Journal of Humanities and Social Sciences Researches (JHSSR)

ISSN: 2958-3160 (Online)

The impact of special training involving audio and visual stimuli on basketball players' divided attention

Assist. Prof. Dr. Saba Shaker Farhan[1,*], Prof. Dr. Raafat Abdul Hadi Al-Karwi[1]

[1] College of Physical Education and Sport Sciences, Iraq.

* Corresponding author, Email: Saba.shakeer@qu.edu.iq

Received: 18/02/2023 Accepted:09/04/2023

Abstract

The research included an introduction and a discussion of the importance of training in the field of physical education in general and basketball in particular. The research problem was to identify the possibility of audio and visual effects in the development of basketball players' divided attention. The research's aim is the study intends to use audio and visual effects to develop basketball players' divided attention. The research assumption is there are statistically significant differences in favour of the group that performs the audio and visual effects exercises. The areas of the study were as follows:
1- The human field/basketball clubs affiliated with the Al-Qadisiyah Governorate
2- The temporal domain / 10/14/2021 - 3/25/2022.
3- The late Rahim Abbas' spatial field/hall.
It also included the research methodology and its field procedures, as the researchers used the experimental approach and dealt with the research sample, who are basketball players in the clubs affiliated to Al-Qadisiyah Governorate, and dealt with the tools used in the research, the test used, and statistical methods. Then the results of the research were presented and discussed, as the results were presented in the form of tables and then discussed. The research also contained conclusions and recommendations, the most important of which were:
1- There is a development in the post-tests for both the control and experimental groups.
2- There are statistically significant differences in favour of the experimental group.
Recommendations: The researcher recommends the following:
1 - The use of audio and visual effects in the training of basketball players.
2- Conducting research similar to other activities.

Keywords: Audiovisual, effects, divided attention.

DOI: 10.33687/jhssr.002.01.000141

1- Introduction

Sports competitions are required to keep in line with the world's civilizational and scientific progress in order to raise the quality of these sports and make them a practice and follow-up field. Basketball players must be extremely careful when dealing with the ball and the opponent at the same time, and their performance must be rapid and without lag, especially when there is little space, and the ball must be played quickly and straight. As a result, research into the utilization of workouts based on auditory and visual stimuli to develop basketball players' split attention is critical.

2- Study objectives:

The objective of this research is to use exercises based on auditory and visual cues to assist basketball players in improving split attention.

3- Procedures and methods:

3-1 Sample:

Basketball players from Al-Qadisiyah Governorate clubs and first-division league participation comprised the research community, with (3) clubs and (90) players participating. (Al-Diwaniyah and Al-Ittifaq) in football were split into two groups: control (Al-Ittifaq Club) and experimental (Al-Diwaniyah Club), each with (20) players. In the factors being studied.

Table (1) Shows the preparation of a population and a research sample

Sample Type	society	Sample		Percentage of the sample to the population
		Experimental Group	Control Group	
Basketball Referees	90	20	20	% 44.4

3-2 Design of the study:

To adjust for the character of the issue examined, the researchers used the experimental technique of two equal groups.

3-3 Variables studied:

Divided attention:

It refers to an individual's capacity to pay attention to more than one activity or several tasks and activities at the same time and in a short period of time, which is expressed as a competition of stimuli and is referred to as multitasking ability. This test correctly depicted the divided attention process and was created with a high level of validity in mind. It requires the patient to respond to aural and visual inputs simultaneously, as exemplified by activities including:

VISUAL TASK:

A square with 5 circles comes on the screen in this section of the activities, each having a hole on one of the surrounding edges. The holes' locations may vary; however, the circles do not, and the subject must click and react on the keyboard when one of the five circles is displayed closed within the square.

- AUDITIVE TASK:

The subject hears two high and low noises at the same time, with the appearance of circles. Therefore required to respond quickly, having only heard the sound in the shape of a tone that is repeated twice in succession.

3-4 Tests were used

1- DIVIDED ATTENTION TO GEAT

DOI: 10.33687/jhssr.002.01.000141

This test correctly portrays the divided attention process and was constructed with a high degree of validity in mind. It requires the patient to respond to aural and visual inputs in simultaneously, as exemplified by activities such as:

VISUAL TASK:

In this section, a square with 5 circles appears on the screen, each having a hole on one of the surrounding edges. The holes' locations may vary, although the circles do not, and the subject must click and react on the keyboard when one of the five circles is displayed closed within the square.

AUDITIVE TASK:

The subject hears two high and low noises at the same time, with the appearance of circles. Therefore needs to react as soon as he hears the sound, which is in the shape of a tone that is repeated twice in a succession.

Application and testing time:

The test begins with an exercise, and the examinee must engage with the required aural and visual stimuli in order to pass it effectively. The real examination then begins, with the examinee being required to notice the figure presented on the screen, which consists of five circles with holes in varying places when the circle is closed. Pressing the OK button at the same time alternately shows the high and low audio signals, and when the same tone is given twice in a row, only answer with a reaction by clicking on (OK).

Duration of the test:

Except for the exercise component, the exam lasts three (3) minutes.

3-5 pre-test

The two researchers conducted the pre-test on the research sample on 11/20/20120 for both the experimental and control groups at exactly nine o'clock in the morning.

3-6 Used exercises

The exercises used in this study are shown in Table 2.

Table (2). Used exercises

Week	Unit	Exercise	Observations
First	The first	The player pats the ball while moving in the field and around him coloured lamps, and he is required to score when any lamp is on	
	Second	The player pats the ball while moving in the field and waits for a whistle from the coach, and he is required to score when he hears any whistle	
Second	The first	The player handles the chest with the colleague as he moves on the field and in front of him coloured lamps, and he is required to score when any lamp is lit	
	Second	The player pats the ball and handles the chest to the colleague after every two drums while moving in the field and waiting for a whistle from the coach, and he is required to score when he hears any whistle	
Third	The first	The player pats the ball and rebounds to the colleague after every two drums while moving in the field with coloured lamps around him, and he is required to score when any lamp is on	

DOI: 10.33687/jhssr.002.01.000141

	Second	The player pats the ball and expects a whistle from the coach and he is required to perform the chest handling of the colleague when he hears any whistle	
Fourth	The first	The player handles the chest with the colleague as he moves on the field and in front of him colored lamps and he is required to score when a specific color of the lamps is ignited	
	Second	The player pats the ball and rebounds to the colleague after every two drums as he moves in the field and expects a whistle from the coach with a specific tone standing on it and he is required to perform the pectoral handling of the colleague when he hears the whistle in the designated tone and ignore the rest of the tones	
Fifth	The first	The player patting the ball and in front of him colored lamps and will be ignited two lamps in two different colors and he is required to score when ignited a specific color of lamps agreed upon previously	
	Second	The player pats the ball and handles the chest of the colleague after every two drums and he moves in the field and expects a whistle from the coach a whistle with a certain tone and more than one mutant will be launched with multiple tones He is required to score when hearing the whistle in the specific tone agreed upon	
Sixth	The first	The player patting the ball and rebound handling of the colleague after every two pumps as he moves in the field and expects a whistle from the coach with a specific tone standing on it or the use of a lamp in a specific color and he is required to perform the pectoral handling of the colleague when hearing the whistle in the assigned tone or ignite the lamp in the specified color and ignore the rest of the tones and colors of the lamps	
	Second	The player Baltaba zigzag ball and in front of him colored lamps and expects a whistle from the coach in a certain tone parked on it or ignite a lamp in a specific color and is required to perform the pectoral handling of the colleague when hearing the whistle in the tone allocated or ignite the lamp in the specified color and ignore the rest of the tones and colors of the lamps	
Seventh	The first	The player Baltaba ball and rebound handling of the colleague after every two Tabtaba as he moves in the field and around him colored lamps and expects a whistle from the coach with a specific tone standing on it or ignite a lamp in a specific color and will launch whistles with multiple tones and lamps in multiple colors and required to perform scoring when hearing the whistle in the tone allocated or ignite the lamp in the specified color and ignore the rest of the tones and colors of the lamps	

DOI: 10.33687/jhssr.002.01.000141

	Second	The player handles the chest with the colleague as he moves in the field and in front of him colored lamps and expects a whistle from the coach with a certain tone standing on it or ignite a lamp in a specific color and will launch whistles with multiple tones and lamps in multiple colors and he is required to perform scoring when hearing the whistle in the designated tone or ignite the lamp in the specified color and ignore the rest of the tones and colors of the lamps	
Eighth	The first	The player performs the patting and the performance of the chest handling with the colleague to the right and the patting and the performance of the pectoral handling of the rebound to the colleague to the left along the field and in front of him colored lamps and a whistle is expected from the coach with a specific tone standing on it or the ignition of a lamp in a specific color and will launch whistles with multiple tones and lamps in multiple colors and he is required to perform scoring when hearing the whistle in the designated tone or ignite the lamp in the specified color and ignore the rest of the tones and colors of the lamps	
	Second	The player performs the patting and the performance of the chest handling with two colleagues so that they form a triangle and switch the centres and around it coloured lamps and expect a whistle from the coach with a certain tone standing on it or ignite a lamp in a specific colour and will launch whistles with multiple tones and lamps in multiple colours and he is required to perform scoring when hearing the whistle in the custom tone or ignite the lamp in the specified colour and ignore the rest of the tones and colours of the lamps	

4- Results and discussion:

The results obtained from the study are shown in Tables 2 to 5.

Table (2). The arithmetic mean, standard deviations, and t-value for the pre-tests of the control and experimental groups

Variable		Control Group		Experimental Group		Calculated t-value	Significance
		Medium of my account	Standard deviation	Medium of my account	Standard deviation		
Divided attention	**auditory**	2.9785	0.3749	2.4535	0.39597	0.00012	**Random**
	visual	2.6895	0.442261	2.221	0.239361	0.00078	**Random**

DOI: 10.33687/jhssr.002.01.000141

Table (3). The arithmetic mean, standard deviations, and t-value for the pre and post-test of the control group

Variable		Pre-test		Post-test		Calculated t-value	Significance
		Medium of my account	Standard deviation	Medium of my account	Standard deviation		
Divided attention	auditory	2.9785	0.3749	1.2905	0.079503	3.239	Moral
	visual	2.6895	0.442261	0.615	0.022595	2.9146	Moral

Table (4). The arithmetic mean, standard deviations, and t-value for the pre-and post-test of the experimental group

Variable		Pre-test		Post-test		Calculated t-value	Significance
		Medium of my account	Standard deviation	Medium of my account	Standard deviation		
Divided attention	auditory	2.4535	0.39597	0.5225	0.007864	3.399	Moral
	visual	2.221	0.239361	0.504	0.063858	2.859	Moral

Table (5). The arithmetic means, standard deviations, and the t-value of the post-tests for the control and experimental groups

Variable		Control Group		Experimental Group		Calculated t-value	Significance
		Medium of my account	Standard deviation	Medium of my account	Standard deviation		
Divided attention	auditory	1.2905	0.079503	0.5225	0.007864	7.35	Moral
	visual	0.615	0.022595	0.504	0.063858	7.57	Moral

4-2 Analyzing and discussing the findings:

Table (2) demonstrates that the computed value of (t) for the pre-tests for the experimental and control groups is (0.00012) for the auditory and (0.00078) for the visual. It is more compact than the tabular scale of (1.76). Consequently, the two tests have no significant differences, indicating that the two groups started from the same point of departure and that the sample members are equally capable of divided attention.

Table (3) demonstrates that the value of (t) determined for the pre and post-tests for the control group was (3.239) for the auditory and (3.239) for the visual. (2.9146). It is, therefore bigger than the tabular value of (1.76), indicating that there is progress in the control group, which does the trainer's standard exercises.

According to Table (4), the computed value of (t) for the pre and post-tests for the experimental group was (3.399) for the audio and (2.859) for the visual.

As a result, it is more than the tabular value of (1.76). It means that a change is taking place among the experimental group's sample members who did auditory exercises in the sessions.

According to Table (5), the computed value of (t) for the post-tests for the experimental and control groups is (7.35) for the auditory and (7.57) for the visual. It exceeds the maximum allowable value of (1.76). As a result, this suggests substantial disparities in favour of the experimental group, implying that the experimental group's development is larger than the control group's. Because light travels quicker than sound, audiovisual activities are preferred in the process of establishing split attention for

DOI: 10.33687/jhssr.002.01.000141

basketball players. As a consequence, when the input is visual, the response is faster than when it is audible, and some studies have determined reaction times for various sensory stimuli.

As the brain gets the visual input straight through the eye and without intermediaries, the reaction time (by one-thousandth of a second) ranged from 150-225" (1: 369). This is what makes visual stimuli so powerful in the brain. As "there is no separation between the mind and the body, or between thinking and motor performance, on which the human ability to work physically, bear effort, and develop is dependent." Work has used mental and cognitive systems to make these systems more usable and to make the natural transition to mental work more comfortable for humans, but in return, these mental actions, in addition to the high speed at which audio information enters the human brain, make a person feel mentally efficient and muscular capabilities. As Well As it is here that we will realize the importance of preserving hearing and its ability to train and acquire knowledge of the skills we require, which gives us high abilities and creates a system commensurate with our needs to obtain cognitive and auditory capabilities through mental and vocal exercises that allow us to choose any type of training." (5:3149). "The visual sensory system provided complete information about the surrounding environment and assisted the athlete in distinguishing the interconnected materials present in the place, as well as the distance between the ball and the target, the direction and speed of the ball, and the opponent's movement." (6: 23118).

5- Conclusions

The researcher concluded the following:

1- There is a development in the post-tests for both the control and experimental groups.

2- There are statistically significant differences in favour of the experimental group.

References

1. Muhammad Subhi Hassanein: Measurement and Evaluation in Physical Education and Sports, 4th Edition, Dar Al-Fikr Al-Arabi, Cairo, 2001.
2. Mufti Ibrahim Muhammad: The New in the Skillful and Tactical Preparation of the Football Player, Dar Al-Fikr Al-Arabi, Cairo, 1994.
3. Mufti Ibrahim Muhammad - Muhammad Abdo Saleh Al-Wahsh: The Fundamentals of Football, 1st Edition, Dar Alam Al-Maarifa, Cairo, 1994.
4. Yarub Khayoun: Kinetic Learning between Principle and Application, Al-Sakhra Printing Office, Baghdad, 2002.
5. Torment n. A, Hussein and R, Ali A. A comparative study of sword fencing motion stabbing according to technical programming in a class B wheelchair fencing game. Indian Journal of public health research and Development. 2019; 10 (5): 1344-7.
6. Asaad Ali Safih, Raafat Abdulhadi Kadhim, Saba Shaker Farhan. Audio Skills and Their Impact on the Development of Response Speed for Handball Goalkeepers 2019;10 (5): 3149
7. Kadhim RA, Al-Lami H, Shakir K (2020): The effect of exercises using the Cogni plus device on developing perception of handball referees, Ann Trop Med & Public Health; 23(S11): SP23118.

DOI: 10.33687/jhssr.002.01.000141