

The tactical mindset of football players: Choosing effective training strategies for Top-Notch Performance

HAIXIN LI

Guangzhou Sport University, Guangzhou, China

The tactical athletes mindset implies the choice of the quickest and most appropriate decision in game situations, which is important in football. The purpose of the research is to study the effect of the scheme of training strategies developed with the help of the Tactics Manager program on the development of tactical mindset of football students of different ages. To determine the parameters of tactical and game thinking, the Ball test method was used. The research sample consisted of 316 first-, third-, and fifth-year students studying in four higher educational institutions of China. The post-test demonstrated an increase in the indicators of tactical thinking of football players: the parameter "number of correct answers" increased in group C by 1.97 points, group B - by 1.23 points, and group A - by 2.63 points. The research results can help shape the experience of using computer programs to create effective training strategies.

KEY WORDS: Football; Football training, Sports activity, Tactical mindset, Training strategies.

Introduction

Achievements in sports are determined by a number of influencing factors, which include various training strategies that are extremely important. This poses the task of optimizing training processes not only in football but also in other sports. In modern realities, an important role belongs to technologies that help to establish the level of development of the physiological abilities of football players, which are amenable to change under the influence of various factors (Frolova et al., 2013). In sports games, psychodiagnostic technologies are widely used, which, in turn, make it possible to determine the degree of development of the tactical mindset of a particular player (Bazilevskij & Glazirin, 2011).

Correspondence to: Haixin Li, No. 1268, Guangzhou Avenue Middle, Tianhe district, Guangzhou City, Guangdong Province, 510630 (e-mail: haixinli44@yahoo.com)

The tactical mindset of people involved in sports is manifested in the competition taking place in the context of changing situations throughout the game. The difficulty of making a decision is due to the limited amount of time; thus, this leads to the conclusion that tactical thinking depends on the components that are involved in its formation (Malina et al., 2007; Moncef et al., 2011; Ohnjec et al., 2008). Tactical thinking, as a manifestation of the cognitive process, is part of the most optimal decision that an athlete makes in a game situation (Hasan, 2016).

The results of the research aimed at studying training strategies and their impact on the tactical thinking of football players indicate that in the process of developing tactical thinking skills, the process of making decisions on a whole range of tasks related to either defense or attack is accelerated (Memmert & Roca, 2019).

The specificity of competitive activity in sports games establishes its requirements for the implementation of various aspects of training athletes (Lebediev et al., 2019). Modern tendencies can be characterized by strengthening of competitive activity, changes in the rules of competitions, improvement of various aspects of training experienced athletes (Busol, 2014). The analysis of recent publications shows that in the last 5-10 years, scientific research in the field of sports games has been focused on the issues of technical and tactical training, physical abilities and their indicators, psychological aspects of training and the formation of special knowledge (Bober et al., 2017; Boroushak et al., 2018). Moreover, a significant number of researchers are sure that the main reason for the low and unstable competition results is the insufficient development of technical and tactical skills of athletes (Jalal & Nori, 2015). According to this point of view, the main emphasis in the training process should be placed on improving the technical and tactical readiness of football players.

Given the importance of choosing effective training strategies to ensure a top-notch game and develop tactical thinking skills, it can be concluded that the research topic is relevant. The relevance of the study is also confirmed by the fact that football players need not only daily training but also a developed tactical approach to the game, the ability to quickly make decisions and think about their actions in advance. This research is an original and reflective study of the effect of a training strategy on the improvement of the tactical mindset of football players.

This study is of practical importance for global science in the field of team sports. The results obtained clearly demonstrate the importance of a training strategy in the context of the development of tactical skills of football players. Consequently, such data can be an important element in the

implementation of the most effective training strategies for the development of tactical thinking skills, which will significantly contribute to the approach to sports education.

Literature review

Today, in football, there is a need to fully realize the technical and tactical capabilities of football players in the context of the high physical activity level (Strykalenko et al., 2021). This requires consideration of the morphological and functional indicators and differences related to the motor activity of players performing various roles (Lebediev et al., 2019, 2020); the study of the general and specific level of physical fitness (Strykalenko et al., 2021), in particular speed and strength training (Bolotin & Bakayev, 2017, Kozina et al., 2019). The development of dynamic tools for assessing test situations in the context of a tactical game is also important (Memmert, 2010).

Over the past few years, tendencies towards a change in the structure of the game and approaches to the training process have begun to be implemented in football. The innovations imply the expansion of the positional zones of football players, the development of universalism and interchangeability. Moreover, some data suggest that due to the developed tactical action programs, the quality of the improvisations that footballers can perform per match has a positive impact on the results (Shcherbak, 2016). Trends in the development of modern football show that the tactical preparation of players is becoming one of the main types of training. It determines the target focus and components of physical and technical training of football players (Jalal & Nori, 2015). Tactical training helps to determine the functional responsibilities of players and choose a system of attack and defense, as well as clarifies the parameters of the models of teams and players in the competitive activity (Strykalenko et al., 2021).

In the scientific literature, it has been established that the lack of tactical training at the initial stage and at the previous basic stage leads to significant losses in the formation of tactical thinking. Football players begin to master tactical tasks at the stage of special basic training (Lebediev et al., 2020). Some researchers note that there is a connection between the degree of development of motor intelligence and tactical abilities of players, which can help them increase the speed of decision-making and enable them to exercise tactical control in different playing positions provided that the players are aware of these positions during matches. Mental training plays an important

role in tactical performance as motor and physical intelligence is considered part of the mental capacity of players. This is an important prerequisite for success in most game positions (Hasan, 2016).

The results of some studies on tactical thinking indicate that players tend to use mental skills when playing football, therefore it is necessary to develop and improve thinking processes of football players. The importance of tactical thinking is noted when attacking players help develop, and make quick and successful decisions in order to win a football competition (Jalal & Nori, 2015). It is indisputable that in order to achieve the best sports results, football coaches must be focused on the mental development of players and the formation of the high level of tactical thinking skills (Jalal & Nori, 2015).

The incorporation of tactical skills as well as conditional and technical skills into football training is becoming a key topic of scientific debate (Hasan, 2016). For example, in the football foundation talent development program, tactical creativity (divergent tactical thinking) and tactical intelligence (convergent tactical thinking) play a significant role in the early stages of learning to play football (Memmert, 2010). In the field of team sports such as football, basketball, field hockey, or handball, the development of tactical intelligence or convergent tactical thinking is important, which is understood as the original and flexible development of tactical response patterns (Memmert & Roth, 2007).

The analysis of scientific publications shows that an approach based on the importance of tactical skills is relevant for most sports. In most studies, tactical training is presented mainly in combination with technical training, and the efforts are mainly aimed at developing innovative means and methods of technical and tactical training (Jalal & Nori, 2015; Kozina et al., 2019). However, in this tandem, technical training dominates both in official documents (programs of sports clubs, physical education curricula) and in scientific literature (Antonov et al., 2014; Busol, 2014). Practice shows that in the conditions of fierce competition in the international arena, the most physically prepared athletes do not always win. The ability to make the right decision and implement it at the right time is much more important (Peráček & Peráèková, 2018). As the rules of the game, the specificity of movements, the structure of competitive and training activities, as well as the peculiarities of training athletes are similar in some sports, it is possible to use a general algorithm of tactical training of players (Memmert, 2010).

Tactical training involves all types of training: physical and mental, psychological and cognitive. The integration of these types of training and the combination and interdependence of its various components promote the

development of good plans. They contribute to achieving the goal of athletic training and winning football matches. Football is a decision-making game and the player must be characterized by quick thinking and movement (Lebediev et al., 2020). The tactical mindset of football players, the evolution of the game speed, the ways of movement, and the ability to act quickly in order to make the right decision, correlate with the level of tactical thinking of the player and their ability to use physical abilities and skills to achieve the best team results (Nabil et al., 2017).

Setting objectives

The motivation for conducting the research is the interest in the role of training strategy in the development of tactical thinking among students who play football. It is also important to obtain new experimental data on tactical thinking, methods of its identification, as well as factors that can influence it. In the present study, this factor is a set of workouts that are expected to improve the tactical skills of the players. Revealing the influence of the training strategy on tactical thinking can provide an opportunity to optimize education systems, which, as a result, can have a constructive impact on the sports achievements of athletes. The purpose of the study is to provide the results of the influence of the developed training scheme based on the Tactics Manager program on the development of tactical mindset of football students of different ages.

The research objectives are as follows:

1. To determine the level of game and tactical thinking skills among the students of different age groups by conducting the Ball test (pre-test).
2. To reveal changes in the parameters of tactical and game thinking in the context of attack and defense by comparing the results of the pre- and post-tests (before and after the intervention).

Methods and materials

To determine the parameters of tactical and game thinking in attack and defense, the Ball test method was used (Glazyrin et al., 2009). The test aims to determine the physiological characteristics to assess the level of special preparedness of athletes in team sports, for example, in football. The methodology consists of test tasks, which include 15 tasks on game and tactical thinking. As a method of influence, a training strategy plan aimed at developing tactical thinking was used. Tactics integrate a system of principles, ideas and rules related to the athlete's approach to competition, through which they use all their technical, physical and mental abilities to solve problem situations created by opponents, teammates and the environment in order to achieve success in the competition. With the help of the Tactics Manager

software, a six-month training strategy was developed. It should also be noted that the company that created the product does not act as a stakeholder in the research and no personal benefit from mentioning this software was obtained. The use of the software is determined by scientific interest in the research topic and is not an advertising stunt.

Ractical training program

The developed program included two sections:

Section 1. The main roles of the four positions in the team (goal-keeper, defender, midfielder, and striker) are differentiated. Training is focused on ensuring automatic performance in certain positions. Exercises include possession, positioning, and completion. A set of activities was developed and applied to the team players in order to develop their tactical skills and abilities to understand and adapt to new problem situations during the game. Tactical training is aimed at consolidating the individual and collective elementary tactical repertoire through the use of a set of technical and tactical structures that contribute to the formation of basic skills (universalism) and the transition to actual specialization in the positions. Improvement of the attack and defense elements:

- Game system: 1-4-2-3-1 and its variants in attack and defense;
- Creation of an appropriate and consistent model of player participation in attack and defense with clear objectives for each player;
- Strengthening and improving the skills and knowledge of individual and collective tactics of attack and defense;
- Development of the ability of players possessing the ball to act as game coordinators;
- Focus on a simple game in the direction of attack - progression;
- Use of the full width of the field to attack - amplitude;
- Positioning in the field without the ball;
- Development of intuition;
- Pressing practice - pressing zone;
- Easy and constant participation in attack and defense;
- Implementation of the model with different ways of participating in fixed positions and the positions of the opponent;
- Development of the ability to choose the most technical options in relation to game situations;
- Formation of an exemplary player for the team.

Example: activity, 10 by 6 with superiority in the quadrants - finding solutions to attack, taking the ball, transition to 3,4,5 positions (Figure 1).



Fig. 1. - Example of 10x6 exercise from Tactics Manager.
Source: Soccer Tutor (2021).

Section 2. The established requirements are known in detail to each player who is assimilated in the team; there is a clear differentiation. Basic and combined motor skills develop at the highest level in all their manifestations required by modern football. Technical and tactical skills and knowledge are technical processes and individual and collective tactical actions in attack and defense. All practices set for the previous level of training remain valid. Improvement of the attack and defense elements:

- Game system: 1-4-2-3-1. In the attack, modernizations take place in this system:
 - If the attack occurs after the capture of the ball, that is the loss of the ball by the opposing team, the subsequent attacking actions, their type, and duration will depend on where and in which position the opponent is;
 - If the attacking actions are a counterattack, it is necessary to look for exactly those places that are formed behind the defense line in order to catch the enemy team by surprise;
- Increasing the player's ability to respond to difficult situations of opponents and teammates;
- Training the ability to predict the opponent's reaction;

- Working out tactical situations in attack and defense, fixed moments of the game (arrangement and performance).
- Observation of tactical situations in the manner of working out the whole game;
- Formation and development of the mentality of the winner.
Example: complex 11v11 game (Figure 2).



Fig. 2. - Example of 11x11 exercise from Tactics Manager.
Source: Soccer Tutor (2021).

The tactical training program design is based on the personal experience and theoretical work of the authors of this paper. The program is an extension of the previously examined training strategies that are used in the People's Republic of China.

Participants

The research sample consisted of 316 first-, third-, and fifth-year students studying in four higher educational institutions of the People's Republic of China: Guangzhou Sport University, Shanghai University of Sport, Beijing Sports University, Capital Institute of Physical Education. Each respondent

is a member of a football team in their age group. Thus, group A included participants aged 18-20 years, group B - 20-22 years, group C - 22-24 years. An invitation to take part in the study was sent via email or handed over in person to each student in the classroom. Students who showed interest were automatically included in the study. The demographic data of the study group are shown in Figure 3.

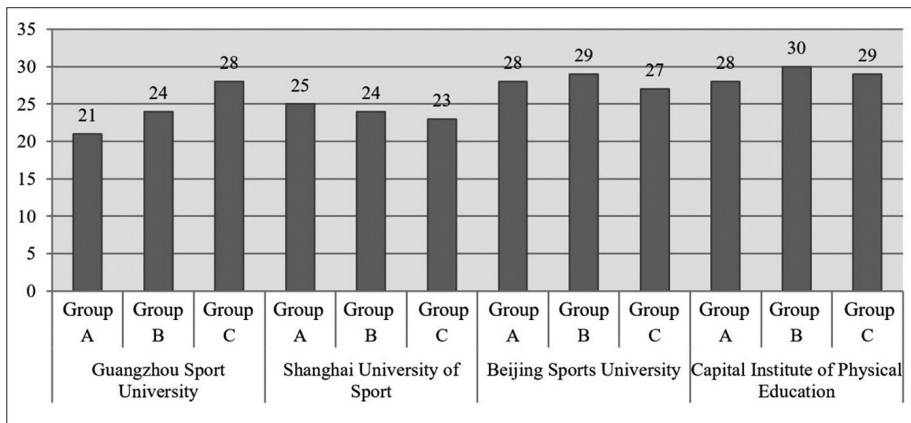


Fig. 3. - Number of participants from each educational institution.
Source: Own development .

There were no persons under the age of 18; therefore, written parental consent was not requested. Also, the participants were informed that their answers would remain confidential throughout the study. The students had a possibility of asking the curators (football coaches or sports teachers at the university) questions before the start of the study. During the study period, none of the students was forced to interrupt their participation in the study. The participant selection criteria were their willingness to participate, young age (being 18-24 years old), having at least three years of football experience, and participation in competitions. All respondents were Chinese.

Data analysis

When calculating speed results, the ratio of the total time needed to give correct answers to their total number is used. The methods of mathematical statistics were also used.

Study design

the Ball test (Glazyrin et al., 2009) was performed one day before the beginning of the intervention (January 2021) and four days after the intervention (the end of June 2021). A teacher or coach was assigned to each of the groups, who carried out the general management of the football training process. Thus, 12 teachers were involved in the study. The Tactics Manager software was used in the implementation of theoretical training and teaching the tactical strategy of the game in accordance with the section of the developed system. There were 3 two-hour training sessions a week. The approach was aimed at enhancing the tactical abilities of the students. Each group leader taught students according to the developed plan. The first Ball test focused on tactical and game thinking was conducted at the beginning of the study, in January 2021, as a pre-test. The participants were provided with a questionnaire and a table to enter their demographic data. The second Ball test was carried out in June 2021 as a post test.

Research limitations

This study involved four higher educational institutions of the People's Republic of China; therefore, the results cannot reflect the impact of the developed training strategy based on computer visualization on the development of tactical thinking skills of students across the country. Another limitation is the curator of each group as the effectiveness of the work of each of them directly affects the effectiveness of the material assimilation by the athletes. In addition, the division into groups was carried out randomly and the performance of students in football was not taken into account. Note that this research did not explore the challenges that educational institutions or sports teams may face when integrating the experimental training program. Future research can close this gap.

Ethical issues

this study was professionally designed, properly performed, and approved by the administrations of the four institutions involved. Before the beginning of the experiment, a research protocol was developed to be followed by all participants and decision makers. Participation in the study was discussed in detail with all participants and curators. The approval of the Institutional Supervisory Board of all universities was obtained.

Results

The pre-test indicators of the game and tactical thinking skills of students who go in for football demonstrate that group C showed the most developed game thinking when carrying out an attack, which is 0.93 times and 1.92 times higher than that of groups B and A, respectively. At the same time, it should be noted that the quantitative indicators of the Ball test methodology for younger football players are significantly lower than those for older football players (Table 1). The data obtained indicate that young football players have less developed thinking in the context of the implementation of attacking actions, which is explained by the lack of experience, which significantly affects the thinking skills of older football players. That is, group C, in contrast to groups B and A, includes the most linear players demonstrating a higher level of thinking in attack compared to the players of the other two groups. The indicators of game thinking during the implementation of attacking and defensive actions by football players of different age groups according to the results of the pre-test are presented in Table I.

When comparing the indicators of the speed of thinking, it can be stated that they are more stable than the quantitative ones. Group B and C athletes demonstrated almost the same speed of game thinking in the attack: the difference between them was 0.62 s, while the difference with group A was 1.40 s. Such results can be explained by the fact that senior football players have a more developed skill of recognizing game situations due to their higher tactical thinking level, which is ensured by game practice. The study of game thinking in the context of the implementation of defensive actions showed that the quantitative parameters of groups B and C were approximately at the same level while the indicators of group A were much lower. The speed of thinking also

TABLE I
Indicators of game thinking in the implementation of attacking and defensive actions by football players of different age groups (pre-test)

Thinking parameters	Groups of football players		
	Group A (18-20 years old)	Group B (20-22 years old)	Group C (22-24 years old)
Attack: Number of correct answers (times)	9.14±0.41	10.13±0.28	11.06±0.19
Attack: Thinking speed (s)	3.48±0.13	2.47±0.12	2.08±0.15
Defense: Number of correct answers (times)	5.42±0.23	6.24±0.21	6.48±0.18
Defense: Thinking speed (s)	4.10±0.11	3.42±0.21	2.59±0.14

Note: * p <0.05

differs depending on the age of the players; there is an increase in the speed of decision-making with age, and, therefore, experience. The comparison of the results of respondents from groups A and C shows that the group C students have significantly higher thinking speed while there is also a significant difference between the indicators of groups C and B, which is 0.43 s.

Comparing the manifestation of tactical thinking in attack, it can be noted that the players of group C gave more accurate answers than group A, and the difference in performance was 1.97. The accuracy of tactical thinking of the players of groups B and C was at the same level in this case. As for the speed of tactical thinking in attack, a significant difference in the indicators was noted only between groups A and C (Table II).

TABLE II
Indicators Of Tactical Thinking In The Implementation Football Players
Of Different Age Groups Of Attacking And Defensive Actions by (pre-test)

Thinking parameters	Groups of football players		
	Group A (18-20 years old)	Group B (20-22 years old)	Group C (22-24 years old)
Attack: Number of correct answers (times)	5.49±0.20	10.24±0.18	10.87±0.12
Attack: Thinking speed (s)	3.58±0.12	2.41±0.27	1.99±0.16
Defense: Number of correct answers (times)	5.02±0.24	5.87±0.29	6.96±0.12
Defense: Thinking speed (s)	4.03±0.18	3.52±0.30	2.68±0.14

Note: * $p < 0.05$

Taking into account the effectiveness of tactical thinking in the implementation of defensive actions, it can be argued that an increase in the quantitative indicators of the successful implementation of tactical thinking is determined by the age of respondents, which is confirmed by the obtained numerical data. In this parameter, the highest level of tactical thinking development was demonstrated by the participants of group C and the lowest - by the group A students.

The second research objective was to reveal changes in the parameters of tactical and game thinking in the context of attack and defense by comparing the results of the pre- and post-tests (before and after the intervention). The post-test, which was carried out after the intervention, shows an increase in the indicators of both game and tactical thinking. Thus, the post-test indicators of game thinking in attack demonstrate that the number of correct answers, as expected, increased in all three groups and the time spent on solving problems decreased compared to the pre-test data (Table III). In defense, the

TABLE III
Indicators of game thinking in the implementation of attacking and defensive actions by football players of different age groups (post-test)

Thinking parameters	Groups of football players		
	Group A (18-20 years old)	Group B (20-22 years old)	Group C (22-24 years old)
Attack: Number of correct answers (times)	10.13±0.40	11.28±0.23	12.36±0.24
Attack: Thinking speed (s)	3.12±0.14	2.38±0.15	2.01±0.19
Defense: Number of correct answers (times)	6.57±0.24	7.59±0.20	8.02±0.17
Defense: Thinking speed (s)	3.58±0.14	3.09±0.27	2.03±0.12

Note: * p <0.05

indicators of game thinking showed an increase in all groups. Thus, in group C the indicator increased by 1.54, group B - by 1.35, and group A - by 1.15.

The post-test demonstrated an increase in the indicators of tactical thinking of football players of different ages in the context of the attack (Table IV). Thus, the parameter “number of correct answers” increased in group C by 1.97 points, group B - by 1.23 points, and group A - by 2.63 points. Thinking speed in the three groups also increased compared to the pre-test results. In group C, it increased by 0.35 s, group B - by 0.40, and group A - by 0.44 s.

Table 4 also clearly demonstrates the growth of indicators of tactical thinking in defense. Thus, the indicators of group A improved by 3.11 points, group B - by 1.67 points, and group C - by 1.25 points. As for the speed, the parameter decreased by 0.45 s, 0.51 s and 0.61 s in groups A, B, and C, respectively.

TABLE IV
Indicators Of Game Thinking In The Implementation Of Attacking And Defensive Actions By Football Players Of Different Age Groups (Post-Test)

Thinking parameters	Groups of football players		
	Group A (18-20 years old)	Group B (20-22 years old)	Group C (22-24 years old)
Attack: Number of correct answers (times)	8.12±0.24	11.47±0.21	12.84±0.11
Attack: Thinking speed (s)	3.14±0.19	2.01±0.24	1.64±0.12
Defense: Number of correct answers (times)	6.14±0.22	7.54±0.32	8.21±0.13
Defense: Thinking speed (s)	3.58±0.19	3.01±0.23	2.07±0.13

Note: * p <0.05

Discussion

The research results confirm the need to develop tactical thinking skills in the context of improving play skills, which has also been evidenced by a number of previous studies, not only in the field of football but also in other sports (Artemenko, 2014; El-Saleh, 2020; Frolova et al., 2013; Thomas, 2011; Zadorozhna et al., 2020). When developing tactical thinking, German researchers suggest focusing on developing divergent thinking rather than convergent thinking (Thomas, 2011). The approach is to constantly train game situations using computer programs that help modify the training process (Scibinetti et al., 2011). Moreover, coaches need to continually strengthen the performance of athletes and provide them with the space to develop tactical abilities and technological capabilities in order to improve their athletic performance (Wu et al., 2012). There is evidence in the literature that trainees can develop game thinking skills if an adequate training approach is in place (Bolotin & Bakayev, 2017); adequate training, in this case, refers to practices that allow athletes to give more correct answers in a shorter period of time. That finding is consistent with the present study.

Spanish coaches highlight the main goals of tactical development in football (Campus Experience Real Madrid Foundation, 2021). To do this, during training, they expose players to situations that promote the development of tactical thinking. These include knowledge of the game, perception, and analysis of various situations that may arise, decision-making, knowledge of individual and team tactics, attacking and defensive behavior in accordance with the position, the implementation of available moments, an appropriate motor application for solving emerging problems (Campus Experience Real Madrid Foundation, 2021). British scholars argue that the methodology for the development of tactical thinking among football players can be supported by analytical procedures such as practice or observation or the methods including situations of superiority or inferiority in cases of removal of players from the field (Seerden, 2013).

There was a study that considered the motor skills, physical intelligence and tactical thinking of football players; in the course of the research, the relationship between physical and motor intelligence and tactical thinking was determined. The results of the study showed that the high level of game intelligence promoted an increase in the tactical intelligence of the players, which is supported by the current research findings (Hasan, 2016).

The results of a study on handball players and the development of their tactical thinking skills of interest (Frolova et al., 2013). This study confirms that when solving game situations, the high accuracy of responses to the tasks

assigned does not always involve the high speed. This research also found that the degree of development of the tactical skills of football players has a direct relationship with the level of their qualification and, accordingly, with age, which is confirmed in the current study. In addition, the study (Frolova et al., 2013) found that the improvement in the players' skills contributes to an increase in quantitative parameters and the speed of decision-making, which proves that tactical thinking can develop with the acquisition of new gaming experience.

Some studies indicate the possibility of developing tactical thinking and decision-making skills as a result of the use of software and electronic educational programs for students of different levels and specialties in the context of teaching aspects of tactical thinking when playing basketball (El-Saleh, 2020). The effectiveness of the use of modern technology in the development of tactical thinking has been confirmed by the present research. Also, some studies have found that the development of tactical thinking is inextricably linked with the correct decision-making in numerous and varied game situations (El-Saleh, 2020).

The data obtained in other works confirm the need for the development of tactical thinking to increase the sports success of volleyball players with the help of modern computer technologies (Artemenko, 2014). Moreover, the importance of tactical thinking in the context of the role-play part of training has been proven through the example of volleyball players. The correlation analysis demonstrated the need to develop tactical skills in sports games as the dependence of competitive qualities on tactical thinking during the implementation of the attack was noted at $r = 0.66$, and during the implementation of defensive actions - $r = 0.54$ (Artemenko, 2014). These results partially overlap with the data obtained in the present paper showing that an increase in sports experience promotes the improvement of tactical thinking skills.

Conclusions

The post-test indicators of game thinking in attack and defense demonstrate an improvement across all three groups; the amount of time spent on solving problems decreased. The value of the game thinking indicators in defense increased: Group C, by 1.54; Group B, by 1.35; Group A, by 1.15. The tactical thinking scores also improved as compared to baseline; for instance, group C completed the tasks faster. An improvement was found in defensive tactical thinking: Group A, +3.11 points; Group B, +1.67 points; Group C, +1.25 points.

This study reports on the effect of the proposed computer-aided tactical training strategy on the tactical thinking skills of students enrolled in higher educational institutions. The present findings may facilitate the integration of such practices into the system of sports education. The scientific value of the paper lies in the fact that it provides a tactical training program that can be integrated into the learning process by football coaches and which other scientists can use to design their own training programs. The main area of application of the research results is sports educational institutions of the People's Republic of China and other countries of the world. Future research can extend the approbation of the training program to other regions, include a large sample of trainees, and investigate other factors that influence the tactical abilities of students. Future research can also address limitations identified in the present study.

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