



STUDY REGARDING, THE EVOLUTION OF MODEL PARAMETERS IN BASKETBALL, WOMEN'S WORLD CHAMPIONSHIPS

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Abstract

Performance sport at this stage is one of the fields in which international cooperation has greatly increased and has become a systemic character.

Nowadays we are witnessing to a "spray" of world records at short intervals in most samples, and sports industries.

In sports, modelling has a very wide range of application. High performance behaviour modelling is a method in sport and returns significantly improved results. It involves, first, the existence of an ideal model, prospective inductive type. The core of this type of modelling remains a mutual influence between the model and model training game. Player training concept is based on objective reality of the collective game. Its evolution is highly dynamic, so the preparation that precedes and follows both must be modelled after the game competitive, which in turn must be known to capture its characteristic moments. Model parameters of the game have changed from one edition of the WC to another.

Keywords: *basketball, evolution game model.*

JEL classification: *I21, I25*

1. Introduction

The modern method of training, in the field of sports, like basketball, major changes have occurred in the development of content, structure and organization of training of players and teams. As a result of new methodological orientation, therefore the results of scientific research and advanced practice of programming and planning training coaches were established methodological principles of modern teaching technology, namely the objectification and upgrading training content.

Basketball has become a sport in which technical executions at high artistry sports are not enough to ensure victory. A physical multilateral and specific training is required; condition to ensure consistency of performance major who must address

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the peculiarities and specific effort somatic body in top competitions. Incentive competition is fashionable in the modern world. In professional sports competition is widespread.

In sports, modelling has a very wide range of application, from design stage, the design of the training, which is the fundamental method (selection model, technical and tactical training model, contest model) and then going into the later stages of implementation practice or experimentation model. The essence of modelling in sports training is characterized by the triad "model - algorithm - programming", thus emphasizing the successive steps required to implement the method.

The models have a strong outlook, even hypothesis, given their projections into the future. Concrete realization of these assumptions requires a strategy, organizational structure and material potential able to create conditions in which the model developed environment to work. It is to characterize the type of sport training forming integrated and coordinated with other types of models.

In theory and practice sports, we meet 5 types of modelling as follows: original modelling or real sportive/ professional / performance oriented behaviour modelling, simulation modelling, modelling scientific-methodological and training simulators and simulation modelling.

Performantial behavior modeling is used as a method in sport and gives the best results. It involves, first, the existence of an ideal model, prospective inductive type. The core of this type of modeling remains a mutual influence between the model and model training game. In other words, the model training is simply a consequence of the modelling game model. *No training model without having to model image of the game to be achieved* (Popescu, F. 2008).

2. Methods

In the study of statistics game model, we followed the evolution of the parameters of the game over the last year's World Championships women's basketball.

On 1st of October 2010, in Puerto Rico, there were few major changes in the Rules of the Game of Basketball. 3-point line has moved from 6.25 m to 6.75 m, the area has been transformed from a trapezoid to a rectangle, thus increasing the area where players are not allowed to stay more than 3 seconds or without the ball. Following these changes in regulation, the coaches had to find new methods of training to compete in major international confrontations.

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2.1 Performance model

Performance is multi-determined: factorial and multidisciplinary. Information from multiple disciplines contribute to its achievement in decades; structure more and even causes in different proportions, science activities bodily anthropology, physiology, psychology, sociology, pedagogy, biomechanics etc.

Performance is dependent on the total capacity of the player, the bio-psycho-social system result of improving executive functions, the regulatory subsystems of morphological, physiological, informational, decisional, and psycho regulator.

The research methods used in this study were: bibliographic research and statistical, mathematical to international basketball, being standard highlighting characteristics known to be experts in all levels of sports, we present briefly the main features of the current game of basketball quoting Predescu & Ghișescu (2001):

- ✓ fight for printing rhythm and tempo of the game, rhythm variations depending on the evolution score;
- ✓ increasing importance and growing use, air game fighting for a rebound, driven by increased gauge, stature and detent players;
- ✓ appearance of "couples" stable 2 and 3 players;
- ✓ Completion of direct combat with the opponent (the relation of one against one and doubling the striker)
- ✓ accelerating the execution of the action in the final stage of completion
- ✓ generalization throwing the basket jump and completion rate of 3 points;
- ✓ Increase efficiency by combining defence by defence systems through permanent aggression, pressing temporarily generalization, increasing the share of interception and closing entry, special tactics against great players and leaders opposing team.

2.2 Characteristics and types of game model

Among the many aspects of shaping the sports games are most commonly for workouts models and patterns of behaviour in the game. The model can consist of individual and collective actions of the players, integrated physical and mental effort characteristic of the game.



In sports, *the theoretical model* is the organized system of knowledge that describes and explains the integrative model of game content. In this system, we distinguish several structural elements such as intellectual ability of athletes (intelligence, general knowledge, philosophy, school education, university, vocational, etc.) information and specific knowledge sporting game practiced: the behaviour of the body during exercise, recovery, nutrition, hygiene, self-knowledge, self-training, self-regulation of mental states, knowledge of the game design team, creativity and operational thinking, etc.

The tactical (including strategic) or design strategy game is targeting *both attack and defence*.

The art of the game must be understood and interpreted in two ways: first, the optimal model for the execution of technical procedures that ensure the highest quality and efficiency indicators. Players are learning and improving after the optimal models of kinogram adapting them to their own individual characteristics or style of execution. Second, the model subordinates tactical game model, so that enhances the quality and effectiveness of applying the tactical game concept.

Player conception of preparation is based on the objective reality of collective game, as a functional team interaction. Its evolution is highly dynamic, so the preparation that precedes and follows both must be modelled after the game competitive characteristics, which in turn must be known to capture its characteristic moments.

Modern basketball is characterized by speed and strength. In essence, modern tactical attack includes counterattack and attack quickly made entry in any situation in possession. Coaches aim shorten attack completion after 2-3 assists, offensive rebounds with the participation of attacking without doing steady defensive attack. The defence is based largely on the system pressing man to man or zone. (Popescu, F. 2008).

Achieve performance, subject to the parameters in major competitions, highlighted trends basketball game:

- ✓ High speed tactical deployment of attack and defence actions.
- ✓ Increased efficiency in action completion.
- ✓ Strong in their attacks.
- ✓ Ball game.
- ✓ Increasing number of game action that creates favourable conditions for completion.
- ✓ Use of active defences, it's pressing.
- ✓ High technical mastery executions carried out at high speed in conditions of adversity, with fluency ensuring action game with simple and effective.
- ✓ Use game parameters as a factor in conducting sports training (Porfireanu, 2013).



3. Results

Prospective models of the game are determined by statistical and mathematical calculations on the model showing the value of the main parameters of the game of basketball practice internationally. These occurred as a result of constant research and investigations conducted at major international events by FIBA basketball.

We will present statistical model parameters of the game of attack and defence in the last four editions of the World Championships in women's basketball.

Table 1 Teams ranked in the top three places at the World Championships women's basketball

Competition	Date	1 st place	2 nd place	3 rd place	Top Goal scorer
C. M. women 2010 CEHIA	23.09./3.10	USA	Czech	Spain	Yuko Oga (JPN)
C. M. women 2006 Brazilia	12./23.09	Australia	Russia	USA	Lauren Jackson (AUS)
C. M. women 2002 China	14- 25.09	USA	Russia	Australia	Lauren Jackson (AUS)
C. M. women 1998 Germania	26.05/07.06	USA	Russia	Australia	Janeth Dos Santos Arcain (BRA)

(www.fiba.com Statistics)

Table 2 Points scored by the winning team

Marked points				
Points	1998	2002	2006	2010
3 PT	24	58	59	40
2 PT	281	255	186	297
1 PT	305	313	245	337

(www.FIBA.com Statistics)

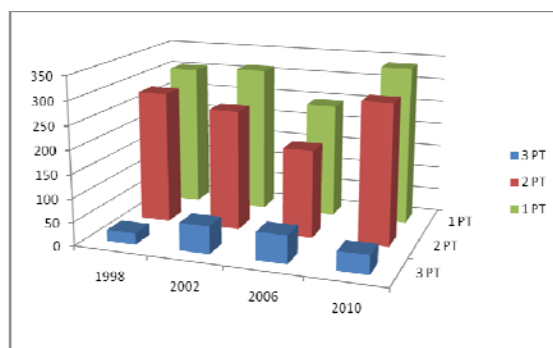


Chart 1 Marked points



Table 3 Indicators defence game model, for the winning team

Indicators defense model				
Indicators	1998	2002	2006	2010
BS	-	19	19	24
ST	91	136	60	106
TO	130	102	125	143
RT	358	354	292	397

(www.FIBA.com Statistics)

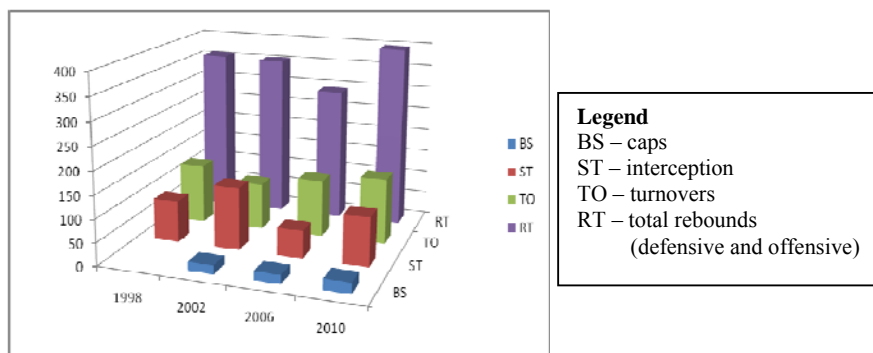


Chart 2 Defence processes

4. Discussion and conclusions

Parameter model game – throw 3 points, there is a sinusoidal evolution of points scored from the line of the crescent: from 24 bridge marked the U.S. team in 1998, to reach 40 points scored in the 2010 edition after edition 2002 were scored – 58 points and the edition of 2006 -59 points.

2 points throw meet an increasing trend: from 281 points in 1998 to a total of 297 points in the 2010 edition.

Free throws beginning with 305 points, scored in 1998, came to 337 points in 2010.

The evolution of the defence game model parameters is found to interception, an increase from the 1998 edition to reach interception 91 edition 2010-106 interception - which shows an increased aggressiveness of the defence phase.

Individual technical and tactical action defence is frequently used due to the aggressiveness of this phase of the game and 358 rebounds in 1998 to reach 397 rebounds in 2010.



4.1 Conclusions

- The U.S. team dominated the race, winning the last four editions of the World Cup women's basketball. Elements of technical and tactical concept of this team evolution may be adopted as model for other basketball teams and players.
- Predescu & Ghițescu, think that performance is dependent on the total capacity of the player, the bio-psycho-social system results by improving regulatory enforcement functions, systems of morphological, physiological, informational, decisional and psycho regulator.
- Argues that training athletic players with emphasis on force-speed capabilities, the ability of players to participate in different effort regimes an increased physical stress and increasing sports mastery and shooting accuracy increased the number of points scored per game.
- Defensive driving in possession increased the number of balls which makes the number of points scored at the end of the game to grow from one edition to another.

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