STUDY ON THE PERCENTAGE OF INFORMATION ACCUMULATED BY VISUAL MEMORY DURING A HANDBALL GAME AND THE NECESSITY OF OBSERVATION SHEETS

Ioan Teodor CICMA[1], Gloria RAȚĂ[2]

[1]Faculty of Physical Education and Sports, "Dunarea de Jos" University of Galati, ROMANIA
[2]Faculty of Movement, Sports and Health Sciences, "Vasile Alecsandri" University of Bacau, ROMANIA

Abstract:
The aim of this study is to highlight the complexity and multitude of the information that comes to light, from the coaches' capacity to memorise, on the one hand, and, on the other, from the notes on the observation sheets, regarding the game stages and the tactical individual and collective actions of an official handball game. Regarding the capacity of memorising and of storage of the visual information during the competitions, there is the idea that this should be substituted by the use of observation sheets, fact that will ensure a correct and efficient analysis of the game.
Key words: *Handball, coaching, visual information, memorising, observation sheet.*

INTRODUCTION

Sport is one of the most dinamic and attractive social activity, distinguished by other social and modern phenomena by its universality and uniqueness, its main target being the improvement of the human being.

> Sport is a race activity composed by an ensemble of movement actions, differentiated in sport branches which have the target to enhance the morpho-functional and mental posibilities, enhanced in performances such as: record, partner's record or self record. (Teodorescu, 2009: 9)

Sport realises a cohesion between the ways and forms of physical education, made either in an organised way, with an eye to manifest and improve both the physical condition and the spiritual convenience, to achieve social relations between individuals or with the target to obtain good results in different competitions.

"Performance sport – is an activity that maximises the performance capacity and capitalizing it in important competitions, capitalized in records and winning titles, medals and places in official tops." (Teodorescu, 2009: 11).

The notion of "high performance sport", may be represented as a pyramid which has in its top that or those sportsmen who practice high performance sport.

Handball, as a sport, has developed continuously; at present, there are official competitions for all categories, the development of this sport being also quantitative and qualitative.

The handball game creates a connection between the movement capacity of the player and his mental capacity, and this brings a contribution in forming other qualities, capacities and abilities.

As a result, the specialists in the performance handball game have developed a game notion that has to match the demands of the world elite handball, and which takes into account the tendency to evolve that the game has in international field, this being in a continuous process of updating.

As a theoretical scientific discipline, the handball game studies and treats the content of the game from the point of view of the training factors: physical, technical, tactical, theoretical and psychological.

The science of handball studies the history and the continuous evolution of the game, generalizes the experience, the practice and the results of the best teams, studies and creates an inter-addiction with other games that lend methods and different ways of training, as well as certain technical procedures and tactical actions that adapt to its particularity.

The finality of handball training is the competition or the official game.

The appreciation of the results obtained in official games is made in a scientific way by filling in the analysis sheets, although many coaches limit themselves to memorising the visual information during the game.

In this study we want to demonstrate the necessity of using the analysis sheets in official

games, in order to realise a fair and objective analysis of the game.

THE PURPOSE of this study is to demonstrate the efficiency and the possibility of making an objective analysis taking into account the observation sheet in handball competitions.

HYPOTHESİS

We started from the assumption that on the basis of visual information, a teacher-coach cannot remember all the important aspects of an official handball game, in order to have a correct analysis of the game. Taking into account this assumption, it follows that the coaches' use of observation sheets with the aspects that take place during the game would maximise the number of data obtained through direct memorising.

METHODS

The experiment was made on three teacher-coaches from the Braila Sports Programme Highschool, during an official handball game that took place in the School National Championship, at Juniors 1st stage.

This stage has been chosen because it is believed that the technical-tactical quantum of sportsmen is complete, so during the game there will appear game situations rather complex as well as variable individual tactical and collective situations.

There has been chosen an optimum number of game phases and tactical actions that were pursued by the coaches and written down in the observation sheets by observers.

During the second day, the coaches were surveyed regarding the number of game phases and tactical actions that have been chosen by both parts to be mentioned in the observation sheet, and the memorising-reproduction percentage has been calculated, reported to the real number of phases and actions, meaning the number of facts listed in the observation sheet.

The methods that were used are the observation method, the experimental method, the method of filling in observation sheets, the interview method, the questionnaire method, the tables method, the statistic-mathematical method and the graphic method.

STUDY CONTENT

Nowadays, in performance sport, a campaign is led, meant to change the teacher-coaches mentality regarding the continuous professional training and development.

The purpose of this study is the action of promoting and getting teacher-coaches accustomed with the scientific "competition evaluation", thus ensuring the objectivity of the assessments.

During the training but most of all during and after the official contests, the sports games included, the coaches have to evaluate the results obtained by the sportsmen, after their examination and interpretation, to establish the measures to be applied so as to reach a higher level of performance.

The modern coach must meet a number of requirements such as: to be himself a learner, to get familiar with the complex science issues, as nowadays "the information explosion generates the ignorance explosion" (Colibaba & Bota, 1998: 19), to permanently improve his/her professional capacities as methodist, pedagogue, teacher, psychologist, physiologist, biochimist, mathematician-statistician, sociologist, researcher of own activity and that of the field s/he works in, organiser and leader (sports manager), and last but not least a person willing to change his mentality and didactical attitude.

An important objective of the training programme is that of increasing the activity value in multiple ways such as the improvement of the training knowledge and trust growth in the professional qualities of the coaches.

Besides these qualities and aptitudes, the modern coach must assimilate some knowledge of leadership and of optimal development of the present activity and of the perspective activity.

The training process is in a direct relation to the performance growth by the fact that it offers the player or the team a feed-back about the notion of performance.

Deep down, the training activity involves noticeable investigations of the behavior observable changes, the teaching and training qualities and skills depending consistently on the solid analysis that has an effect upon the improvement of sports performance.

In this activity, precise measures based on information are required for an effective feed-back and for performance improvement, as well.

A performance analysis of many sport events is based on a multitude of qualitative evaluations made by coach Franks in 1983, who defined a simple scale of the training process, which studies and presents teaching in its stages: observation, analysis and programming.

The contest/game will be carefully watched, and after that the coach will draw a conclusion upon the negative and positive aspects of the performance; often the results obtained in previous contests/games as well as the performance during the training are taken into account before establishing the training plan for the next contest/game.

Nevertheless, there are numerous problems related to a training process based on a subjective evaluation during the contest/game.

During the contest/game many mistakes go unnoticed as distinct problems, because of the controversial decisions of the officials, decisions that come from the interpretation of some technical procedures made at high level.

Many events and stages during a contest/game tend to lead to the confusion the memorable parts of contest/game and the best moments of game.

The after contest/game analysis, and the training for the next competition are made starting from the observations made after the previous contest/game.

These observations are restored or reapeatedly told to the sportsmen after a while, after memorising them during the competition.

Memory represents the ability or the mental main feature of the human being, without which a great operation and development in normal parameters of personality would be impossible.

This thing can be quite easily noticed if we refer to people that suffer serious memory problems.

Although all the living beings have memory, the most evolved is that of human beings who, besides the motor and genetic memory, characteristic for animals, also have other types of more productive memory related to the use of mnemonical means, such as the logical and arbitrary memory.

The human being's memory can be compared to a specific instrument that serves to the accumulation and use of life experience.

Memory is defined as the mental process of reflecting the previous experiences by retention (storage and saving), recognition and reproduction of sensory images, ideas, affective or movements from the past, the memory processes being connected to the sensory reflection and to the processes of language and thinking; to some people the sensory-intuitive memory comes first, and to others, the abstract-verbal one" (Grigore, 2011).

Memory reveals recognition and reproduction; a necessary condition for the two processes mentioned above is the storage and memorising of things that happened, felt and were done before.

The human being's memory is quite limited so it is almost impossible that someone remembers all the events and things that take place during the whole competition.

In 1987, based on studies conducted, Franks and Miller say that a coach is fair-play in his contest/game analysis, in a proportion lower than 45-50%, because an individual variable named quick forgetting interferes, a variable that is not astonishing taking into account the complex process of converting the data at the memory level and later on of reproducing it in a subsequencial way.

Phases or events that appear one time in a contest/game will not be easilly reminded, the forgetting being a quick process.

Emotions and preconceived ideas are important factors that have an influence on storing the memory and redeeming it; in most teams an observer is capable of seeing and assimilating an action that takes place on the field.

Due to this fact, the coach cannot see but parts from the contest/game, at a given moment (usually in critical moments), the action or peripheral game phase being, to a large extent, lost.

The coach has to rely on after contest/game feed-back, only on partial information about the team, this feed-back being an inadequate one; here comes the oportunity loss of optimising the sportmen and the team performances.

Although the observation is extremely important during the contest/game, few researches were accuratelly made, these things demonstrating that coaches cannot expect to remember more than 50% of the performance; in most cases, even less.

One of the most important tasks of the coach is accuracy and performance annalysis.

At that point it will be revealed that it cannot be done only in a subjective way, any chance or hope for improving this feed-back being low.

Objectivity can be obtained by using video means, biomechanical systems with an accurate annalysis, written analysis, and, last but not least, the main subject of this study, the observation sheets filled in with what we are interested in, such as game phases and individual, collective tactical actions.

Handwritten observation sheets are in most cases very clear, but have the disadvantage that the most complex ones involve a considerable time of annalysis; that is why they imply a division into game phases and individual and collective tactical actions, and more observers for their preparation.

As a conclusion, the purpose is to develop the availability, thinking and motrical-active intelligence that will give the opportunity to practice this game, to adapt and participate to the evolution of the specialty

.

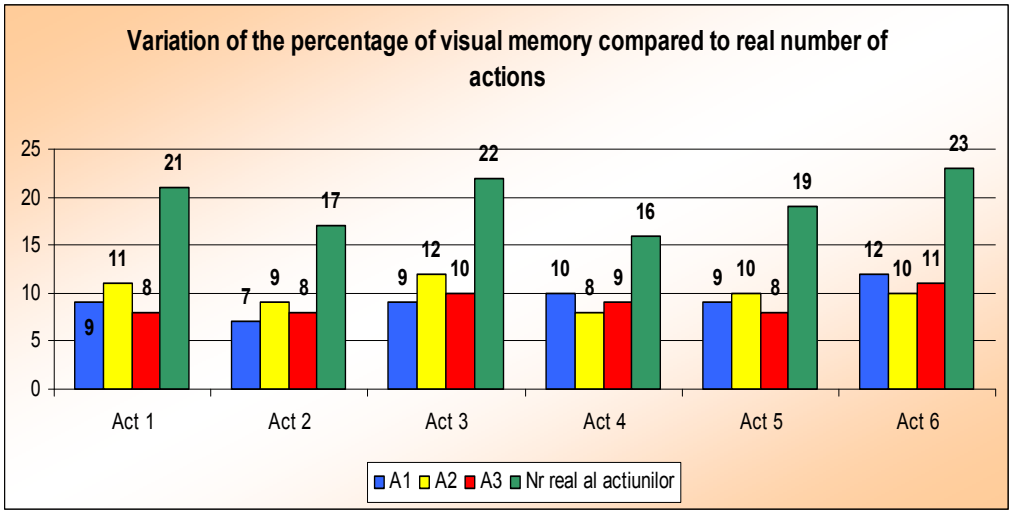
RESULTS

Table 1.

Trainers	9m Throw		6m Throw		Counterattack		Positional attack		Loss of ball		Tactical combinations	
	Nr. T	P.	Nr. T	P.	Nr. C	P	Nr.P	P.	Nr. L	P	Nr. T.	P.
T1	9	42.86	7	41.18	9	40.91	10	62.5	9	47.37	12	52.17
T2	11	52.38	9	52.94	12	54.55	8	50	10	52.63	10	43.48
T3	8	38.1	8	47.06	10	45.45	9	56.25	8	42.11	11	47.83
Real actions	**21**	**100%**	**17**	**100%**	**22**	**100%**	**16**	**100%**	**19**	**100%**	**23**	**100%**

Nr. T. = number of throws, P. = percent, Nr. C = number of counterattacks, Nr. P = number of positional attacks, Nr. L. = number of ball losses, Nr. T = number of tactical combinations

Graphic 1.



Following the result, we can see that the percentage of information stored is very small compared to the overall number of actions during the game.

CONCLUSIONS

In conclusion it has been proved that without the preparation of the observation sheets, we cannot have an accurate and relevant annalysis of the game, the visual memorising percentage and their reproduction, naming the game phases and collective and individual game phases, being rather low (<60%).

References

1. **Teodorescu, S., Antrenament şi competiţie, Editura Alpha MDN, 2009, pg. 9.**
2. **http://tonysss.wordpress.com/, Pagină web., Blog.**
3. **Ministerul Învăţământului, Psihologia – Manual pentru şcoli medii, Editura didactică şi pedagogică, Bucureşti, 1956, pg. 84-96.**
4. **M.T.S., Antrenoriat şi competiţie, Centrul de Cercetări pentru Problemele Sportului, 1994., pg. 10-48, 104-110.**
5. **M.T.S., Fiziologia Sportului, Centrul de Cercetări pentru Problemele Sportului, 1994.**
6. **Golu, M., Fundamentele psihologiei, Curs format electronic, 2010.**
7. **Aniţei, M., Fundamentele psihologiei I, Curs pentru I.D., 2005.**
8. **Stanciu, C., Genetica comportamentului uman, Ed.Stiinţifică, Bucuresti, 2004.**
9. **http://www.cartionline.biz/, Manual de psihologie, Pagină web, 2010.**
10. **Stephen, J., B., Sport Psychology: A Self-help Guide, Ed, The Crowood Press Ltd, 1998.**
11. **Bompa, O., Tudor, Periodizarea. Teoria şi metodologia antrenamentului sportiv, Ediţia a II-a, Editura „Exponto", M.T.S., Şcoala Naţională de Antrenori, C.N.F.P.A., Bucureşti, 2001.**
12. **Bota, I., Handbal. Modele de joc şi pregătire, Editura „Sport-Turism", Bucureşti, 1984.**
13. **Bota, I., Bota, M., Handbal. Pregătirea şi formarea echipelor de performanţă, Editura „Sport - Turism", Bucureşti, 1987.**
14. **Cercel, P., Handbal-Antrenamentul echipelor masculine, Editura „Sport-Turism", Bucureşti, anul 1983.**
15. **Colibaba, E., D., Bota, I., Jocuri sportive–Teorie şi metodică, Editura „Aldin", Bucureşti, 1998.**
16. **Dragnea, A., Antrenamentul sportiv.Teorie şi metodologie, vol. I şi II, A.N.E.F.S., Bucureşti, 1993.**

ÉTUDE DU POURCENTAGE DES INFORMATIONS OBTENUS PENDANT UN JEU DE HANDBALL OFFICIEL PAR MÉMORISATION VISUELLE ET LA NÉCESSITÉ DE L'USAGE DES FICHES D'OBSERVATION

Résumé: *Cet ouvrage se propose de relever la complexité et la diversité des informations obtenues- d'une part, de la capacité de mémorisation des entraîneurs- d'autre part, des notices inscrites dans les fiches d'*
observation (phases de jeu, actions tactiques individuelles et collectives) du cadre d'un jeu de handball officiel.
En ce qui concerne la capacité de mémorisation et de stockage des informations visuelles pendant les compétitions, il y a la supposition qu'elle devrait être suppléée par l'usage des fiches d' observation, ce qui assurerait une analyse correcte et efficiente du jeu.
Mots- clés: *handball, entraînement, information visuelle, mémorisation, fiche d' observation.*

IDENTIFICATION BY SPECIALISED VIDEO ANALYSIS OF TECHNICAL MISTAKES RELATED TO THE PROCEDURE IN BASKETBALL THROWING THE BALL FROM JUMPING PROCEDURE

Dana Lucica CIOCOIU

Faculty of Physical Education and Sports, "Dunarea de Jos" University of Galati, ROMANIA

Abstract:
The article underlines the importance of video analysis programs in the objective detection of technical mistakes within the basic course in basketball. It is based on an extensive experimental study on optimising the technical component in basketball, and also on general aspects regarding the process of professional training in the faculties of sports and physical education for the basic course in the subject of basketball.
Key words: *Video analysis, spatial parameters (segment trajectory), throwing to the basket from jump, technical mistakes.*

INTRODUCTION

The structure and the content of the present analitical programme does not justify the sieting up of the student's demonstrated profile proceeding from the future professional requirement, and the report between theory and practice is no longer well-ballanced, insufficient for the learning and consolidation elements and for the basic technical process, specific to the basketball play. There have always been concerns about the list of specialists with the typology and causality of the technical mistakes in sports games (A. Popescu, 1954; V.V. Belinovici, 1959; A. Hrişcă, C. Negulescu & D. Colibaba-Evuleţ, 1977; R.W. Christina & D.M. Corcos, 1999; A. Păcuraru, L. Călin & G. Prisecaru, 2004; A. Păcuraru, P. Ghervan & A. Acsinte, 2006; C. Ciorbă & I. Comarniţchi, 2007; D.L. Ciocoiu & M. Creţu, 2007; D.L. Ciocoiu, 2009; D.L. Ciocoiu & C. Ciorbă, 2008, 2009; C. Preda & M. Niculescu, 2009; D.L. Ciocoiu, A. Păcuraru, C. Ciorbă & C. Preda, 2010).

RESEARCH HYPOTHESIS

It was presumed that the application of specialised video analysis in the basic course in basketball will increase the efficiency of the methodological approach of learning-consolidation-assessment of the technical procedure called basket, throwing the ball to the basket from jump (the so called "jump shot") by gaining knowledge of the moments composing the movement and by objectively detecting technical mistakes.

PURPOSE

Detection of technical mistakes in the jump shot procedure,in the basic course in basketball by applying video analysis.

RESEARCH OBJECTIVES

1**.** Analysis and generalisation of data in specialised literature.

2. Identification of the main moments in the execution, and common technical mistakes for the given procedure.

3**.** Ascertaining the efficiency of the video method in technique analysis and mistake detection for the given procedure in teaching basketball.

The methods and techniques of scientific research in the present article are as follows: bibliographic documentation, pedagogical observation, video analysis, biomechanical analysis of spatial parameters (trajectory of the movement of segment articulation), constatative experimental study, mathematical statistics, graphics and tables. The specialised video analysis of the jump shot was performed by the *"Physics ToolKitt" - version 6.0* programme, and focused on the trajectory of the