in Figure 10, it is clearly observed that the variation of the unit definitions is not as close again as in the third comparison, which suggests a significant correlation dependence between the two variable quantities – X and Y. The shape of the scatter cloud resembles the shape of the ellipse, although it is much more elongated, its axis is parallel to the coordinate axes, which gives reason to state that the correlation dependence is one-way (ascending) and has a linear form.

Discussion

The result obtained is again a positive number $R = 0.62$ and is classified as a significant correlation (it falls in the range $-0.5 < R < 0.7$ – significant correlation). From the fact that the correlation has a straight dependence and a positive sign, it follows that when X increases, Y increases with the same force. When generalizing the information from regression and correlation studies, it can be concluded that the strongest dependence is at the items at the entry and exit level of the experimental group - with a reported correlation coefficient $R = 0.98$, which shows once again that the relationship between the items is very strong and with a regression model $y = 0.19 + 0.80x$, as well as with a coefficient of determination $R^2 = 0.96$, indicating in turn the finding of the highest regression coefficient 0.80, which also marks the highest achievements of the comparisons conducted.

Based on these results, it can be concluded that the level of achievement of EG on this indicator has increased significantly and probably the imposition of the new training method through Tabata has influenced to increase the level of the general motor condition of high school students in EG .

Conclusion

Based on synthesized results from the entry and exit level of the studied contingent from the ascertaining and control stages of the two target groups, mathematical and statistical methods were used in the processing of the empirical data, assuming the proof of the working hypothesis.

According to which, the application of the new innovative technology for the development of general motor condition, based on the Tabata method in the first high school stage, will increase the number of students who have covered a high educational standard and will improve the effectiveness of motor-oriented training. In order to statistically check whether this is the case, it is necessary to formulate two hypotheses – null and alternative.

The null hypothesis (H_0) is essentially an assumption of a null effect or the so-called null difference. It suggests that when empirical data show some differences, they are due to random factors.

The alternative hypothesis (H_a) claims exactly the opposite – according to it, the differences observed in the empirical data (effect, dependence) are the result of factors acting regularly (Georgieva, Kamenarova 2014). To test both hypotheses, I used Student's t-test. Its application is for small and medium samples, for example below 100. In this particular case, the volumes of both samples are the same – 25 elements each. It is based on the fact that for small and medium samples the variances of the two distributions are close in value. Differences between means were compared for hypothesis testing. According to this method, the null hypothesis is accepted or rejected depending on the obtained difference – H_0 : if $(\bar{x}_0) = \bar{x}$; On: if $(\bar{x}_0) \neq \bar{x}$;

Legend:

$\bar{x}$ – average arithmetic value of the data obtained from the initial measurement of EG

$(\bar{x}_0)$ – average arithmetic value of the data obtained from the input measurement of the EG

σ_0 – standard deviation of the first EG measurement

n – number of students (25)

$$t_{em} = \frac{\bar{x} - \bar{x}_0}{\frac{\sigma_0}{\sqrt{n}}} = \frac{178,36 - 146,64}{\frac{16,4}{5}} = \frac{31,72}{3,28} = 9,67$$

The critical region of the hypothesis (H_0) is two-sided because of the two-way inequality defined in Na. The tabular value is then determined at the selected risk of error (5%), two-sided critical region, and degrees of freedom: $\Phi = n - 1 = 24$, statistical significance level $\alpha = 0.05$ or 0.95 order quantile (certainty level of the result).

From a table of quantiles of a T-distribution: where 1.7109 for a t-distribution -

$$t_{\tau} \left[\begin{array}{c} \alpha = 0,05 \\ \text{КО двустранна} \\ \Phi = n - 1 = 24 \end{array} \right] = 1,7109.$$

Since, $t_T = 1.7109 < t_{em} = 9.67$, it can be concluded that the alternative hypothesis (H_a) is accepted as valid. A statistically significant difference (dependency) was observed between the research characteristics at the entry and exit level of the experimental group, due to the application of the innovative technology at the high school stage.

Based on this finding, it can be concluded that the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted, that is, the statement that the increase in post-test results is reduced to random factors, decreasing the overall motor activity of the research is due to the applied innovative training technology based on the Tabata interval method.

NOTES

1. Physical Education and Sports - a discipline in the Bulgarian education system

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