

**MENTAL ENLIGHTENMENT SCIENTIFIC –  
METHODOLOGICAL JOURNAL****MENTAL ENLIGHTENMENT SCIENTIFIC –  
METHODOLOGICAL JOURNAL**<http://mentaljournal-jspu.uz/index.php/mesmj/index>**DEVELOPMENT BALANCE STABILITY OF KAYAKERS AT THE  
INITIAL STAGE OF PREPARATION BY USING INNOVATIVE MEANS****B.F. Ikramov***Uzbek State University of Physical Culture and Sports  
Chirchik, Uzbekistan***ABOUT ARTICLE****Key words:** Sprint kayak, balance, balance training, beginners, kayak balance training ergometr**Abstract:** The article discusses the issues of accelerated formation and development of specific (water) balance using special means and methods**Received:** 02.10.23**Accepted:** 04.10.23**Published:** 06.10.23**INTRODUCTION**

At present, the popularization of physical culture and sports has been identified by the world community as one of the important areas of social policy. The role of sport in educating a physically healthy, mentally mature, strong, strong-willed, persistent person is incomparable. In this regard, rowing is one of the most popular and developed sports in the world. It should be noted that in the development of kayaking and canoeing in the world, it is important to attract talented children, improve their sportsmanship, and organize training on a scientific basis. Numerous scientific studies have been carried out in the world in the field of the theory and methodology of rowing on the use of means and methods used in the psychological, general and special physical, technical, tactical and functional training of young athletes in the training process. At present, the rapid growth of results in kayaking requires the improvement of the training system in this area that meets modern requirements.

In our country, it is important to increase and realize the creative and intellectual potential of the younger generation, "To form a healthy lifestyle in children and youth, to involve them in physical culture and sports." Currently, athletes represent the honor of Uzbekistan on the world stage, achieving high results in various competitions. It is advisable to pay special attention to the development of children's sports, its scientific support and the creation of an organizational basis. The role of youth sports is growing day by day, as it is the main base for the training of the sports reserve.

The foundation for future sporting success and achievement will be laid in the early stages of training and will be ensured by the quality of reserve training. Analysis of the results of scientific work of the last decade showed us the need to create an innovative device and a special set of physical exercises that help develop the balance stability of rowers. It is expedient and relevant to develop such a pedagogical system that can be used not only on water, but also on land, since it is recommended to train throughout the year to form and develop balance.

**The aim of the research** is to develop innovative means and methods aimed at developing the stability of balance for the qualitative assimilation of the technical elements of kayakers at the initial stage of training.

### **METHODS**

A survey was conducted among kayaking coaches working in children's and youth sports schools in Tashkent and the Tashkent region. 30 coaches took part in the survey. In the survey, 100% of coaches said that water sense and balance are important in rowing, especially in the early stages of training.

Taking into account the information obtained as a result of this survey, in order to partially solve the existing problems in the field of education, we decided to create a special electronic program (application) that can provide complete, objective and prompt information about the stability of the balance of rowers and the dynamics of its development.

The device with the program (application) "KBC" is attached to the boat and fixes its angles of inclination. At the same time, the program (application) has a function for setting the roll rate, which, during rowing, stores information about how many times the athlete violated this rate.

The advantage of the device is that it allows trainers to exercise current, intermediate and final control over the development of balance stability, compare results and track growth dynamics.

Along with the control of the stability of the balance of the rowers, the program (application) "KBC" is an integral part of the special simulator "Kayak balance training ergometre" created by us.

The developed simulator actively stimulates the training process in the preparatory period, allowing, during the technical preparation of the rower, to form water balance on land, as close as possible to coordination activity in a boat on the water (No. FAP01510).

The simulator allows you to form, develop and improve balance, as well as master the basics of rowing technique. The unique simulator has feedback, which allows the rower to quickly receive information about the quality of the exercise being performed. The uniqueness of the training device lies in the fact that it is identical to the racing kayak in shape, appearance, structure and ovality. The rowing movements performed by an athlete on the simulator correspond to competitive movements (Fig. 1).

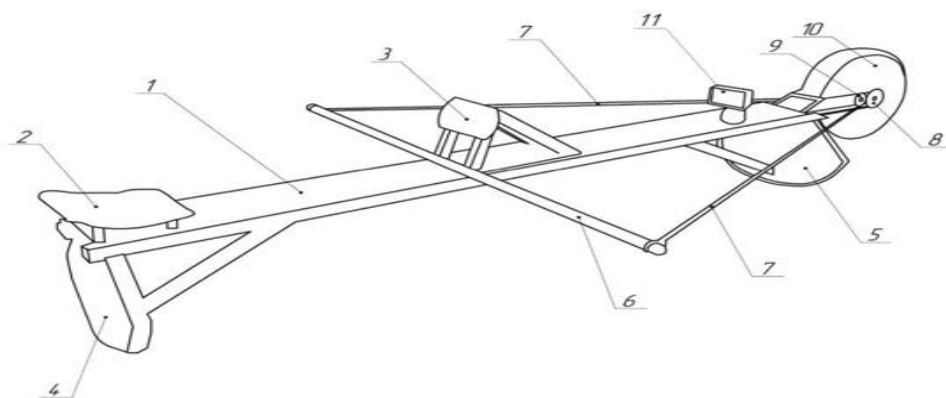


Fig 1. 1 base, 2 - seat, 3 - footboard, 4, 5 - semi-oval supports, 6 - paddle imitation, 7 - traction rubber, 8 - shaft, 9 - pulley, 10 - rotating drum, 11 - electronic program (application) "KBC".

The simulator is a key link in the pedagogical system of special exercises for the rapid development of balance stability in young rowers. The development and improvement of balance stability in this simulator is carried out in three stages.

Classes for the development of balance were held 3 times a week using "BOSU", "Fitball", "Balance Cushion" and a special simulator. For each week, a "balance training plan" was drawn up. Each session consisted of a 10-minute warm-up, ten special balance exercises, and machine rowing. Balance exercises (each exercise is given 3 minutes, 30 seconds rest between exercises) are performed according to the circuit training method for 40 minutes. Exercises were performed from simple to complex, static exercises were performed in combination with dynamic ones, the pace of training gradually increased to the optimum.

## RESULTS AND DISCUSSION

The results of the experiment in subjects aged 10–11 years to study anxiety in a pre-training situation were as follows (see Table 1). Based on this, statistical differences between the indicators of situational anxiety of the subjects of the experimental and control groups at the beginning of the pedagogical experiment were not found [ $p > 0.05$ ]. According to the results obtained in the course of the pedagogical experiment, differences in the level of situational anxiety were revealed between the subjects of the experimental and control groups [ $P < 0.05$ ].

**Table 1**

**Indicators of situational anxiety of the subjects of the experimental and control groups before and during the experiment (n=20, score)**

№	Кўрсаткичлар	EG		CG		t	P	
		$\bar{x}$	$\pm\delta$	$\bar{x}$	$\pm\delta$			
1	Anxiety (before the experiment)	Балл	23,7	3,1	24,6	2,3	1,79	>0,05

2	Anxiety (1 month)		43,8	2,5	57,9	3,7	2,09	<0,05
3	Anxiety (2 month)		33,4	2,3	54,0	2,9	2,10	<0,05
4	Anxiety (3 month)		29,9	3,2	46,7	3,1	2,19	<0,05
5	Anxiety (4 month)		27,3	3,0	40,8	3,8	2,11	<0,05
6	Anxiety (5 month)		24,4	3,1	36,2	2,9	2,21	<0,05
7	Anxiety (6 month)		22,9	3,6	30,8	3,4	2,15	<0,05

The data show that at the beginning of the experimental period (1-2 months), the pre-training situational anxiety of the subjects in the experimental group was "moderate", and in the control group "high". During the remaining four months of the trial period, the pre-training situational anxiety of the subjects in the experimental group was "low", and in the control group "moderate".

To control the dynamics of the development of equilibrium stability, during the experiment, using a special electronic program (application) "Kayak balance control" (KBC), the angles of inclination of the boat of the subjects of the control and experimental groups were recorded. In all control tests obtained during the study, the performance of the subjects of the experimental group was superior to that of the subjects of the control group [ $P < 0.05$ ]. It was observed that the balance stability indices of the subjects in the experimental group increased significantly at the end compared to the beginning of the study [ $P < 0.05$ ]. This proves the effectiveness of the methods and means used by us, especially the pedagogical system of special exercises created by us. (Figure 2.3)

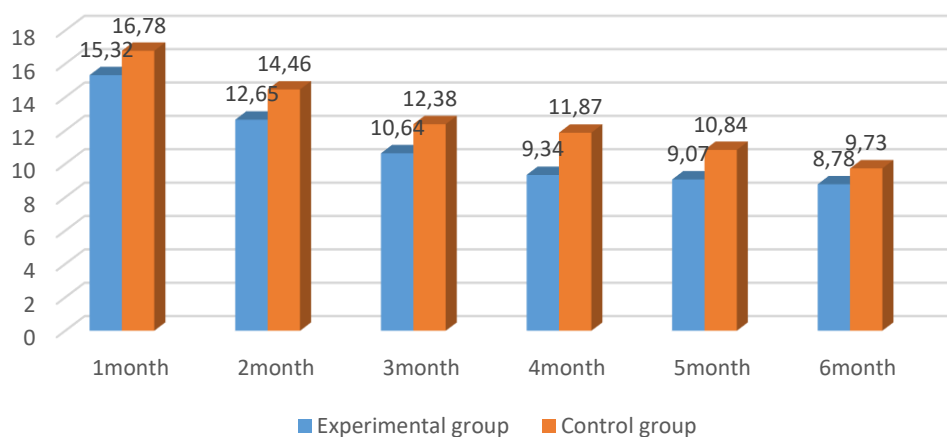


Figure 2. Indicators for the KBC test of the control and experimental groups during the experiment (tilt to the left, gr.)

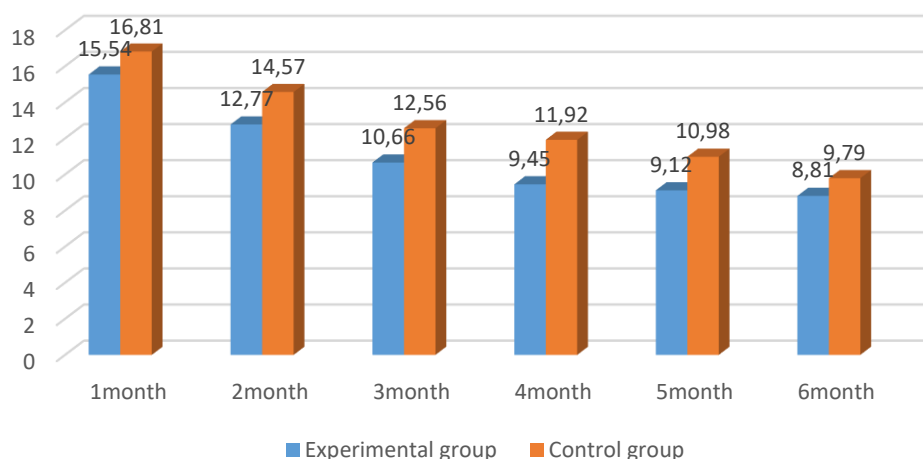


Figure 3. Indicators for the KBC test of the control and experimental groups during the experiment (**tilt to the right, gr.**)

## CONCLUSION

1. The “Kayak balance training ergometer” simulator, which actively stimulates the training process of rowers aged 10-11 at the initial stage of training, is aimed at developing balance stability on land, and makes it possible to bring the coordination activity of the boat in the water as close as possible.

2. Teaching kayaking techniques using the KBTE simulator affects a number of psychological conditions in children, which in turn leads to a decrease in anxiety. The study of the results of situational anxiety in rowers 10-11 years old in the experimental and control groups showed: at the beginning of the experimental period (1-2 months), the pre-training anxiety of the subjects of the experimental group was expressed as "moderate", and in the control group it was set as "high". During the remaining four months of the trial period, pre-exercise anxiety was "low" in the experimental group and "moderate" in the control group.

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