

# RELATIONSHIP BETWEEN THE PEDAGOGICAL VARIABLES OF COACHING A MINI-BASKETBALL TEAM

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**KEYWORDS:** Pedagogical variables, Sports initiation, Coach, Basketball.

**ABSTRACT:** This study arises from the importance of analyzing the coaching process and knowing how to coach in the first stages of sports initiation. The purpose of this study was to analyze how a basketball coach establishes teaching the game phases in youth categories, through the relationship between the pedagogical variables that define each of the coaching tasks.

A total of 452 tasks, organized in 80 training sessions that were planned by a coach of mini-basketball (10-11 year-olds) from the 2004-2005 season were analyzed. After a descriptive analysis of the game phase variable, a non-parametric inferential analysis (chi-square and contingency coefficient) was carried out to study the relationships between the variables of the study (game phase, game situation, type of content, and content).

The results make clear that for the coach that was analyzed, there is a disproportionate amount of work done on phases of offense to the detriment of defensive work. The aspects of the attack that are developed most are those without opposition, 1-on-0 (RAS=9.7) and to a lesser degree 1-on-1 (RAS=-10.7), although the opposite happens in the case of defensive fundamentals, 1-on-0 (RAS=-5.4) and 1-on-1 (RAS=12.3). A higher proportion of tasks without opposition, 1-on-0, were planned to work on individual offense technique (RAS=15.7), such as shooting.

The analysis of the coaching process provides much information when generating sport teaching principles. The results have an important practical application, and they facilitate the process of continuing education and reflection on coaches' actions.

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## Introduction

The importance of analyzing coaching situations resides in the fact that these situations imply practice conditions through which players acquire and execute sport-learning content (Saad & Nascimento, 2007). The teaching of team sports receives much attention by researchers. There is a need to know how the processes of teaching a sport, both in the educational environment as well as the athletic environment, although it appears that until now there have not been clear, conclusive responses. Basketball is a sport of cooperation and opposition in which there are two game phases which are determined by possession of the ball.

The principles that define the offensive phase applied to basketball are: keep possession of the ball, advance toward the opponent's basket, and score. The principles that define the defensive phase are: recover the ball, prevent the advance of the ball, and prevent the opponent from scoring (Bayer, 1986). These phases, that define the internal logic of the sport, are the basis for the organization and structuring of the practical situations that will develop the learning content for the offensive and defensive phases (Garganta, 1997).

There are principles for sport teaching that help coaches design training tasks. The majority of these are based on theoretical aspects, which presents a problem when trying to apply them to real training situations (McCallister, Blinde & Weiss, 2000). For that reason, experts propose the analysis of the training process with the goal of generating knowledge that arises from practice (Jones, Armour & Potrac, 2002).

The tendency to analyze tasks or practice situations of the teaching and/or coaching of a team sport is demonstrated in studies such

as those by Martínez de Santos (2004) and Saad and Nascimento (2007). Due to the difficulty of evaluating how athletic coaching is being developed with regard to tactical, technical, and psychological aspects, Ibáñez (2008) proposes a series of pedagogical variables that define the tasks of coaching and allow for the analysis of the coaching process.

The purpose of this study was to analyze how a basketball coach plans the teaching of the game phases in youth categories, through the relationship between the pedagogical variables that define each of the coaching tasks.

## Method

The study was descriptive, qualitative, and based on a case study. The data come from the planning of a mini-basketball team from the 2004-2005 season.

*Sample.* A total of 452 tasks, organized in 80 training sessions and planned by the coach of a mini-basketball team (10-11 year-old players) was studied.

*Instrument and variables.* The data were recorded with the computer program PyC Basket 2.0. The study's variables were: game phase, game situation, type of content, and content, elements that define each of the training tasks (Ibáñez, 2008).

*Statistical analysis.* For the statistical analysis, the computer packet SPSS 15.0 was utilized. First, a descriptive analysis of the game phase variable was carried out. To analyze the relationship between the variables, a non-parametric inferential analysis (chi-square and contingency coefficient) was carried out. Through the value from the corrected standardized residuals (RAS), the differences between the variables were interpreted ( $> |1.96|$ ).

Game phase		Game situation													Total
		1x0	1x1	2x0	2x1	2x2	3x0	3x2	3x3	4x3	4x4	5x0	5x5	Other	
Offense	Recount	120	34	39	13	11	3	8	29	0	4	2	6	11	100
	% of the total	26.6	7.5	8.6	2.9	2.4	.7	1.8	6.4	.0	.9	.4	1.3	2.4	62.1
	Corrected residuals	9.7	-10.7	5.1	-3	-3	1.4	.7	.6	-1.3	-1.8	1.1	-1.8	.9	
Defense	Recount	1	66	0	4	1	0	0	0	1	0	0	0	0	0
	% of the total	.2	14.6	.0	.9	.2	.0	.0	.0	.2	.0	.0	.0	.0	16.2
	Corrected residuals	-5.4	12.3	-2.9	3	-2	-8	-1.5	-3.1	2.3	-1.5	-6	-1.7	-1.7	
Mixed	Recount	1	36	0	5	18	0	3	15	0	7	0	9	4	98
	% of the total	.2	8	.0	1.1	4	.0	.7	3.3	.0	1.6	.0	2	.9	21.7
	Corrected residuals	-6.6	1.6	-3.4	.1	5.3	-.9	.5	2.1	-.5	3.4	-.7	3.7	.5	
Total	Recount	122	136	39	22	30	3	11	44	1	11	2	15	15	451
	% of the total	27.1	30.2	8.6	4.9	6.7	.7	2.4	9.8	.2	2.4	.4	3.3	3.3	100

Table 1. Relationship between the game phase and game situation variables.

## Results and Discussion

The descriptive analysis of the game phase variable demonstrates a predominance of the training tasks dedicated to the offensive phase (62.1%), compared to those dedicated both to the defensive phase (16.2%) as well as the mixed phase (21.7%). The predominance of the tasks dedicated to offense has been demonstrated in other, similar studies (Cañadas & García, 2005). Experts justify this misbalance differently, such as: the higher complexity of the offensive phase content (Sáenz-López & Giménez, 2006); greater motivation on offense (Giménez & Sáenz-López, 2007; Sáenz-López, 2009); and the need to construct learning situations of attack before neutralization (defense) (Ibáñez, 2008), as a principle of constructivist teaching and learning.

The inferential analysis demonstrates a relationship between the game phase and game situation variables ( $\chi^2$  (24, N=451)=287.1,  $p<.001$ ; C=.624,  $p<.001$ ).

The analysis of the RAS (table 1) demonstrates that when working on offense, a higher proportion of situations without opposition, both 1-on-0 (RAS=9.7) and 2-on-0 (RAS=5.1) were utilized. The proportion of offensive situations with opposition was lower than expected, 1-on-1 (RAS=-10.7). For defense, there is a higher proportion of tasks that utilized situations of 1-on-1 (RAS=12.3) and to a lesser degree situations without opposition, 1-on-0 (RAS=-5.4) and 2-on-0 (RAS=-2.9). These data demonstrate that the offensive tasks were mostly worked on in situations without opposition, while when working on defense, the coach chose situations of opposition. Martínez de Santos (2004) also found similar results, affirming the existence of a discord between the training strategies that coaches use (working without opposition) and the competence that they try to achieve in this sport. Given that basketball is a sport of opposition, it is necessary to contextualize training to develop learning in real competition-like conditions. Further,

working with opposition favors learning, not only for the fact that it implies a challenge (Sáenz-López, 2009), but also because it generates uncertainty, which allows the player to develop perception and decision making, which are inherent in this sport (Giménez & Sáenz-López, 2007; Sáenz-López, 2009).

With the goal of knowing what type of content is worked on in situations without opposition, the relationships between the game situation and type of content variables ( $\chi^2$  (120, N=451) =1012.3,  $p<.001$ ; C=.832,  $p<.001$ ) and game situation and content variables ( $\chi^2$  (456, N=451) =1767.58,  $p<.001$ ; C=.893,  $p<.001$ ) were analyzed, and there were statistically significant relationships. The interpretation of the RAS demonstrates that situations of 1-on-0 were used in a higher proportion to work on individual offensive techniques (RAS=15.7). The shot is one of the individual offensive techniques that are developed at higher proportions in game situations without opposition (RAS=13.08). 80% of the tasks that have the goal of learning to shoot are practiced in this manner. Studies about the game confirm that the majority of the shots taken in a basketball game are done with

opposition (Ortega, Cárdenas, Sainz de Baranda & Palao, 2006). The results of the training sessions that were analyzed indicate that the shot is trained in a decontextualized manner.

## Conclusions

The analysis of the coaching process provides much information when generating sport teaching principles. The results have an important practical application, and they facilitate the creation and development of educational coaching programs. The analysis of the results facilitates the process of continuing education and reflection on coaches' actions.

The study of the results makes clear that the coach that was analyzed disproportionately works on offense in detriment to defensive work. The coaching situations in which the aspects of offense are developed are mostly without opposition, while in the case of defense, it was more common to face opposition. The tasks without opposition are planned mostly to work on individual offensive technique, such as the shot.

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