### IMPROVING PHYSICAL FITNESS OF STUDENTS THROUGH SWIMMING SPECIFIC WAYS

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**Keywords:** student, fitness, swimming

**Abstract:** Because it has multiple influences on the development of harmonious physical, maintaining and improving the health and body fitness, swimming is considered one of the most important means.

#### Introduction

Since ancient times, learning to swim was essential in the struggle for existence and travel needs of people. Swimming plays an important role in everyday existence of human activity is a relaxing and refreshing. Swimming has a wide and complex range of actions on the body, but also a tool that allows saving human lives in various dangerous situations.

Today, swimming is considered an important social activity, expressed by the tendency to teach children to swim at the earliest age, to apply a lifetime.

Besides sport specialists and those in the medical field, says that swimming is a sport for health benefits through influences exerted on all those who practice it, young or old, healthy or sick.

According to authors Luciela Cirla and Anca Grecu, 2004 aquatic environment has many favorable effect on the body and causes a specific effort:

-Horizontal position of the body raises particular mechanical and physiological. It requests the energy expenditure of 5-9 times higher than on land, but provide skeletal muscle relaxation;

Water pressure on the chest, difficult breathing resulting in increased activity of respiratory muscles to grow; Is very dynamic business-driven device, because water does not provide a solid support, which increases the complexity of movements - sprijinuiui coordination is difficult due to mobility;

- Adaptive processes of morpho-functional nature are: cardiac hypertrophy, increased vital capacity, pulmonary ventilation and thoracic elasticity, but also to improve the functional capacity of the skin;

It is assumed that the application specific means to discipline university swimming pool schedule, improves physical condition and improving the technical processes Swimming FEFS first year students.

Aim is to optimize fitness by specific means swimming, swimming in improving processes and crawl back to first year students

In choosing the theme mattered very much that I practiced swimming in a university course, I think it has positive influences on the body of first-year students, and proper education coordinating capacity contribute to a better assimilation of the art processes and crawl back in particular.

Means used in research:

- 1. For crawl process have used these exercises: seated on the edge of the basin, support forearms, specific movement of one foot in the water, floating on the water position, arms resting on the pool, keeping the legs moving air in the chest.
- 2. For process were used back exercises: lying back with the support arms to the side bar from the edge of the basin, alternate movements of legs, lifted to the surface water basin, the lie back with head resting on the raft, moving with the movement feet.

### Tests applied research

- 1. Ruffier test
- 2. During apnea
- 3. Telemetry

This is the first time I applied this test. El gives us the best possible features for monitoring real time heart rate information with analysis and carryover arrangements to obtain maximum performance of each

- recording capacity with beat beat (RR) up to 48 hours
- secure Bluetooth connection in real time
- Battery life time: 30 hours online with Bluetooth, 400 hours offline
- Shock resistant
- Waterproof (30 m) swimmer.
- Textile comfortable chest strap
- Protection of the environment: dust, anti-splash
- Shock resistant
- Maximum operating temperature of 60 C-20C minimum

Depending on the data collected can increase or decrease the effort and it can reveal any heart disease, prevent, treat or athletes can improve performance (students) from different sports.

### 1. Oxipulsiometru

Shows the percentage of oxygenated hemoglobin to total hemoglobin in blood. ""S = saturation SpO 2, P = percentage, O2 = oxygen. Subject of research subjects are first year students from the Faculty of Physical Education and Sport, Suceava. Eşantionul investigated is composed of 30 students and 30 students. Research was conducted Swimming Complex and Therapy, University "Stefan cel Mare" Suceava.

### Initial test-GROUPS-GIRLS YEAR OF EXPERIMENT

	PROBE ruffier	TIME Apnea	Oxipulsiometru Crawl swim-resistance			
			BPM		SpO <sub>2</sub>	
			Before	After	Before	After
			effort	effort	effort	effort
X	6,71	33,83	77,87	89,53	98,23	86,83
Σ	0,95	5,29	5,12	4,77	0,84	7,96
Cv	0,14	0,16	0,07	0,05	0,01	0,09

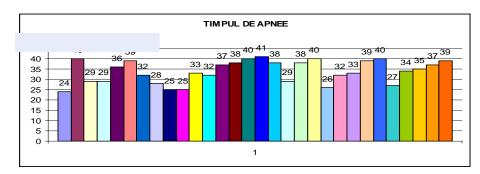


Figure No.1

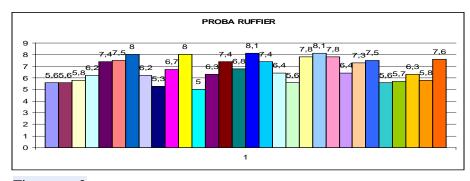
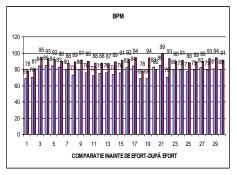


Figure no.2

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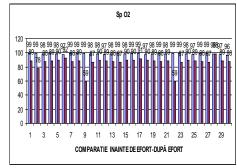
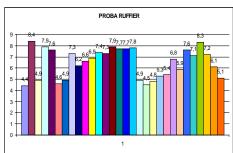


Figure No.3

Figure No.4

Initial test-groups-boys year of experiment

initial test groups boys year of experiment											
	PROBE ruffier	TIME Apnea	Oxipulsiometru								
			Crawl swim-resistance								
			BPM		$SpO_2$						
			Before	After	Before	After					
			effort	effort	effort	effort					
X	6,48	62,00	73,17	79,00	98,77	64,53					
Σ	1,27	10,73	6,64	2,46	0,42	15,22					
Cv	0,20	0,15	0,09	0,03	0,12	0,24					



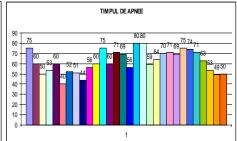


Figure No.5

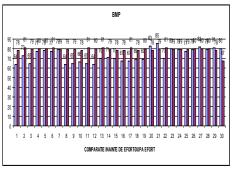


Figure No.6

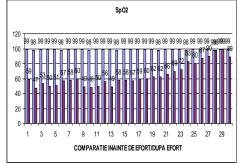


Figure No.7

Figure No.8

#### **Conclusions:**

- 1. În crawl process coordinating breath with movement of arms is essential to increase the period of student resistance.
- 2. Value of vital capacity increased by training.
- 3. Exhalation its execution delayed or too early causing damage to mistakes in coordination with technical aids.
- 4. Swimming at a constant speed is more economical and less tiring than variable speed.
- 5. Maintaining a prolonged apnea is not advisable because it causes fatigue and body damage.
- 6. Training and development of individual technique is a matter of time, it must be a continuing objective throughout the sports activity of swimmers.
- 7.The study conducted Swimming Complex and Therapy, University "Stefan cel Mare" Suceava and performance, I think swimming has positive influences on students' first year in college, by developing physical skills, driving, and psihomotrice stimulates the circulatory system.
- 8. I propose that the future development for optimal physical condition of students and faculty for a specific attribute swimming thorough process to allocate a greater number of hours of this discipline.

#### **Bibliography:**

- 1.D. Pentea- Methods Interests Swimming, Bucharest, 1994;
- 2. I. Niculescu- Rating-motor and somatic-functional University Publishing House, Craiova, 2006;
- 3. Tămăşan C., Stănciulescu M.- Guide for developing physical conditions, patterns, Tipoart, 2004;
- 4. Stefana Kulcsar- Aerobics-Publisher Clusium, 2000;
- 5. Luciela Cirlă, Anca Grecu-Branches Swimming-Edition 2-A, Revised, Bren Publishing House, Bucharest, 2004
- 6. Romanian Federation and Paper Modern Pentathlon Swimming, 2000;
- 7. Romanian Federation Modern Pentathlon Swimming-Hand and Method Intrn-2000-USE;
- 8. Swimming treaty method -Jivan John Sebastian, Ed. Printech, Bucharest, 1999.

**Titlu:** Îmbunătățirea condiției fizice la studenți prin mijloacele specifice înotului.

Cuvinte cheie: student, condiție fizică, înot.

**Rezumat:** Datorită influențelor multiple pe care le are asupra dezvoltării fizice armonioase, a menținerii și îmbunătățirii sănătății organismului cât și a condiției fizice, înotul este considerat unul dintre cele mai importante mijloace.

**Titre:** L'amélioration de la condition physique des étudiants lors d'une baignade des moyens spécifiques.

Mots-clés: étudiants, fitness, piscine.

**Résumé:** Parce qu'il a de multiples influences sur le développement de physique harmonieux, maintenir et améliorer la santé et le corps de fitness, la natation est considéré comme l'un des moyens les plus importants.