

THE DYNAMICS OF PHYSICAL AND MENTAL HEALTH OF STUDENTS OF ECONOMIC SPECIALTIES IN THE COURSE OF EMPLOYMENT AQUA

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Annotation. The objective was to determine the effect of fitness classes for aqua to physical and mental fitness of students of economic specialties. The volume of the experimental sample consisted of 69 female students basic medical group aged 17-18 years. Analysis of the results was carried out according to the Harvard step test, and the results of the speed and accuracy of processing visual information using alphabetical table Anfimova. Comparative analysis of the data showed the trend more pronounced positive changes in the physical and mental health of students of the experimental group 1 and experimental group 2. The low level of the index of physical performance within 42.39 was observed in the control group. Increase speed and accuracy of processing visual information in the control group not observed.

Keywords: students, physical, thinking, operability, aqua fitness.

Introduction

Substantial studying of work specificities of economic specialties' specialists [4;10] permitted to determine that such activity requires peculiar professional qualities (quick remembering, maintaining of high workability during long period of time, resistance to external interferences, ability to quickly find and correct own mistakes, maintain high rate of functioning and so on). It is known that professionally significant qualities of a person in any working process can be constantly improved. Efficiency of this process may be significantly increased, if to develop such qualities intentionally, especially on the stage, which coincides with vocational education [8;11;12].

According to data of Ye.O. Yaremko (2009), V.A. Maliovaniy (2011) physical and mental workability of a person have common physiological basis of supply systems, which are interconnected [8;13]. Reducing of physical workability's level results in further worsening of mental functioning's efficiency [2;5;7].

Analysis of scientific literature [1;3;14-18] proves the opinion that changes, which take place in students' organisms under influence of different health related programs, facilitate acceleration of adaptation processes, optimize students' physical condition, their physical and mental workability.

Therefore, creation of conditions, facilitating improvement of adaptation, videlicet: introduction special targeted exercises with innovative programs and technologies in students' physical education, will positively influence on organism's functional abilities as well as facilitate optimization of their workability.

But, in spite of great number of works dealt with these problems, there are still questions, requiring additional researches. They are connected with specificity of education, conditions of activity, natural factors, innovative kinds of physical culture, health related programs and technologies in students' physical education.

That is why in our work main attention was paid to studying of physical and mental workability of economic specialties' students under influence of aqua-fitness health related trainings.

Purpose, tasks of the work, material and methods

The purpose of the work: to determine influence of health related aqua fitness trainings on physical and mental workability of girl-students of economic specialties.

The methods of the research. In our work we used the following methods:

- ✓ Theoretical analysis and generalization of literature sources' data;
- ✓ Speed of visual information's processing (SVIP);
- ✓ Preciseness of visual information's processing (PVIP);
- ✓ Index of Harvard step-test (IHST).

In our research girl-students of Ukrainian bank academy of National bank of Ukraine (hereinafter called UBA NBU) and girl-students of Sevastopol bank institute of Ukrainian bank academy of National bank of Ukraine (hereinafter called SBI UBA NBU) took part. The participants were divided into three groups: girl students of control group (CG, $n=24$) of UBA NBU were trained as per traditional program; girl students of experimental group 1 (EG-1, $n=23$) of SBI UBA NBU and girl-students of experimental group (EG -2, $n=22$) of UBA NBU were trained by developed by us aqua-fitness program [10].

Results of the research

The research of dynamics of physical and mental workability of girl-students, specializing in economics was carried out during two years (2011–2012, 2012–2013). Comparative analysis of the obtained results is presented in table 1. At the beginning of experiment all indicators in the tested groups had no confident differences.

Table 1.

Indicators of physical and mental workability of girl-students (2011 - 2013)

Indicators	Groups	n	Experimental data	Mx ± Smx	P
Physical workability (IHST)	EG1	23	ID	42.16 ± 0.17	<0.001
			CD	58.88 ± 0.34	
	EG 2	22	ID	42.45 ± 0.21	<0.001
			CD	56.28 ± 0.26	
	CG	24	ID	42.02 ± 0.19	>0.01
			CD	42.39 ± 0.21	
Speed of visual information's processing (SVIP)	EG 1	23	ID	4.01 ± 0.14	<0.01
			CD	4.54 ± 0.03	
	EG 2	22	ID	3.98 ± 0.15	<0.01
			CD	4.46 ± 0.03	
	CG	24	ID	4.07 ± 0.02	>0.01
			CD	4.07 ± 0.03	
Preciseness of visual information's processing (PVIP);	EG 1	23	ID	0.87 ± 0.02	<0.01
			CD	0.93 ± 0.01	
	EG 2	22	ID	0.86 ± 0.02	<0.01
			CD	0.94 ± 0.01	
	CG	24	ID	0.82 ± 0.03	>0.01
			CD	0.83 ± 0.02	

ID – initial data; CD – control data.

Results of research of girl-students physical workability by index of Harvard step-test (IHST) showed that initial data of control and experimental groups' girl-students were at low level. Workability index in EG1 was 42.16 (P<0.001), in EG2 IHST was 42.45 (P<0.001). IHST indicator in control group was 42.02 (P<0.01), that also corresponds to low level of physical workability.

By initial data of IHST we can make conclusion that students, who enter higher educational establishments, have low level of physical workability and it proves opinion of many scientists.

Estimation of mental workability was fulfilled by Anfimov's methodic with the help of letter table. We determined the following indicators: speed of visual information's processing (SVIP) and preciseness of visual information's processing (PVIP).

Results of visual information's processing's (SVIP) study in EG1 at the beginning of experiment (see fig.1) gave value of 4.01 sec. (P<0.01). In EG2 initial value of SVIP was 3.98 sec. (P<0.01). Speed of visual information's processing in CG was 4.07sec. (P<0.1) at the beginning of experiment.

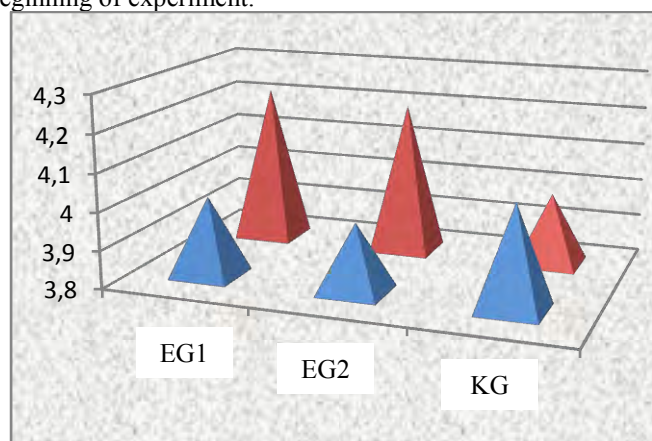


Fig.1. Speed of visual information processing (SVIP) at control and experimental groups.

After carrying out of pedagogic experiment in experimental groups, meaning – training by developed by us program [10], in tested groups RG1 and EG2 we observed positive dynamics of physical and mental workability's improvement. Control data of EG1 showed increasing of SVIP value up to 4.54sec. ($P < 0.01$). Results of EG2 were 4.46 sec. ($P < 0.01$). After finishing of our research indicators of SVIP in CG did not changed but remained on initial level 4.07sec. ($P < 0.1$).

Indicators of mental workability in PVIP values in experimental group EG1 (0.93 ± 0.01) and EG2 (0.94 ± 0.01), the members of which were trained by our aqua-fitness program, also showed positive dynamics (see fig. 2).

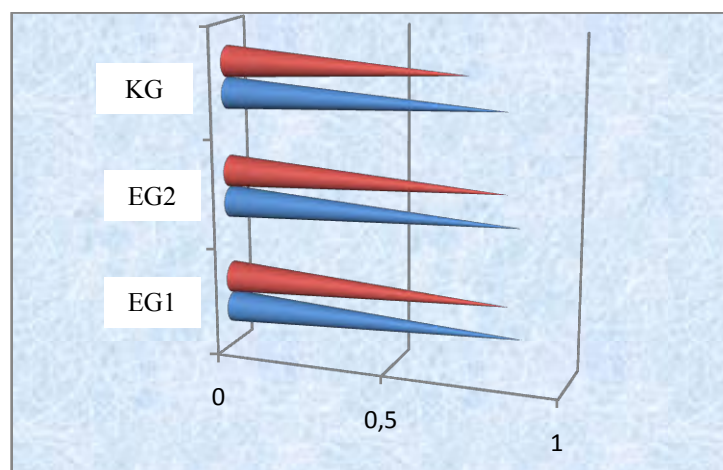


Fig.1. Precision of visual information's processing in control and experimental groups.

Control group showed insignificant increment of indicators. PVIP values reduced from 0.82 sec. to 0.83sec. ($P < 0.1$). CG control data witness that traditional program is not sufficient. There were no positive confident changes in dynamics of CG indicators.

Conclusions:

The obtained in our research results prove the opinion that existing at higher educational establishments physical education programs are not effective and require perfection.

Application of health related physical training aqua-fitness program in academic process of students, specializing in economics, facilitates optimization of students' physical and mental workability.

Our further researches will be oriented on improvement of developed by us aqua-fitness program in order to optimize functional systems of students' organisms as well as to form motivations for healthy life style and involving students in permanent practicing of health related physical culture.

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Cite this article as: Petrenko N V. The dynamics of physical and mental health of students of economic specialties in the course of employment aqua. *Pedagogics, psychology, medical-biological problems of physical training and sports*, 2013, vol.11, pp. 67-71. doi:10.6084/m9.figshare.817928

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Received: 09.01.2013

Published: 05.11.2013