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**USE OF GENERAL PHYSICAL TRAINING AND SPECIAL
PHYSICAL TRAINING IN THE ANNUAL CYCLE OF TRAINING
UNIVERSITY STUDENTS WHO TRAIN IN SPORTS SECTIONS
SWIMMING**

Abstract. Purpose: *to justify ratio means general physical training and special physical training in the annual cycle of training university students who train in sports sections swimming. Material and Methods:* *the study involved students G. S. Skovoroda HNPU aged 16–17 years, who were involved in the sport of swimming section. In the paper we used the following methods: analysis of scientific and methodological literature, teaching observations, educational testing, pedagogical experiment; methods of mathematical statistics. Results:* *by volume of training loads and improved ratio means general physical training and special physical training at different stages of the annual cycle of training university students who train in sports sections swimming. Conclusions:* *rational relationship means general and special physical training allows you to find the most effective ways of improving the process of preparing students fins and helps to improve the absolute athletic performance.*

Keywords: *relationships, tools, training, education and general physical training, the annual cycle stages, students, swimming, indicators, volume loading.*

Introduction. The creation of an annual training of the qualified swimmers – is a difficult process of selection and definition of an optimum ratio of means of a training action, a rational combination of different structural formations of the training process [7].

Sport training and competitive loads reached exclusively high sizes at the modern level of the development that compels coaches to search new ways of the creation of training which allow providing long finding of sportsmen in a ready state to the demonstration of high sports results [8].

Physical training – is the most important, rod section of sports training in swimming. It is aimed at the optimum development of motive abilities, at physical improvement of an organism in general and at selective improvement of those muscular groups and vegetative functions which provide the high level of special sports working capacity [1–3 but other].

A big experimental material which concerns the creation of sports training of the qualified swimmers is saved up in modern literature, its contents is defined, means and methods of the development of physical qualities are considered, volumes and intensity of training loads, ratios of means of SPT and GPT, both in the course of long-term sports activities, and in an annual cycle of preparation and so forth are established [4–6; 8; 9 but other]. The carried-out analysis gives to coaches the

effective tool for the creative work and training of perspective swimmers for the highest achievements.

At the same time the consideration of these questions through a prism of student's sport demands a close attention and a scientific justification. In practice automatic transferring of recommendations quite often meets concerning the planning of the training process of the qualified sportsmen on training of students who are engaged in sections of sports swimming, but haven't a high level of sports qualification. In this regard questions are actual that are considered in this article.

The objective of the research: to prove a ratio of means of SPT and GPT in an annual cycle of training of students of higher educational institutions who train in sections of sports swimming.

Material and methods of the research. In the work the following methods of the research were applied: analysis of scientifically methodical literature, pedagogical supervision, pedagogical testing, pedagogical experiment, methods of mathematical statistics.

18 students of H. S. Skovoroda KNPU at the age of 16–17 years old who were engaged in section of sports swimming took part in the research and had sports qualification – II–III categories.

The pedagogical experiment was made along with two experimental and one control groups. The total amount of loading in all three groups was approximately identical, the ratio of general and special training during the different periods of an annual cycle was a miscellaneous.

Tests were held in transitional, competitive, generally-preparatory and specially-preparatory stages of the preparatory period of an annual cycle.

Sportsmen were healthy and allowed by a doctor, who took part in the pedagogical research.

Results of the research and their discussion. Planning of volumes of loading in the I experimental group was aimed at the development of general and power endurance in the preparatory period. The usage of means and methods of training in the II experimental group put the development of special endurance for the purpose. The control group carried out loading volumes which were provided by the typical program for CYSS.

At the determination of volumes of training loads the equivalence of means of training and the intensity of their performance were considered.

The total amount of loading at sportsmen-swimmers of the I experimental group in the preparatory period (the generally-preparatory stage) made 1226 km: run is 791 km, walking is 136 km, 44 hours were spent for the exercises aimed at the development of power endurance, 92 hours – on the performance of specially-preparatory exercises, such as swimming in shovels, swimming on a rubber shock-absorber, combined swimming and so forth. The ratio of SPT and GPT made 77% and 23% on the specially- preparatory stage, the competitive and transitional periods of training. The ratio of SPT and GPT made 52%: 48%, 25%: 75% and 27%: 73% respectively.

Swimmers of the II experimental group applied generally the same means and methods of training in the preparatory period (the generally-preparatory stage). The

means of training aimed at the development of special endurance were applied with large volumes, than in the I group, at the identical number of training classes. The total amount of loading made 1251 km: running work is 640 km; walking is 144 km; the specially-preparatory exercises were carried out within 89 hours. The ratio of SPT and GPT at the stage made 67% to 33%. The competitive and transitional periods of training these indicators made 43%: 57%, 20%: 80% and 25%: 75% respectively on the specially-preparatory stage.

The total amount of loading at swimmers of the control group at the generally-preparatory stage of the preparatory period of training equaled 1198 km. Volumes of running training made 839 km, walking is 136 km, sportsmen were involved in the specially preparatory exercises within 82 hours. In general 82% are spent on GPT, and for SPT are 18%. The ratio of SPT and GPT was leveled 52%: 48%, 25%: 75% and 27%: 73% respectively on the specially-preparatory stage, the competitive and transitional periods of preparation.

Overall performance which was carried out, it checked by means of pedagogical tests which in turn characterized all parties of preparation. Results of testing of sportsmen of different groups presented in the tab after the end of the specially-preparatory stage of the preparatory period.

It should be noted that sportsmen of the II experimental group unlike the experimental and the control groups had the highest indicators with emphasis on special physical training.

The previous heat on a distance of 400 meters (tab.) was the check of the efficiency of use of a different ratio of SPT and GPT in the preparatory period. The total result of overcoming of the chosen distance in the II group equaled 1886 s that was respectively better on 13 s and 23 s, than swimmers of the I and the III groups have.

In the competitive period results in swimming at a distance of 400 meters improved in the I experimental group on 7 s, in the II experimental group on 11 s, in the control – on 4 s.

The functionality grew at all sportsmen for an annual cycle of training, but in a bigger measure at swimmers of the II experimental group because they found more time for special physical preparation.

The carried out correlation analysis between indicators of the level of the development of physical qualities and results of total competitions of a season allowed to receive the following results.

The following indicators have the greatest interrelation with results of total competitions in the transitional and generally-preparatory stage of the preparatory period at sportsmen: power endurance (exercise machine of Huettel-Martens $r=0,72$; $0,74$), special endurance (swimming in shovels $r=0,69$; $0,74$) and high-speed and power endurance (swimming on a rubber shock-absorber $r=0,74$; $0,74$).

The essential influence provides on specially-preparatory training stage on results of a control heat at a distance of 400 meters: the development of special endurance (swimming in shovels $r=0,66$; $0,77$), high-speed and power endurance (swimming on a rubber shock-absorber $r=0,69$; $0,76$), power endurance (exercise machine of Huettel-Martens $r=0,72$; $0,77$).

Results of testing of the level of the development of physical qualities at swimmers at different ratio of SPT and GPT (specially-preparatory stage)

№	Surname, name	Group	Ratio of SPT/GPT	Pulling up on a cross-piece (times)	Bending and extension of hands in lying position (times)	Bending and extension of a trunk lying on a back (times)	Jump from a place (sm)	Run of 100 m (s)	Exercise machine "Huettel Martens" (times)	Swimming in shovels 100 m (s)	Swimming on a rubber shock-absorber (times/1 min)	Swimming of 400 m (combin.) (s)
1	K-yev M.	I experimental	52/48	13	52	54	192	15,4	56	80	53	312
2	M-a O.			14	48	52	193	16,1	53	83	55	317
3	S-yev V.			15	47	47	195	15,8	55	81	51	315
4	L-ko V.			14	55	49	188	16,6	54	83	52	315
5	Z-ko A.			13	52	53	183	16,8	52	81	52	318
6	K-iy A.			15	50	44	185	15,6	52	85	54	322
1	Kh-in S.	II experimental	43/57	15	47	51	190	15,6	58	83	57	311
2	D-ko D.			14	52	47	185	16,1	56	81	58	309
3	P-ov A.			13	46	47	188	16,8	55	84	57	313
4	M-a S.			15	51	53	195	16,3	53	87	55	322
5	I-ov V.			16	52	48	188	15,8	56	84	54	318
6	K-ov R.			13	57	48	183	15,9	57	85	55	313
1	A-yan V.	III control	61/39	15	50	53	194	15,6	56	81	51	314
2	V-vk P.			14	54	46	195	16,1	53	80	50	315
3	V-ov D.			13	53	45	183	16,2	51	83	51	314
4	Ye-ov Yu.			14	44	46	182	15,4	51	85	53	324
5	K-ko A.			13	49	56	175	16,1	54	79	50	318
6	K-uk A.			16	52	53	171	16,1	52	84	53	324

Training is stored the same tendency of influence of the development of physical qualities and functional systems on results of a control heat at a distance of 400 meters in the competitive period by free style.

As a result the found positive interrelation between results of a control heat on 400 meters by free style with such indicators, as: exercise machine of Huettel-Martens; swimming on a rubber shock-absorber; swimming in shovels and the combined swimming of 400 meters. And the improvement of sports results is connected with the growth of functional indicators of the sportsman. Than the sports result is higher, the stronger communication with data of functional preparation.

Thus, despite of the total amounts of the executed loading, and also volumes of high-speed work in cyclic means in all groups were approximately identical, a divergence in the ratio SPT and GPT led to notable shifts of a large number of indicators, including also sports results.

Conclusions. The rational ratio of means of the general and special physical training allows finding ways of the most effective improvement of the process of training of students-swimmers.

The ratio of means of the general and special physical preparation in an annual cycle of training which makes is the most effective for improvement of absolute sports results of students who are engaged in sections of sports swimming: in the transition period – 25% and 75%; in generally-preparatory stage of the preparatory period – 67% and 33%; on the specially-preparatory stage – 43% and 57%, in the competitive period – 20% and 80%.

Authentically high communication of physical working capacity with results of total competitions of a season is found. So, in the transition period and generally-preparatory stage of preparation indicators of special and high-speed and power endurance have the greatest interrelation with results of total competitions. The essential influence provides the development of special, high-speed and power and power endurance on the specially-preparatory stage of preparation and in the competitive period of training.

Optimum volumes of training loads at stages of annual training in hours are certain: in the transition period – 152 hours; in generally-preparatory and specially-preparatory stages of the preparatory period – 161 hours and 108 hours respectively, in the competitive period – 129 hours. In total in a year – are 550 hours. The use of noted volumes promotes the increase of sports results of students-swimmers.

The prospect of the subsequent researches in this direction consists in the development of programs of trainings depending on the level of functional development of students who are engaged in sections of sports swimming.

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