

# DRIBBLE IMPROVEMENTS IN THE BASKETBALL GAME THROUGH MULTIMEDIA MEANS

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**Abstract:** *This paper is a modern training instrument by which small athletes are attracted to learning, strengthening and improving the dribbling map in basketball, using techniques and computer multimedia. The CD that resulted from this work contains no less than 100 drills for learning and strengthening the technical element, presented in a software application for PC.*

**Key words:** *basketball, dribbling, skill, PC application, improving.*

## 1. Introduction

Modern technology penetrates increasingly more and increasingly fast in all fields of science. In Romania, sports' training is an area in which computer technology and multimedia is used quite little, and this happens only at major sports clubs. Multimedia applications for PC and tapes / DVDs used in training are often "imported", production is almost nonexistent. This paper is meant as an incentive and also a modest contribution to the guideline for creating new local applications, enriching and improving methods of training.

"The first of the basics of the basketball game that you need to train, as it is processed individually, is driving the ball," said Oscar Robertson, one of the best professional offensive basketball players in the U.S., quoted by Vasile Popescu in 1969 [1, p. 371-374]. "Why is dribble ranked more important before throw?" Simply because before shooting you need to know how to approach. To become a professional, you should be an excellent

dribbler. Later you will learn not to abuse by dribbling. Dribble must be learned and perfected without watching the ball, and the ball must be driven with the same dexterity with both hands", concluded the same great player [2, p. 52-54].

## 2. Objectives

In this context, the work is meant to be a modern training instrument by which small athletes are attracted to learning, strengthening and improving the dribble map in basketball, using techniques and computer multimedia. The CD that accompanies the paper contains no less than 100 exercises for learning and strengthening the technical element, presented in a software application for PC. Exercises are specifically selected and structured so that they can be completed according to the principles of the theory of sport and physical education, from easy to difficult, from simple to complex [3, p. 220], [4, p. 170]. The program includes videos of all exercises and a selection of materials in video format,

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selected research bibliography on the Internet.

Basically, the multimedia CD can be used successfully in junior training. Statistical data from research results show an improvement from the training obtained by uncompromising modern techniques.

The application for PC can be used for any other component of the game of basketball training, so it can achieve a whole set of CDs for each technical element, or technical process action tactics.

The aim of the paper is to propose using multimedia means in preparing the young for the future of operating systems.

Acquiring dribbling at an early age is actually launching the great performance, and must be allocated due importance [5], [6, p. 141-145], [7, p. 64-68].

Using modern technology is primordial in the future to obtain competitive results at European level and also internationally [8, p. 34-37].

### 3. Material and Methods

Practice has shown that to achieve a high degree of skill in basketball, a period of 8-10 years of training is necessary [9, p. 27]. Starting from this reality, to achieve the purpose, we have established the main problems and tasks arising from this, namely:

- What is skill and how it is manifested in juniors;
- By what methods and means can skills develop through dribbling at the junior age.

To solve these problems, the tasks required are:

- Documentation for skills development by strengthening the dribbling of juniors;
- Formulating the paper's hypotheses;
- Selection and development of the methods and means to strengthen and improve the dribble, which can develop skills;

- Establishing the methodology for using these methods and means in the practice of juniors;
- The experimentation of means can develop skills;
- The video recording of gross selected exercises;
- Processing and editing a recorded video material;
- Creating a design and program interface for PC;
- Bringing together all elements and achieving a final application;
- Conclusions and recommendations.

For this work we have established the following research hypothesis: the application of multimedia means to strengthen and improve the dribble, for a period of approximately 200 days, determine improvement in the event skill indices, following the tests used to check the specific skill to assess progress (or regress) made in conducting the experiment.

The duration of the research deployment has stretched over a period of approx. eight months.

The Junior II and III samples researched were divided into two groups. One group, called witness group, continued training exactly the same as before. A second group, called experiment group, performed using this preparation for systems and methods of operation proposed by us. Observing that there were 20 in a lot of team players, we have formed groups, each having 10 players.

Dividing the two groups was done after ranking the initial testing. The first was distributed in the first group, the second in the second group, the third in the first group, the fourth in the second group and so on with all 20 players.

In the experiment, we tried to operate with a variable (the independent variable), represented by the training on the strengthening and improvement of dribble

in the basketball game by means of multimedia, to see what happens to the variable effect (dependent variable), represented by the development of coordinative ability, achieved at the end of the research. If changes occur at the accumulation level of quality, power, "skill", and the psycho-motor level, then the variable can assume that we have handled it a product changes. We can therefore say that we have established a cause-effect relationship between the two variables. This was the logic by which we designed the experiment.

Thus, at the beginning of the experimental period we tested all the 20 players. This was the initial testing and found in 3 control tests made to see the skill level and degree of mastery in dribbling. At the end of the experimental period we performed the same series of tests, following which we found an improvement in the results of the experiment group compared to the witness.

The details of the computer application were carried out by a former student in the final year of the Faculty of Physical Education and Sport - Bogdan Cojocaru. The application on the CD "Learn to dribble" is a form of multimedia presentation of the 100 exercises proposed for learning / improving dribble. This multimedia CD was used in the experiment group for this exercise. It is in a video format and is included in a PC. Photos and graphics, sounds, video sequences are made entirely with free software available on the Internet.

Videos were recorded using a Canon camera and then were processed in "Windows Movie Maker" (available on any computer running Windows XP). Images, buttons and all the graphics used were edited using the free "GIMP". The sound track of the film was made with the help of VST Plug-in "DrumAndBase" imported in the software Magix Music Maker. All components have been

compiled into a menu with the auto run program freeware "AutorunMaker. The CD starts automatically when inserted in the drive. The next step is to display the top page, which is stationary for 15 seconds. One can continue pressing the first button or click on the image anywhere or wait 15 seconds. (Figure 1)



Fig. 1

Next is Menu appearance (Figure 2). This menu allows browsing through the CD. On the first page are some general data (Area 1) and the navigation menu (Zone 2).



Fig. 2

To view the contents of the CD press on the left on "Exercises". Clicking this button, the image that is joined will appear (Figure 3).



Fig. 3

At left are some general data and on the right are 10 images that represent the buttons that launch and last exercises. If you have stationed a little more on an image, a description block of exercises appears next to your mouse cursor. By clicking on the picture it opens the movie in full screen (full screen) from its own application. Each image opens about 10 exercises, grouped by category.

From the main menu, the second option is the "Bonus". By clicking on it you can

watch a short video of 10 drills in plus.

The last menu option is "Record". This world record was approved by the Guinness Book of Records in 2003 for "Most balls dribble at the same time"

The application may be terminated at any time by clicking the 'X' shaped ball in the right corner.

#### 4. Results and Discussions

*Control Tests used were:*

- dribbling between the feet on a distance of 35 m;
- milestone dribbling with changing direction;
- dribbling with two balls on the long field.

*Presentation and interpretation of data obtained from experiment* (for lack of space we will examine only one of three control tests)

Control test 1

*The difference in seconds between the initial and final testing on two groups, Table 1-2*

Experiment group	(TI-TF) seconds
PO	1,9
RN	1,9
SO	2
TO	1,8
VM	2,2
SM	2
HE	2,1
JK	1,9
ZI	1,9
BV	2,2
<b>Average</b>	1,99
<b>Standard deviation</b>	0,14
<b>Coefficient of variance</b>	6,89%

Witness group	TI-TF (seconds)
BA	1,2
AM	1,4
MA	1,2
CS	1,4
IM	1,5
CM	1,3
IC	1,2
UI	1
CO	1,4
AS	1,3
<b>Average</b>	1,29
<b>Standard deviation</b>	0,14
<b>Coefficient of variance</b>	11,23%

As can be seen from the table, the arithmetic mean of the differences recorded between the initial and the final testing on the experiment group is 1.99, while on the control group it is only 1.29.

From this experiment it results that the group had an overall performance approximately 35% better than the control group for the first test of control.

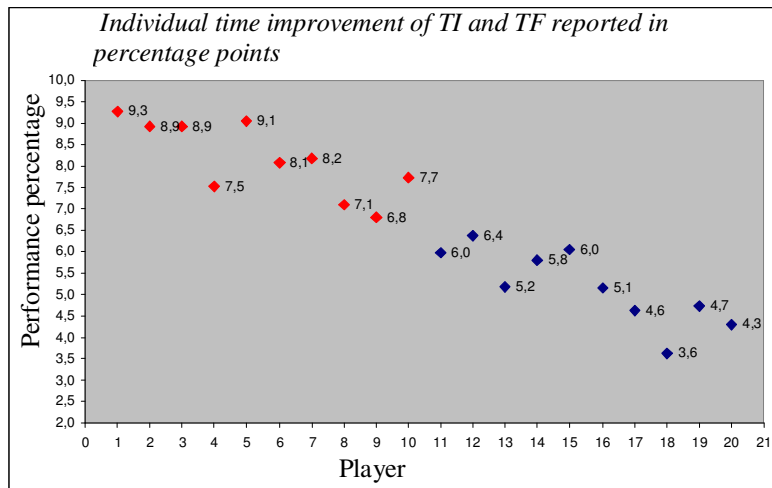


Chart 1

From the tables above and from Chart 1 it follows that the players in the experiment group had an improvement in average time by 8.16%, while the control group of players had only 5.18%.

Analyzing the first tests we could come with a partial conclusion: the application experiment has succeeded in improving the performance of the experimental group by approximately 35% compared to the control group, and thus the effectiveness was demonstrated.

**5. Conclusions**

Based on the results obtained after using the PC in the control samples and their statistical interpretation, we reached the following conclusions:

Indicators for coordinative ability and the skill of driving have shown a real progress, based on the results of final tests.

The kids involved in the experiment are more aware of the importance of improving coordination skills, pay greater attention to the dribble and have greater willingness to work independently.

Besides driving ability, moral-volitional qualities have also been developed: courage, perseverance, willingness, ambition.

The various situations in which athletes find themselves during the game, allowing the development of creativity and initiative, because you need an increased rate of application and stages that follow up rapidly, require a fast analysis. At the same time, the education of thinking skills was improved, as well as a sense of orientation in space, and mobilization of physical resources.

The multimedia application on CD has proven effective and can be used successfully in junior training. Statistical

data from research results show an improvement compared to the training received by uncompromising modern techniques.

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