

# THE IMPACT OF MOTOR EXPECTANCE EXERCISES IN DEVELOPING THE SPEED OF MOTOR RESPONSE AND THE ACCURACY OF THE PERFORMANCE OF COURT DEFENSE SKILL IN VOLLEYBALL FOR JUNIORS

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## Abstract

Nowadays the world continuously witnesses a great development that can not to be included by the learning systems and method which might need the existence of strategies that enable mastering the skills of sports games.

The importance of this study is to draw the attention of the people who are responsible for training planning, to the significance motor expectance and to know its impact on developing the speed of motor response and the accuracy of the performance of court defense skill in volleyball for the juniors in a scientific attempt to link the academic study of the motor expectance domain with the specialized applied domain.

The researcher used the experimental method of two equal group's design, which are the controlling and the experimental groups. The sample included (20) players representing the training center of the branch federation of volleyball aging from (15 to 17) years old for the year 2014. Through the statistical treatments the researcher concluded the following:

- 1- The exercises of motor expectance have great impact on the speed of motor response and on the court defense in volleyball for juniors of the experimental group.
- 2- The exercises of motor expectance have great impact on the acceptance and stimulus of the players in the training sessions.
- 3- The priority of the experimental group, in developing the accuracy of the current searched skills in volleyball, over the controlling group.
- 4- The accuracy of court defense was not in a good level because of not varying the exercises

**KEYWORDS: Exercises of motor expectance. Developing. Response speed. Accuracy. Juniors.**

## 1. INTRODUCTION & PROBLEM OF THE STUDY

The scientific development characterizes all aspects of life in this era, thus many countries to offer all their capacities for the scientific research, experiment and assessment in order to catch up with the great development.

Sports activities are considered of the most important domains because they contribute in developing the societies and improving if the sportsmen are well prepared and improved in the level of their technical performance.

Volleyball is one of the sport games which depend on the speed performance for its special rhythms and for the variety of its skills, plans and its link with the various methods of playing thus this cannot be done only if the skills are mastered very well with attention to applying the law items and the game requirements during learning and training on the skills and plans, which should be done in high level of accuracy, high response speed and correct expectance.

Motor expectance is one of the most important of the success requirements in practicing sport activities .its significance increases in the group sport games, while performing the complex movements, especially in implementing the defensive and attacking plans. Right expectance of the movement is to be considered one of the most important factors which enables the player to treat with the movement and knowing its direction and its motor way, in addition to the form of the body and the situation of the competitor , because the response is built on what the player expect of the movements and his ability to assess ,guess, the sudden change of the speed, distance , high , time or direction ; in addition to the experience , skill and confidence of the player in performing his movements . The player cannot move towards the ball in the absence of speed movement. Correct expectance cannot be done in the absence of speed performance. The good speed means good expectance.

Thus, the importance of the study is to draw the attention of those who are responsible for training, the process of planning the training, to the importance of motor expectance and recognizing its impact on performing the skill of court defense for the juniors in volleyball in a scientific attempt to link the academic study of the motor expectance domain with the specialized applied domain.

Through the work of the researcher, as academic teacher and coach of volleyball, he finds obvious weakness in the correct skillful performance of court defense skill of the players, while directly treating with the competitor and the motor situation requires

receiving or defending the ball by the player. In addition to the weakness in correct skillful performance during the sudden change in the playing situations.

The researcher assumes that this study is a scientific attempt to treat this weakness in the training programs in volleyball through setting exercises in the motor expectance and knowing their impact on accuracy of the performance of court defense skill for juniors in volleyball.

The study aims at:

- 1- Setting motor expectance exercises to develop the speed of motor response and the accuracy of the performance of court defense skill in volleyball for juniors.
- 2- Knowing the impact of motor expectance exercises in developing the speed of motor response and the accuracy of the performance of court defense skill in volleyball for juniors.

## 2. METHODOLOGY

The researcher used the experimental method of two groups design, which are the controlling and the experimental groups with pretests and posttests; for its suitability to the nature of the problem that needs to be resolved

### The community and the sample of the study:

The community of the study is represented by the volleyball juniors in Diyala Governorate , aging from (15 ) to (17) years for the sport year 2014 , and they were (130) players . While the sample of the study was (24) players , deliberately chosen from the players of the training center of the branch federation of volleyball. Four players of the sample were dismissed to the pilot experiment, then the basic sample of the study (20) players representing (15.38) of the community of the study to represent it validly and reliably.

The sample is divided randomly into two groups , controlling and experimental , (10) players for each group according to the tie . The experimental group trained on the exercises of motor expectance and the controlling group trained on the classically followed program.

**Table 1: Explains the community and sample of the study**

Total sample	Main Sample	The excluded from the sample	Sample after exclusion		The reliability and pilot experiment sample
			Experimental	Controlling	
(24)	(20)	(4)	(10)	(10)	(24)
The Total of sample and the pilot experiment			(20)		(24)

To know the nature of the spread of the sample around its arithmetic mean and the concordance among its individual , the researcher counted the convolution coefficient for the variables of ( length, weigh and age) this is also to be certain that the sample of the study spreads naturally, as shown in table (2).

**Table 2: Arithmetic means , standard deviations , standard error, convolution coefficient of the sample in the variables of the study**

Statistics		Measure's Tool	Mean	Std. Dev.	Std. Wrong	Conv. Coefficient
Physical	Tall	Cm	174.666	5.753	1.174	0.271
	Weigh	Mass	65.625	6.737	1.375	0.397
Age		Year	15.833	0.761	0.155	0.298

Table (2) shows that all the convolution coefficients are from (0.271) to (0.397) and they are included between(±1) " if they are included between (±3) this means that they are spread normally, while the increase or decrease this means that there is weakness in choosing the sample's test".

(Mohammed Hassan Alawi and Mohammed Nasreldeen Radhwan,151,2000) .

This assures that the individuals in the sample are well naturally distributed because all the results are below that number in the variables of ( length, weigh and age)

Tools, apparatus and means of collecting data :

### Tools of the study:

- 1- Standard volleyball court.

- 2- Fifteen Micasa volleyballs
- 3- leather measuring thread .
- 4- Ten plastic cones .

**Apparatus used in the study :**

- 1-Two Japanese Sunny Exilim video camera with camera stand .
- 2- Calculator .
- 3- Timer .

**Means of collecting data:**

- 1- Arabic and foreign references and resources .
- 2- Observation and experiment.
- 3- Tests and measures.
- 4- Collecting data form.

**Tests**

The multi direction motor response speed test ( Mohammed Ibrahim and Mohammed Jabir Breiq'a' , 198, 1995)  
 The court defense accuracy test. (Thaer Rasheed Hassan , 98, 2014) .

**Pilot experiments:**

The pilot experiment is done to know the most important obstacles that may face the researcher while implementing exercises and tests and that was at three o'clock pm on the 3rd of March 2014 on four randomly chosen players from the players of the training center.

**Scientific bases for the tests :**

After reviewing many resources and references ,it became clear to the researcher that the tests typically fit the Iraqi environment and have been used in many studies besides the samples of those studies were also similar to the sample of the current study. Moreover, the tests are clear , understood and it cannot be misinterpreted . the tests are far away from the subjective evaluation , accordingly , the researcher finds it is not necessary to state or search for the scientific bases for the tests , because the latter have the scientific standard conditions. ( validity , reliability and objectivity ).

**Pretests :** The pretests of the current variables have been done at three o' clock pm on Wednesday the 5th. Of March 2014 . The pretests have been done to both controlling and experimental groups, the pretests took two days, one day for each group, as shown:

- 1- The experimental group on Wednesday the 5th. Of March 2014.
- 2- The controlling group on Thursday the 6th. Of March 2014.

Sample parity : The researcher made the process of parity between the two groups of the study on the pretests variables , (T-test) has been used for the independent sample ( controlling and experimental ) .The results showed that there are no significant differences between the two groups which assures the parity between them as shown in (table 3)

**Table 3: Shows the parity between the two groups of the study in the pretests of the speed of motor response and the accuracy of court defense and the values of counted and table (T) and their statistical reference**

No.	Statistics Tests	The two groups						Counted (T)	Statistical significance reference
		Controlling			Experimental				
		No.	Mean	Std. Dev.	No.	Mean	Std. Dev.		
1	speed of motor response with multi direction	10	1.93	0.05	10	1.93	0.04	0.14	Not incorporeal
2	the accuracy of court defense		1s0	3.766		9	2.663	0.751	Not incorporeal

The value of table (T) with reference level below (0.05) and freedom level of (18) =2.10

Table (3) shows the type of significance for the variables, it is not significant because the counted (T) is less than the table (T).

Implementing the motor expectance exercises:

- 1- The aim of the exercises is to develop the speed of motor response and the accuracy of the performance of court defense skill in volleyball.
- 2- The exercises were implemented in the indoor sport games court of the directorate of the youth and sport of Diyala - Baquba.
- 3- The exercises were implemented in the period from 8\3\2014 to 16\4\2014.
- 4- Giving equal chances to participate in the exercises.
- 5- The exercises were implemented in (18) training sessions for each group by the same coach and supervised by the researcher, in (6) weeks, (3) sessions a week for each group and (120) minutes a session.
- 6- The work of the researcher is concentrated in the applied aspect principally within (65) minutes for each training session.
- 7- The experimental group used the exercises of motor expectance .See appendix (1).
- 8- The controlling group used the exercises set in the academic curriculum.

**Posttests:**

Finishing with implementing the training -teaching program on the experimental group, which started from 8\3\2014 and ended on 16\4\2014.

The posttests were implemented on the controlling and experimental groups, for two days, one day for each group and according to the following dates:

- 1- The experimental group on Thursday 17\4\2014.
- 2- The controlling group on Friday 18\4\2014.

**Statistical means:** The researcher used the SPSS to get the results of the study.

**3. RESULTS AND DISCUSSION**

**Displaying, analyzing and discussing the results of the pretests and posttests for the controlling and experimental groups in testing the variables of the current study:**

The researcher displayed, analyzed and discussed the results which resulted from the two aims and the assumptions of the study in knowing the impact of the exercises of the motor expectance on the speed of motor response and the accuracy of the performance of court defense skill in volleyball

**Table 4:shows the arithmetic means , standard deviations, accounted and table (T) and their statistical significance references for the tests of speed of motor response and the accuracy of the of court defense skill in pretests and posttests for the controlling and experimental groups**

No.	Groups	Statistics Tests	Pretests			Posttests		Counted (T)	Statistical significance reference
			Measure	Mean	Std. Dev.	Mean	Std. Dev.		
1	Controlling	speed of motor response with multi direction	Second	1.93	0.05	1.90	0.04	4.48	Incorporeal
	Experimental			1.93	0.04	1.79	0.05		
2	Controlling	the accuracy of court defense	Mark	10	3.766	15.916	5.583	7.291	Incorporeal
	Experimental			9	2.663	18.250	4.634		

The value of table (T) with reference level below (0.05) and freedom level of (9) =2.26

The results shown in table (4) indicate that there are differences in the arithmetic means, the standard deviations between the pretest and the posttests for the controlling and experimental groups in the tests of speed of motor response and the accuracy of the of court defense skill, these differences indicate the improvement in the posttests through comparing the accounted and table (T) which (2.26) in the significance level (5%) and freedom degree of (9).

The researcher accounts these statistical significant differences to the advancement and development in the players abilities in motor response and accuracy in directing the balls to the assigned place after hearing the verbal motif .The experimental group is better and more developing than the controlling group and this is what table(4) asserts.

The reason behind that , the researchers says , is the impact of followed exercises which developed the players abilities speed of motor response and accuracy in court defense through the various exercises and transmitting from the easy to the difficult gradually and within the playing variable conditions , specifying different place for the accuracy and using speech and non-speech motives .(Mazin Hadi Gzar ,2002,87-88) states that " using motives and sudden situations help the player to imagine the place of performance accuracy and in a high speed response with continuous observation and awareness in addition to the speed of making

decision that is suitable for performance , which needs early preparation through training on expecting the motor response and its accuracy . This helps the player to overcome the sudden situations and unexpected difficulties that often appear in real playing conditions"

The significant difference are also due to the recognition of the volleyball players is being developed through repetition and practice , the more the player practices the movements or skill, the more developed recognition he has over such a skill.

Understanding the similar movements and the capacity of differentiating among them is a characteristic of recognition, the researcher says.

"Al-Sayid Abdelmaqsood ,1985" states that the speed of conducting in the changing playing conditions and the speed of recognition and understanding for the performance results are to be considered as indicators of expectance 's success.

Before any activity , the individual recognizes many factors that are related to the activity and its accompanying conditions , accordingly , the motor direction and its result are being specified in advance.

This depends on the experience that the the player has and its reflected in the action of the individual and his way dealing .(Al-Sayid Abdelmaqsood,1985,11).

There is an important factor in court defense that is the good team work among the players of the block and court defense players in the back . This cooperation may result in successful work against the strikes or tricks of the competing team .

There is much burden on defense players when the competing team quick playing complexes , in the way that would not allow forming the block. The speed of recognition has its own impact on the performance of the volleyball players and on specifying the positions of the colleagues and the competitors in the court, and it affects in the speed and it also affects , in the accuracy of implementing many of the skills strategically and technically. It is also noted that the exercises that were set , which are similar to the match conditions , through repetition and practicing during the training sessions , contribute in developing The abilities in the speed of decisions making and changing in the motor responses for the skill of court defense and choosing the best and the most suitable possibilities , that fit the nature of the situation to be implemented .

Making the suitable stand position for court defense , getting ready , predicting the attacking situation of the competitors through receiving the information and the speed of transmitting to the brain and interpreting them , watching the competitors and the colleagues on the net and in the back line, and coordinating among them in the training developed the players capacities in motor expectance to defend the court and it became easy for players to move in order to perform the skill in the proper time and high accuracy .

**Displaying, analyzing and discussing the results of the posttests for the controlling and experimental groups in testing the variables of the current study:**

**Table5:Shows the arithmetic means , standard deviations, accounted and table (T) and their statistical significance for the tests of speed of motor response and the accuracy of the of court defense in posttests for the controlling and experimental groups**

No.	Tests	Statistics	The two groups					Counted (T)	Statistical significance reference	
			Controlling			Experimental				
			No.	Mean	Std. Dev	No.	Mean			Std. Dev
1	speed of motor response with multi direction	10	1.90	0.04	10	1.79	0.05	6.11	Incorporeal	
2	the accuracy of court defense		15.916	5.583		18.250	4.634	1.114	Not incorporeal	

The value of table (T) with reference level below (0.05) and freedom level of (18) =2.10

Table (5) shows that there are differences in the arithmetic means and the standard deviations in the posttests between the controlling and experimental groups in the tests of speed of motor response and there is no significant difference in the accuracy of the of court defense test .Reviewing the results shows that the priority is to the experimental group .T- test is used to verify such apparent differences reflect real differences.

The results in table (5) indicate that accounting (T) is (6.11) and is bigger than the table ( T ) and then dication level( 0.05 ) and freedom degree (18)which is (2.10) , concerning the test of accuracy of the court defense, it is shown that the accounted (T) is (1.734) the researcher accounts the differences , that are statically significant , for the achievement of the students to better marks in the posttests for the two groups, experimental and controlling , in general and for the experimental group in a special way and also to effectiveness of the various exercises and the continuous repetitions for more than one form of performance and varying the stimulus coming from forward and backward and from the two sides and using types of attack on the net to develop the players capacities on expecting the balls and their falling place , this help in quick response and make decision earlier to move and save balls at the time striking the ball from the attacking player the variables of one exercise from far and near place to the net from the colleague and also depends on the concordance between the player and his colleague which plays an important role in establishing the players capacities and develop them.

(Talha Husameldeen et al , 1997, 117)

Motor expectance is linked to the movements of the opponents and it is also linked to the match conditions, in that the response is built on what the player expect depending on what the opponent shows of motor procedures.

Motor expectance has many forms starting from the simplest form of expectance, which eliminates the introductory stage or repeating it to more complicated forms of complex motor positions. The highest levels of motor expectance, depends on the player's ability to estimate the sudden change in speed, distance, height, time and direction.

The researcher accounts for the statistically insignificant differences to the hastiness of some players of the controlling group in the performance despite the correct readiness stand taken, which is the basic base upon whose effect skillful success, of the desired movement, can be achieved. This hastiness led to weakness in timing with the ball and the attempt to reach the it to defend. Despite the ability to do the skill in a correctly, to prevent the ball from falling inside the court, whatever might be, and direct it to the setter. "The base of any success for the speed of movement is to control and concord the speed in order to help the movements".

(Wajeeh Mahjoob, 1989, 112) the relative development in the abilities of speed of motor response and the accuracy of court defense did not reach the ideal level in implementing the court defense and this is so because there is no use for the exercises and various and continuous repetitions and the variables that surrounds the skull which may contribute in developing the response accompanying the right decision-making which is in accordance with coming stimulus. The researcher says.

(Zaki Mohammed Hassan, 1998,479) states that "If the defensive player could predict or imagine the ways of playing of the competing team, he would not need to be confused in his defensive work" this use various skillful exercise and for different stimuli that help in the technical field of the type of skill to develop the mental, motor, physical and skillful capacities of the players.

Moreover, what simplifies developing the player's movement and improve his ability and his skillful capacities help is the accurate sensations and the states of speed control. This is so because sensations play an important role in the sport activity, i.e. the more the player's sensations are practically efficient is the higher level of motor efficiency the player will be; this is according to the nature of the activity practiced. (Majed Mostafa Ahmed, 1993,19) agrees with the researcher (Mohammed Hassan Alawi, 1993,165) in the necessity of considering the link between the speed of motor response and the accuracy, because wrong quick responses do not let to positive results.

(Hussien Sabhan Sikhi, 2006,16) emphasizing that giving sudden stimuli helps the players in improving their abilities in the speed of processing the information, the speed of decision-making, the quick and accurate response, implementing the skills with high accuracy and then building motor program to the trained skill in the brain that could be quickly recalled in the emergence of a specific and sudden stimuli thus the defensive player would not confuse with his defensive work and then do the proper response that fits the event or the apparent stimuli.

The researcher says that the volleyball player need many physical, motor, and mental abilities to perform the game accurately like: the speed of reaction, special power with speed, fitness, flexibility, motor response, expectance, smooth, awareness, concentration, sensation and recognition. etc.

This is so, in order to reach the best performance integration. Since the game depends on the speed of performance which is shown by its rhythms i.e. the quicker the player is the better expectance his expectance and this agrees with what (Riyad Khaleel, et al 2012,78) and (Nahida Abid Zaid, 2011,135) state; in that they say that skill of court defense is one of the very difficult skills for its accurate requirements that should be found in the players, which are motor expectance, the speed of reaction, quick motor response, sensation, recognition, awareness concentration and the power which is characterized by fitness, flexibility, self-confidence, courage, and boldness in diving to the far balls using different types of defense.

While performing the defensive skill The researcher says that the defensive player should be concentrating on the ball's direction, the movement of the attacking players, the type of the attack used, the movement of the colleague players on the net in the block and the place of the setter of the team through controlling the movements accurately which enable the quick and accurate motor response of the court defense skills.

(Aqeel Alkatib, and Amir Jabbar Al-Saadi, 2002, 140) states that "The defensive player should monitor the competitor's attack very well and to what direction he will strike the ball in addition to take the stand that fits the team plan that is agreed on"

#### 4. CONCLUSIONS

- 1- The exercises of motor expectance have great impact on the speed of motor response and of the court defense in volleyball for junior players of the experimental group.
- 2- The exercises of motor expectance have great impact on the acceptance and rush of the players in the training sessions.
- 3- The priority of the experimental group in developing the accuracy of the currently searched skills in volleyball over the controlling group.
- 4- The accuracy of court defense of the controlling group is under the desired level because of not varying the exercises.

- 5- Following the correct styles in teaching and training the skill of court defense has its great impact in developing the mentioned skill.
- 6- Developing the speed of motor response leads developing the skill of court defense.

## 5. RECOMMENDATIONS

- 1- The necessity of adopting the exercises of motor expectance that are set by the researcher to develop the speed of motor response and of the court defense in volleyball for junior players and the necessity of spreading them among the working coaches to make use of the results of the current study.
- 2- Motivating the coaches to pay attention to the exercises of motor expectance because they have positive impact in developing speed of motor response and the accuracy of the court defense.
- 3- Developing the mental activities of the players and using the verbal and non-verbal stimuli especially in the motor expectance and the motor response.
- 4- The necessity of making periodical and regular tests by the coaches to their the physical, motor and skillful abilities and their teaching and training curricula.
- 5- Making similar studies on other age stages , skills and other team sport games.

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