

## OPTIMIZATION OF TECHNICAL AND TACTICAL PREPARATION USING MIXED TABLE TENNIS EXERCISES ON CHILDREN OF 10-12 YEARS

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**ABSTRACT.** Technical exercise consist the key element of the entire workout, during which the main goals are to achieve and perfect technical procedures, prevent and combat mistakes, automatize strokes, trying to obtain technical efficiency. During the 10-12 years old children's workout it is essential to improve technical procedures by using teaching methods appropriate for their age and according to their ability to comprehend. Using mainly combined exercise will contribute to their faster and easier learning, substantially increasing the stroke efficiency.

*Keywords: technical -tactical procedures, table tennis, forhand, backhand*

**REZUMAT.** *Optimizarea pregătirii tehnico-tactice prin folosirea exercițiilor combinate la copiii de 10-12 ani în jocul de tenis de masă.* Pregătirea tehnică, constituie factorul de bază al antrenamentului, prin care se urmărește realizarea însușirii și perfecționării procedeele tehnice, prevenirea și corectarea greșelilor, automatizarea loviturilor, eficacitatea tehnică, etc. În antrenamentul copiilor de 10-12 ani se impune îmbunătățirea procedeele tehnice printr-o însușire cât mai corectă și economică a acestora, folosind metode și mijloace adecvate nivelului de cunoștințe ale acestora. Folosirea cu pondere sporită a exercițiilor combinate în instruirea copiilor la tenis de masă va contribui la însușirea mai rapidă a procedeele tehnice, favorizând substanțial eficiența loviturilor.

*Cuvinte cheie: procedee tehnico-tactice, tenis de masă, forhand, rever*

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## **Introduction**

The nowadays high performance tennis table resides in dynamism, fast thinking and acting, precision and exceptional tactical and technical skills. The high motivation, the fight for winning points in European and world rankings, along with the contribution of other scientific domains in training and game required for becoming a great champion, leads to decrease of the age when high performances in the table tennis are achieved.

Technical preparation represents the main training factor, whereby we aim to train and improve technical procedures, to prevent and correct mistakes, to create an automatism of the kicks, to increase technical efficacy, etc. The improvement of technical procedures through correct and efficient acquirement of these procedures, by using proper methods and means according to the children's level is mandatory in training children of 10-12 years (Doboși & Apostu, 2009).

The increased use of mixed exercises in children's table tennis training will have impact on the fast learning of technical procedures, improving significantly the efficiency of kicks.

The table tennis players' activity is assessed not only by taking into consideration the competitions results but based on the observations made during trainings, depending on the subject, attention and the interest displayed by each player for the training process.

## **Research objectives**

- The increased use of mixed exercises in children's table tennis instruction
- Assessment of the technical preparation level of the children of 10-12 years in tennis table.
- Argumentation and experimental verification of the efficacy of using mixed technical procedures in acquiring and consolidating the basic technique.

## **Materials and methods**

### **The study group**

The experiment was conducted within the Table Tennis Department of the sport club CS Politehnica Cluj - Napoca during the period of September 2013 - June 2014. The research was conducted on a group of 20 boys (having the same level) divided in two groups: the witness and the experimental group, each consisting of 10 players (age: 10-12 years).

### Research methods

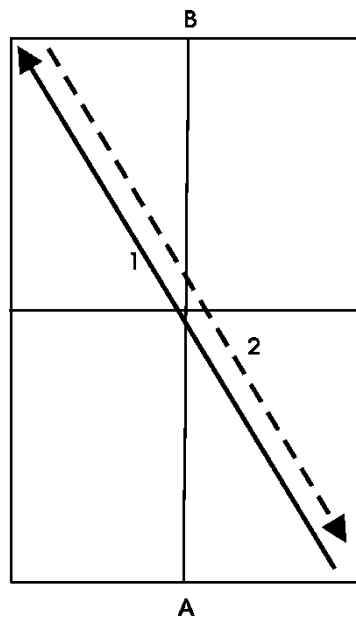
In the research I have used the following methods which helped me in finding solutions for the proposed objectives: the experimental method; the test method, the comparative method; graphical representation.

During the experiment I have used assignments on simple directions for specific technical preparation in table tennis of the witness group.

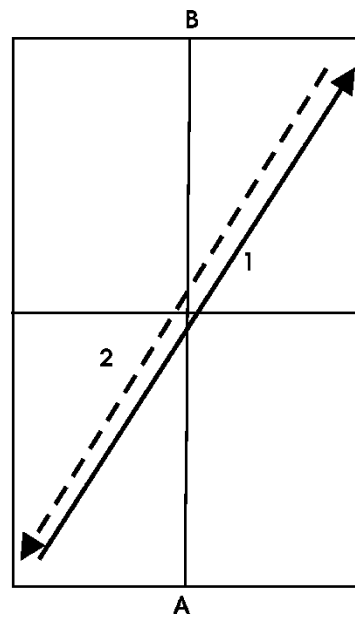
For the experimental group, I have used mixed assignments consisting of forhand and backhand which require a better coordination and are more difficult to execute.

### Means of instruction used in the experiment for technical preparation of the experimental group

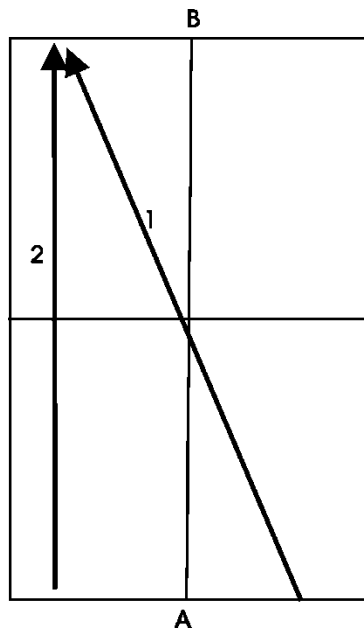
- Long serve followed by cross forhand counter (figure 1);
- Long serve followed by cross backhand counter (figure 2);
- Long cross serve from forhand followed by alternating counters from forhand and backhand towards the opposite forhand (figure 3);
- Long cross serve from backhand followed by alternating counters from forhand and backhand towards the opposite backhand (figure 4) (Doboši, 2009).



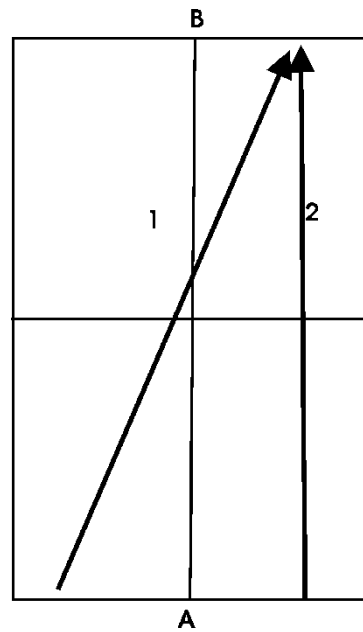
**Fig. 1.** Long serve followed by cross forhand counter



**Fig. 2.** Long serve followed by cross backhand counter



**Fig. 3.** Long cross serve from forhand followed by alternating counters from forhand and backhand towards the opposite forhand



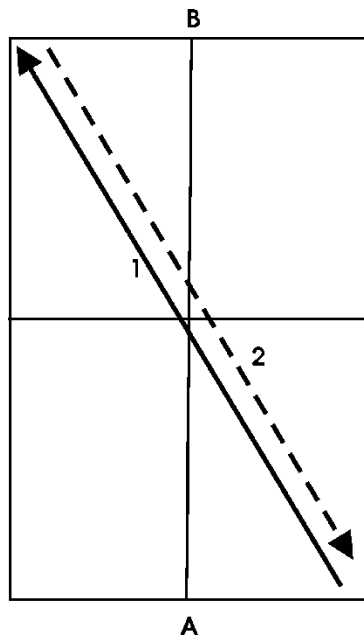
**Fig. 4.** Long cross serve backhand followed by alternating counters from forhand and backhand towards the opposite backhand

### **Instruction means used in the experiment for technical preparation of the witness group**

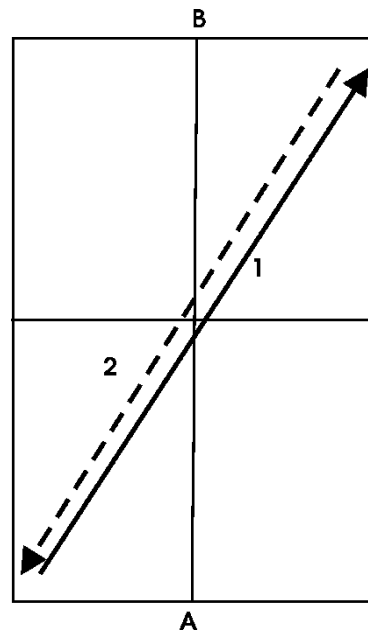
- Long serve followed by cross forhand counter (figure 5);
- Long serve followed by cross backhand counter (figure 6);

### **Results**

By these instruction means we intended to estimate if mixed assignments used at the experimental group are more efficient for technical progress of players. As a result we have proceed to the initial testing (on September 2013) and final testing (on July 2014) both for the witness and experimental group.



**Fig. 5.** Long serve followed by cross forhand counter



**Fig. 6.** Long serve followed by cross backhand counter

**Table 1.** Summarizing table – initial and final testing on witness group

Subject no.	Cross forhand counterattack No. of wins		Cross backhand counterattack No. of wins	
	Initial testing	Final testing	Initial testing	Final testing
1	8	9	7	8
2	8	8	6	7
3	5	6	9	9
4	7	8	8	7
5	8	9	8	9
6	9	9	6	6
7	10	8	7	8
8	9	10	5	5
9	6	7	8	8
10	7	8	9	8
<b>Arithmetical mean</b>	<b>7,70</b>	<b>8,20</b>	<b>7,30</b>	<b>7,50</b>

**Table 2.** Summarizing table – initial and final testing on experimental group

Subject no.	Cross forhand counterattack No. of wins		Cross backhand counterattack No. of wins	
	Initial testing	Final testing		Initial testing
1	7	9	6	8
2	9	10	8	10
3	6	8	5	7
4	8	8	9	10
5	11	10	9	11
6	6	8	5	8
7	8	9	7	9
8	7	7	8	10
9	9	10	7	8
10	7	8	6	9
<b>Arithmetical mean</b>	<b>7,80</b>	<b>8,70</b>	<b>7,00</b>	<b>9,00</b>

**Table 3.** Dynamics of technical preparation indices for the groups included into the experiment

Attempts for test	Sample	Initial testing	Final testing	Difference/Increment
Cross forhand counterattack	Witness group	7,70	8,20	0,50
	Experimental group	7,80	8,70	0,90
Cross backhand counterattack	Witness group	7,30	7,50	0,20
	Experimental group	7,00	9,00	2,00

### **Analysis of the dynamics of technical preparation indices for the groups included into the experiment**

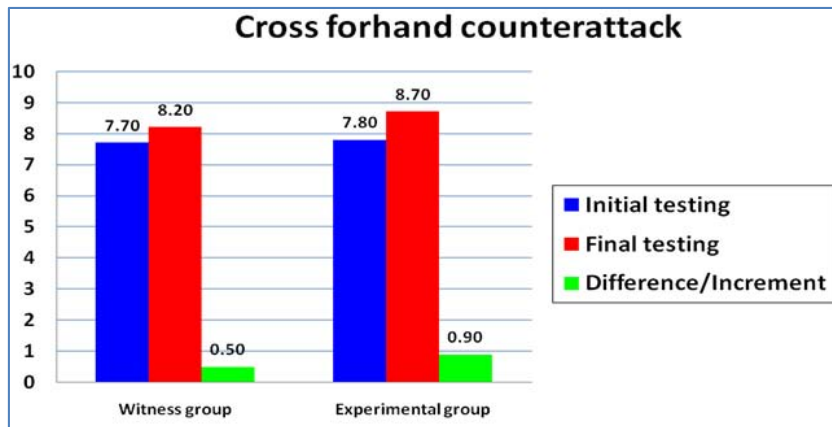
By analyzing data collected after the initial and final testing we notice as follows:

On final testing the result for the witness group is 0,50 wins better than the result on initial testing for cross forhand counterattack (T.I.-7,70; T.F.-8,20) and 0,20 wins better on final testing comparing with the result of initial testing for the cross backhand counterattack (T.I.-7,30; T.F.-7,50).

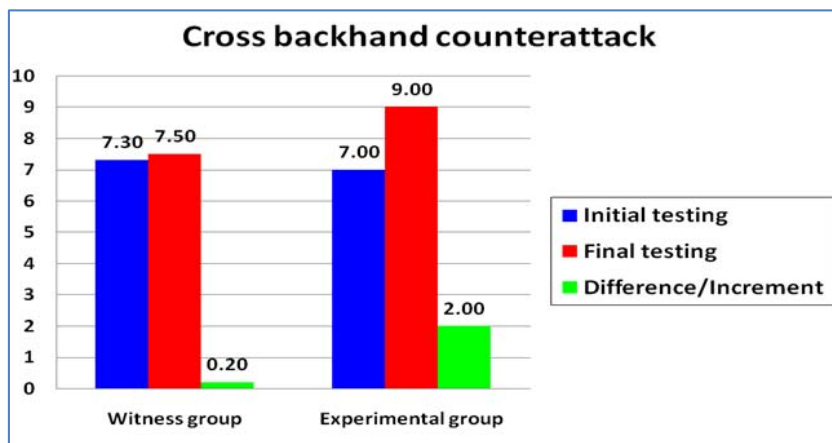
In what concerns the experimental group the result on final testing is 0,90 wins better for the cross forhand counterattack (T.I.-7,80; T.F.-8,70) and with 2,00 wins better on final testing comparing with the result of initial testing for the cross backhand counterattack. (T.I.-7,00; T.F.-9,00).

By comparing the results of the two groups (witness and experimental) we can notice that the witness group obtained at the initial testing higher results than the experimental group (7,70-8,20) both in case of the cross forhand and cross backhand counterattack (7,30-7,50).

On final testing, following the application of mixed assignments in technical preparation of the experimental group, the results obtained were significantly better than the results obtained by the witness group both in what concern cross forhand counterattack (7,80-8,70) and cross backhand counterattack (7,00-9,00), which proves the efficiency of this instruction method.



**Graphic 1.** Values of Cross forhand counterattack



**Graphic 2.** Values of Cross backhand counterattack

### **Conclusions**

The improvement of technical procedures through correct and efficient acquirement of these procedures, by using proper methods and means according to the children's level is mandatory in training children of 10-12 years.

Based on the results obtained, we may assert that the suggested means for players' instruction, efficiently and successfully reached the objectives proposed at the beginning of the experiment.

Analyzing the results obtained during the research, we can say that these results validate the hypotheses of the research. Comparing the results of the initial testing with those of the final testing we observe the progress achieved in case of the two technical procedures by using the mixed assignments.

### **REFERENCES**

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