

IMPACT OF DIFFERENT TRAINING PROGRAMS ON SOCCER PLAYERS' TACTICAL PERFORMANCE

PETER KOPŮŇ - PAVOL PERÁČEK
Faculty of Physical Education and Sports
Comenius University in Bratislava
Slovakia

ABSTRACT

Study contributes to problems of game performance in soccer. The study is focused to tactics in soccer, exactly to improving tactical performances of players. Teams which play effective are more successful. But the tactics is multi-factoring phenomenon, which consist from tactical abilities, tactical skills and cognitive abilities. The aim of study was to find out the impact of different programs on soccer players' tactical performance. The sample consists of 19 years old players. We compared changes in tactical performance between two groups after 15 weeks of two different training programs. First group realised program which consisted from higher proportionality of more difficult exercises and second group realised program consisted from higher proportionality of simpler exercises. The proportionality of more difficult exercises in first group was 35% of game situations (from 1 vs. 1 to 8 vs. 8, etc.) and proportionality of simpler exercises, like a drill exercise, in second group was only 15% of game situations (from 1 vs. 1 to 8 vs. 8, etc.). We evaluated selected components of tactics, such as: level of tactical knowledge, speed of decision-making, level of tactical performance in training and in the match. For comparison we used Mann-Whitney U-test. We found only one significant differences of tactical performance between groups favour first group, and it was only in level of tactical performance in training ($p < 0.05$). In the other evaluation we did not find out significant differences.

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Key words: soccer, evaluation, tactical performance, different programs

INTRODUCTION

An important requirement of current sports and especially football games is given maximum performance, repeatedly and with minimal volatility. It is very difficult given the repeated best performances in youth. Sport performance, respectively game performance in soccer players is determined by amount factors and multidimensionality (Peráček, 2004). One of the important determinants of the gaming performance is a tactic. According Korček and Luknár (1987) is football - game action takes place in the ever-changing conditions, and therefore the necessity of players' case, which has the character selection, tactical nature. Buzek (2010a, 2010b) expressed the view that an important condition for quality performance nowadays is becoming multifarious potential individual skills in a variety of specific game situations, intellect and creative synergy, which is manifested in the form of practical, useful as a quick perception, situational anticipation, or quick decisions and subsequent physical activity.

The term tactic in most opinions is expedient by which an optimal manner, resources, activities, purposeful struggle, merge knowledge with skills, adapt to any game situation, the player or team with a focus on achieving superiority over the opponent, the objective or achieve victory (Mahl, 1965, Straight 1975, Rohr - Simon, 2004 Dovalil et al., 2008). Tactic focuses on the process of thinking and decision making in 1vs1 situations, in game situations with more players and is a prerequisite for the establishment and implementation of meaningful, confusing the opponent or influencing the actions and therefore has the necessary knowledge and skills (Schnabel - Harre - Borde, 1994). For scientific needs, it was necessary to create a concept that covers all determinants tactics. The term tactical performance in our understanding characterizes measurable dependent variable, which incorporates tactical knowledge, tactical abilities and tactical skills. Important factors of tactic - tactical knowledge, tactical abilities and tactical skills are manifested as cognitive skills and thinking processes. Tactical knowledge constitute the intellectual foundation - an intellectual basis for tactical procedure, which allows the player to understand, analyze and evaluate game situations and forms an important part of tactical skills (Kačáni 1993, 1997 Peráček et al., 1993). Kačáni (1993, 1997) and Peráček et al. (1993) still had seen tactical skills as a practical activity statistics, which are general in nature and can form the basis of different skills. Tactical skills construed as specific conditions of individual game performance. For tactical skills we can talk about sensory coordination - motor control components through sensory components, or intellectual skills that allow movement to address varying situations on the basis of immediate diagnosis and anticipating situations (Kasa, 2004). These determinants of tactics need to be developed with the terms of the development of the individual, because we know that the use of declarative or procedural knowledge distinguishes the experienced players or beginners. Experienced players since better solve problems, and deep, principled and more conceptual. Conversely beginners characterized by disruptive and inefficient approach (Williams et al., 1999). Langmeier - Krejčířová (1998, 2006) points to the fact that teenage players are intellectual abilities approaching to maximum level, which is not the accumulation of knowledge but a flexible creative thinking. Individuals achieve a higher degree of logical thinking - a system of formal operations. Cognitive skills and thinking processes have their important place in the evaluation of tactics, because they are limiting determinants of individual phases of tactical thinking. Tactical procedure understands Peráček (in Kampmiller et al., 2012) as a "product" complex psychomotor processes that are in mutual ties and may take place after himself, but also to each other. Tactical procedure is looking for target system, which does not seek only the best solution, but it alone is enhanced. Limiting cognitive abilities are according Dobrý - Semiginovský (1988) perception of the game situation, situational anticipation, afferent control (information coming from the sensory organs and the musculoskeletal system CNS), selective attention, memory, decision making. All these determinants and factors tactics is difficult to develop, but necessary. Prerequisite and important process development tactics is a tactical training which fulfills the role of the development of tactical abilities and skills, the development of creative skills, self-control skills (Peráček, in Kampmiller et al., 2012). Football is an important characteristic feature - situational conditions, which represents a large number of variable game situations and complementarities, resulting from variability in game situations that create opposing players by their activities. Therefore, we assumed that the training process focused on the characters of situational conditions increase complementarities and tactical performance.

METHODS

We conducted a quasi-experiment teaching during the 15 weeks of the autumn term capital other junior leagues to 19 years. Scenario experiment was two-group comparison experiment with single-factor authentication force handling with one experimental stimulus in relation to a set of conditions (Havlíček, 2004). Tactical performance evaluation was conducted at the beginning of the experiment and during the main period of 7 weeks. We watched two sets deliberately chosen based on availability. The experimental group consisted of team players under 19 years of $n=21$ Experimental group operated in second national league, players average age was 16.91 ± 1.59 years and the average player's experience was 10.60 ± 1.37 . The control group consisted of 20 players, which also operated in second national league. The average age of players was 17.38 ± 0.65 years and the average player's experience was 9.67 ± 1.39 .

The experimental factor was intentionally increased volume of variable exercises, i.e. exercises with active defenders and small-side games with up to 35 percent or more representation. In terms of complexity we are talking about the complexity of exercises 7

and above in rating scale. The control group was a control stimulus percentage of other methodological and organizational forms, such as previous figures, with a maximum of 30% representation. The focus of the training process was oriented to more drill exercises.

To evaluate tactical performance in I. phase of the project, we applied didactic test by Trapp. The test is oriented at detection of specific theoretical knowledge of game analysis, which consists of 30 questions in graphical form, the solution of game situations. Each player had to select one correct answer from four options. The time limit of the test was 12 minutes. Reliability testing was 0.53 - 0.67 for inter-individual measurements and 0.66 - 0.79 for intra-individual measurements. Guest tactical performance in the training process, we realized gaming exercise 2:1, according Kačáni (1978). Players perform gaming activities in the 2-1 game situation testing players deal with each situation 10 times. Quality solutions to game situations evaluated by three experts point scale 0-10 times. Reliability assessment was 0.7 ± 0.039 . The third phase of evaluation tactical performance evaluation represented in matches. For tactical performance evaluation, we applied the method Flanagan critical cases with scaling scale from -12 to 12. Assessors rated the selected game situations in selected spatial sections of the game that were key for the match. To evaluate the data, we applied static methods: Mann-Whitney U test, also the data with descriptive characteristics and the thought processes: deduction, induction.

RESULTS

In Fig. 1 we present a comparison of changes in the level of tactical knowledge between the experimental and the control group. We see that in both cases it was the main period I. deterioration tactical performance monitored variables. When were comparing files, we found statistically significant changes in the various horizons of the main period I. Based on this finding we have to reject our hypothesis no. 1. We demonstrated a statistically significant improvement in the level of tactical knowledge in the experimental set due to higher volume of variable exercises.

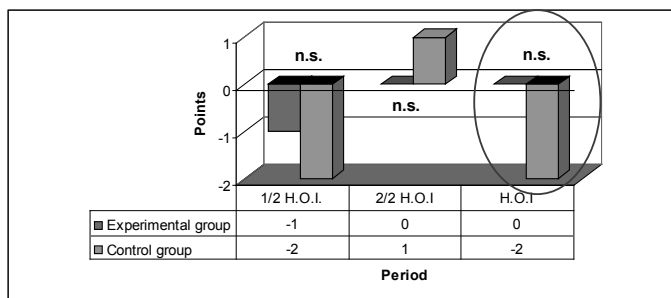


Fig. 1

Comparison of changes in the level of tactical knowledge between the experimental and control group

In Fig. 2, see the comparison between the experimental and control group in the speed of decision making. Comparison of observed data between files in the first half of the main period I. experienced a statistically significant difference at the 1% significance level in favor of the experimental group. By contrast, in the second half of the main period I we see significant improvements in speed solving game situations with control group, which was compared with the experimental set at 1% significance level. When comparing changes over the main period I, we did not find statistically significant differences in the speed of decision making between files.

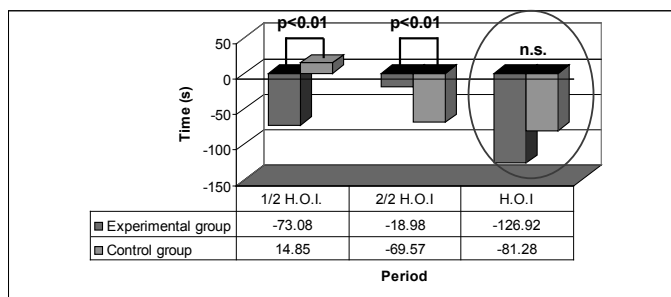


Fig. 2

Comparison of changes in the speed of decision making between the experimental and control group

In Fig. 3 we can see a graphical comparison of changes in experimental and control group in technical and tactical training. In the first half of the season period I. the difference of mean values between experimental and control group 1.66 points. When compared to the second half of the season period I. represents the difference between the averages of the experimental and control group 3.34 points. The overall diameter difference between the experimental and the control group is 4.17 points. In comparison we see to experimental group a gradually increasing tactical performance, substantially. By contrast, a control group showed a wave-shaped tactical performance, which in the end has improved. When calculating the statistical significance Mann-Whitney U-test, we found that when comparing performance tactical changes between experimental and control group in the second half of the main period I have found statistical significance at 10%, which, although not defined in our study as a significant statistical level but at stake significance.

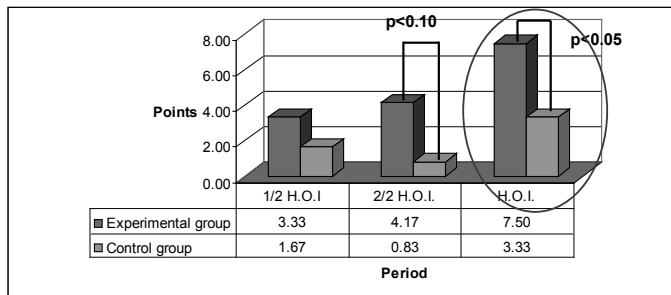


Fig. 3

Comparison of changes in tactical performance between experimental and control group in technical and tactical training

Furthermore, we found that when comparing tactical performance between experimental and control group for all the main period I, an experimental group of tactical achieve significant improvement in the performance of technical and tactical training to the 5% significance level (Fig. 3). In Figure 4 we present a comparison between changes in tactical performance in championship matches between experimental and control group. Experimental group achieved intra-individual significant improvement, in contrast to the control group. However, when comparing groups' changes in the first half of the main periods I., there was the tactical performance of 6.67 points in favor of the experimental group, but in the second half of the main period of improved control group from an experimental group at 10% significance level. Overall, the experimental group improved by 10.5 points compared with the control group. When both groups are visible volatility tactical performance in, this could cause a different level of opponents in the match legs. By Mann-Whitney U test, we found that the experimental and control group statistically significant differences occurred. Based on these findings, we have to reject hypothesis 4, which we refute the fact that due to the increased volume of complex methodological and organizational forms is significantly improved tactical performance in championship matches.

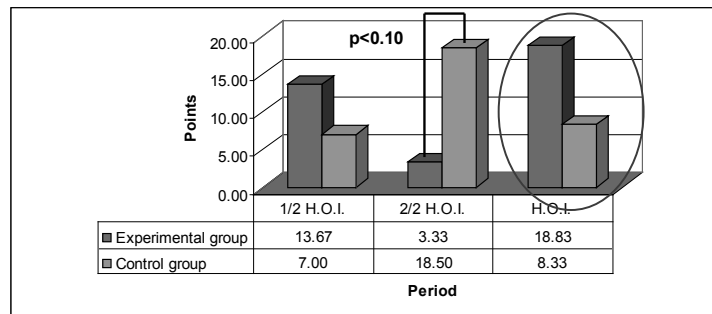


Fig. 4

Comparison of changes of tactical performance in a match between the experimental and control group

DISCUSSION

The level of tactical knowledge presents a "base" for conduct tactical training process or during the match. In our case demonstrates that the actual impact of exercises with active defenders and small-side games is not a sufficient determinant for acquiring tactical knowledge. Causes of lack of acquiring tactical knowledge we can find in several areas. We believe that the acquisition of knowledge level tactical longer period is necessary. We found that during fifteen weeks no significant improvement of the tactical knowledge. We even reached the deterioration of dynamics changes in the level of tactical knowledge of both files. Similar results were obtained in a pilot study, in which we didn't found significant improvement in the level of tactical knowledge after 5 weeks of theoretical training Peráček - Kopůň (2011). Szade, B. - Szade, D. (2005) also showed no significant improvement in the level of tactical knowledge. Conversely, Kačáni (1978, 1980) in his research indicates improvement in the level of tactical knowledge on the 1% significance level. It should be noted, that this was a one-year research. The fact remains that our increased proportionality of variable exercises, therefore, more difficult exercises with varying conditions were determinant to improve the level of tactical knowledge. From of all these arguments will maintain following key. The level of tactical knowledge highly influences the age and length of term development. The training process is the most important didactic process, which enables targeted to increase game performance. Comparing tactical performance in the training process, we found that the experimental group improved on the 5% significance level. The comparison between the groups was tactical performance also improved significantly at 5%. In results, we have seen an upward trend of the experimental group and vice versa in the control group we observed volatility tactical performance. Of the particular set of changes in experimental and control group, we can also see one of the indicators - number of repetitions. In this case, if the increasing volume of training hours of variable exercises with situational conditions, increase the number of repetitions of exercises with varying conditions. We think, that it is the number of times the key determinant of significant improvements. We deduce this argument by claiming that the tactical action depends on long-term memory. If we should build upon previous claim and confirm important lesson that just repeat the fundamental expression of memorizing information in memory (Nakonečný, 1998).

The uniqueness of the training process is reflected in players that are partial to certain players and the other players full refund match. The training process is compared with the match kind of a test procedure without risk, i.e. players learn new skills, gain experience. Applying the methods trial-and-error, or abstract - logical reasoning allows the player to select and store important information. This all happens at the forefront of personality players, their needs, achievement motivation, competition and rivalry between them, which can regulate the perfect solution for each frequency of the exercise. It is also important agreement, namely acceptance and identification with the player taking the decision of coach. This means that the conflict in deciding the game situation and the perception of a player and coach creates a feedback solution, which causes repression and preservation avoids personal experience. Operational thinking allows for quick and efficient decision of player, belongs to the most important performance characteristics of player. The way that the player quickly and correctly decided, quickly and correctly process the information from the game situation decides on his success in the game situation. This is also the cause of significant differences in performance between the various players. The high degree of synchronization tactical performance in perception, tactical operational thinking and motor activities requiring rapid change between distributed attention (report on the game situation, players on the pitch, on the activities of players without the ball, etc..) and concentrated attention (precision passing, shooting), which are trainable. The importance of knowledge about cognitive processes is no less important than knowledge of skills, or loading in different modes of metabolic coverage. Cognitive processes result in mental control activities players. These are manifested in the capacity of player control and manage targeted - that is in accordance with the requirements of the match - alone own actions in a given game situation.

Risk in the context of the game is a possibility of losing the ball in accelerating the pace of the game and create opportunities for the benefit of the opponent. With this is closely related to psychological states of players, such as emotions. Fear, anticipation, anger, uncertainty, but also psychological well-being, interest, or search challenges affecting proceedings players in the same game situation with another final implementation. Loehr - McLaughlin (1990) and Beswick (2010) point to the influence of negative emotions as a threat, when a player reacts to a game situation, first emotionally, then it may be the result of such violation (e.g. fouled in his own penalty area, shooting at maximum intensity near the gate). Emotions greatly affect proceedings players in the game, but the player must control these emotions in themselves and induce positive thinking and psychological well-being (Beswick, 2010). Similarly, strongly, an influenced factor tactical player in the case matches the current score. Rulence-Pasque et al. (2005) found that in 17 to 18 old players is tactical performance affects in the game, hence the current status and the time remaining until the end of the match to the 1% significance level. We believe that the experimental and the control group mentioned the fact that deciding factor tactical performance, because both files have the same performance targets.

CONCLUSIONS

We demonstrate that the tactical performance is a complicated complex functional relationships, nervous-humoral system and mental processes. Impact of increased volume variable exercises, respectively situational learning focus on tactical performance has not increased significantly. Shows that for increasing levels of performance in tactical training process players under 19 years have to use additional educational forms for improving. Furthermore, we believe that the factors influencing the match and training in terms of tactics are differentiated, this means that the proportion of observed determinants tactics in the match and training differs. It is therefore necessary to determine the differences in performance tactical training and match more sophisticated diagnostic techniques.

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