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# COACHES PERCEIVED IMPORTANCE OF DRILLS ITEMS IN BASKETBALL PLAYERS' LONG-TERM DEVELOPMENT

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KEY WORDS: Basketball, drills, long-term development

ABSTRACT: The purpose of this study was to evaluate the importance that basketball coaches give to drills items during basketball players' development. Data were collected using a questionnaire previously validated by specialists. Eleven drills-related items were tapped: opposition, competition, repetition, execution speed, execution technique, length, timing, decision-making, space, game and enjoyment. The sample was divided according to sex and stage of long-term development: initiation, orientation, specialization, or high-performance. No significant differences were found in opposition, cooperation, repetition, execution speed, execution technique, timing, space and game. Significant differences in assigned importance of coaches working with boys in drills length were found. Coaches reinforced the importance of drills length in high-level performance. These results could be related with coaches' experience, while they consider selecting those drills that allow developing simultaneously all training factors (technical, tactical, physical and psychological).

Also, significant differences in assigned importance of coaches working with boys to decision-making were found, suggesting that it should be the subject of more intense development primarily in later stages of development, i.e., after 19 years of age. Thus, results seem to reinforce the importance of anticipating handling decision-making in practice drills, increasing players' experiences and developing the ability to beat the opponents. Finally, significant differences in assigned importance of coaches working with both sexes to enjoyment were found. Results suggest that in early stages coaches attribute a great importance to enjoyment. However, in later stages, the importance decreases significantly.

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## Introduction

In team sports, while there will always be players with a greater ability to read the game, this is a skill that is primarily developed through quality coaching. Likewise, players will not develop decision-making skills if their coaches only prescribe practice drills devoid of decision-making opportunities. There must be a systematic application of game-based practice activities that require players to make decisions as required in game situations. Debates concerning efficiency of different teaching models in sports training have been spreading among researchers (Keh & Yu, 2007). Actually, considering the evolution of basketball game pace (Leite et al., 2007), players are demanded to possess a wide repertoire of technical and tactical aspects. These increasing demands reinforce players' polyvalence, and therefore the ability to quickly solve problems through game-like situations. Thus, practice drills should encourage and optimize decision-making and inevitably, their effectiveness in game context (see Abernethy et al., 2005).

Despite some interesting reviews (Cushion, 2002) and findings on this topic (Bogdanis et al., 2007) suggesting severe methodological differences between coaches in the definition and application of drills in practice the available knowledge is scarce. Thus, one of the aspects that could contribute to a better understanding on this topic would be analyzing the importance that specialists dedicate to the development of drills items during players' lifespan. The purpose of this study was to evaluate the perceived importance that basketball coaches assign to the drills issues in players of both sexes.

## Method

One hundred and eighty-five basketball coaches filled out a questionnaire previously validated by sport science specialists. The coaches rated the importance of eleven drills-related items: opposition, competition, repetition, execution speed, execution technique, length, timing, decision-making, space, game and enjoyment. The sample was divided according to team's sex and stage of long-term athlete development: initiation (between 6 and 10 years of age,  $n=27$ ), orientation (11 to 14 years,  $n=34$  boys and  $n=18$  girls), specialization (15 to 18 years,  $n=39$  boys and  $n=29$  girls), and high-performance (19 years and beyond,  $n=18$  men and  $n=20$  women). The answers were chosen by the coach from a set of alternatives supplied by the authors using a 5-point Likert use scale. Data were analyzed through one-way ANOVA and, when appropriate, post-hoc multiple comparisons were carried through Tukey HSD test. Statistical significance was set at 5%. Corresponding effect sizes were also calculated.

## Results

The means, standard deviations, and statistical tests between the stages of initiation, orientation, specialization, and high-performance for both sexes are presented in Table 1. No significant differences were found in opposition, cooperation, repetition, execution speed, execution technique, timing, space and game ( $p>.05$ ).

## Discussion

The increasing of game demands from initiation to high-level performance could

TABLE 1. RESULTS OF THE DESCRIPTIVE AND INFERENTIAL STATISTICS OF DRILLS ITEMS

Drills items	Stage	Males	F	ES	Females	F	ES
Opposition	Initiation	3,67 ±0,96	1,71		3,67 ±0,96	0,68	
	Orientation	4,00 ±0,78			4,00 ±0,69		
	Specialization	3,90 ±0,64			3,86 ±0,99		
	High-performance	4,17 ±0,71			4,00 ±0,97		
Competition	Initiation	3,89 ±0,80	2,26		3,89 ±0,80	1,99	
	Orientation	4,00 ±0,95			4,06 ±0,64		
	Specialization	4,28 ±0,79			3,90 ±0,82		
	High-performance	4,44 ±0,78			4,35 ±0,49		
Repetition	Initiation	3,85 ±1,03	0,63		3,85 ±1,03	2,00	
	Orientation	4,09 ±0,83			4,00 ±0,39		
	Specialization	3,95 ±0,76			4,17 ±0,97		
	High-performance	3,78 ±0,94			4,45 ±0,61		
Execution speed	Initiation	4,00 ±1,07	0,38		4,00 ±1,07	1,39	
	Orientation	4,15 ±0,70			4,00 ±0,84		
	Specialization	3,97 ±0,78			3,83 ±0,93		
	High-performance	4,17 ±0,92			4,40 ±0,68		
Execution technique	Initiation	4,19 ±1,04	1,92		4,19 ±1,04	0,37	
	Orientation	4,56 ±0,71			4,33 ±0,69		
	Specialization	4,15 ±0,75			4,28 ±0,92		
	High-performance	4,11 ±0,90			4,05 ±0,89		
Drills length	Initiation	3,82 ±0,68	2,82*	e 0,21	3,82 ±0,68	0,69	
	Orientation	3,44 ±0,66			3,50 ±0,51		
	Specialization	3,62 ±0,78			3,76 ±0,99		
	High-performance	4,00 ±0,77			3,80 ±0,77		
Execution timing	Initiation	3,74 ±0,76	2,93		3,74 ±0,76	2,18	
	Orientation	4,15 ±0,74			3,72 ±0,90		
	Specialization	3,69 ±0,86			3,48 ±1,12		
	High-performance	4,17 ±0,86			4,15 ±0,67		
Decision-making	Initiation	3,82 ±0,68	15,61*	a, c 0,32	3,82 ±0,68	1,89	
	Orientation	3,18 ±0,39			3,89 ±0,90		
	Specialization	4,03 ±0,87			3,97 ±0,98		
	High-performance	4,30 ±0,86			4,35 ±0,49		
Space	Initiation	4,11 ±0,85	0,73		4,11 ±0,85	0,72	
	Orientation	4,32 ±0,59			4,33 ±0,69		
	Specialization	4,08 ±0,84			4,00 ±0,80		
	High-performance	4,11 ±0,76			4,20 ±0,77		
Game	Initiation	4,41 ±0,64	0,65		4,41 ±0,64	0,70	
	Orientation	4,32 ±0,59			4,17 ±0,79		
	Specialization	4,33 ±0,84			4,38 ±0,62		
	High-performance	4,11 ±0,76			4,45 ±0,61		
Enjoyment	Initiation	4,48 ±0,85	23,79*	a, b 0,61	4,48 ±0,85	15,26*	b, c 0,56
	Orientation	3,39 ±1,13			3,72 ±1,13		
	Specialization	2,69 ±0,89			3,21 ±1,08		
	High-performance	2,39 ±1,09			2,65 ±0,81		

\* Significant differences were at  $p \leq 0,05$ , with a= Initiation vs. Orientation, b= Initiation vs. Specialization, c= Initiation vs. Excellence, d= Orientation vs. Specialization, e= Orientation vs. High-performance, f= Specialization vs. High-performance.

Table 1. Results of the descriptive and inferential statistics of drills items

help understanding the distribution of some items such as opposition, competition, execution speed, drills length, execution timing or decision-making. At high-level performance, game outcome has a determinant role in coaches' success. Therefore, if optimizing these items were privileged by high-level performance coaches (both in men and women's basketball), it means that they should be handled earlier (mainly before 14 years of age) in practice drills. Results of present study reinforce the importance of teaching basketball using competitive situations, in multiple contexts that promote the optimization of decision-making and technical, tactical and physical aspects.

Significant differences in assigned importance of coaches working with boys to drills length were found. Coaches reinforced the importance of drills length in high-level performance. These results could be related with coaches' experience, while they stated a higher ability to select those drills that allow developing simultaneously the training factors (technical, tactical, physical and psychological). Therefore, using fewer drills and dedicating them more time in practice could contribute to these results. On the other hand, results could be related with a decreasing of the weekly training time what makes coaches to emphasize quality drills, mainly short and intense loads, in game-like situations.

Significant differences in assigned importance of coaches working with boys to decision-making were also found, suggesting that it should be the subject of more intense development primarily in later stages of development, i.e., after 19 years of age. Despite the fact that some recent researches agreed on the influence of age and players experience in the

decision-making, it seems too complex to describe how this skill develops with age. There are some suggestions, mainly based in coaches opinions and beliefs, indicating that future experts seem to manifest expertise in tactical issued as early as 14 years (Elferink-Gemser et al., 2004). Also, players experiences, that are indirectly dependent of age (Thomas, 1994), can have positive reflex on the appropriate skills development. Therefore, it is easily understandable that most of the wrong players' decisions troughs the game are consequence of lack of declarative, procedural and strategic knowledge (Chi, 1981; French & Thomas, 1987; Thomas et al., 2001). Also, it seems that the expert player has a better structured knowledge (Glaser & Chi, 1988; Sternberg & Horvath, 1995) allowing them to find more creative and appropriate solutions (Sternberg & Horvath, 1995). Thus, as said before, results seem to reinforce the importance of anticipating handling decision-making in practice drills, increasing players' experiences and developing the ability to beat the opponents.

Finally, significant differences in assigned importance of coaches working with both sexes to enjoyment were found. Results suggest that in early stages coaches attribute a great importance to enjoyment. However, in later stages, the importance decreases significantly. Recent studies seem to support the results of this study (Wall & Côté, 2007), whereas researchers concluded that during the first sports experiences enjoyment must be privileged to a better development of motivation. Researchers also suggest that to achieve the objectives, practice drills should privilege game-like situations, where all participants should take part.

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