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THE EFFECT OF USING A TRAINING CURRICULUM IN SINGLE AND MULTIPLE METHODS TO DEVELOP SOME BASIC SKILLS FOR BASKETBALL PLAYERS UNDER 16 YEARS

Asst. Prof. Dr. Uday Mahmoud Zahmar
Tikrit University/College of Physical Education and Sports Sciences
07706678079, m.bayitay@tu.edu.iq

Abstract

The purpose of the study is to identify the differences among the post-tests between the two experimental groups: the first group that adopts the single method, and the second group that uses the multiple method in some basic skills of basketball players under (16) years. The study hypothesizes that there are statistically significant differences among the posttests between the two experimental groups, single method, and the group of multiple method, in certain basic skills of basketball players under (16) years. The researcher made use of the experimental method, since it fitted the nature and problem of the research. The research sample consisted of (14) players from Sulaf Basketball Club under (16) years. They were chosen intentionally, where two players were chosen to conduct the exploratory experiment. The other (12) players were divided into two groups randomly by lottery. Each experimental group consisted of (6) players, where the first experimental group, which adopted the single method, was used. The second group, which adopted the multiple method, was used to develop certain basic basketball skills. The curriculum took (6) weeks with (6) training units per week, except for Friday, which was a break for both groups. The researcher has concluded that the training curriculum made by the researcher for the two experimental groups (first and second) was effective in developing certain basic skills for basketball players under (16) years. According to the conclusions, the researcher recommends using various single and multiple methods in training curricula, because of their effective role in developing some basic skills in basketball.

Keyword: training, multiple methods, basic skills, basketball, under 16 years.

Introduction

The development of science extended to a variety of sectors, including sports. Basketball was among the sports whose accomplishments increased gradually.

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Progress has not been made in vain, but science remains the cornerstone, necessitating constant efforts to raise the level. This science is represented by the science of sports training, whose foundations and theories have begun to progress rapidly in recent years. The training process only means upgrading the physical level by developing physical qualities like strength, speed, agility, and other physical qualities. Rather, training depends on skillful, tactical, and psychological preparation. When one of the aforementioned factors is not included in the training process, it would create confusion in the training process, which negatively affects the athletic level and achievement. Hence, it becomes obvious that skill preparation is an essential factor in achieving a good level. The concept of skill indicates the extent to which the individual is efficient in performing a specific motor duty with the greatest degree of perfection while expending the least amount of energy in the least possible time. Also, skill is considered the backbone of performance and the essence of any sport, where its achievement depends on the physical preparation and on which the tactical preparation is built from these skills and mastering them. The junior category is one of the vital age groups on which to achieve sporting ambitions. The research importance came out by working on training some basic skills in the basketball game through using a training curriculum in two ways, single and multiple, to develop some skills in Basketball.

Research Problem:

Despite the advancements made in basketball and the majority of sports in contrast to Arab and international teams, the level of this game is still discouraging. The players' inadequate skill preparation is one of the main causes for their inability to compete at the same level as these teams. It was discovered via observation, particularly in the age categories, including the junior groups, serve as the fundamental foundation for the national teams. In order for the player to rise to a level commensurate with the requirements of development in this field, the research problem has been based on accreditation using the single and multiple methods, which have been modern training methods. This prompted the researcher to find solutions believed to address the research problem in order to raise the skill level of players in the game of basketball.

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Research Objectives:

1- Preparing a training curriculum in the single and multiple methods to develop certain basic skills for basketball players.
2- Identifying the differences among the post-tests between the two experimental groups, the first group, which is the single method, and the second group, which is the multiple method, in some basic skills in basketball.

Research Hypotheses:

1- There are statistically significant differences among the pre and post tests for the two experimental groups in some basic skills in basketball.
2- There are statistically significant differences among the posttests between the two experimental groups (single method) and (multiple method) in some basic skills in basketball.

Research Areas:

1- Human domain: Sulaf Club players for juniors under (16) in basketball.
2- Time range: Through 1/17/2021 to 5/3/2021
3- Spatial domain: A closed hall for sports activity in Kirkuk.

Definition of terms:

Single method: In this method, the intended effect is to develop one physical characteristic or one skill during the training unit. (Abdul-Fattah, 1997)

Multiple method: In this method, the intended effect is to develop more than one physical characteristic or single skill during the training session.

Research Methodology:

The researcher adopted the experimental method, because it was suitable to the nature of the research.

Research Sample:

In order to facilitate communication with the research sample and the cooperation of the club staff with the researcher, the research sample, represented by players from Sulaf Sports Club in basketball under (16) years, was chosen deliberately. The number of the sample consisted of (14) players. Two players were selected for the exploratory experiment and were excluded

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from the main experiment. There were 12 players were excluded who were randomly divided into two groups. Each group consisted of (6) players. The first group adopted the single method, whereas and the second group adopted the multiple method.

Homogeneity and equivalence of the sample:

For the purpose of the sample being homogeneous, the researcher conducted homogeneity for the members of the research sample as a whole in the variables (height, mass, and age) as in Table (1), as well as equivalence between the first and second experimental groups in some skill tests. This is illustrated in Table 2.

Table (1) shows the homogeneity of the research sample

No	Mean	Standard deviation	Arithmetic mean	Variables	Skewness coefficient
1	143	4,21	146	Length (cm)	0,076
2	38	1,84	39,72	Mass (kg)	0,064
3	15,4	0,44	15,44	Age (year)	0,0533

Table (2) shows the equivalence of the two research groups

Tests	Level of sig	Calculated T value	Standard deviation	Arithmetic mean	Type	Result
Tapping by changing direction (time)	0,132	2,479	0,416	11,122	The first experimental group	Non-sig.
			0,427	11,137	The second experimental group	
Chest pass (time)	0,123	2,621	0,626	11,422	The first experimental group	Non-sig.
			0,731	11,410	The second experimental group	
Lay-up shot (number)	0,581	0,318	1,012	3,321	The first experimental group	Non-sig.
			0,746	3,411	The second experimental group	

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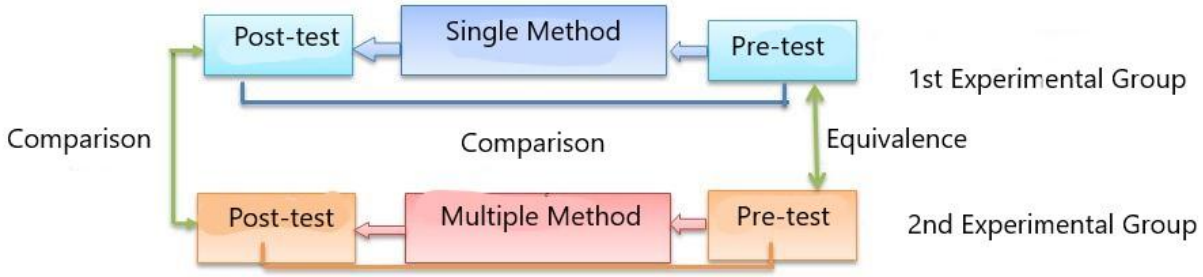
Experimental design



Devices and tools used:

- A device for measuring length to the nearest (cm) and weight to the nearest (50)g.
- A computer (laptop).
- Two stopwatches
- (12) Basketballs
- Basketball Stadium.
- Tape measure.
- Smooth wall.

Data collection methods:

- Tests and measurements.
- Scientific sources and references.

Skill tests used in the research:

For the purpose of identifying the basic tests, the researcher made some reviews represented by sources, references and previous studies. After conducting an analysis of the content of the sources and previous studies, most of the studies and sources agreed on the following tests:

1- Tapping by changing the direction in between (6) signs back and forth (Abdul-Dayim, 1999).
2- Passing the ball and receiving it towards a wall from a distance of (2.70) m. (chest pass) (Jawad, 2004)
3- Lay-up shooting in front of the target from a distance of (5) m within (15) seconds (Jassim, 2016).

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Field Research Procedures:

The exploratory experiment:

The researcher with the assistant work team, represented by Asst. Prof. Dr. Atif Abdul Khaliq, who holds PhD of physical education, and Lecturer Dr. Amjad Ali Falayeh, PhD of physical education, conducted an exploratory experiment on two players from the research sample, who were excluded when conducting the main experiment. The experiment was conducted on 17/1/2021. The aim of the experiment was:

1- Knowing how long the exams take.
2- Knowing the obstacles facing the researcher.
3- Knowing the efficiency of the assistant work team.
4- Ensuring the validity of the tools used in the research.

Pre-Tests:

The pre-tests of the research sample were conducted on 19/1/2021, in order to determine the level of the sample for the two experimental groups in the skill tests (Tapping by changing direction, chest pass, and lay-up shot).

The main experiment:

After reviewing the sources and previous studies, the researcher prepared two training curricula: the first is by the single method, and the second is by the multiple method to develop some basic skills for young players in basketball. The researcher took into account some points related to applying the two methods to the members of the research sample:

- Performing the curriculum for the two groups on 21/1/2021.
- Applying the two methods was for the purpose of research preparation.
- The warm-up exercises, physical preparation and cool-down were unified for both groups, but the difference was in the skillful preparation in the method of giving the skill exercises. The first experimental group is given the single method of performing the skill exercises. The second experimental group is given the multiple method of performing the skill exercises.
- The researcher made use of the periodic training method in performing the two training curricula, as “interval training is a method used in all training cases and all stages of training” (Al-Khashaab et al. 1999).
- The ripple principle was used in the training load (1:3)

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- Applying the curriculum for each group took (6) weeks, with (6) training units per week, with a total of (36) training units for each experimental group.
- The curriculum was applied every day of the week, except for Friday, which was a break for the two groups.
- The total time for each curriculum was (3240) minutes.
- The application time for the skills adopted in the research ranged from (351-468) minutes with rest.
- In both methods, load degrees (medium, less than maximum) were used.
- The intensity of load was (70-90)%.
- The rest periods between totals and repetitions were determined through the training method followed by Q2 using the pulse as an indicator.

Post Tests:

The post-tests of the research sample were conducted on 5/3/2021, after completing the method adopted. The research followed the same method as the pre tests.

Statistical Means:

The researcher adopted the statistical bag (SPSS) to process the raw results of the research sample.

4- Presentation and discussion of the results:

Presenting the results of the pre- and post-tests of the two experimental research groups in some of the basic skills adopted in the research:

Table (3) shows the results of the level of significance for the pre and post tests for the first experimental research group (single method)

No	Tests
1	Tapping by changing direction (time)

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2	Chest pass (time)
3	Lay-up shot (number)

• Significant at a level that is less than or equal to (0.05).

Table (3) demonstrates that for the first experimental group using the single-style training, there are substantial changes between the pre-test and the post-test in favor of the post-test. The training in this method that was given to this experimental group is what the researcher credits for the development of the abilities used in the research. This technique contains skill exercises that are effective and useful enough for development to occur. These skill exercises for the skills under study were given in a way directed towards one goal, that is, one skill in each training unit. This makes the player focus on this skill, which leads to developing it as a result of repetitions. This is what makes the player reach the mechanics stage in executing skills. This is consistent with what (Mufti Ibrahim) stated, "the player reaches the performance of the skill automatically through constant repetition of performance" (Hamad, 1994).

4-2 Presentation of the results of the pre and post test for the second experimental research group (multiple method):

Table (4) shows the results of the level of significance for the pre and post tests for the second experimental research group (multiple method)

No
1
2
3

Significant at a level that is less than or equal to (0.05).

According to Table (4), there are substantial differences between the pre-test and the post-test in favor of the post-test of the second experimental group, which adopted multi-method training. The researcher attributes the reason for this development to the effectiveness of this method in developing the skills

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adopted in the research, because this method has a multiple direction that works to develop and improve more than one skill in the training unit. The researcher took into account the mutual interaction of the exercises and the effect of one on the other in order to reach the best performance. This is consistent with what was mentioned by (Raysan Khuribit) "when using multiple directions in the training unit, the mutual interaction of the exercises should be taken into consideration. This interaction can be positive, indicating that the subsequent load reinforces the displacements caused by the previous load" (Khuribit, 2001).

3-4 Presenting the results of the post-tests for the first and second research groups:

Table (5) shows the results of the level of significance between the post tests for the first group (single method) and the second group (multiple method) in some of the skills adopted in the research

No	Tests	Calculated T value	Pre		Post		Level of sig	Result
			Standard deviation	Arithmetic mean	Standard deviation	Arithmetic mean		
1	Tapping by changing direction (time)	2,308	0,413	10,131	0,471	10,312	0,049	Sig.
2	Chest pass (time)	2,422	0,621	10,233	0,611	10,227	0,041	Sig.
3	Lay-up shot (number)	2,721	1,123	4,411	1,118	4,210	0,031	Sig.

Significant at a level that is less than or equal to (0.05).

Table (5) shows that there are significant differences between the first experimental groups (single method), and the second (multiple method) in the tapping method test by changing direction in the post test in favor of the first experimental group (single method). The researcher attributes that to the fact that the single method develops and improves skills, because it includes the performance of one skill. Thus, the player's focus will be all about developing this skill. The repetition of performing this skill daily had a great and significant impact on developing and mastering this skill. The continuous repetition of this skill develops the player's feeling of performing the skill of tapping, because it is the only way to move with the ball. This is consistent with what Hanafi

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Mahmoud said, "practice increases player's ball touching, which is a special kind of high observation that makes him can deal with the ball with his experience. This results in the player accurately understanding the properties of the ball" (Mukhtar, 1987). The single method was of great value in developing this skill through the curriculum made by the researcher. This curriculum includes exercises with a clear goal in developing the skill of tapping for the players, and the training in a single method is effective in developing the skills that are performed individually, such as tapping and other skills.

As for the chest pass skill, significant differences appeared between the two experimental groups in the post test in favor of the second experimental group (multiple method). The researcher attributes this to the fact that the multi-method includes training the players on basic skills, which led to the development of this skill in the second experimental group. The multi method is used more than the single method, because the multi method has a greater effect than the single method in performing this skill. The performance of this skill between two or three players makes the players more fun and willing to perform. This does not mean that the single method is ineffective and useful, but rather the opposite. The results of the pre and post tests of the first experimental group showed significant between the two tests, but the differences that appeared in the post test between the first experimental group (single method) and the second group (multiple method) in favor of the second group were better than the first group. The development in the skill of passing by chest. The researcher attributes this to the skill exercises that the researcher put in the training curriculum for the second group (multiple method), which worked on developing neuromuscular compatibility and the speed of movement of the arms as a result of repetitions, as well as the result of changing from two to three players with the least performance time. This is in line with the requirements of playing and missing the ball, the wrong receipt and delivery of the ball between the players. All this led to the development of the chest pass skill of the second experimental group (multiple method) more than the first experimental group (single method). The training curriculum in an interval training method had an impact on developing the skills under consideration by taking into account rest periods between repetitions. This becomes obvious with what was mentioned by Abu El-Ala Ahmed Abdel-Fattah, stating that the repetition of a set of exercises interspersed with rest periods. The rest period depends on the

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intensity of the load used and the direction of impact leading to skill development. (Adel-Fattah, 1997)

As for the skill of lay-up shot, there are differences between the first experimental groups (single method), and the second experimental group (multiple method) in favor of the single method. The researcher attributes the reason for this difference to the curriculum made by the researcher for the first experimental group (single method), and the exercises contained in this curriculum, which led to the development of the skill of lay-up shot more than the multiple method. The success of the shot on the basket means that the team gets points. The team that scores the largest number of points in the match is considered a winner. Performing the exercises individually through the approved method had an impact on developing the skill of lay-up shot through the repetitions performed by the players on the basket. This motivated the players to hit the basket and the success of scoring points, which gave the players suspense and enthusiasm to perform this skill more accurately and more focused. This leads to developing player's skill. The exercises in the training curriculum for the first group (the single method) contributed to increasing the motor compatibility, which depends on the integrity of the interconnection and integration between the two nervous muscular systems to achieve the optimal performance of sports movements, especially the composite ones. This is what happens in the skill of lay-up shot, as the performance of compound movements requires merging more than one movement in one frame, which requires sending motor signals simultaneously to more than one part of the body in order for the movement to take place accurately at the appropriate time and in the required directions (Abdel Al-Khaliq, 1994).

Conclusions:

1- The training curriculum is efficient for the first two experimental groups (single method) and the second (multiple method) in developing some of the basic skills under study.
2- The exercises used in the curriculum of the first experimental group (single method) made more development in the skills of the tapping by changing the direction and the skill of lay-up shooting than the second experimental group (the multiple method).

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3- The exercises used in the second experimental group curriculum (multiple method) for the skill of chest pass was more effective than the training (by single method) for the first group.

Recommendations:

1- Individual training to develop the skills of tapping and shooting should be used, because of its positive role in developing these two skills.
2- Multi-method training should be used to develop the chest pass method, because of its effective role in developing this skill.
3- Other research should be conducted on various age groups according to the skills under study.

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A model of training unit for the first experimental group
(single method)
Week: The first
The goal of the training unit is to develop the skill of chest pass and receiving
Number of players (6)
Training unit: The first training unit total time (90) min
Date: 01/21/2021

Sections of the training unit	Rest between exercises (sec)	Motivator Duration (minutes)	Exercises	Time by minutes	Intensity %
Preparatory section (warm up)	-	-	Exercises to prepare the body, stimulate blood circulation, and prepare the nervous and muscular systems	15min	Slight
Main section physical preparation skill preparation Chest pass and receiving	-	-	General and specific physical exercises	30min 40min	
Exercise (1)	45 sec	4 min	The players stand in front of the other and the distance between them is (4) m. They exchange the chest pass and receiving the ball from the static position	4 min	%70
Exercise (2)	45 sec	3 min	The players stand in the form of two groups: one facing the other, and the ball is with the first player from group (A) who hands it to the first player from group (B) and then returns to his group. The player repeats this performance and so on	3 min	%70

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Exercise (3)	60 sec	3 min	The players stand in the form of two groups and run with the exchange of chest pass between them until the middle of the field and then return to the starting line	3 min	%70
Other skills	-	-	It is applied by the team coach		
Concluding parts	-	-	Cool-down exercises (gentle jogging)	5 min	Slight

A model of training unit for the first experimental group (single method)

Week: Third

The goal of the training unit is to develop the skill of the tapping by changing direction

Number of players (6)

The training unit: 13 The total time of the training unit is (90) min

Date: 4/2/2021

Sections of the training unit	Rest between exercises sec	Motivator Duration (minutes)	Exercises	Time by minutes	Intensity %
Preparatory section (warm (up	-	-	Jogging around the stadium to stimulate blood circulation and Swedish exercises to prepare the body	15 min	Light
main section • physical • preparation skill preparation • tapping by • direction change	-	-	General and specific physical exercises	13 min 40 min	
Exercise (1)	45 sec.	3 min	Each player catches a ball and when they hear the signal they pat in the place and move right and left and when they hear the other signal they switch the	3 min	%80

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			tapping arm to the other arm. So until the time is up		
Exercise (2)	60 sec.	4 min	Each player and the ball carrier stand in their hands, and when they hear the signal, they pat between (6) signs and put them on the ground back and forth.	4 min	%80
Exercise (3)	60 sec.	4 min	The player carrying the ball stands in front of a player without the ball. The player carrying the ball taps to get rid of the defending player while changing the plunging arm and so on the other players	4 min	%80
Other skills	-	-	It is applied by the team coach		
Concluding section	-	-	Cool-down exercises (gentle jogging)	5 min	Light

Training unit model for the first experimental group
(single method)
Week: 6
The goal of the training unit is to develop the skill of lay-up shot
Number of players (6)
The training unit: 31 The total time of the training unit (90) min
Date: 2/25/2021

Sections of the training unit	Rest between exercises (sec(.	Motivator duration (minutes(	Exercises	Time by minutes	Intensity %
Preparatory section (warm up)	-	-	Jogging around the court with Swedish bodyweight exercises	15 min	Light
Main section	-	-	General and specific physical exercises	30 min 40 min	

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• physical preparation • skill preparation • lay-up shot					
Exercise (1)	60 sec.	4 min	Players stand in two groups, one on the right and one on the left, near the side line of the basketball court at the center circle. When the signal is heard, the player pats and makes a lay-up shot at the basket one by one, from the right and the left	4 min	%90
Exercise (2)	60 sec.	4 min	The players stand in one line and a person stands under the basket. When the player hears the signal, he goes and receives the ball from the person standing under the basket for the player to take a shot. This is how the players perform until the time runs out	4 min	%90
Exercise (3)	60 sec.	4 min	The players stand in the middle of the field in the form of a train. When the signal is heard, the player taps from the middle of the field until the free-throw line reaches, and then makes a lay-up shot at the basket. This is how one player after another until the time limit expires	4 min	%90
Other skills	-	-	It is applied by the team coach		
Concluding section	-	-	Cool-down exercises (gentle jogging)	5 min	Light