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Effect of special exercises using VR4z glasses on some of the compound skills of young football players in Al-Diwaniyah clubs

Efecto de ejercicios especiales con gafas VR4z en algunas de las habilidades compuestas de jóvenes jugadores de fútbol en clubes de Al-Diwaniyah

Mohamed Haider Shamkhi*, Salam Jabbar Sahib, Majid Abdel Hamid Rashid*

Department of Physical Education and Sports Sciences, Faculty of Education for Girls, University of Al-Qadisiyah, Iraq.

* Correspondence: Mohamed Haider Shamkhi; Mohammeddd199111@gmail.com; Majid Abdel Hamid Rashid; majid.abdulhameed@qu.edu.iq

ABSTRACT

This study seeks to investigate the importance, and the effect of using special exercises using VR4z glasses on some compound skills and tactical behavior of young football players. Virtual reality glasses are one of the modern means that play an important role in developing intelligence and creating a clear picture of the performance of compound skills. It also has advantages that make the player live the atmosphere of the match in all its aspects, which leads to a high concentration and here lies the importance of research in the development of compound skills during matches. As for the research problem, the authors believe that most of the trainers do not use modern electronic means to develop compound skills through training, rather giving actual exercises on the field only, while the mental aspect is important when training and facilitates the process of mastery. Hence, the authors try to adopt VR4z glasses in the training process through special exercises in order to know the extent of their impact on the research sample.

KEYWORDS

VR4z sunglasses; Compound skills; Football

RESUMEN

Este estudio busca investigar la importancia y el efecto del uso de ejercicios especiales con gafas VR4z sobre algunas habilidades compuestas y el comportamiento táctico de jóvenes jugadores de fútbol. Las gafas de realidad virtual son uno de los medios modernos que desempeñan un papel importante en el desarrollo de la inteligencia y en la creación de una imagen clara del desempeño de las habilidades complejas. También tiene ventajas que hacen que el jugador viva el ambiente del partido en todos sus

aspectos, lo que conduce a una alta concentración y aquí radica la importancia de la investigación en el desarrollo de habilidades compuestas durante los partidos. En cuanto al problema de la investigación, los autores creen que la mayoría de los entrenadores no utilizan medios electrónicos modernos para desarrollar habilidades compuestas a través del entrenamiento, sino que solo realizan ejercicios reales en el campo, mientras que el aspecto mental es importante durante el entrenamiento y facilita el proceso de dominio. Por ello, los autores intentan adoptar gafas VR4z en el proceso de formación mediante ejercicios especiales para conocer el alcance de su impacto en la muestra de investigación.

PALABRAS CLAVE

Gafas de sol VR4z; Habilidades compuestas; Fútbol

1. INTRODUCTION

Football is one of the most popular sports in most countries of the world, and this game has witnessed a great and remarkable development in the world because of its rapid pace when carrying out defensive and offensive duties, as well as the presence of the suspense, excitement and aesthetic factor in the individual and collective performance of the players. On this basis, specialists seek to reach advanced levels always through training based on accurate, organized and interconnected scientific foundations (Al-Mayyah, 2021; Cherappurath et al, 2023; Raysan, 1997).

The trainer seeks to develop the level and improve achievement based on the studied scientific preparation. Therefore, studies and research related to the training process contributed to developing knowledge of the variables that could affect the achievement of the desired goals in the training process. Football is one of the games that needs many aspects, including the skill and planning aspect as main factors that complement each other in terms of preparing the player to reach the highest levels, especially (Hussein et al, 2022). The requirements of modern football are imposed on this game to be characterized by a changing dynamic performance, which requires the ability to respond quickly to the conditions of the match, whether in defense or attack cases, where compound skills are among the most important factors that contribute to high sports achievement (Hussein et al, 2022).

Thinking plays an important role in the player's performance during the match, by which we can realize the multiple situations during the game, which contribute to reaching the ideal performance state, and virtual reality glasses are one of the modern means that play an important role in the development of intelligence.

Virtual reality glasses contribute to the formation of a clear picture of the performance of the compound skills and also have advantages that make the players live the atmosphere of the match in all its aspects, which leads to high concentration and identification of playing situations in order to have a clear and integrated picture of performance during the match, and how to act with the course of the game and deal with it, and here lies the importance of the research for developing a few compound skills during matches.

With the continuous development in football in the countries of the world in the recent period in terms of speed of performance, playing methods and plans, and the arrival of matches to a high level of competition and convergence of levels, this calls for paying more attention to all aspects of the sports training process and its development to reach the player to the highest possible levels in mastering compound skills, as they have become the most important and decisive factor that leads to winning and achieving goals. Hence, the researchers try to use VR4z glasses to find out the extent of its reflection in the development of a few compound skills and for young football players.

The research objectives were: 1- Recognizing the effect of using exercises related to VR4z glasses on some of the compound skills of the research sample members (for the first experimental group). 2- Recognizing the effect of special exercises on some compound skills (for the second experimental group). 3- Identifying the differences between the two experimental groups (first and second) in the post-tests of a few compound skills.

2. METHODS

2.1. Design and participants

The researchers used the experimental method in the manner of the two experimental groups for its suitability to the nature of the research and to give accurate and real results. The researchers identified the research community: Al-Diwaniyah youth football players aged 16-18 years (7 teams, 194 players) for the year 2021-2022. The research sample was randomly selected using the simple lottery method, and they were randomly divided into a first experimental group and a second experimental group, and each group included 10 players. The research sample was divided so that the groups are completely equal in all their circumstances, except for the variable that affects the experimental group.

2.2. Procedures and instruments

Virtual Reality Headset is a device that contains a screen placed over the eyes and attached to a strap around the head. This glasses enters the virtual reality data of the person wearing it to live an experience that is very close to reality. These glasses are a small part of virtual reality systems that work in an integrated manner to affect most of the human senses in order to create a virtual experience that is as close to reality as possible.

The research was conducted on a legal football field, using the following materials and instruments: 5 balls, 50 cones, 2 whistles, ropes to divide the playing field, virtual reality glasses type VR4z, and watch. We also used Tactical Pad program, by which the special 3D exercises proposed by the researchers were designed.

For the purpose of determining the compound skills in football the researchers used previous sources, references and studies to determine the compound skills as well as conducting personal interviews with experts, which resulted in choosing the compound skills that fit with the study (dribbling among the cones and scoring, control of the ball with the foot, and passing in several directions). For the purpose of choosing the appropriate tests for the research sample, the researchers used the sources and references of tests and measures in the game of football, checking the suitability and validity of each test.

The first test was dribbling among the cones and scoring. The objective was to measure the skill of dribbling and scoring accuracy. Description of the test: When the whistle is heard, the examinee dribbles among the cones, and within the two side lines for a distance of 20 m. When the player reaches the finish line, the player shoots the ball towards the goal and towards the required area.

The second test measures foot control and passing in several directions. Test implementation procedures: The control test area is determined by three overlapping circles (the diameter of the small circle is 1 m, the diameter of the middle circle is 1.5 m, and the diameter of the large circle is 2 m). At a distance of 10 m two cones are placed, with a distance between them of 1 m. A colleague is standing behind them and in two diagonal directions at an angle of 45 degrees to the right and left. Two figures are also placed on each side and a colleague stands behind them for the purpose of measuring the accuracy of passing. When the whistle is heard, the examinee runs towards the control skill test area and a ball is launched from the ball thrower towards the control area (the path of the ball is curved), where the examinee controls the ball with his foot and then passes the ball each time to the colleague in the desired direction.

Pre-tests of the research sample were conducted on 26/5/2022 and 27/5/2022 at four o'clock in the afternoon at the Saniya Sports Club stadium (one day for the first experimental group and one day for the second experimental group). After the researchers finished applying the proposed exercises and with the help of the trainers and the assistant staff, the researchers conducted the post-tests for the sample with the same conditions of the pre-tests. Post-tests were conducted on 3/8/2022 and 4/8/2022.

Between pre-tests and post-tests, the research team applied the exercises. The duration of the training application was 8 weeks, with 3 sessions per week for each group (Saturday, Monday, and Wednesday for the first experimental group; Sunday, Tuesday and Thursday for the second experimental group), so the total number of training sessions was 24 for each group, with high intensity interval training. The players of the first experimental group carried out exercises with glasses (VR4z), while the players of the second experimental group carried out exercises without glasses. The exercises were diversified in order to avoid boredom among players.

2.3. Statistical analysis

After collecting the data, the researchers used the statistical package SPSS for the statistical analyses, according to the guidelines of Al-Talib & Al-Samarrai (1981). The following statistical analyses were carried out: arithmetic mean, standard deviation, skew coefficient, T-tests for independent and correlated samples, and coefficient of variation.

3. RESULTS

Table 1 presents the differences between pre and post-tests in the first experimental group, showing that the results in the post-test were significantly better than in the pre-test. The same happened with the second experimental group (Table 2). When comparing the differences between the two experimental groups in the post-test, it was found that the first experimental group had results significantly better than the second group (Table 3).

Table 1. Differences between pre and post-tests in the first experimental group

Variable	Unit	Pre-test		Post-test		M differences	SD differences	t	p
		M	SD	M	SD				
Dribbling among cones	Degree	2.900	0.775	6.050	0.725	-3.150	0.944	10.549	0.000
Foot control, passing in several directions	Degree	1.500	0.408	3.150	0.669	-1.650	0.709	7.359	0.000

Table 2. Differences between pre and post-tests in the second experimental group

Variable	Unit	Pre-test		Post-test		M differences	SD differences	t	p
		M	SD	M	SD				
Dribbling among cones	Degree	2.750	0.755	5.100	0.775	-2.350	0.944	7.870	0.000
Foot control, passing in several directions	Degree	1.350	0.337	2.450	0.550	-1.100	0.738	4.714	0.001

Table 3. Differences between the two experimental groups in the post-test

Variable	Unit	First group		Second group		t	p
		M	SD	M	SD		
Dribbling among cones	Degree	6.350	1.081	5.100	0.699	3.070	0.007
Foot control, passing in several directions	Degree	3.150	0.669	2.450	0.550	2.556	0.020

4. DISCUSSION

The results showed significant improvements for both groups after the exercises. The researchers attribute this development to the nature and quality of the exercises prepared by the researchers and their difference from the exercises given by trainers in the training units, which was positively reflected on the research sample. The play and the type of skills that the player implements during these exercises, as they are designed to simulate the reality of the matches, are able to achieve the goals set by the researchers. This is also confirmed by Saleh (2016), who stated that the success in training comes through the coach's awareness in choosing the quality of football exercises as a final formula for developing player level.

The researcher also attributes this improvement to the fact that the exercises applied had a modern style in terms of performance, where several skills were combined into one consistent performance to appear in the form of one integrated skill, and this is confirmed by Al-Khashab (1988) that combined exercises consisting of several basic skills. The special exercises prepared by the researchers are the result of training ideas and real game cases based on scientific foundations that would give effective results, and this was indicated by the results of the tests that showed a remarkable development on the

research sample. This was confirmed by Hammad (1998), who stated that "the closer the training conditions to the competition (the match), the more useful the exercise will be to the player to achieve the goals of reaching the level of match performance".

Our results also showed that there were significant differences between the two groups in the post-test, in favor of the first experimental group, which conducted special exercises with virtual reality glasses. This indicates that the introduction of modern technology in training gives much better results than the use of exercises alone.

Designing special exercises in the form of stereoscopic players with 3D technology and presenting them to the players before the actual performance gave better results than explaining the exercises in the traditional way by the coach, which was tainted by boredom or lack of attention by the players. Displaying the exercises by means of glasses isolates the player from external influences and makes him more focused, because of the features that virtual reality technology possesses, which make its users experience a real likeness because it provides a field of vision of 360 degrees, and it also allows players to see the exercises and the correct performance of them because the stereoscopic do not accept the mistake of performance in terms of the motor path. Also, these exercises provide an adequate environment where players feel comfortable when trying to perform new challenges because the exercises are innovative.

As the human mind retains images for a longer period than theory, mental training is very important to develop compound skills Saleh (2016). It is necessary to focus on the mental training of the player or the learner, especially while learning and developing new skills and compound skills. In order to give good and effective results for training in matches, coaches must give exercises that are close to the actual performance during the match (Al-Khashab, 1988). Modern training requires that skill exercises are given to the player, to practice different movements and positions through which the player can master the basic skills.

5. CONCLUSIONS

The exercises using VR4z glasses have a positive effect on compound skills in young football players. Therefore, the authors recommend the use of virtual reality glasses in the training of young football players. Finally, in order to confirm the results of the present study, it would be useful to conduct similar research on different samples of football players.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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