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Study on the Correction of Specific Technique by Exercising Swimming as Recreational Activity

Anna Maria ION¹, Valeria BĂLAN^{2*}

Abstract

In a society dominated by daily worries, stress and technology, the modern individual is trying to find solutions against the negative effects of the surrounding environment. Getting out of the comfort zone has become a constant pursuit, while the recreational dynamic activities involving are more and more sought. A special place within these activities is held by the aquatic ones which can be exercised by anyone, regardless if one knows how to swim or not. The most popular sports discipline, intended for those who know how to move through water with the help of their arms and legs, is the swimming, whose technique must be correctly exercised, with low energy input. This study is seeking to prove that young adults (two women of 28 and 30 years old) taking swimming lessons in their spare time are able to correct their swimming technique applied in their favorite routines, as well as strengthen and improve there routines. To this end, the subjects have taken two swimming lessons per week, for four months, during which time they have learned thoroughly two swimming routines – backstroke and breaststroke. Following this study, we have seen that the subjects tested have improved the floating technique and the swimming technique related to the above mentioned routines. Correcting the execution errors and strengthening the technique have required great efforts from the subjects, backed by an adequate drive and high trust in the coach.

Keywords: *Swimming; technique; correction; adults.*

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1. Introduction

In a society dominated by daily worries, stress and technology, the modern individual is trying to find solutions against the negative effects of the surrounding environment. Getting out of the comfort zone has become a constant pursuit of the individuals who are trying to find different solution to ensure a better quality of their personal life. As such, in the last years, we have seen a greater interest in the recreational dynamic activities, some seasonal, some exercised throughout the year. A special place within these activities is held by the aquatic ones which are excellent methods of motive activities [7] exercisable by anyone, regardless if one knows how to swim or not.

2. Problem Statement

The most popular sports discipline, intended for those who know how to move through water with the help of their arms and kicks, is the swimming. Swimming can be exercised anywhere there is water or in safe areas (swimming pools), alone or accompanied by friends, with or without the strict monitoring of a coach. At the same time, the swimmer can choose the preferred routine, the swimming speed, as well as the time of day when he/she wishes to swim.

In addition to all these advantages a person has when choosing swimming as recreational motive activity, we must not forget the benefits provided by the thermal and mechanical factors of the water which impact the human body right after dipping. Here, we must mention that the water temperature (27-30°C) provides the swimmer with comfort and relaxation, while Archimedes' principle (which partially reduces the body weight) eliminates the weight excess, facilitating the movement [2]. Water drag when advancing, hinders the movement which is also reflected at the level of fitness components [1] having a direct impact on the physical, mental, social and spiritual well-being [7]. At the same time, the aquatic environment is one where the risk of accidents or injuries occurring is low due to the fact that pace breaking is difficult to execute when compared to movement on land.

In terms of the water advancing technique, it is recommended that the swimmer selects the technique which feels good when executed and that provides safety when advancing. It is good to use a technique as correct as possible, where the movement of arms and kicks are accurate and constantly coordinated with the breathing. A good technique ensures lower energy input, less fatigue and higher swimming speed. This was proven by athletes,

but is also well-known and recommended by the experts to non-professionals who are exercising swimming as spare time activity [7, 1].

In national and international studies, the problem of the correction swimming technique at the young adults is less approached. Most studies present the manner in which children improve their swimming technique [3] or are underlined the benefits of swimming practiced by different age categories [6, 7].

3. Research Questions/Aims of the research

3.1. Hypothesis

This study is seeking to prove that young adults of 28 and 30 years old taking swimming lessons in their spare time are able to correct their swimming technique applied in their favorite routines, as well as strengthen and improve there routines.

3.2. Subjects

Our study was conducted on two young adults (women: C.R. 28 years and A.I. 30 years; [4]) who were exercising swimming as spare time activity, for at least one year. They were regularly taking swimming lessons at the private swimming pool (25m long), attending two lessons per week, for four months (November 2016 – February 2017).

Given that these persons wanted to correct their swimming technique, they were guided to the swimming lessons for adults, coordinated by an expert coach. We must specify that the swimming group included several persons, but only these two women have given their consent to participate in this study.

Together, we have agreed to focus on the backstroke and breaststroke techniques. Several aspects have been taken into account when selecting these techniques:

- easier breathing, either due to the position of the body in the water (backstroke), or due to the possibility to swim with the head above the water (breaststroke);
- arms and kicks movement in the backstroke technique are recommended to relax the back muscles of the torso [7] being executed after work for both subjects – static activity in the office;
- breaststroke technique is a slower swimming technique and is often preferred as leisure swimming although it is the most technical routine [6];
- the association between backstroke and breaststroke was not a random one, being well known that these two techniques can be

combined under several means – back breaststroke kicks or back breaststroke being often preferred by swim lovers.

4. Research Methods

In this study we have used:

- observational method – consisting of actively and deliberate perception of a behavior (technique executed by the subjects of this study) in order to gather exact and objective data. This method was applied systematically (actively, deliberately and structured) and intensively. It was used throughout the swimming lessons and was accompanied by the appraisal and scoring the technical items. These items have been established based on the correct execution technique for the two swimming routines and have taken into account the technical elements which are difficult to correct once the stroke was learned in a wrong way. Technical items were the following: correct position of the body on water – backstroke; correct coordination of arms – kicks – backstroke; symmetrical movement of kicks – breaststroke; movement of arms – breaststroke;

- experimental method – consisting of processing the data gathered through observation, which helped us to verify the assumed relationship (based on the hypothesis) between the two processes, by triggering and controlling them [5]. Our experiment was a pedagogic and asserting one and was based on a case study. That type of experiment was useful in some research areas [5] in special in those where there were less subjects and the modification of the aspects of studying requested a long time. The case study allowed us to know the unique aspects of learning for both young adults involved in our study and facilitate us to measure the quality of the correction of the swimming technique;

- statistical – mathematical method – used to calculate and construe the observation data;

- graphic method – used to underscore the results obtained based on the study and to highlight the progress of subjects in terms of their swimming technique correction.

4.1. Assessment items related to the swimming technique correction progress

During this study, we have assessed the four items proposed by us, two for each swimming technique. The assessment was carried out based on the following scale:

- the subject is executing wrong the relevant item = 1
- the subject is executing partially correct the relevant item = 2
- the subject is executing correct the relevant item = 3.

We must mention that the assessment of subjects was done without them being aware of this, do as not to raise the level of their emotions and

make it nor difficult to appraise them. The assessment was applied starting with the first lesson given that we have wanted to see know the subjects are doing, as well as their level of knowledge with regard to backstroke and breaststroke techniques. Subsequently, the appraisal was done every four lessons.

5. Findings

Figure 1

The progress of subjects in terms of correcting the item “correct body position in the water – backstroke”

Figure 2

The progress of subjects in terms of correcting the item „correct coordination of arms – legs – backstroke”

Figure 3

The progress of subjects in terms of correcting the item „symmetrical movement of kicks – breaststroke”

Figure 4

The progress of subjects in terms of correcting the item „movement of arms – breaststroke”

6. Discussions

By reviewing the figure 1, we can see that subject A.I. had a good position of the body in the water, for the backstroke. However, C.R. had an incorrect body position in flexion, the head being raised much higher from the water and the eyes being on the toes. These aspects have been somewhat difficult to rectify, especially since C.R. was fearful and it was harder for her to conquer her fear of relaxing in the water. Usually, it is well known that for some subjects, a back position on water poses problems because they can not see the advance direction [7]. Gradually, subject C.R. has managed to overcome her fear, to relax and let her head support on the water.

Although, in the backstroke, the coordination seems to be easy done technically (one cycle of arm stroke, six kick and one breath), the study subjects have encountered some problems especially related to the movement of arms and breathing (figure 2). This time too, subject C.R. had the biggest problems caused by her fear of the back position in water, leading to chaotic movements of arms and legs, breathing obstruction (more in apnea). In time, both subjects have succeeded in strengthening their execution technique and thus swimming correctly and practical.

By reviewing the figure 3, we can see that subject C.R. did not master the breaststroke kick movement at the beginning of this study. This person was using a shearing movement to advance in the water, instead of the symmetrical breaststroke kick movement. A.I. knew the stroke, but her execution was asymmetrical.

Based on the available data (figure 3), we can see that the incorrect movement learned by A.I. was harder to rectify than the relevant habit learned even at an older age. With considerable effort, subject A.I. has succeeded in executing a symmetrical kick movement in breaststroke.

At the beginning of the study, both subjects were executing a long breaststroke movement with their arms. As shown by the figure 4, the correction time has varied. Although the subjects have understood what they had to do from the get go, rectifying an incorrect habit required more time in the case of subject C.R. who could not coordinate the movement of kicks, arms and breathing. Gradually, both subjects have got passed the strengthening phase of the relevant habit, succeeding in executing correctly the necessary movement.

Between the lessons for appraisal and scoring of their technique, the subjects have taken swimming lessons. The methods used have approached the two specified technique. They were applied according to the methodical sequence of teaching swimming to children and adults. During each lesson, both technique have been used – one lesson starting with kicks backstroke and continuing with breaststroke as gliding, while the next lesson was conducted in reverse. To alleviate monotony and vary the procedures, swimming technique combinations have been applied (figure 5 and figure 6). This was done mostly in the case of breaststroke which was combined with the front crawl (breaststroke of arms with the front crawl kicks) mean also used to rectify and strengthen the breaststroke of arms movement. At the same time, we have used a combination between breaststroke and backstroke – kicks breaststroke on the back or breaststroke on the back.

We must specify that the subjects of this study have had the same content of the swimming lessons, while the effort intensity was different.

Figure 5

Backstroke – number of pools swam by the subjects for each technique

Figure 6

Breaststroke – number of pools swam by the subjects for each technique

7. Conclusions

Following this study, we have seen that the subjects tested have improved the floating technique and the swimming technique related to the backstroke and breaststroke. Correcting the execution errors and strengthening the technique have required great efforts from the subjects, backed by an adequate drive and high trust in the coach leading the swimming lessons.

Results obtained are confirming the study's hypothesis. Subjects have not only corrected their swimming technique for backstroke and breaststroke, but have also strengthened it and improved it. Moreover, they have decided to continue exercising swimming as recreational activity, the short term objective being to learn – consolidation of the crawl technique. All these efforts will lead to a diversification of swimming procedures which can be exercised.

In addition, the benefits of swimming have been felt and appreciated by the subjects of this study. Thus, back pains have decreased, the desire to be active have increased by the improvement of mood, lowering the anxiety towards water and the “dangers which can be encountered” and increasing the self-confidence. Hence, we can say that swimming exercised as spare time activity works from head to toe, and from inside to outside, helping people to look great and feel even better [7].

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Both authors had an equal contribution to this study and are main authors. This study has complied with the provisions of WMA Declaration of Helsinki [8] related to ethical principles for medical research involving human subjects.

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