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Influence of Football basic technical training on youth soccer players in Shanxi province, China

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Abstract

The aim of the study is to investigate the effect of fifteen-week basic soccer training and education by coaching youth soccer players who are under eight (U8) and under ten (U10) years old. This study has included 24 children (U8 and U10) who have participated in the physical fitness sessions of football at school. Twelve participants in the experimental group (EG) undertook intervention training in games. Twelve young players served as a control group (CG) undertook traditional training methods used in Dali Football Club. Experimental groups indicated greater improvements than control groups (P<0.05) at four tests of basic technical education of football. The results indicated that soccer education and training four times a week can improve the basic skills of football of U8 and U10 children. Study concluded that the training in games methods considered in this study might be suitable to design an effective coaching methods and training sessions aimed at the development of the fundamental skills in youth soccer players.

Keywords: Soccer training, coaching, Games, effective coaching methods, Sports Education, Physical Education

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1. Introduction

Football has the potential benefits to improve the physical and mental emotional health of the youth. An individual who is engage in sports may have positive changes in the psycho-emotional lifestyle (Larsen et al., 2015; Imas et al., 2018). There are many types of sports and physical fitness techniques among football is the most playing sports and well fitted sports (Hakman et al., 2018). With the rapid changes in modern football, the training and educational development of young football players are very important. Since the concept of "campus football" has proposed school students have shown interest and many schools are joining the campus football training camps. Millions of football lovers have shown interest in football education and basic training and competitions (Ma, 2015; Li, 2017; Sun et al., 2017). As a competitive sport, football requires athletes to have a good physical fitness, basic education and skills, a flexible mind and a sense of teamwork. During the initial training stage, the prime objective is to acquire general theoretical and basic techniques to form the basic structure of sporting movements (Mathisen, & Pettersen, 2015; Yarmak et al., 2017; Pompilio, 2019).

The basic technical ability allows players to remain active when facing high-intensity confrontation in the game and improve the young footballers' sprit and agility performance (Mathisen, & Danielsen, 2014; Gunnar, & Svein, 2015). In the environment of the youth training system, the basic skills of young players are always in the first line of training. Young players have more physical flexibility and the possibility of imitating movement (Bolotin & Bakayev, 2017; Esposito, Ceruso & D'Isanto, 2019). It is an essential and important to education and trains the young players by exploring their physical and mental abilities. Chinese football is in the groping and integration period of development. The state governments in china has proposed plan to educate and train young football players and develop their basic sports skills. In china state and cities have also continuously issued policies to encourage the development of football in schools. In 2009, the State Sports General Administration and the Ministry of Education jointly issued the "Notice on the Development of National Youth Campus Football Activities" and "National Youth Campus Football Activities Implementation Plan". After the Eighteenth National Congress of the Communist Party of China, the state paid close attention to the reform and development of school sports, and actively issued relevant documents on school sports.

The "Overall Plan for the Reform and Development of Chinese Football" was issued in 2015. It incorporated campus football into the national soccer reform plan and defined "Youth Campus Football" as the important composition of "General Plan for the Reform and Development of Chinese Football". According to the latest data in 2016, there were 4,754 national youth campus football special schools and 31 campus football pilot districts in China. In response to national policies, Changzhi City, Shanxi Province actively promotes and conducts campus football activities. In 2017, it declared 18 campus football special schools, and actively organized various levels of campus football games with all sectors of the society. However, there are still differences in the youth football education and technical training. The intervention of adult training methods has allowed small players to take a detour at an age where they should not be held responsible. Previously, no practical football training and education has provided to the school student playing football. There is no in-depth study of the real basic technical training and there is no detailed introduction and analysis of training methods (Wang, 2015; Mao & Liu, 2015; Ma, 2017; Li, 2017). On the other hand, to achieve high competition score, coaches in schools and clubs use adult training models to teach youth players, which is not in the line with the physical and mental development of young players.

On the other hand, youth football players cannot consolidate their basic skills during the training process when they learn adult training model. The consequence is that the ball cannot be passed. The young football players like "headless field" cannot break loose and crack a tight defense. Yuan and Su (2013) stated that youth football training is the training of young football players in the entire process of football.

It is not a simple action memory or a simple pursuit of the team's single victory in the game, but a highlevel football training, including basic techniques training and comprehensive training of players' personal abilities.

Hu and Fu (2003) argue that youth football training must put an end by using the adult training methods. In the basic football training for young children, it is necessary to highlight and consolidate the sports foundation, and at the same time pay attention to the diversity, fun, competitiveness and basicity of basic training. The training of young players should focus on the use of flexible and interesting training methods and forms. In training, it is necessary to emphasize the player's basic spherical feeling and sense of ball, assess the player's proficiency in basic techniques, and cultivate the player's individual skills and tactics (Li, 2016; Lagestad et al., 2017).

The complex (complicated) structure of the football game should be trained right through complexity and basic skills, so that the youth player can recognize what is happening during the game (Huang, 2017; Sun, et al., 2017; Esposito, Ceruso, & D'Elia, 2019). Purposeful, systematic and interesting football training will not only explore the best potential among the young football players but will also provide an opportunity of skills developments, improve technical understanding of sports during education and training period. The soccer training will be more effective. Fundamental football training is essential to the development of campus football. It is a method for students to obtain basic sports (Hu et al., 2016; Michailidis et al., 2019; Horst Wein, 2019).

At the same time, basic techniques training can improve young footballers' intellectual development; encourage teamwork, enduring ethical rules, as well as perseverance and surpassing themselves sportsmanship (Paul, Marques, & Nassis, 2019). The specific motor skills develop the foundation of the game of football. The importance of fundamental motor skills as a substantial basis of sport-specific motor skills is generally accepted.

However, research on the relationship between fundamental and specific motor skills in soccer players has been missing (Kokstejn& Musalek, 2019). It is an essential to conduct research study on the basic soccer technical education and training among the campus football players to devlep their technical skills by provding them proper education and guidance. The aim of the study is to investigate the effect of fifteen-week basic soccer training and education by coaching youth soccer players.

2. Methods

2.1 Sample Size

Initially 30 regional male students with no football training background were selected in Primary school of Changzhi Taihang Foreign Language School. However, due to injury, and non-attendance at the testing sessions, the sample was reduced to 24 players (mean ± SD; age 9.42years; height 147 cm). All selected players were physically fit and good in health. Two groups were created experimental group (EG) and control group (CG). In experimental group (EG) 12 players were provided fifty minutes basic education and training consisting of barrier stumbling dribble, target pass, pass and trap run, as well as pass the ball to get rid of the shot. Twelve players served as a control group (CG) undertook fifty minutes traditional training methods used in Dali Football Club.

2.2 Field Experiment Performance

Basic football technical skill training was performed in experimental and control group at the same time. The difference is that the two groups used different training methods. The experimental group adopted the intervention program designed in this study, and the control group conducted the traditional method used in Dali Football Club. To control the errors of test, the players were in standard football field. Moreover, the professional football coach conducted the training and record training test. Data were obtained before and after a fifteen-week conditioning program during four training sessions in order to compare the effects of intervention program training versus traditional soccer training. The first phase focused on the anthropometric characteristics of players. After that, the results of test in barrier stumbling dribble, target pass, pass and trap run, as well as pass the ball to get rid of defense and shot were recorded.

2.2.1 Barrier Stumbling Dribble Roadmap

In the training of barrier stumbling dribble, the ability of the youth player were observed where the ball on a two feet distance, the distance between the ball and the distance to the target obstacle under ball control was test as shown in Fig1. The football field is 10 meters wide x 10 meters long. The bottom line of the football field is the starting point. The 20-ball discs are placed in two rows of 10 each. The distance between the discs is 60 cm as shown in Figure 1. Young players need stand at the starting point and stand in two columns, facing the direction of the sign barrel and ball. The exercise required the players to move quickly from both sides started to dribble the ball for obstacle dribbling, the first time they stepped on the ball and passed the obstacle. After returning, they by passed the sign bucket and made a single foot for the second time.

To test the ability of young players to look up at the position and make accurate passes during playing the football, the repetitions of ball pass among the players was recorded.



Figure 1: Barrier Stumbling Dribble Roadmap

2.2.2 Target Pass

The graphically representation of target pass is shown in Figure 2. The player stands at the starting line. Four auxiliary team members wear two-color team uniforms and stand near the finish line. After hearing to start password issued by the coach, the two test athletes dribble the ball on their feet. When the coach heard the color of the team uniform, they quickly passed the ball to other players of the same uniform and finish line. Auxiliary team members do not fix their positions and change positions two by two near the finish line. Each player has played 10 round of passing the balls among same grouped.



Figure 2: Target Pass Roadmap

2.2.3 Passing and Trap Run Roadmap

It is important to improve the ability of youth players to pass and control the ball in soccer by educating and training the players (Li, 2017). The ability of players passing and trap run in soccer has tested by the coach marking four sides of the 7x7 meter field with white marking and has placed eight ball discs in the area. Passing and trap is graphically represented in Figure 3. The player stands at the sideline one in a ready position first, facing the direction of the two balls. It can be observed that players pass the ball through the two-ball disc and quickly run to the rear of the disc to get the ball. After receiving the ball, control the ball in the indicated direction and run until the player finally returns by passing the ball at the initial edge of the starting point. Each player performs two tests clockwise and counterclockwise. The coacher recorded the score of the players.



Figure 3: Passing and Trap Run Roadmap

2.2.4 Passing the Ball and Cross the Defense

One of the important part of soccer game is get rid on the defense, the players were trained and their ability has been tested in the field. Passing the balls and get rid of defense is graphically shown in Figure 4. Player's ability was tested in 15meter x 20meter long playground. The big goal is at the bottom line of the field, and one point two meters' goal is placed in the center, white tape is pasted 5 meters in front of the goal, and the first point is two meters to the side of the goal. The second point is 5 meters below the first point, and the third point is two meters below the bottom line. The assistant coach stands at point one and point two. When all the players on the left have finished the right test, the total time is divided by two to calculate the final score.



Figure 4: Passing the Ball to Get Rid of Defense and Shot

3. Results and Discussion

Table 1 shows the players in experimental group (EG) named (A-L) and control group (CG) named as (AA-LL). The players in experimental group has average age is 9.42 Years, average height 146 cm and weigh 33.33kg. The players in control group have the average age 9.83 years, height 148cm, and weight 33.79 kg in control group.

EG Players	Age	Height	Weight	CG Players	Age	Height	Weight
Play A	9	145	32	Play AA	10	145	31
Play B	10	155	39	Play BB	10	150	36.5
Play C	9	140	31	Play CC	9	145	30.5
Play D	10	149	35.5	Play DD	9	140	30
Play E	10	140	29	Play EE	11	150	35
Play F	9	140	28	Play FF	9	138	28

Table 1: The anthropometric Characteristics of Players

Play G	9	145	31.5	Play GG	10	145	32
Play H	9	138	28.5	Play HH	10	155	38
Play I	9	144	31.5	Play II	10	158	38.5
Play J	9	150	36	Play JJ	11	160	40
Play K	10	159	39.5	Play KK	10	155	39
Play L	10	155	38.5	Play LL	9	135	27
Mean	9.42	146.67	33.33	Mean	9.83	148	33.79

Table 2 presents the Paired-Samples T Test of mean of players' age, height and weight. It can be seen that there is no significant differences (P=0.8) of players' anthropometric characteristics between experimental group and control group.

	Age	Height (cm)	Weight (kg)
Experimental Group	9.42	146.67	33.33
Control Group	9.83	148.00	33.79
т	-1.634	-0.435	-0.256
Ρ	0.116	0.668	0.800

Table 2: Paired-Samples T Test of Players' Anthropometric Characteristics

Table 3 indicated that the experimental group (EG) and the control group (CG) have little difference in the average values of obstacle dribbling, target passing, passing and trap run as well as passing and getting rid of defense to shoot. It demonstrated that the basic technical abilities of experimental group and control group are nearly same. This also further shows that the experimental group and the control group have no significant differences in basic technical capabilities, skills of football.

Table 3: Paired-Samples T Test of Four Training Tests before Experiment

	Barrier Stumbling Dribble (Speed)	Target Pass (Number)	Passing and Trap Run (Speed)	Passing the Ball to Get Rid of Defense and Shot (Speed)
Experimental Group	107.82	4.33	40.13	18.6
Control Group	105.23	4.50	40.99	19.27
т	1.035	-0.394	-0.539	-1.256
Ρ	0.312	0.698	0.596	0.222
$* = P \le 0.05$	**=P≤0.01 ***	^s = P ≤ 0.001		

The result of experimental group after education, training and development of players skills in the Barrier Stumbling Dribble (Speed), Target pass (Numbers), Passing and Trap Run (Speed) Passing the Ball to Get Rid of Defense and Shot (Speed) has shown in Table 4. Table 5 shows the result of control group

where players did not went through training process. Table 6 shows that the values of P is less than 0.05 it shows significance difference in the experimental group and control group players result of barrier stumbling dribble, target pass, passing and trap run as well as passing the ball to get rid of defense and shot.

EG Players	Barrier Stumbling Dribble (Speed)	Target Pass (Number)	Passing and Trap Run (Speed)	Passing the Ball to Get Rid of Defense and Shot (Speed)
Play A	90.11	7	29.44	12.47
Play B	95.35	7	29.02	11.96
Play C	89.18	8	30.61	12.05
Play D	102.36	6	28.18	12.36
Play E	80.10	8	30.55	11.26
Play F	82.35	8	28.63	12.23
Play G	81.47	7	27.81	12.99
Play H	80.58	9	28.32	12.07
Play I	99.14	7	29.02	12.93
Play J	89.12	7	30.16	14.10
Play K	88.74	8	28.02	12.80
Play L	85.19	9	28.58	12.70
Mean	88.64	7.58	29.02	12.49

Table 4: Mean of Four Training Tests of Experimental Group after Experiment

Table 5: Mean of Four Training Tests of Control Group after Experiment

CG Players	Barrier Stumbling Dribble (Speed)	Target Pass (Number)	Passing and Trap Run (Speed)	Passing the Ball to Get Rid of Defense and Shot (Speed)
Player AA	105.30	6	33.82	16.70
Player BB	100.02	6	34.59	14.32
Player CC	95.19	7	30.33	13.77
Player DD	115.56	5	39.02	16.45
Player EE	89.03	6	30.06	13.43
Player FF	92.52	8	32.43	14.39
Player GG	102.56	6	34.77	15.51
Player HH	114.80	6	38.16	16.57
Player II	106.12	7	33.86	14.62
Player JJ	92.01	8	32.46	13.74
Player KK	104.45	6	30.96	13.80
Player LL	113.83	5	36.11	16.62
Mean	102.62	6.33	33.88	14.94

Barrier Stumbling	Target	Passing and	Passing the Ball to Get Rid
Dribble (Speed)	Pass	Trap Run	of Defense and Shot
	(Number)	(Speed)	(Speed)
88.64	7.58	29.02	12.49
102.62	6.33	33.88	14.94
-4.132	3.245	-5.542	-6.005
0.00 ***	0.04*	0.00 ***	0.00 ***
	Dribble (Speed) 88.64 102.62 -4.132	Dribble (Speed) Pass (Number) 88.64 7.58 102.62 6.33 -4.132 3.245	Dribble (Speed) Pass (Number) Trap Run (Speed) 88.64 7.58 29.02 102.62 6.33 33.88 -4.132 3.245 -5.542

Table 6: Paired-Samples T Test of Four Training Tests after Experiment

 $*=P \le 0.05$ $**=P \le 0.01$ $***=P \le 0.001$

3.1 Discussion

In this study players of (U8 and U10) has been trained and educate basic skills of soccer players systematically and interesting method of coaching and training has developed. The experimental group has compared with control group using traditional method of training. In the experimental group four basic training of barrier stumbling dribble, target pass, pass and trap run and pass the ball to get rid of defense and shot has observed and tested among the players. The practical-based session showed the importance of coaching of young players and fundamental techniques in soccer can accelerate learning and enhance the basic skills of football achieved, which is generally accepted (Kokstejn, & Musalek, 2019; Paul, Marques, & Nassis, 2019).

During the initial football training stage, attention will be directed to educate the strategies of basic techniques which allow young players to understand the rules, tactics, planning and remain active when facing high-intensity confrontation in the soccer game. The education and coaching encourage the young players to under the soccer and shows more interest when playing in the field. Encourage the young players so they can focus on the tactical aspects will significantly improve the young footballers' sprit and agility performance (Mathisen, & Danielsen, 2014; Gunnar, & Svein, 2015). On the other hand, games in basic technical training such as barrier stumbling dribble, target pass, pass and trap run, as well as pass the ball to get rid of defense and shot promote the interest, sportsmanship and engagement of young player (Li, 2016; Lagestad, *et al.*, 2017; Paul, Marques, & Nassis, 2019).

In addition, this paper complements on the existing literature which has provided widespread training theories and methodologies. Moreover, this study has shown that the intervention training using interesting games is an effective and easy to be performed by young player. This is concluded based on the high adherence rate and oral comments from the young players in the intervention group.

4. Conclusion and Recommendations

In conclusion, this study present a multifaceted, soccer specific training program of basic techniques that combines interesting games using in the process of soccer training and education. Additionally, the results of this study showed that using interesting games in training program is suitable and an effective for coaching young players to improve their physical performance on the basic techniques of soccer. The high compliance rate in this study suggests that the program is easy to implement and can be incorporated in a regular soccer practice. However, players has no experience of football training and education before this research has focus on certain elements of football training such as barrier stumbling dribble, target pass, pass and trap run and pass the ball to get rid of defense. Study is limited to the age U8-U10 players only. Therefore, further studies can focus on the relevance of specific methods and training tests on young player with different ages during adolescence. It is recommended that researchers in the further could

carry out a similar study in other elements and tactical skills of soccer and pay attention to use interesting games to coach soccer players.

Conflict of Interest: There is not conflict of interest among the authors.

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