

## THE IMPACT OF THE 24 HOUR PROGRAMME FOR PRIMARY SCHOOL OF SWIMMING

Edin Mirvić, Faris Rasidagić

### Abstract

The main goal of this research is to explain the impact of the 24 hour programme for primary school of swimming. Respondents for creating this sample are made of 8-10 year old boys, which are active members of school of swimming at „Olimpic pool“ in Sarajevo. Number of respondents from which we got our analysis data is 251 and all of them are male. Each of the respondents is tested individually and results were noted in their booklets. Data processing was done in program SPSS 22.0 for Windows. On univariate level for determination partial quantity differences through two time spots (initial and final state), T-test was made for dependant samples. Programme lasted for 12 days, 24 hours (overall) on daily basis. Programme was implemented on „Olimpic pool“ as said before, 90 minutes every day at afternoon. Temperature of water was around 26-28°C. In this research, results were showing that there was significant progress under the influence of this programme. This 24-hour programme should be suggested to all organizations and individuals who are in elementary/primary school of swimming.

**Keywords:** students, elementary school of swimming, T-test for dependent samples

### INTRODUCTION

Swimming, as one of the healthiest activities, can be done through whole year. Reasons to swim can be for recreation, rehabilitation, or for any kind of competitions. Swimming is popular and it's for everyone (kids, adults, older people or people with disabilities). So far, swimming is not only known as basic motoric skill, but also as good educational content. Knowing to swim can save lives, but also can fulfill biological need to move, and sociological need to hang out with people. Since all of the previous statements aren't questionable, only question is when will trainings start. Results of many researches are showing us that, learning to swim is easier at younger age, mainly because of motoric skills required to learn it, are easier if person is young. Basic of learning from a professional is receiving and implementing knowledge, and after that going to water alone without any help (with note that process of learning should be done through games. Kazazović B. (1998), Grčić-Zubčević, Čulina i Leko (2002), proven on two separate groups of children (8-10 age), which were attending trainings three times weekly, that we can presuppose number of required hours for getting basic swimming skills. Given results shows that after 12 hours of active training, at least 50% students will manage to swim up to 25 meters. More precise data shows that students need around 15 hours of class which is held 3 times per week, or 16 hours is class is done two times weekly. Therefore, number of hours is one of most important elements while learning to swim, Selection of methods for students is a demanding task, and one person who is responsible for final decision is trainer, who takes all elements to his decision (place, details of students, details of group, and previous knowledges).

Findak (1981) divides methods of learning, based on tools available for help, water (shallow or deep), and

way of learning (specific techniques). He noted that within those methods, there are multiple sub-methods and processes which differ by programme used for learning. Method of learning in shallow water was implemented by Halbig, and also got it's name from him. Process of learning is divided into three stages. In first stage, students are learning to move in water by practicing those moves outside of water. In second stage, they lean on their backs in shallow water (25-35cm deep) with help of tools, and after without them. In third, and final stage, they lean on their chests. Author notes that advantages of this method are minimal fear while learning and correct breathing tempo, and this method is suggested to also middle-age and older individuals. General informations tell us that on beginning no one was able to swim, and at the end of training approx. 66% of students learned it. So we can say that this programme had positive impact regarding to success chance of learning basic swimming skills. To confirm it we can quote Tortaković (2009), who proved in his research that 12-hour training is efficient for learning. Same author did research on effects on children's general motoric and morphological skills. Based on everything said so far, we can say what is general goal of research, which is to determine effects of 24h programme for elementary school of swimming. We must note that during it's realisation, while working with heterogeneous groups, teacher is not in a situation to train everyone equally (speaking of efforts made by individuals) because in those groups there are always individuals with more and less advanced swimming skills. Because of that, teacher must use standards ways of training for everyone in group.

### METHODS OF RESEARCH

#### Respondents sample

Respodent sample for this research was made from males (8-10 year old) which are active students of swimming school at „Olimpic pool“ in Sarajevo. Before coming to swimming school, students did not do any sport activities. Final number of corespondents for making final results of data analysis was 245, and each of them is as said before, male. All corespondents are tested individually and results are noted in their booklets.

#### Variables sample

Estimation of knowledge was concluded by these criterias (Kazazović B and assistants):

Criteria for reviewing swimming skills are next:

1. Ability to go into water – Is/Isn't able to go into water
2. Ability to get his head wet – Is/Isn't able to go with his head in shallow water
3. Ability to squat underwater – Is/Isn't able to squat underwater
4. Ability to breathe underwater – Is/Isn't able to breathe underwater
5. Ability to float on water while in chest – Is/Isn't able to float on water while on chest
6. Ability to float on water while on back – Is/Isn't able to float on water while on back
7. Ability to slide on chest – Is/Isn't able to slide on chest (3 meters as minimum)
8. Ability to slide on back – Is/Isn't able to slide on back (3 meters as minimum)
9. Ability to jump in shallow water with legs first – Did/didn't jump in shallow water with legs first (150 centimeters)
10. Ability to jump in deep water with legs first – Did/didn't jump in deep water with legs first (250 centimeters)

Criteria for estimating initial and final knowledge of swimming variates from (1) worst to (5) best. (Criteria by Grčić-Zupčević, 1996).

1. Non-swimmer (0-12 meters) – Student who is not willing to come near water or even if he does, he won't go in water. In cases when he goes into water, it's because of pressure of other people or with help of a trainer. After getting into water he walks, not swims. Sometimes he goes in water by his will and he is walking, running, sitting or standing in shallow water. The best try to swim is try to float. After jump into water, he swims with random combination of techniques less than 12 meters.
2. Floater (12.5-24 meters) – After an jump, student swims with any technique less than 24-25 meters.
3. Semi-swimmer (24-33 meters) - After an jump, student swims with any technique less than 33 meters.
4. Beginner-swimmer (33-49 meters) – After an jump, student swims with any technique less than 50 meters.

5. Swimmer (50+ meters) – After an jump, student swims more than 50 meters.

#### Training programme

Training programme of elementary school of swimming lasted 24 hours over 12 days. It was implemented in „Olimpic pool“ in Sarajevo, every day in afternoon, from 4 PM to 5:30 PM. Water temperature was between 26 and 28°C. Physical education professors made this project possible. All respondents were tested and had same conditions. At the very beginning of training, initial state was determined and at the end, final tests of all respondents were conducted. After determination of initial state students divided into homogeneous groups, each containing 7 students. For estimating swimming knowledge at final testes these terms were used: Is able to go into water, is able to make his head wet, is able to squat underwater, is able to breathe underwater, is able to float on chest, is able to float on back, is able to slip on chest, is able to slip on back. Trainer evaluated all students and gave them marks from 1-5: (1) Non-swimmer, (2) floater, (3) semi-swimmer, (4) beginner-swimmer, (5) swimmer.

#### Methods of processing data

Data processing was done in computer program SPSS 22.0 for Windows. On univariate level for data determination on partial quantity differences through two time spots (initial and final state), T test was implemented for dependant samples.

#### RESULTS

Results got from T test for dependent samples under influence of 24-hour programme in primary/elementary swimming school on „Olimpic pool“ in Sarajevo shows clearly that there are significant statistic differences  $p .0000$  in variables which are analysed. Only variable „is able to jump in water“ separates from rest of those, because only in that variable there were no significant difference in initial and final state. While analysing individual variables, we can see these results, table no.3:

1. „Is able to make his head wet“ eta square is 0.02
2. „Is able to squat in water“ eta square is 0.10
3. „Is able to breathe underwater“ eta square is 0.50
4. „Is able to float on chest“ eta square is 0.21
5. „Is able to float on back“ eta square is 0.55.
6. „Is able to slide on chest“ eta square is 0.30
7. „Is able to slide on back“ eta square is 0.57
8. „Is able to to jump into shallow water“ eta square 0.18
9. „Is able to jump into deep water“ eta square is 0.46
10. And last one, estimating of swimming efficiency of initial and final state is rated from 1 to 5, for which eta square is 0.85

Based on the data shown on chart we can see that 20% students got grade 1, 4.08% got grade 2, 8.17% got grade 3, 6.94% got grade 4, 10.61% got grade 5 and 70.61% got grade 5, table no.3 and chart no.1

**Table 1.** Elementary swimming school program - non-swimmers

Content of the day (24 hours)	1	2	3	4	5	6	7	8	9	10	11	12
Checking the initial state	+											
Games and exercise exercises on water	+	+										
Breathing exercises and exercises	+	+	+	+	+	+	+	+	+	+	+	
Games and exercises to break and watch		+	+									
Floatage				+	+	+						
Water slide					+	+	+	+	+	+	+	
Jump elements (head to toe)				+	+	+	+	+				
Hand-tie technique, arms, legs, coordination				+	+	+	+	+	+	+	+	
Back technique - legs, hands, coordination				+	+	+		+	+	+	+	
Checking the transit state		+		+	+	+		+	+	+	+	
Check final												+

**Table 2.** Results of the T-test of the knowledge of swimwear and swimming efficiency criteria of the initial and final state

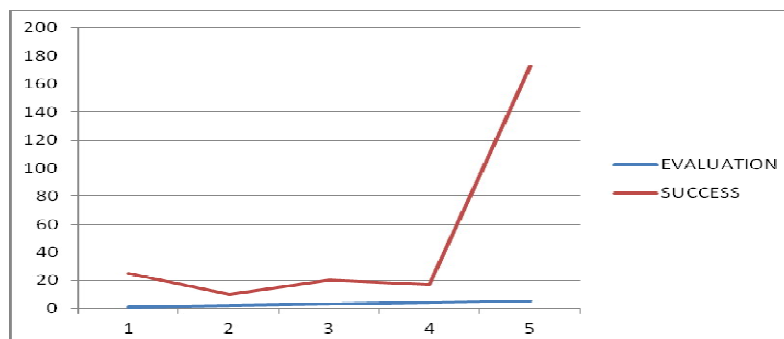
Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	SUV - SUV1	,061	,551	,035	-,008	,130	1,739	244	,083
Pair 2	SPG - SPG1	,102	,615	,039	,024	,179	2,595	244	,010
Pair 3	SČV - SČV1	,224	,648	,041	,142	,306	5,417	244	,000
Pair 4	DUV - DUV1	,530	,539	,034	,462	,598	15,394	244	,000
Pair 5	PNP - PNP1	,326	,620	,039	,248	,404	8,240	244	,000
Pair 6	PNL - PNL1	,591	,532	,034	,524	,658	17,397	244	,000
Pair 7	KNP - KNP1	,428	,640	,040	,348	,509	10,479	244	,000
Pair 8	KNL - KNL1	,571	,495	,031	,509	,633	18,037	244	,000
Pair 9	SNP - SNP1	,285	,607	,038	,209	,362	7,364	244	,000
Pair 10	SND - SND1	,469	,500	,031	,406	,532	14,692	244	,000
Pair 11	INC_M - FIN_M	-28,469	11,780	,752	-29,951	-26,986	-37,827	244	,000

**Table 3.** Ratings and progress

EVALUATION	1	2	3	4	5
SUCCESS	25	10	20	17	173
%	10,20%	4,08%	8,17%	6,94%	70,61%

**Chart 1.**



**DISCUSSION**

Since on variable „Is able to go in water“, there was no change, because all of apprentices were willing to go in water in initial and final evaluations, we

concluded that this test is too easy and shouldn't be used in future tests. Progress under influence of programme which was used we can see on variables „how many meters did student swam“, „slides on

back“, „floats on back“, „breathing underwater“ and „jump into deep water“. This research showed us that biggest progress was under „floating on back“ and „sliding on back“ variables, mostly because apprentices relaxed and breathing didn't make big problem. When we look generally on breathing, we can see that exercises and games got a lot of attention. Following progress made, generally on all variables together, „how many meters did student swam“ variable had biggest progress, but this progress wouldn't be possible if previous variables wasn't successful.

Variables „floating on back“ and „sliding on back“ got moderate success, which is understandable because it's heavily dependant on breathing underwater. Actually, students had to overcome problem of breathing, so they can do sliding and floating successfully. Variables „jump into shallow water“, „squat in water“ and „getting head wet“ didn't had as much as success like ones we mentioned before. In initial and final state, students were not afraid to do those tests, so that explains why difference isn't that big. Even in final grading, these tests weren't hard and students don't give much attention to it. Regardless to that, test results were needed to be saved for future informations or comparisons. Since all students weren't swimmers when they started (their grade was 1), and in final state, 80% got 5, which means there became swimmers, so test was successful. In previous tests (J.A.D. Kinnear and J.S. Sawbridge, 1982), final results showed that 12 hours of training weren't enough, yet good trainer can make good results in that time period. Torlaković (2009) in his research concluded that children with previous experiences in any kind of sports, learned to swim easier than those who didn't had any activities. In this research, most of the students didn't had any activities so results were little bit lower than expected. While teaching younglings, progress and success can be accomplished much easier through games. It is needed to take care and have enough

time to track progress (mostly dynamic and motoric skills) of every individual in group as often as possible. Trainers didn't divide students in groups at very beginning, but they tracked every individual then formed certain groups for which they thought they will be successful. This programme is advised to every organisation and individual whose goal is to learn people to swim. Bigger fond of hours is suggested to every primary/elementary swimming school, 24 hours is optimal, while containing many water games for kids. If there are multiple groups in one group, and if every group is ranked by its grade, success chance is bigger. This way, students can easily swap groups, and it gives them more pride and motivation if they are moving to better and better group in short amount of time. By going into better ranked group, it's assumed that they are willing to progress even further and go into more better group. Programme had positive effects on students and it's confirmed by final evaluations.

### CONCLUSION

In this research, results are proving that there were significant breakthroughs. Also we can conclude that students were psychologically adapted to water environments during classes, and that makes big and important role in process of learning basic elements of swimming. As expected, swimming dynamics followed with better results (regardless of technique used) as we can see in charts represented earlier. This way, respondents switched to better ranked groups earlier. Only by going into better group, students had more motivation to progress even further and move into more better group than one they were in before, which means they progress fast. If there were multiple group in one group, ranked by grades, students would get better knowledge. This 24-hour programme is suggested to all organisations and individuals who are into primary/elementary school of swimming.

### REFERENCES

1. Atha, J., A. D. Kinnear, and J. S. Sawbridge (1982). Some concomitants affecting the skill adaptation of non-swimmers during a twelve-session training programme. Society of Sports Services Conference; Br J Sports Med. Department of Human Sciences University of Loughborough, 16(2): 110.
2. Babin, B. (2012). Individualized form of work in the function of individualization of work in the training of non-floaters // Proceedings of the 12th Croatian Consultation on Non-Sprinkler Training / Ružić, Elida (eds.). Rijeka, Croatia: Association of Kinesiologists in Rijeka, 40-41.
3. Grčić-Zubčević, N., M. Čulina, G. Leko (2002.). Analysis of the progress of swimming lesson learning. In: Proceedings of the 11th Summer School of the Kinesiologist of the Republic of Croatia, p. 57-59, Rovinj: Croatian Kinesiological Association.7.
4. Grčić – Zupčević, N. (1996). Efficiency of different programs and possible factors of successful swimming learning. Doctoral dissertation, FFK, Zagreb.

5. Kazazović, B., Đedović, D., Popo, A., Mekić, M. (2007). Effects of transformational processes in class (swim) training of younger school age. Second International Symposium "New Technology in Sports", Sarajevo. Proceedings of NTS, 324-3281.
6. Kazazović, B. (1998). Swimming as a sport and a means of health and physical education. I edition, IP Svjetlost, Sarajevo.
7. Hadžikadunić, M., Mađarević, M. (2004.). The method of teaching physical education with the basics of physiology of physical exercise. Faculty of Pedagogy, Zenica.
8. Findak, V. (1981). We teach kids to swim. Zagreb: Schoolbook..
9. Findak, V. (1989). Training method for adult swimmers. Zagreb: Partizan - Federation of Croatian Sports Recreation.
10. Findak, V., Prskalo, I. (2004). Individualized swimming training in working methods. Sport for All: the Croatian Association of Sports Recreation Journalists. 22 , 39; 29-31.
11. Madić, D., Okičić, T., Aleksandrović, M. (2007). Swimming (swimming). Niš: Srbija.
12. Šiljeg, K., Sindik, J. (2015). Swimmers and non-swimmers in the first grades of elementary school in Dubrovnik and Varaždin. 2. Proceedings of the University of Dubrovnik.
13. Tošić, S. (2010). Influence of flexibility on swimming results. Master's thesis, Niš, Faculty of Sport and Physical Education.
14. Topuzov, I. (1999). Classification of the sports depending on the oxidative stress. In I International Scientific Congress „Sport – Stress – Adaptation“. (pp.150 – 152). Bulgaria: National Sports Academy „Vassil Levski“.
15. Torlakovic, A. (2009). Analysis of dynamics of studying basic swimming elements. 11 th International Conference of Sport Kinetics (IASK), Greece, 83-84.
16. Torlaković, A. (2009). Effects of an intensive learning process of basic swimming elements within extracurricular activities for younger school children. HomoSporticus-Scientific Journal of Sport and Physical Education, 11(2), 14.18.
17. Torlaković, A. (2014). Effects of the swimmaking school program and some morphological characteristics of children. Sportski logos, 37-45.
18. Shapiro, D.R., Yun, J., & Ulrich, D.A. (2002). Measuring perceived gross motor skill competence in children. International Journal of Sport Psychology, 33, 391–409.
19. Rastovski, D. (2012). Individualization of work in the field of non-propulsion training with children of pre-school age. Proceedings 12. Croatian Consultation on Non-Float Training, Rijeka 2012. str. 11-14.
20. Rađo, I. (1998). Transformation process of motor and functional abilities and various aspects of swimming. Monography, FFK, Sarajevo.
21. Zenić, N. Grčić-Zubčević, N. (2005). Homogeneous grouping - promotion of swimming lessons. Kinesiology, Zagreb, 173-181.

#### AUTHORS INFORMATION

Edin Mirvic  
Patriotske lige 41, 71000 Sarajevo, Bosnia and Herzegovina  
e-mail: [edinmirvic@gmail.com](mailto:edinmirvic@gmail.com)

Faris Rasidagic  
Patriotske lige 41, 71000 Sarajevo, Bosnia and Herzegovina  
e-mail: [faris.rasidagic@gmail.com](mailto:faris.rasidagic@gmail.com)