Original Article

Teaching method in young female team of volleyball

GAETANO RAIOLA

University of Basilicata, ITALY

Published online: March 25, 2014

(Accepted for publication March 13,, 2014)

DOI:10.7752/jpes.2014.01012;

Abstract:

Volleyball is traditionally imparted by the coach with tutorials that have the theoretical basis in the cognitive approach. The coach illustrates with following educational tool: tutorial of Partial type, Varied, Randomized and Mental Training. It refers at motor control model of Open Loop, Closed loop and Motor Program Generalized, so the approach or interpretive key to access of knowledge is cognitive. Teaching method of physical activities and sport science is also another approach in opposite way and it is named Ecological-Dynamic. In this approach the coach does not require the tutorials but builds a setting learning environment aimed at variety of learning. It refers to the models for the motor control theory of Motor Imagery, mirror neurons system, and Degrees of Freedom by three consecutive steps: Reduction, Exploration and Capitalization of freedom degrees. Aim is to check the learning of specific volleyball skills. Methods of research is experimental and involves a team of 18 athletes, under 13. It is divided into two phases. The first one where exercises are given half an hour in each training session, the team of 18 athletes will be divided into two groups of 9, diversified for role. The athletes will be evaluated both incoming and outgoing by test the accuracy of three skills: Shot with one hand, Set and Dig. The evaluation of the accuracy are made by the coach during the match with specific descriptors. The second one monitoring through survey forms regarding the 3 skills. A) To implement new environment with exercises related to the three skills. C) change the setting. D) cooperative learning method. E) exercises of "locking" of some general movements in order to reduce the wide range of movement excursions. We expect the results in Phase II (ecological approach) are better than those of phase I (cognitive approach). And then show that the ecological approach, has better educational implications than the cognitive. In conclusions dynamic systems approach, that sees the "man" as a reality able to aerosolized thanks to a "circular randomness", is that a body left to itself will fail to produce appropriate movements even without the practice. It is therefore considered appropriate to investigate the two approaches (cognitive and ecological-dynamic) in order to improve the teaching practices in the light of the findings, considered that there are no direct comparisons documented.

Key words: Skills, Cognitive approach, Ecological-Dynamic Approach.

Introduction

In the teaching of team sports and in particular in teaching volleyball it traditionally uses tutorials that have the theoretical basis in cognitive approach that includes the development of strength and the skills (Raiola 2012a). The didactics of Volleyball traditionally is imparted by the coach with tutorials that have the theoretical basis in the cognitive approach. They, illustrated in greater detail by the coach, are of Partial type, Varied (Raiola, 2011), Randomized and Mental Training (Raiola 2012a). Refer to the models of motor control to Open Loop, Closed loop and Motor Program Generalized. The partial tutorial consists in making exercise a skill complex initially in a simplified form. Movements with a certain degree of difficulty, very complex, can be simplified by dividing the exercises or reducing the speed or requests for precision (Raiola 2012b).

For all forms of partial tutorial is the rule that is obtained of learning only as long as the techniques of partial tutorial, that is fragmentation, segmentation and simplification, does not adversely affect the deep structure of the motor program generalized. The tutorial randomized and that varied are other techniques of tutorial that find their justification in theory engine programs generalized. The theory of the programs motors has generalized methodological implications-didactic on direct choice of which provide information in the feedback. This choice depends on the type of error made by the student. The techniques of mental repetition consist in think about the aspects cognitive and procedural of the action, while the mental representation is to imagine the conduct of an action. In the teaching of motor activities there is also another approach called Ecological-Dynamic where the coach does not require the tutorials but builds a setting learning environment aimed at variety of learning (Araujo, et al. 2006). It refers to the models for the control of the imagination and mobility of the theory of the degrees of freedom in three consecutive steps for learning impairment: Reduction, Exploration and Capitalisation of the degrees of freedom. According to the ecological approach "learn" means being able to find progressively the mobility solution best for a given task in a given context. Emblematic is the expression, coined by Bernshtein, "repetition without repetition": practice does not mean always repeat the same solution to

a given task, but repeat over again the process of solving the task itself. If learn movements means optimizing the process of solving tasks engines, resulting didactic implications different from those prescriptive own cognitive approach. In heuristic learning the teacher must assist the student in research autonomous mobility solutions. If the learning tasks too complex, you should not impose constraints to the learner in telling him how prescriptive him how prescriptive simplify the implementation mobility, but you must apply constraints to the environment. Decision making in sport, as well as in volleyball, is most important for the performance (Raiola 2012c). Recently study in volleyball about bodily communication and new gathering data in notational analysis need to deeply investigated also in teaching method on integration of phenomenon (Raiola 2012d).

Method

Experimental Research on a team of 18 athletes under 13. Initially, the team will be evaluated with cards custom detection with a monitoring on 3 fundamental steps of volleyball: reject the ball with accuracy, do 3 touches in-game, finalize the point in squashed. Then the team will be divided into two groups of 9 athletes chosen at random for roles. The annual program of training future envisage that one of the two groups, in two of the three workouts per week, will perform exercises with heuristic method for a duration of 30 minutes. We will use the method "Cooperative Learning". The Cooperative Learning is a specific methodology of teaching through which students learn about helping each other and feeling responsible for the reciprocal path. "A learning process is presented as a path within a niche (or between niches) in a learning space, which consists of a certain number of steps leading the learner from the initial position to a target position in the dynamically changing learning space. When deciding on steps, the learner can take guidance from learning paths that are effective from a viewpoint of the learning community." (Normak et al 2012). The coach assumes a role of facilitator, guide and does not give prescriptions and orders.

Results

The testing in input, ongoing and output will be detected by the coach on the field.

I Phase :September-October-November>II Phase: December-January-February>III Phase: March-April-May.

I PHASE: By the detection custom made on the September 18th 2012, all the athletes showed that:

- On the first indicator "Reject the ball with precision" on 18 athletes there are seven positive, eleven negative, nobody great.
- On the second indicator "Make three touches during game", eight athletes are positive, ten negative
- On the third indicator "Quality of attack", all the athletes are negative

II PHASE: By the detection custom made on the December 1th 2012, all the athletes showed that:

- On the first indicator "Reject the ball with precision" on 18 athletes there are eleven positive, seven negative, nobody great.
- On the second indicator "Make three touches during game", ten athletes are positive, eight negative
- On the third indicator "Quality of attack", five athletes are positive, thirteen are negative.

III PHASE: By the detection custom made on the February 28th 2013, all the athletes showed that:

- On the first indicator "Reject the ball with precision" on 18 athletes there are eleven positive, five negative, two great.
- On the second indicator "Make three touches during game", ten athletes are positive, eight negative
- On the third indicator "Quality of attack", six athletes are positive, nine are negative, three are great.

Tables

Table 1.

A model for the detection and assessment adopted will have the following characteristics:

Monitoring the athlete..... (born..... height... ..)

- **Reject the ball with precision**

Negative (-) Positive (+) Excellent (++)

- **Do three touches during the phase of the game**

YES () NO ()

- **Quality of the attack**

YES () POINT NO () POINT

DATE..... COACH.....

Table 2.

I PHASE:	
By the detection custom made on the September 18 th 2012 , all the athletes showed that:	
<ul style="list-style-type: none"> On the first indicator "Reject the ball with precision" on 18 athletes there are seven positive, eleven negative, nobody great. On the second indicator "Make three touches during game", eight athletes are positive, ten negative On the third indicator "Quality of attack", all the athletes are negative 	
II PHASE:	
By the detection custom made on the December 1 th 2012 , all the athletes showed that:	
<ul style="list-style-type: none"> On the first indicator "Reject the ball with precision" on 18 athletes there are eleven positive, seven negative, nobody great. On the second indicator "Make three touches during game", ten athletes are positive, eight negative On the third indicator "Quality of attack", five athletes are positive, thirteen are negative. 	
III PHASE:	
By the detection custom made on the February 28 th 2013 , all the athletes showed that:	
<ul style="list-style-type: none"> On the first indicator "Reject the ball with precision" on 18 athletes there are eleven positive, five negative, two great. On the second indicator "Make three touches during game", ten athletes are positive, eight negative 	
On the third indicator " Quality of attack ", six athletes are positive, nine are negative, three are great.	

OBSERVATIONS

Table 3.

Absences Athletes											
2012/2013											
	September	October	November	December	January	February	March	April	May	Total	
1 Esposito M.		2	2	1	1	3	1				
2 Russo C.		1	1		1	1	2				
3 Natale C.	2		1		1	1	1				
4 Drago A.		1	1		1		1				
5 Improta A.	1			2		1					
6 Romano A.	4	2	3	3	2	1					
7 Di Vaio I.	1		3		1		1				
8 Maccioni A.		2		1		1					
9 Paesano S.		1		1	1	2	2				
10 Marzano L.	2		1	2	2	2	1				
11 Varriale A.	1	1	1		1	2	1				
12 Benvenuto R.		1	3	1	1	3					
13 Castagliuolo A.	2	1		1	2	1	1				
14 Strazzullo A.			2	2	1	1	1				
15 Caramelli B.		1		1		2	2				
16 Pisani L.		1	2		2	1	2				
17 Pisano R.	2			2	1	2	2				
18 Varese P.	1	3		1		3	2				

From 1 to 9 (in green) are absences made by athletes who have experienced the ecological approach-dynamic

FIRST PHASE

September 12, 2012

Fig. 1. "Reject the ball with precision": 11 positive, 7 negative
 "Make three touches during the game": 10 positive, 8 negative

SECOND PHASE

December 1, 2012

Fig. 2. “Reject the ball with precision”: 7 positive, 11 negative
 “Make three touches during the game”: 8 positive, 10 negative
 “Quality of attack”: 5 positive, 13 negative

THIRD PHASE

February 28, 2013

Fig. 3. “Reject the ball with precision”: 11 positive, 5 negative, 2 great
 “Make three touches during the game”: 10 positive, 8 negative
 “Quality of attack”: 6 positive, 9 negative, 3 great

Discussions and conclusions

We want to prove that the assumption of the approach of dynamic systems, that sees the "man" as a reality able to aerosolised thanks to a "circular randomness", is that a body left to itself will fail to produce appropriate movements even without the practice.

Demonstrate how the ecological approach-dynamic can find educational implications more than the cognitive approach. It is therefore considered appropriate to investigate the two approaches (cognitive and ecological-dynamic) in order to improve the teaching practices in the light of the findings, given that there are no direct comparisons documented.

Ecological-dynamic approaches emerges learner-directed learning design can be strengthened with a theoretical framework that considers learning as a dynamic process in a dynamic context. We propose an approach that models a learning process using a set of temporal and spatial concepts: learning space-time, position-time of a learner, perspective-time, step-time, path-time, direction-time of a step and, finally a step gradient-time.

References

- Araujo, D., Keith W. Hristovski, R (2006) The ecological-dynamics of decision making in sport. *Psychology of Sport and Exercise* 7(6):pp. 653-676
- Normak, P., Pata, K., & Kaipainen, M. (2012). An Ecological Approach to Learning Dynamics. *Educational Technology & Society*, 15 (3), 262–274, ISSN 1436-4522 (online) and 1176-3647 (print). © International Forum of Educational Technology & Society (IFETS)
- Raiola, G. (2011) A study on Italian primary school rules: Neurophysiological and didactics aspects in physical education and sport *Journal of Physical Education and Sport*, 11 (2) pp. 43 – 48
- Raiola G (2012a), Didactics of volleyball into the educate program for coaches/trainers/technicians of Italian Federation of Volleyball, *Journal of Physical Education and Sport*, 12 (1) pp. 25 – 29
- Raiola, G. (2012b), Bodily communication in volleyball between human and experimental sciences, *Mediterranean Journal of Social Sciences* 3 (1) pp. 587 - 597 doi: 10.5901/mjss.2012.03.01.603
- Raiola G. (2012c) Motor learning and didactics into physical education and sport documents in middle school-first cycle of education in Italy, *Journal of Physical Education and Sport* 12 (2) pp. 157 - 163
- Raiola, G., Di Tore, P.A. (2012d) Statistical study on bodily communication skills in volleyball to improve teaching methods, *Journal of Human Sport and Exercise* 7 (2) pp. 468 – 488, doi: 10.4100/jhse.2012.72.1