



Science, Movement and Health, Vol. XIX, ISSUE 2 Supplement, 2019
September 2019, 19 (2 supplement): 289 - 297
Original article

STUDY ON TEACHING OF PHYSICAL EDUCATION PROFESSIONAL EDUCATION

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Abstract.

Qualitative changes suffered by the substantial educational system under the umbrella of curricular reform involving a fundamental change designed and achieved at the level of the education / education system in its orientation (change of finality), in its structure (basic, material, relationship, leadership) and in the content of the training process (change of the curriculum, of the school / pre-university programs).

In this context, it is necessary to rethink and restructure the process of physical education and professional education (high schools with a tourism oriented profile), in accordance with the requirements and exigencies of the professional profiles for which the students are training.

The actuality of these actions is obvious, since in high school at the same year of study the same physical education program applies without this being correlated with the qualifications and specializations the graduates will gain in the future.

The content of the school curricula and of the physical education lessons in professional education should provide its students with the development of basic and specific motor skills in order to successfully integrate themselves into the labor market.

Objective. The aim of the research is to investigate the level of psycho-trainer training of 10th grade students, vocational training, qualification of hotel workers, following a modular program of physical education adapted to the requirements of professional profiles.

Methods. In the research we used the method of pedagogical observation, the questionnaire method and the opinion poll and the experimental method.

Results. The results obtained showed that the operational structures used by us in the modular curriculum contribute to the formation of motor skills of a structure close to the professional ones, contributing to the increase of the work efficiency, to the training of the body for variable demands - specific to the profession, but also to the compensation of the stressful states.

Conclusions. It is necessary for the physical education teacher to know the elements of the professions for the trades for which the pupils are trained and to orient their planning and teaching contents in order to develop the specific skills necessary for the profession of the graduates in tourism.

Key words: vocational education, modular program, professional physical education, professional profile.

Introduction

The educational system undergoes substantial qualitative changes under the impact of curricular reform, which implies a fundamental change designed and achieved at the level of the education / education system, in its orientation (change of finality), in its structure (material basis, relationship, leadership) and in the content of the training process (changing the curriculum, programs and textbooks / school / pre-university courses, other materials for learning) "(Cîrstea, 2000).

We consider that it is necessary to intervene in the process of elaboration of the curricula of physical education, vocational education, quality and differentiated according to the profile and specializations of the high school (Goryachev, 2007).

Physical education acquires new dimensions and new valences in the formation of human personality, which leads to the need to revise the instructional objectives specific to physical education, prioritization within them, or even renewing the training strategies aimed at achieving

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Received 1.03.2019 / Accepted 5.05. 2019

* the abstract was published in the 19th I.S.C. "Perspectives in Physical Education and Sport" - Ovidius University of Constanta, May 16-18, 2019, Romania

the goals claimed by the social order (Dragomir, Scarlat, 2004). The professional training of future graduates depends to a large extent on the curriculum, the curricular content of each subject taught.

In order to offer quality services in accordance with the legal requirements of occupational standards, staff working in this field require strong initial qualification, which is achieved in high-school

tourism as well as lifelong qualification (Kvartalnov, 2000).

In Romania, technological high schools prepare pupils for insertion into the labor market (Table 1). Within these Lyceums for the Services profile, at the end of the lower level qualification level II, there are the following fields and qualifications / occupations (O.M.E.C.T.S. No 3331/2010): camerist, lifter, valet.

Table 1 .. Fields and Qualification for the Qualification Level I, II, III Qualifications profile (O.M.E.C.T.S. 3331/2010)

Class a-IX (level I)	Class a-Xa (Level II Qualification)		Class A-XI (Level III Qualification)		
Domain	Domain	Qualification	Domain	Qualification	
Tourism & Food	Tourism	Hotel Worker (camerist, lifter, valet)	Tourism and food	Technician in high school Tourism	Secondary
		Alimentație		Food Waiter (waiter) seller in catering units	Technician in High School Hotel
	Confectioner- pastry			Technician in high school gastronomy	Secondary
	Cook			Worker in food	Professional
		Worker in food		Professional	
			Banqueting organizer	Secondary	

Student education and training is carried out in vocational school through the contribution of all studied subjects (Kvartalnov A.V., Soloduhina O.I, 1999). The training of students in vocational education is carried out by applying the framework plans for this level of education (OMEN No. 3915/2017).

Among these disciplines, physical education has the greatest potential to contribute to the development of both sides of the personality of the pupils (physical and psychic), which complement each other and manifest themselves as a whole. In order to achieve an effective didactic approach, it was impetuous to elaborate a concept of a didactic model specific to the physical school education comprising the synthesis of the objectives and competences present in all school curricula with methods and means appropriate to each level of education (Scarlat, Scarlat, 2000).

Methods

Organizing investigative inquiries has allowed our research to obtain, in a short time

(September 2016 - June 2018), a large amount of information on the views of 150 undergraduate students in the lower cycle of the lyceum. The applicant was made up of nine (nine) questions and was applied to determine the motivation for which students participate in physical education lessons and how they understand the influence of physical education on professional training. There were selected and tested psycho-motric, two groups of the vocational school of "C.A.Rosetti" Technological High School, Constanta. The experimental group consisted of 24 pupils of the X-th grade B and a control group of 28 pupils from X grade A class.

Results

The results of questioning pupils, with the specialization of tourism and food, regarding the share of physical education classes in the school program, show that 56% of the students questioned consider that 2-3 hours of physical education per week would be sufficient.

Questioning pupils about why they attended physical education and sports classes highlighted the results presented in Figure 1.

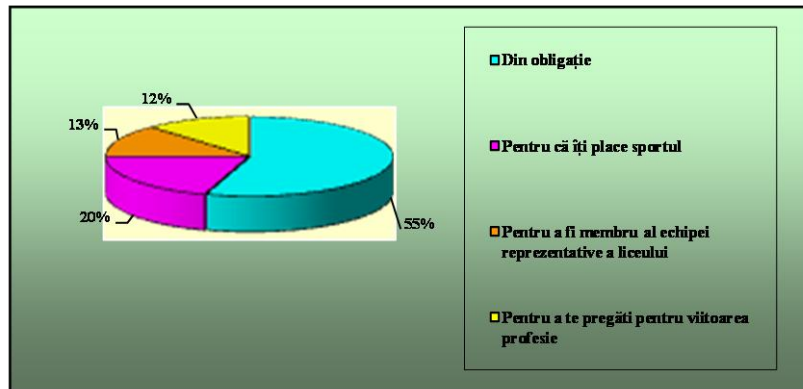


Fig. 1. Results of student questioning on why they attend physical education classes

To the extent to which physical education contributes to vocational training (No. 6), students answer that this discipline does not influence their professional training, 39% of the students say that physical education has little influence. Analyzing the

answers to the questions in the questionnaire (Table 2) it can be seen that they do not sufficiently understand the importance of practicing physical exercises for their future professional training, e on their formation.

Table 2. The results obtained after applying the pupils questionnaire

Nr. crt.	Question	Variant 1 Response	Variant 2 Response	Variant 3 Response	Variant 4 Response	Variant 5 Response
1.	Do you attend physical education and sports classes in your school curriculum?	Yes - 96 %	Not – 4 %	-	-	-
2.	In middle school you attended physical education and sport in the curriculum?	Yes - 96 %	Not – 4 %	-	-	-
3.	The reason why you presented yourself at physical education and sports classes?	Of obligation - 49%	Because you like sport and movement - 30%	In order to be a member of the representative team of the high school - 15%	To prepare for your future profession - 6%	-
4.	In your opinion, the weight of physical education classes in the weekly school program should be.	1h / week - 23%	2-3 h/ week. - 56 %	4 or more hours / week - 21%	-	-
5.	What place do you have physical education and sport discipline in the group of high school disciplines?	1st, 2nd, 3rd -21%	Place 4-5 - 43%	A place 6 or more than 6 -36%	-	-

6.	To what extent do you consider that physical education and sport can influence the quality of your training in the future profession?	Not at all - 39%	To a small extent - 33%	To some extent - 29%	To a great extent - 15%	To a very large extent - 5%
7.	Do you consider that physical education training contributes to your training as a tourist worker?	Yes - 17%	Not - 83%	-	-	-
8.	What do you think is most important to learn / educate for professional training as a future tourism worker?	Driving qualities - 27%	Driving skills - 27%	Sports Games - 46%	-	-
9.	After graduating from high school, will you practice exercises?	Yes - 56%	Not - 44%	-	-	-

Through the applied questionnaire, we were interested in obtaining information on practicing physical exercise outside the classroom and especially after completing high school studies. In this respect, the answers of the subjects are reported in the proportion of 56% yes and in proportion of 44% do not. The question: "Do you drive daily, weekly or monthly activities?", accounting for 8% daily, 21% weekly and 71% monthly.

In the experiment were recorded measurements of anthropometric parameters, physiological indices, general and specific motor

skills in the control group and initial and final experiment. In the research process the results obtained were statically and mathematically interpreted for both girls and boys. Comparative analysis of the anthropometric indices recorded in the anthropometric measurements in the experimental and control groups (initial and final testing). According to the establishment of the structure in Tables 3 and 4, statistical data are processed according to the following parameters: height, weight, range, thoracic perimeter, thorax inspiration, exhalation and chest elasticity.

Table 3. Results of anthropometric tests (experimental and control groups)

Nr. crt.	Test	Group	Statistical data		T	P
			Initial Testing	Final Testing		
			$\bar{X} \pm m$	$\bar{X} \pm m$		
1.	Height (cm)	E 17	172,23 ± 2.22	173.41 ± 1.94	2.94	<0,01
		M 18	172,16 ± 1.92	173.33 ± 1.92	1.76	>0,05
		T	1.28	0,11	-	-
		P	>0,05	>0,05	-	-
2.	Weight (kg)	E 17	70,47 ± 3.06	69.58 ± 3.34	0.77	>0,05
		M 18	70,83 ± 2.19	69.72 ± 2.47	1.38	>0,05
		T	0,38	0,13	-	-
		P	>0,05	>0,05	-	-
3.	Span (cm)	E 17	172,70 ± 3.06	175.00 ± 2.50	2.31	<0,05
		M 18	172,39 ± 3.57	173.83 ± 3.29	1,22	>0,05
		T	0,27	1.14	-	-
		P	>0,05	>0,05	-	-
4.	Chest perimeter in inspiration (cm)	E 17	92.47 ± 2.78	93,11 ± 2.50	0.69	>0,05
		M 18	93.77 ± 2.47	92,94 ± 2.74	0.92	>0,05
		T	1.42	0.18	-	-
		P	>0,05	>0,05	-	-
5.	Chest perimeter in exhalation	E 17	87,05 ± 1.67	86,76 ± 2.22	0,42	>0,05
		M 18	87,44 ± 2.47	86,94 ± 4.39	0,40	>0,05

	(cm)	T	0,52	0.14	-	-
		P	>0,05	>0,05	-	-
6.	Chest perimeter (cm)	E 17	89,29 ± 2.50	89,52 ± 2,50	0.26	>0,05
		M 18	89,88 ± 1.64	89,55 ± 1.92	0.54	>0,05
		T	0,80	0,03	-	-
		P	>0,05	>0,05	-	-
7.	Chest elasticity (cm)	E 17	5.41 ± 1.39	6,35 ± 1.11	2.11	<0,05
		M 18	6,16 ± 0.82	6,55 ± 0,82	1.37	>0,05
		T	1.88	0.59	-	-
		P	>0,05	>0,05	-	-

The statistical analysis was performed in two ways, the first referring to the statistical analysis of unconjugated samples data, which aimed to obtain the differences between the initial and final indices of the experimental and control groups. The second way was to establish the differences between the conjugate samples at the initial stage compared to the final stage of the experiment.

Thus, analyzing the data of the pupils of unconjugated (experimental and control) samples at the initial stage, it was established that there is no significant difference between the studied parameters, where the significance threshold is greater than 0.05 ($p > 0.05$). Analyzing the final results between the experimental and control groups, the same situation is observed $p > 0.05$.

Table 4. Results of anthropometric tests (experimental and control-boys)

Nr. Crt.	Test	Group	Statistical data		T	P
			Initial Testing	Final Testing		
			$\bar{X} \pm m$	$\bar{X} \pm m$		
1.	Height (cm)	E 7	178.71±5.55	181,57±5.92	0.86	>0,05
		K 10	178,00±6.49	179,20±6.49	0.39	>0,05
		T	0,22	0,73	-	-
		P	>0,05	>0,05	-	-
2.	Weight (kg)	E 7	76,00±3.33	75,14±3.70	0.42	>0,05
		K 10	74,20±4.22	73,10±4.54	0.53	>0,05
		T	0,91	0,95	-	-
		P	>0,05	>0,05	-	-
3.	Span (cm)	E 7	179.28±6.29	182,28±6.66	0.80	>0,05
		K 10	176,70±8.11	178.30±7.79	0.42	>0,05
		T	0,69	1.05	-	-
		P	>0,05	>0,05	-	-
4.	Chest perimeter in inspiration (cm)	E 7	96,00±2.59	96,71±2.22	0.51	>0,05
		K 10	93,80±2.59	93.90±2.92	0.07	>0,05
		T	1.60	2.11	-	-
		P	>0,05	>0,05	-	-
5.	Chest perimeter in exhalation (cm)	E 7	89,71±1.85	89.28±2.22	0,36	>0,05
		K 10	88,20±0.97	87,10±2.92	1.07	>0,05
		T	1.84	1.64	-	-
		P	>0,05	>0,05	-	-
6.	Chest perimeter (cm)	E 7	92,71±2.22	92,57±1.85	0.12	>0,05
		K 10	91,10±1,62	91.40±1.62	0.39	>0,05
		T	1.52	1.25	-	-

		P	>0,05	>0,05	-	-
7.	Chest elasticity (cm)	E 7	7.14±1.11	7.71±0,37	1.19	>0,05
		K10	6,80±1.29	7.50±0,97	1.29	>0,05
		T	0,54	0.59	-	-
		P	>0,05	>0,05	-	-

Statistical results obtained between the conjugate samples of the experimental group / initial and final faces revealed that the "waist" and "span" parameters showed statistically significantly better differences compared to the initial testing ($t = 2.94$, $p < 0,01$ - at the waist and $t = 2.31$, $p < 0.01$ - at the span). There was no significant difference in any of the indices in the control group of girls between the initial and final testing ($p > 0.05$).

The analysis performed shows that the subjects included in the experiment (the experimental and control group) have a dynamic development due to the physiological transformations that take place during the pubertal and postpubertal period of the organism. At this stage the children grow in height, the bone and cartilage system grows intense, so body weight increases.

The insignificant differences in the thoracic parameters are explained by the fact that these children do not have a sufficient development of the respiratory and muscular system, which however led to higher values of the indices analyzed in the final test, but without significant differences as we shown above.

To better illustrate the differences between groups, the averages of control groups and experiment are presented below.

It is noted that from one test to another, the values of the "height" parameter increase due to a normal evolution in both the experimental and the control group, with no statistical significance being recorded in the case of the girls experiment group, the Student t test is 2,94 - and the significance threshold is $p < 0.01$.

Analysis of the "weight" parameter records decreases in the initial and final testing indices in both groups, both for girls and boys, but the decrease is not statistically significant.

The application of the modular physical education curriculum developed for the high-school students studied the development of general and specific motor skills oriented to optimize professional training. For the evaluation, general and specific motricity tests were applied.

The results of the 50 m high-speed general motorship test, long-distance jump, abdomen, trunk extensions, 800/1000 m running, flotation applied to the experimental and control groups, boys and girls are shown in Tables 5 and 6.

Table 5. Results of general motor function test (experimental and control groups - girls)

Nr. crt.	Test	Group	Statistical data		t	P
			Initial Testing	Final Testing		
			$\bar{X} \pm m$	$\bar{X} \pm m$		
1.	Speed Running 50 m (sec)	E 17	8,52±0,30	8,25±0,27	2.61	<0,05
		K 18	8,42±0,21	8,34±0,24	0,96	>0,05
		t	1,08	0,99	-	-
		P	>0,05	>0,05	-	-
2.	Jump length place. (cm)	E 17	166,64±8.35	174,76±5.57	3.23	<0,01
		K 18	167,38±4.12	169.88±2.74	2,08	>0,05
		t	0,32	3.15	-	-
		P	>0,05	<0,01	-	-
3.	Abdomen (Rep. no.)	E 17	21,94±2.78	24,58±2.78	2.68	<0,01
		K 18	22,77±1.92	22,88±1.37	0,19	>0,05
		t	0,99	2,20	-	-
		P	>0,05	<0,05	-	-
4.	Trunk	E 17	19,70±2.78	22,82±2.22	3,49	<0,01

	extensions (Rep. no.)	K 18	20.05±1.64	21,22±1.64	2.06	>0,05
		t	0,43	2,33	-	-
		P	>0,05	<0,05	-	-
5.	Running. Resistance 800 m (min)	E 17	2.88±0.20	2.50±0.16	5.71	<0,001
		K 17	2.81±0.19	2.75±0.16	0,99	>0,05
		t	1.01	4.32	-	-
		P	>0,05	<0,001	-	-
6.	Pushups (Rep. no.)	E 17	6,64±1.67	8,94±1.67	3,88	<0,001
		K 18	6,61±1.64	7,50±1.64	1,57	>0,05
		t	0,06	2,49	-	-
		P	>0,05	<0,05	-	-

Statistically processed data in general motricity tests reflect two ways, the first referred to the statistical analysis of unconjugated sample data, in which the differences between the initial and final indices of the experimental and control groups were

sought. The second way was to establish the differences between the conjugate samples at the initial stage compared to the final stage of the experiment.

Table 6. Results of General Motricity Tests (experimental groups (n = 7 and control (n = 10) - boys)

Nr. crt.	Test	Group	Statistical data		t	P
			Initial Testing	Final Testing		
			$\bar{X} \pm m$	$\bar{X} \pm m$		
1.	Speed Running 50 m (sec)	E 7	7,55±0,33	7,30±0,33	1.33	>0,05
		K 10	7,68±0,29	7,67±0,22	0,08	>0,05
		T	0,73	2,37	-	-
		P	>0,05	<0,05	-	-
2.	Jump length place. (cm)	E 7	200,00±12.96	214.28±7.40	2.34	<0,05
		K 10	195,50±8.11	199,50±8.11	1.04	>0,05
		T	0.75	3.64	-	-
		P	>0,05	<0,01	-	-
3.	Abdomen (Rep. no.)	E 7	26,28±1.11	28,71±1.11	3,78	<0,01
		K 10	25,30±1.62	26,00±1.29	1.01	>0,05
		T	1.39	4.32	-	-
		P	>0,05	<0,001	-	-
4.	Trunk extensions (Rep. no.)	E 7	22.00±1,48	26,85±2.22	4.45	<0,01
		K 10	21.10±1.29	22.00±1.29	1.47	>0,05
		T	1.21	4.83	-	-
		P	>0,05	<0,001	-	-
5.	Running. Resistance 800 m (min)	E 7	2.73±0.20	2.41±0.10	3,43	<0,01
		K10	2.88±0.17	2.73±0.17	1.84	>0,05
		T	1.45	4.33	-	-
		P	>0,05	<0,001	-	-
6.	Pushups (Rep. no.)	E 7	8,42±1.85	11,28±1.85	2.67	<0,05
		K10	7,50±0,97	9,50±0,64	5.12	<0,001
		T	1.12	2,27	-	-
		P	>0,05	<0,05	-	-

Analyzing the data obtained in the general motricity tests of pupils of nonconjugated

samples (experimental and control) at the initial stage, it was established that there are no significant

differences between groups of all tested values, where the significance threshold is greater than 0.05 ($p > 0.05$).

Analyzing the final results between the experimental and control groups, statistically significant differences ($p < 0.05, 0.001$) were found in favor of the experimental group on all samples except for "speeding" in girls.

The statistical results obtained between the conjugate samples of the initial experimental group demonstrate significant differences in the following tests: 50 m running speed ($D = 0,27$ sec.) Drop length ($D = 8,12$ cm for girls and $D = 14.28$ cm in boys) abdominal force ($D = 2.64$ in girls and 2.43 in boys), back muscular force ($D = 3.12$ in girls and

$D = 4.85$ in boys) 800 m (girls, $D = 0.38$ sec.) and 1000 m (boys, $D = 0.32$ sec.), and flotation ($D = 2.3$ rpm and $D =$ boys) at $p < 0.05, 0.01, 0.001$. Exceptions make the boys experiment group at the speed test where they do not make statistically significant progress from initial testing to final testing. In contrast, in the initial and final control group the differences are not statistically significant, $p > 0.05$, with the exception of the flotation test in the boys control group, where $t = 5.12$, the differences being distinctly significant, $p < 0.001$.

To highlight the values of the general motricity tests, these values are compared in the following figures: at the speed-running in Figures 3 .. and 4, in the long jump in place.

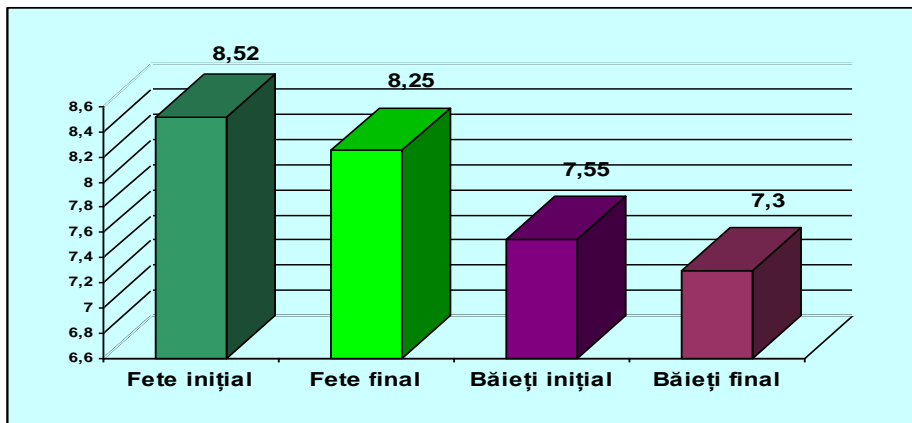


Fig. 3. Speed-Running Results, Experiment Group

Taking into account that at this age little influence of speed development can be influenced, consider the progress of 0.27 sec considerably. in girls and 0.25 sec. to boys.

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From Figures 3 . and 4, an improvement in the 50 m test run time is seen in both experimental and control group with 0.25 sec. in boys experiment and with 0.01 sec. in the control boys group. However, from a mathematical point of view the differences between the initial testing and the final testing are not statistically significant.

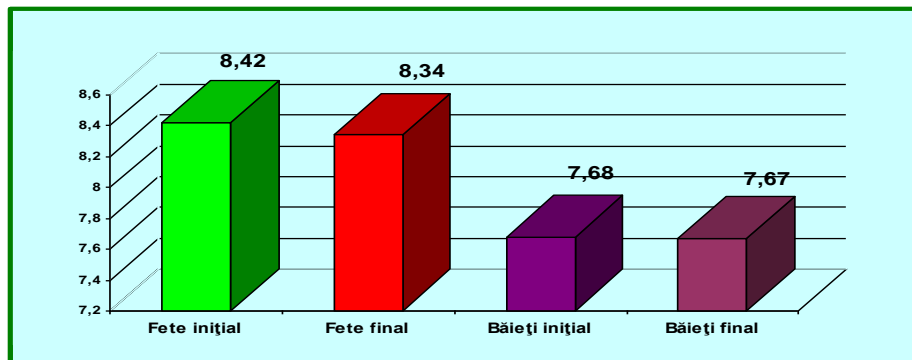


Fig. 4. Speed-running results, control group

Conclusions

Regarding the somatic development we can state that the experimental subjects have a normal evolution at all measured parameters. The analysis carried out allows us to find that subjects included in the experiment both experimental group and control group have a dynamic development. Parameters: waist, weight, range, thoracic perimeters, and thoracic elasticity have evolved from initial testing to final testing, but increases are not statistically significant except for chest, spine, and thoracic elasticity ($p < 0.05$) experimental group.

Physiological parameters have highlighted improvements in vital capacity and effort capacity. The comparative analysis of final test data highlights the program applied to the experimental group with significant differences at $p < 0.05$ at all recorded values.

The best results are recorded by the experimental group in all general motricity samples where from the initial testing to the final test the difference between the averages is statistically significant at the significance threshold of $p < 0.001$, 0.01, 0.05. Compared to the control group, the experiment group has significance in final testing at all registered parameters except for the girls' speed sample, and this is explained by the fact that motor quality is harder to achieve at this age.

Specific tests of psychomotricity reveal, based on comparative analysis, that the program applied to the experimental group determined a real progression to all the indices both from initial testing to final and improved for the developmental indices of equilibrium, execution speed, skill, coordination and distribution attention.

Thus, we can state that the modular curriculum developed in accordance with the professional profile of the tourist worker has been effective, has produced improvements to all measured parameters compared to the control group, which worked the same number of hours but according to the existing curriculum.

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