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EFFECT OF THE ABUSE OF STEROIDAL ANDROGENIC HORMONES AND THEIR RELATIVE CONTRIBUTION TO THE LEVEL OF HORMONES (TESTOSTERONE, FSH, LH) AND THE PROPORTION OF INFERTILITY IN BODYBUILDERS

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ABSTRACT

The research aims to identify the impact of using stimulants on some biochemical variables which are (Testosterone, FSH, LH) and the proportion of infertility in bodybuilding athlete in the city of al- Diwaniyah. And also to identify the level of concentration of hormones (Testosterone, FSH, LH) of the bodybuilding athlete in the city of Diwaniyah. While the research methodology, the two researchers used the descriptive method and by the survey manner to appropriate the nature of the research. While the research sample was bodybuilding players in the province of al- Diwaniyah totaling (15) players and have been selected in the intentional manner and through statistical methods the researchers have reached to the most important conclusions which is; A decrease in the level of concentration of both hormones (LH, FSH) in a research sample, there is increase in the level of the concentration of the hormone (testosterone) for a research sample. Appearance of infertility ratio and that was a few for the research sample. As the most important recommendations was the need of athletes to keep away from the use of steroids and stimulants, especially the structural stimulants because of their significant adverse effects on athletes. Tests for the decomposition of blood of athletes who participate in tournaments periodically during training and competition. Emphasis on the results that have been reached that there are a large number of athletes using steroids and working to reduce and to fight this phenomenon through awareness.

Keywords: impact, hormones, steroid, infertility, bodybuilding.

THE INTRODUCTION

The boom of quality that happen in the field of scientific research took a footstep in the progress and prosperity, which has become a requirements of the present era, and this is what we observe today in the technological development in industry, agriculture, medicine and other sciences which surpassed the human perception, including in the field of sports sciences, which has become one of the things that has received a very large attention by the countries of the world. One of these sports is a sport of bodybuilding, and this sport needs a high level of muscle mass which coordinated according to the nature of the muscles in the body of the athlete by the players during a performance in athletic competition and as commonly known ; the nature of competition in the sport of bodybuilding requires a significant level of muscle mass and this consequently led to the orientation of many athletes in general and Iraqis in particular to the use of different types of steroids, including male hormone (Testosterone) and steroidal androgenic hormones (Androgenic Anabolic Steroids) which causes different effects on the glands and to find out the nature of these changes, we must recognize that the

resulting changes depends on multiple factors, including the construction of steroid or group of steroids which given and the way of taking it and the amount of the dose used and the duration of use.

Eating large amounts of structural hormones steroidal androgenic for a long time without a medical reason will lead first to a lack of hormones (FSH and LH) and their concentration in the blood, as well as increasing the concentration of male hormone (Testosterone) due to depending of body on this hormone from an external source, and thereby stop the work of the testicles for the production of the male hormone (Testosterone), and as a result enlargement will occur in the mammary gland, and that taking these hormones will lead also to a lack of a secondary secretion from the testes steroidal androgenic of the internal source. The return of theses hormone (LH and FSH) to the natural concentration in the serum takes a period of 6 to 12 weeks after stopping the abuse of hormones; so after taking construction hormones of an external source for a long time will lead to testicular atrophy.

The effect of these hormones on the physical fitness when used by male athletes can be known through what has been demonstrated in multiple studies, these hormones have no benefit in the sports field, but may cause physical damage as a result of misuse of stimulus in the sport

Therefore, the identification of the changes that occur as a result of stimulants use on certain hormones of fertilization and the proportion of infertility give us an accurate perception about the nature of the improper use of steroids and the negative impact on athletes, including bodybuilders, from here came the importance of the research for this the researcher felt to discuss this subject.

THE RESEARCH PROBLEM:

The use of steroids has become a scourge hits the world as a result of misuse and non- sporting competition and this is in general in various sports and in bodybuilding sport in particular because of adoption of athletes to use different types of steroids, including male hormone (Testosterone) and steroid androgenic hormones (Androgenic Anabolic Steroids) which causes various effects on the glands and as a result of frequent use may result in the future in atrophy of the testicles due to adoption of the body on the hormones from external sources, and thus may lead to infertility and so we can summarize the problem with the following question: (Is that a doping hormonal such as (Testosterone) and steroid androgenic hormones (Androgenic Anabolic Steroids) among bodybuilding athletes in the city of Diwaniya, who participate in tournaments of country has effect on the level of hormones (Testosterone, FSH, LH) and the proportion of infertility.

RESEARCH OBJECTIVES:

1- Identify the impact of the abuse of construction steroidal androgenic hormones and their relative contribution to the level of hormones (Testosterone, FSH, LH) and the proportion of infertility in bodybuilding athletes in the city of Diwaniyah.

2-identify the level of concentration of hormones (Testosterone, FSH, LH) for bodybuilding athletes in the city of Diwaniyah.

3-to identify the proportion of infertility in bodybuilding athletes in the city of Diwaniyah.

RESEARCH HYPOTHESES:

1-the use of the construction hormones (steroidal androgenic) a significant impact on the level of hormones (Testosterone, FSH, LH) and the proportion of infertility in bodybuilding athletes in the city of Diwaniyah.

2- There is a discrepancy in the level of concentration of hormones (Testosterone, FSH, LH) for bodybuilding athletes in the city of Diwaniyah.

3- There is a discrepancy in the proportion of infertility in bodybuilding athletes in the city of Diwaniyah.

1-THE CONSTRUCTIVE STEROIDAL HORMONAL (OSAMA 2005: 149) ANABOLIC STEROIDS:

These include stimulants , drugs , and biochemical compounds which are related and similar in composition to the male hormone ((testicular hormone which is called testosterone)) which enters also among the banned drugs, due to the harmful use in the sports field, and its effect in increasing the efficiency of public metabolism in the body in addition to sexual functions .

The use of testosterone as stimulant in the athletes with the age of twenty causes stopping the bony endings in the extremities, also the use of it lead to psychological changes of a person, and negative effects in the functions of the liver and the work of the heart and circulatory system .

Also the use of this hormone as a stimulant between males lead to the occurrence of testicular atrophy and lack of their size and secretions.

2- LH HORMONE: called stimulating hormone of corpus luteum, which is secreted by of the anterior lobe of the pituitary gland and this hormone complements the maturation of the egg and then an follicle explosion and egress of the egg. It also stimulates the growth of the corpus luteum to prevent the secretion of other eggs in women, while in the male, it effects on the interface tissue in the testis and stimulates secretion of the testosterone hormone which is responsible for secondary sexual characteristics of males (Ayesh, 2002: 198). This hormone is responsible for secretion of estrogen and progesterone and testosterone .The target organs are the ovary and testis (Bahaa 200: 150). The natural rate of men (from 0.6- 12.0 m.moll) as illustrated in the analysis of this hormone.

3- FSH HORMONE: called follicle stimulating hormone, which is secreted by the anterior lobe of the pituitary gland and activates the follicle of female ovary. It also works to stimulate the process of spermatogenesis in male (Ayesh, 2000: 198).

Also the functions of this hormone is the growth and production of sperms in the testis in males and the growth of the egg in the female , the target organs are the ovary and testis (Baha 2000: 150). The natural rate of men (from 1.0 -8.0 m.moll) as illustrated in the analysis of this hormone.

4-TESTOSTERONE HORMONE: is responsible for secondary sexual characteristics of male as harshness of sound and bone strength and muscles and hair growth on the face and chin, as well as the growth of the penis and scrotum, prostate, seminal vesicles, and epididymis and so it is possible to prepare testicular hormones industrially and used in the treatment of certain disease conditions, especially relating to vitality and sexual activity (Ayesh, 2000: 198).

This hormone also responsible for the improvement of male sexual functions and growth of the male signs of masculinity among young (hair - sound - male genitalia) the target organs are the male reproductive organs (Baha 2000: 150). The natural rate in men (from 5.6 -28.4m.moll) as illustrated in the analysis of this hormone.

RESEARCH METHODOLOGY:

The choice of research methodology that is appropriate with the research problem and how to solve the problem, so the researchers relied on the descriptive method and survey manner, with their scientific exact steps with nature of the research problem and goals.

THE RESEARCH COMMUNITY AND SAMPLE:

Has been identified the research community which is bodybuilders in the city of Diwaniya, the participants in the Iraqi championship men - applicants for the sports season (2013-2014), totaling (100) player under the supervision of the Central Union of the game and then the sample was selected by the intentional way totaling (15) players representing teams of Diwaniyah province and they are (15%) from the research community, the researchers have been taken into consideration their choice of this sample is the use of sample members construction hormones (steroidal androgenic hormones) during training and readiness for tournaments by placing a secret form which is special for each player with the cooperation of trainers through personal relationship with them, knowing that the players' names be kept very secret due to sensitivity of this subject through the discussion of the topic with each player and explain the reasons for that so that the sample members were collaborators dramatically.

THE MAIN EXPERIMENT OF THE RESEARCH:

The researchers conducting the main experiment l through pulling samples of venous blood from the research sample in the resting state through coordination with the players and coaches in sports halls for fitness and bodybuilding – men - applicants for the sports season (2013-2014), totaling 15 players was withdrawn the amount of 3 mL of crude blood from each player and put it in special tubes and put it in a cooler box and then transported it to the healing laboratory in Diwaniya to separate serum and then the lab save and transfer the serum, and through it will be analysis of hormones to the laboratory of Dr. Monther Mustafa - the city of Baghdad –alnaser Square due to the presence of the modern devices of hormones analysis that give very accurate results and for the sensitivity of the subject of research in addition to the presence of a dedicated staff in this area.

SHOWING RESULTS, ANALYSIS AND DISCUSSION:

Display, analyze and discuss the results of hormones (Testosterone, FSH, LH) and the proportion of infertility in bodybuilders in the city of Diwaniyah.

Table (1) shows arithmetic means and standard deviations of the hormones (Testosterone, FSH, LH) and the proportion of infertility in bodybuilders in the city of Diwaniyah.

rank	variables		Unit of measure-ment	Arithmetic mean	Standard de-viation
1	The hormones	LH hormone	ml.mol	0.8333	0.390
2		FSH hormone	ml.mol	2.0667	0.930
3		Testosterone hor-mone	ml.mol	21.133	8.620
4	Infertility rate		%	1.333	0.487

Table (1) shows that the arithmetic mean of the hormone LH is (0.8333) and the standard deviation is (0.390), while the arithmetic mean of the hormone FSH is (2.0667) and the standard deviation (0.930), while the arithmetic mean of the testosterone hormone is (21.133) and the standard deviation (8.620) , for the proportion of infertility ; the arithmetic mean is (1.333) and a standard deviation is 0.390

Through what has been displayed of arithmetic means and standard deviations for the research variables show that there is a decrease in the level of concentration of both hormones (LH, FSH), although it is within the normal ratios with knowing that in some members of the sample was the descent of the two hormones below the level of the normal percentage.

While the ratio of the concentration of the testosterone hormone is high, although it is within the normal ratios with known that in some members of the sample the rations of these hormones were higher than the level of the normal proportions.

As for infertility and although was low, but it is impressive ratios significantly depending on the opinion of the special doctors who have been offered for them the results of the hormones of the research sample.

Through the previous which mentioned and what has been exposed in the table (1) , the researchers attribute the decline in the level of concentration of both hormones (LH, FSH) to that ;the sample members had used steroidal hormonal during training and thus led to the occurrence of this decline.

The scientific sources confirms that the intake large amounts of construction hormones (steroidal androgenic) for a long time without a medical reason will lead first to a lack of hormones (FSH and LH) and their level in the blood, as well as increase the concentration of estradiol (Oestradiol), and as a result will lead to lack of secretion of the testicles of the steroidal androgenic hormones of the internal source and the return of hormone (LH and FSH) to the normal level in the serum takes a period of 6 to 12 weeks after stopping the abuse of hormones; so after taking construction hormones of an external source for a long time will lead to testicular atrophy (397 - 405: Bahrke 2000).

While the researchers attribute the reason for the rise in the level of concentration of the testosterone hormone to that ; be members of the sample had used steroidal hormonal during the training process and thus led to the occurrence of this rise , the scientific sources confirm that taking large amounts of construction hormones (steroidal androgenic) for a long time without a medical reason will lead to an increase in the concentration of the testosterone hormone leading to stop the work of the testes and dependence on the external source of testosterone and thereby note that the misuse of construction hormones will lead to changes, some of which falls to the normal state after stopping taking it and some remains and so may cause some damages which may be sustained permanently especially after prolonged use of these hormones, the most important of these damages is decrease the number of sperm and sometimes losing them , as well as the lack of formation and secretion of testosterone from the testicles (International Olympic Charter Against Doping, 1998 IOC).

As for the appearance rates of infertility although they are few, but it may be influential in the future and the researchers attribute emergence of these ratios to that ; the members of the research sample take construction hormones during the training period and this commonly used inside the country as the players take so hormones during the training period and before the competition period stop them all dealt in accordance with the special tabulations prepared for that as the players after the end of each tournament (knowing that tournaments during the year is a few may reach to one tournament during the year) they are using drugs to remove the influence of these hormones with taking drugs stimulating the testes as a result of atrophy or for fear of aggravating the situation and this was obtained through private interviews with coaches and athletes and due to the sensitivity of the subject the researcher felt to not mention names.

The scientific sources confirm that have adopted this subject to the consequences of taking constriction hormones which leads to the occurrence of infertility, as it leads to atrophy of the testicles and the lack of production of sperm and infertility. In some cases "testicular atrophy" is a term used to express about the small size of the testicles, which is not only an aesthetic problem, Because of the introduction of testosterone to the body from an external source, the testicles stop for receiving the signal to produce their share. Also the brain be informed to decrease the production of sperms and the body derives sperms from an external source, this is usually by a needle under the skin. Hence, the brain sends a signal to the testicles to take rest. This new function may cause the infutility (267 - 268: Marie 1997).

PRESENTATION AND DISCUSSION OF THE RESULTS OF THE RELATIVE CONTRIBUTION OF THE LEVEL OF HORMONES IN TERMS OF THE PROPORTION OF INFERTILITY IN BODYBUILDERS IN THE CITY OF DIWANIYAH.

Table (2) shows the results of the relative contribution of the level of hormones in terms of the proportion of infertility among bodybuilders in the city of Diwaniya.

The method used	The variables	The correlation coefficient	Degree of freedom	The relative contribution
gradual regression	LH hormone	0.934	1-13	89.87%
	FSH hormone	0.985	2-12	8.52%
	Testosterone hormone	1.000	3-11	1.71%

From the table (2) and during studying the most important hormonal variables (in a manner gradient regression), LH hormone was the most important variable, as the value of simple correlation coefficient (0.934) and the percentage of contribution (89.87%) among the hormonal research variables in terms of the proportion of infertility among bodybuilders in the city of Diwaniya.

The FSH hormone, respectively the second most important variable as the value of multiple correlation coefficient (0.985) and the percentage of contribution (8.52%) among the variables of research while testosterone hormone was in the third one as the most important variable, as the value of multiple correlation coefficient (1.000) and the percentage of contribution (1.71%) among the research variables.

Through the results that have been obtained through correlation relation and multiple regression equation ,the researchers attribute to the emergence of LH hormone variable as the most important variable of the hormonal research variables in terms of the proportion of infertility among bodybuilders in the city of Diwaniya, the reason that taking construction hormone greatly effects on the LH hormone as continuity of taking this hormone lead to a decrease in the percentage level of this hormone in the blood and thus influence on the work of the sperms which may lead to the occurrence of infertility as taking these hormones and through the banned way and with training will lead to the following:

1-Overweight and lack of grease or fat in the body.

2- LH hormone deficiency and this decrease increases with increasing duration of taking these hormones.

3- Decrease in the number of sperms and testicular size and deficiency of testosterone.

While the emergence of FSH hormone variable in the second rank , the reason may be due to that in addition to the changes and decline, which occurs in the LH hormone accompanied by a reduction in the FSH hormone , taking large amounts of construction hormones (steroidal androgenic) for a long time without a medical reason will lead first to a lack of hormones (FSH and LH) and their level in the blood and then will lead to a lack of testicular secretion of the steroidal androgenic hormones of the internal source. The return of the hormones (LH and FSH) to the normal level in the serum takes a period of 6 to 12 weeks after stopping the abuse of hormones; so after taking these hormones of an external source for a long time will lead to testicular atrophy (397 -405: Bahrke 2000).

While the emergence of testosterone hormone in the third order as the most important variable, the reason may be due to the intake of construction steroidal hormones will lead to a greater concentration of the hormone during the period of its use in the training, which lead to take this hormone from an external source which causes atrophy of the testicles and possibly stopping their function for sperm production and thus cause infertility (267-268: Marie1997).

The hormones can be arranged according to their contribution in terms of the relative proportion of infertility among bodybuilders in the city of Diwaniyah. As shown in the table (3) and (Figure 2) and as follows:

Table (3) shows the arrangement of hormones according to their contribution in terms of the relative proportion of infertility among bodybuilders in the city of Diwaniya

The hormones	The correlation relation	The relative contribution	The rank
LH hormone	0.934	89.87%	first
FSH hormone	0.985	8.52%	second
Testosterone hormone	1.000	1.71%	third

CONCLUSIONS:

Based on the results that have been reached within the research sample could be reached to the following conclusions:

1- Decrease in the concentration level of the hormones (LH, FSH) in a research sample.

2- Increase in the level of concentration of the hormone (testosterone) for a research sample.

3- Appearance of sterility ratio which is few for a research sample.

4- The rise in the level of concentration of the hormone (testosterone) in the blood evidence of using the constriction hormones.

5- The decline in the level of concentration of both hormones (LH, FSH) in the blood is an evidence of using the constriction hormones.

THE RECOMMENDATIONS:

Based on the conclusions that have been reached within the research sample, the researcher recommends the following:

1-must be emphasized on athletes to keep away from the use of steroids and stimulants, especially the constriction stimulants because of their significant adverse effects on athletes.

2-tests for the decomposition of the blood of athletes who participate in tournaments periodically during training and competition.

3-emphasis on the results that have been reached that there are a large number of athletes using steroids and work to reduce this phenomenon through awareness.

4-doing similar studies on the individual activities and collective activities, and on different age groups.

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ESTIMATE THE VALUE OF REDUCING STRENGH ACCORDING TO THE IMPACT FORCE IN SHOOTING IN BASKETBALL WITH DIFFERENT AREAS IN BASKETBALL

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ABSTRACT

The basketball is one of the most familiar and wide popularity game which require the skills of a lot of movements like running, jumping, throwing, change of pace and feint, and in general the morphology of the skill shooting from rotation indicate the presence of power and reducing the impact effect in maximum knee flexion in order to preparing to jump shoot from rotation.

Pivot is more essential players used for shooting because of the positions effective occupied inside the Zone, every player seeking to deliver ball to them in order to make points, and so we see that he is subjected to great pressure requires him great performance with minimal effort and time.

The stage maximum knee flexion (reducing strength after impact force) is a section preparatory for the next phase which is to jump and shoot, in this phase we note Newton's second law (F=m.a) that the force is inversely proportional to the time. This research tries to reach to the amounts of forces exerted at the stage of absorption (maximum flexion possible) according to the amounts of the forces of the impact when the performance jumping to shoot the ball after rotation.

The (27) successful samples attempt to jumping to shoot the ball after rotation was collected from (9) Pivot players of Premier League clubs Iraqi basketball, from the two regions by (13) attempt from the left of the basket, and (14) attempt from the right of the basket outside from Zone.

The data provided from curve force - time through samples test on the platform to measure the force, the correlation between maximum force in impact phase and minim force in reducing effect impact force phase was (r=0.955) tested with (f: p<=0.01) test, this signify value make us to building a simple regression model to estimate the strength of absorption through the power of the impact and this equation is (reducing force= 0.98. impact - 64.057) newton.

The good reducing of impact effect capacity of player to change the direction of the force acting on the movement against the direction, when he tries to move his body from the movement severe to static phase or to the movement of less severity, and load the body joints responsible for absorption and appear in the form of bending restricted status anatomical muscles working on the joint. The absorption process means a decrease in the amount of acceleration.

KEYWORDS: BASKETBALL, IMPACT, FORCE, MODEL, JUMPING.

1. INTRODUCTION

The pivot players are more players using corrections of various kinds because of the effective positions they occupy inside the stadium (the zone) because most of the team players are seeking to deliver balls to them in order to make points, and so we see that the player is exposed to great stress required from him to performance with minimal effort and time empowered, the skills in the game of basketball, "requiring hard physically weight as well

as the group of sprinting movements, jumping, throwing, which is the form of the game of basketball (James G.Hay, 1995) and in general, the morphology of the skill of the shooting of the rotation indicates the presence of strength and absorption of this force (bending the knee) and preparing to jump (to push the ground) and throwing the ball. The good absorption of collision means susceptibility of the athlete to change the direction of the acting force on his movement against the trend, when trying to move his body from the severe movement to the calmness or to the movement of less intensity, the stage of absorption strength (bending the knee) is preparatory section of the correction phase which is the jumping that strong preparations will in the preparatory phase and during Newton's second law (force = mass × acceleration) note that the force is inversely proportional to the time of bending, this research tries to reach to the magnitudes of the exerted forces at the stage of absorption (maximum possible flexion) according to the amounts of the forces of the collision during the performance of the correction from the rotation, that our knowledge of these ingredients will help us to estimate the power required to push the land and to find out the exerted effort to legalize it and training on it.

The basketball shooting is divided into two types, the first from the stability and the second from the movement, the most important type of shooting of the movement is shooting by jumping and could be done from the rotation before jumping, and "This is the kind of shooting considered as a successful potent force against the defense because it is done after the striker player receipt the ball and taking the appropriate condition when the body is facing the basket "(Huda Hamid al-Attar 2002).

The process of jumping in the skill of the correction is difficult because of motor transportation through the participation of more joints of the body, which starts from ankles joints through and hip and torso, shoulders, arms, and is compatible with the qualifications of the player's technique (physical and skilled) , the skill requires a proper timing between jumping up and correction. "The high altitude, which can the player reach depends on raising the center of gravity of the body mass of the player through the vertical velocity of the body in the air" (Khaled Najm 1997).

The mechanical which is made out of this movement is how to invest the player all corners and joints of the body to get movement with technical conditions at the beginning of the movement after he receives the ball and behind him is the basket to start the process of deception and rotation and then begins the process of bending the knees and hip to start the preparatory phase of bending the knees which is a very important process to get enough power for the purpose of jumping up so after the body gained amount of movement and proper acceleration from rotation and thus the performance of this skill dose not start from zero.

The right mechanical performance enable the player to invest the use of corners of the joints of the body in order to obtain the appropriate movement and in accordance with the technical and mechanical qualifications, that the preparatory situation is to give the body the amount of movement and thus to increase range of motion and assembly of power, which is one of the important factors in starting the body in the air.

"The mechanical purpose of correction skill from jumping of basketball is entrance the ball to the basket with a high level of precision by investment the mechanical principles which has an effect on the effectiveness of the performance and this principle is based on fitness and the ability to control the skill for the purpose of generating the motor movement coupled with accuracy the best economic style " (Finch, Alfred, 2001).

And the degree of control varies according to the desired goal where precision is required for correction in basketball is high and requires a high degree of compatibility (Hussein Mardan, Iyad Abdel-Rahman, 2011) and that the basis of the beginning strength considered one of the important foundations of the bio-mechanics.

Any exaggeration in knees bending in the preparatory phase of the performance will impact on the process of the required motor transport which starts from the foot, because the increased time of bending means loss of the power gained.

The information available for the mechanical compatibility between the two phases of the collision (setting foot on the ground) and absorption (maximum flexion) of the important things that should not be overlooked in the exercises and specially jumping training, and that the biomechanical laws that control the interdependence between the two phases outlines the training on them and thus the development of the power of the tide or pushing the land, and the seek time (the time of absorption strength) is inversely proportional with the strength needed to jump according to the law (force = the amount of movement \ time). From here the problem of the research appeared as by finding a correlation between the two phases the mechanism of training appear on them and to develop jumping strength for shooting. The aim of the research is to know the relationship between the force of collision and the force of absorption and then estimate the power of absorption according to the force of the collision.

2. PROCEDURES

The research sample consisted of (9) players of the pivot players from the Iraqi League clubs of basketball and underwent (27) successful attempt of correction for analysis and were collected from two areas by (13) attempt from the left of the basket, and (14) attempt from the right of the basket.

The platform device of measuring ground reaction force (Force Platform) has been used, and two video camera with frequency of up to (fps 100).

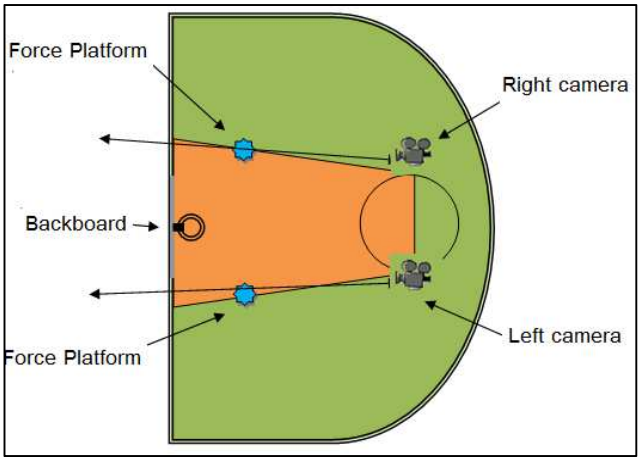

Figure 1, illustrates the locations of cameras and platform of measuring the force (site of the field experience)

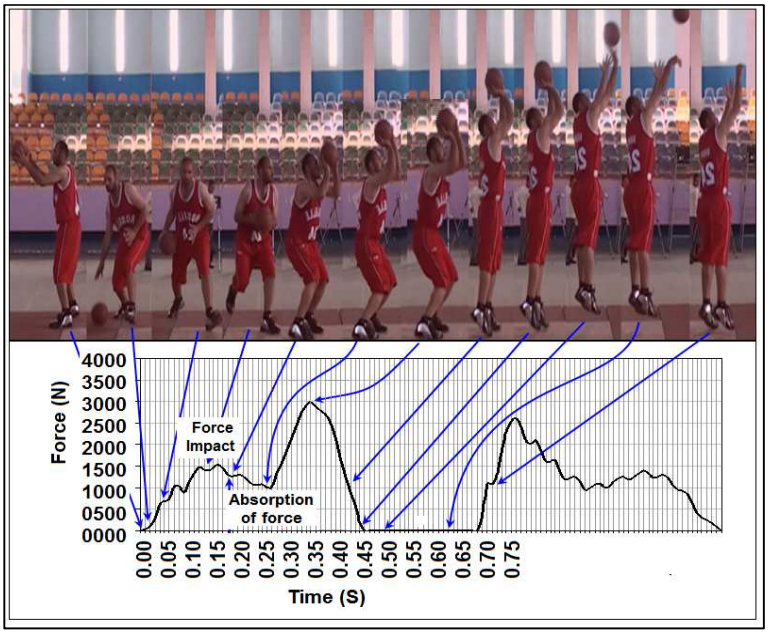

Figure (2) demonstrates the skill and the variables of strength measuring platform (the seek moment is the collision phase and less powerful is the stage of absorption)

3. DISPLAYING THE RESULTS

Table (1) shows less and the biggest force in the two phases of the collision and absorption with the arithmetic mean and standard deviation and sprains.

The variables	The number	Less value	Biggest value	The arithmetic mean	The standard deviation	The sprain
The collision	27	557,032	1536,640	1088,453	237,350	0,092-
The absorption	27	499,408	1498,220	1002,372	243,491	0,015

Can be seen from table (1) that less force observed in the stage of absorption and was the biggest force has been observed in the stage of the collision, and that the difference between the two phases in the amounts of the few the large power was convergent and in favor of the stage of the collision with rate (57.624) Newton at the lowest value and the difference of (38, 42) Newton at the largest.

Table (2) shows the correlation and the percentage of contribution and significance ratio

The variable	The correlation	Coefficient of determination	Percentage of contribution	The calculated value	The degrees of freedom		Level of significance
The collision	0.955	0.912	0.909	259.518	1	25	0.000

Can be seen from table (2) that the level of significance smaller than (0,001), which means that the force of the relationship between the two variables is function and not subjected to chance and it is a great value and a centrifugal so whenever the values of the force is growing at the stage of the collision, power of absorption was the growing, which means that there is a high biomechanical compatibility in exchanging the muscular work in between the two phases and the performance is harmonic and consistent with the motor performance of the preparatory department with regard to the influential force in the movement in order to reach the main section with integrated skilled performance.

Table (3) shows the parameters of the linear regression between the amounts of force in the two phases of the collision and absorption.

The collision model	The linear regression	The calculated value	Levels of significance
The constant	64,057-	0,946-	0,353
The collision	0,980	16,110	0,000

Shown in table (3) that the model that can be putted to estimate the force of the absorption has high significant and as notes that in figure (3) as the level of significance for the regression parameter of the collision force variable was less than (0,001) which means that it can estimate the force of the absorption through the collision by equation with high credibility (absorption = 0, 98 × collision - 64.057) and this achieves this hypothesis.

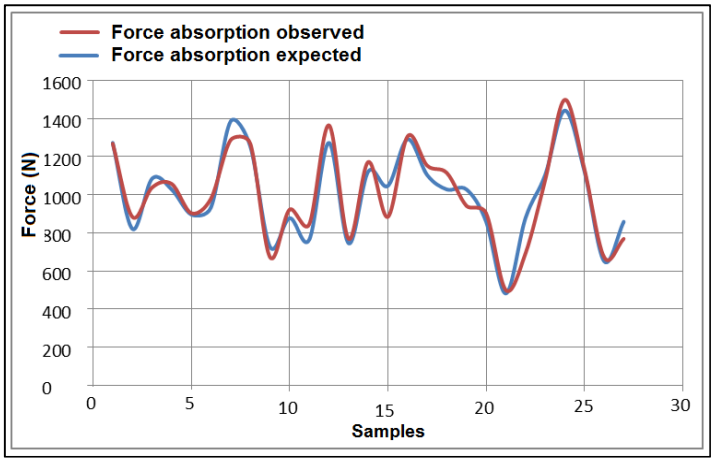

Figure (3) shows the values of the expected force for absorption through the real values which are available as tracers of the collision.

4. DISCUSSION THE RESULTS

The basketball players at the preparatory section of the shooting skill from the jumping after rotation baptized to bend the knee to reduce the ring acceleration and converting speed with suitable angle for the vertical direction, and the joints of the body bear the responsibility of absorption and appear in the form of restricted bending in the anatomical status of the working muscles on the joint. The absorption process means decreasing in the amount of acceleration, and after receiving the player the land, he bends his ankles to absorb the impact of the force on the ankle joints and then reducing the transfer of this impact on the knees joints by bending the knees forward out of the line of the force impact and finally weakening the anti or adverse force and possibly terminated it at the hip joints, and in this performance , the small joints start to change the direction of the force, and we mean by the term (changing the direction of the force) that after player collides with the land, the impact of his collision will move vertically on the ankle joint so if the knee joint within the natural anatomical situation ,all the coming influence from the ankle joint will arrive to the knee joint , as the process of twisting and turning that happened at the beginning and thus bending the knees will lead to the production of a large force in the main stage of the movement which will help to gather the force and increasing as well as the amount of the speed and thus starting the body in the air properly, as well as that the preparatory phase has importance in stimulating the muscles which will contribute directly to the pushing process and thus jumping to top (Mohammed Qasim, 2010).

But during bending the ankle joint, the vertical direction of the force impact decays into two things so the effect of the acting force decreases on the knee joint, hence the importance of good absorption of the collision, as this performance eases the burden on the joints and muscles and avoids injury and generates well balance on all subsequent sections of the movement.

5. CONCLUSIONS

1. Difference the values of force between the two phases of the collision and absorption. During the shooting from rotation and jumping in basketball does not exceed in less value than (40) In Newton and in highest value than (60) Newton.
2. There is a direct correlation between the values of the force in the two phases of the collision and absorption during shooting from rotation and jumping in the basketball.
3. 3 can strongly predict with the absorption force through the values of the force at the stages of the collision during shooting from rotation and jumping in the basketball.
4. 4 whenever the force of collision was large, the biggest is the force of the absorption.

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INSTRUCTIONAL SUPERVISION AND PERFORMANCE LAG ADDRESS PROGRAM (PLAP): A COMPARATIVE STUDY OF FORMER GROUP A (SI) AND FORMER GROUP B (S2) SECONDARY SCHOOLS IN MUTARE URBAN. ZIMBABWE

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ABSTRACT

The study sought to determine instructional supervision of Performance Lag Address Program (PLAP) at secondary school level. Two schools participated in the study (one from former group A (S1) and the other from former group B (S2) schools). A total of 100 volunteer teachers (fifty from each school type) participated. A questionnaire with closed and open questions was used. Data was analyzed using a chi-square for independence while open ended questions showing similar themes were grouped together. The results show significant differences by school type on vision, curriculum modifications, staff development classroom supervision by HODs and head-teachers. Teacher comments indicate that head-teachers do not supervise classes and there is little staff development. No differences were found in collaborative work and resources but teacher comments indicated that there are no teacher teams in same subject areas or different subjects. Recommendations on PLAP are suggested.

KEYWORDS: COLLABORATION, TEACHER, PERFORMANCE LAG PROGRAM, CURRICULUM MODIFICATION

BACKGROUND

The purpose of the study is to determine instructional supervision of performance Lag Address Program (PLAP) at secondary school level. Teachers' perceptions on PLAP at former group A (S1) and former group B (S2) will be compared. Former group A (S1) secondary schools are located in former European affluent suburbs and were attended by whites, Indians and colored students only and schools were superior in terms of resources and trained staff. Former group B (S2) secondary schools were located in urban African residential areas (similar to inner-city areas in USA) and were inferior in terms of resources and trained teachers (Nkoma and Mapfumo, 2013)

The Ministry of Primary and Secondary Education in Zimbabwe launched the Performance Lag address Program (PLAP) in October 2012 in Manicaland Province after realizing the under-achievement of students at both primary and secondary schools which was caused by the socio-economic meltdown from 2006 to 2008. (Nkoma et al., 2012; Herald, 10Aug 2013). The crisis had considerable impact on several aspects of the education system particularly related to financing, the teacher force, participation, equity and learning outcomes (MOESAC, 2013). Performance Lag Address Program (PLAP) is a result of deep-stick evaluation which entails assessing the teacher-learning process, teacher-pupil records, resources provision, and monitoring and evaluation programs. In order to close the achievement gaps a manual for primary and secondary school teachers was written to specifically address the problems of underachievement (Muzawazi and Nkoma, 2011 cited by Nkoma, 2014). The PLAP program aims to improve the achievement of primary and secondary students by re-visiting the syllabus and targeting concepts that have proven persistently difficult for pupils to catch up on with the overall aim of teaching from the last point of success. This implies curriculum modification which Comfort (1990) defines as "the adapting or interpreting of a school's formal curriculum by teachers into learning objectives and units of learning activities judged most reasonable for an individual learner or particular group of learners" (p. 397). When school curriculum is

viewed as a framework for guiding teachers it entails modified contents, instructions, and/or learning outcomes for diverse student needs (King-Sears, 2001). Hence, the goal of modifying the curriculum is to make individuals compensate for intellectual challenges by creating learning environments which allow an individual to utilize existing skill repertoires while promoting the acquisition of new skills and knowledge (Switlick, 1997 p.236).

The Performance Lag Address Program emphasizes frequent and flexible within class ability grouping. Students who change groups are exposed to different peer contexts, instructional content and pedagogy. The researcher has been an educational psychologist in the Ministry of Education and has observed that this in-class ability grouping is mostly found at primary school level while the organization at secondary schools is mostly based on friendship pairs.

The causes of underachievement in schools are complex and may be difficult to determine (Nkoma, 2014). For example studies in Zimbabwe have shown that the quality of instruction is affected by high teacher-pupil ratio, inadequate remuneration, inadequate supervision and poor incentives (Chivedza et al, 2012; Chakanyuka et al, 2009; Makopa, 2011; Nkoma et al, 2013). Incentives were introduced in 2009 to motivate teachers due to poor remuneration but only tended to cater for urban schools only and resulted in clashes between head-teachers and teachers for non-payment were scrapped in August, 2014 (Chronicle, 30 August 2014). The present study will focus on secondary schools as most studies on Performance Lag Address Program focused on primary schools (for example, Nkoma, 2013; 2014). Organizational differences between secondary and primary schools (for example subject specialization and indirect supervision) make it necessary to know how PLAP is being implemented at secondary level. Instructional leadership should be viewed as an important component of PLAP as its functions are directly related to supporting classroom teaching and learning (Murphy, 1988) while its indirect workings have a statistical significance effect on student achievement (Louis et al., 2010). For PLAP to be effective the school vision needs to have high expectations for all (teachers and students) which raises the overall achievement of all students (Porter et al 2008). Thus instructional leaders need to value a blend of supervision, staff development and curriculum development (Southworth, 2002) while implementing PLAP.

For example, if some form 2 students are found to be achieving at sixth grade level in English language…does his/her English teacher collaborate with a history or Divinity teacher? The departmentalization at secondary schools warrants a study on instructional supervision. The definition opted in this article is by Murphy (1988) who views instructional leadership as a class of leadership functions directly related to supporting classroom teaching and student learning. This definition is necessary for PLAP as it views head-teachers as responsible for developing a community of professional learners in which teachers work collaboratively and in establishing expectations for quality student work and quality teaching. Mctlife (2003) indicates that head-teachers are responsible for motivating teachers and students, ensuring a safe and secure environment, communicating to parents and other administrative responsibilities. Deputy head-teachers and heads of departments are the instructional leaders for their departments because they attend to the details of curriculum delivery in their subjects (Siskin, 1994) while head-teachers focus on broad types of leadership which entails creating the conditions for optimal teaching and learning by ensuring that school policies, routines, resourcing and other management decisions support and require high-quality learning.

STATEMENT OF THE PROBLEM

The researcher was a lead researcher in the design of PLAP and has heard negative comments about it at secondary school level by some teachers. The comments centered mostly on too much work due to academic diversity of students, inability to teach primary level material and the requirements of both schemes which are done during school holidays and group plans which are done soon after schools open after students are assessed to determine level of ability. Various stakeholders have widened their expectations from head-teachers demanding higher academic results and performance standards (Weindling and Dimmock, 2006). In Zimbabwe, Chireshe (2011) found that curriculum as indicated by teachers is examinations oriented and hence teachers focus on preparing learners for examinations to achieve high pass rates and gain recognition while Mpofu (2000) indicated that African education systems tend to emphasize competition rather than cooperation amongst learners. However, studies have shown that instructional supervision improves classroom practices thus contributing to students' success through professional growth and improvement of teachers (Blasé & Blasé, 1998; and Sullivan, 1991). Thus the study will look at the basic elements of instructional supervision with respect to PLAP: defining the school mission, managing the curriculum and instruction, supervising teaching, monitoring learner progress (Van Deventer and Kruger, 2003). The head-teacher as an instructional leader of PLAP needs to provide direction, resources and support teachers thus he/she has an effect on teacher attitudes towards teaching with an ultimate goal of improving achievement of all learners.

It is important to determine secondary teachers' views on performance lag address program as it entails teaching academically diverse students. A manual for both primary and secondary school teachers' (Nuzawazi and Nkoma cited by Nkoma, 2014) did not take into cognizance the organizational differences (for example indirect supervision) between secondary and primary schools. Studies have shown that some secondary school children are achieving at primary school level while others are achieving at or above their current from levels (Nkoma et al 2012; MOESAC, 2013) hence it is important to determine how secondary school teachers' plan and teach diverse classrooms considering the limited resources in schools. For PLAP to be effective these secondary school teachers have to start instruction from the student's last point of success which might be at primary school level hence the need to collaborate with primary school teachers. The schemes are done during school holidays hence assuming students of average ability which might result in planning and instruction tailored for these students only. It is important to determine how teacher teams from different subject areas collaborate (for example if some form two students (grade nine equivalent) are achieving at sixth grade in English, does this English teacher collaborate with history teacher on teaching strategies and planning?).

HYPOTHESES

1. Ho: There is no difference between school visions on PLAP by school type
2. Ho: There is no relationship between teaching resources by school type
3. Ho: There is no relationship between curriculum modifications by school type.
4. Ho: There is no association between classroom supervisory practices by HODs or Deputy heads by school type.
5. Ho: There is no difference between staff development practices by school type.
6. Ho: There is no difference between instructional supervision by head-teacher by school type.

RESEARCH METHOD AND DATA ANALYSIS

RESEARCH DESIGN

A survey research design will be useful in this study as it takes into cognizance self-reported beliefs and opinions of participants (David and Sutton, 2004)

SAMPLE

The district of study is Mutare urban were the PLAP program started in Zimbabwe. One secondary school from each school type (former group A (S1) and former group B (S2)) will be randomly selected for the study. A total number of 100 volunteer teachers (50 from each school type will be selected).

INSTRUMENTS

The questionnaire was designed using information from the literature and structured into seven parts with a total of 33 open and closed questions. These are divided into PLAP vision with three questions; curriculum modification (4 questions); classroom supervision by heads of department/deputy heads (4 questions); staff development (9 questions); classroom supervision by head-teacher (4 questions); teaching resources (3 questions) and collaborative work (6 questions). The instrument was content analyzed by four school inspectors and three faculty of Education lecturers in Mutare and was piloted at one secondary school and found to be suitable for use in this study.

PROCEDURE

Authority to carry the study in Mutare was sort from the Deputy Provincial Education Director, Ministry o fPrimary and Secondary Education. When the authority is granted appointments with Heads-teachers were done. Teachers who volunteered to participate in the study were briefed about the purpose of the study and were given two days to answer the questions at their own pace.

DATA ANALYSIS

Data was analyzed using a chi-square for independence while qualitative responses from open ended questions showing similar themes were grouped together.

RESULTS

General observations of classroom seating arrangements has shown that students seat in pairs in overcrowded classrooms while teachers' record books have shown whole class planning in different subject areas.

The first hypothesis states that there is no difference between school visions on PLAP by school type

Table 1: Observed and expected frequencies (expected in parenthesis) on teachers' views about PLAP Vision by school type.

School type	Agree	Neutral	Disagree	Total
Group A	45 (38)	2(4.5)	3(7.5)	50
Group B	31 (38)	7 (4.5)	12 (7.5)	50
Total	76	9	15	100

Chi-square (χ^2) = 10.76, $p < 0.01$ df = 2 (significant)

Table 1indicates a significant difference by school type on visions about PLAP. Group A school agreed more on school vision than group B school. Most teachers agreed that the school has a PLAP vision but group B school could not state what it entails.

The second hypothesis states that there is no relationship between school type and teaching resources

Table 2: Observed and expected frequencies (expected in parenthesis) on teachers' views on teaching resources by school type.

	Group A	Group B	Total
Agree	31 (32)	33 (32)	64
Neutral	4 (4.5)	5 (4.)	9
Disagree	15 (13.5)	15 (13.5)	27
Total	50	50	100

Chi-square (χ^2) = 0.52, $p > 0.05$ df = 2 (insignificant)

The results indicate no difference in teaching resources indicating that resources are equally distributed. However, most teachers' in both school types indicated lack of primary school teaching resources to effectively teach those achieving below grade 7 levels. They also commented lack of classrooms for special classes of slow learners.

The third hypothesis states that there is no relationship between curriculum modifications by school type.

Table 3: Observed and expected frequencies (expected in parenthesis) on teachers' views about curriculum modification by school type.

	Group A	Group B	Total
Agree	31 (25)	19 (25)	50
Neutral	4 (4.5)	5 (4.5)	9
Disagree	15 (20.5)	26 (20.5)	41
Total	50	50	100

Chi-square (χ^2) = 5.96 $p < 0.05$ df = 2 (significant)

The results show differences in curriculum modifications by school type with higher frequencies of agreement occurring in group A while most teachers in group B disagreed. Teachers indicated that the high teacher-pupil ratio and overcrowding in

classrooms impact negatively on the quality of teaching. Most teachers in group B school commented that they do not know how to modify the curriculum and instruction for diverse students.

The fourth hypothesis states that there is no association between classroom supervisory practices by HODs or Deputy heads by school type.

Table 4: Observed and expected frequencies (expected in parenthesis) on teachers' views about supervision by HODs/ deputy head teachers by school type.

	Group A	Group B	Total
Agree	35 (30)	25 (30)	60
Neutral	6 (5)	4 (5)	10
Disagree	9 (15)	21 (15)	30
Total	50	50	100

Chi-square (χ^2) = 7.46 $p < 0.05$ df = 2 (significant)

The results show a significant difference in supervision by school type. Teachers' comments in group B indicate that supervision is always scheduled and liked by them while that in group A was mostly unscheduled but infrequent but makes them work harder. Most teachers in both school types indicated that these supervisions were formal and long. The fifth hypothesis states that there is no difference between staff development by school type.

Table 5: Observed and expected frequencies (expected in parenthesis) on teachers' views about staff development by school type.

	Group A	Group B	Total
Agree	32 (25.5)	19 (25.5)	60
Neutral	6 (9)	12 (9)	10
Disagree	12 (15.5)	19 (15.5)	30
Total	50	50	100

Chi-square (χ^2) = 6.90 $p < 0.05$ df = 2 (significant)

There are differences in staff development by school type with higher frequencies on staff development occurring in group A school. Comments from teachers in group A school indicated that they once invited school psychological personnel to give them in-service training on PLAP. Most teachers in group B indicated that they are rare in-service workshops on PLAP and are not sure on how it is implemented. However, both school types indicated that are not involved in action research to solve teaching and learning problems in their schools.

The sixth hypothesis states that there is no difference between school type and instructional supervision by head-teacher.

Table 6: Observed and expected frequencies (expected in parenthesis) on teachers' views about supervision by head-teacher by school type.

	Group A	Group B	Total
Agree	33 (19.5)	26 (19.5)	59
Neutral	12 (11)	10 (11)	22
Disagree	5 (9.5)	14 (9.5)	19
Total	50	50	100

Chi-square (χ^2) = 15.96 $p < 0.05$ df = 2 (significant)

The results show a significant difference in instructional supervision by school type. Most teachers in group A school indicated that the head-teacher is sets academic standards for all teachers while that at group B only encourages teachers to perform better and is evaluative. Teachers' comments indicate that the head-teacher of group A follows up the academic

performance of students by looking at their class tests and inviting them to the office for counseling and encouragement. Comments from teachers at both school types indicate that the head-teachers do not do any classroom supervision.

The fifth hypothesis states that there are no significant differences in collaborative work by school type.

Table 5: Observed and expected frequencies (expected in parenthesis) on teachers' views about collaborative work by school type.

	Group A	Group B	Total
Agree	36 (31.5)	27 (31.5)	63
Neutral	1 (3)	5 (3)	6
Disagree	13 (15.5)	18 (15.5)	31
Total	50	50	100

Chi-square (χ^2) = 4.74 $p > 0.05$ df = 2 (insignificant)

The above table 5 shows no differences in collaborative work by school type. Teachers' comments from both school types indicate that there are no teacher teams from same subject and different subject areas to discuss teaching approaches.

DISCUSSION

Results indicate significant differences by school type on school vision, curriculum modification supervision by HODs, staff development and supervision by head-teacher while they are no differences in resources and collaborative work by school type. Teachers agreed that all students can learn implying that given the right environment all students can achieve to the best of the ability.

The PLAP vision in school type B was not clearly stated by the head-teacher as the teachers failed to state it. Hallinger (2003) posits that mission building activities on the part of head-teachers are the most influential set of leadership practices. These should be clear to teachers and agreed upon. Research on school vision show that high expectations for all including public standards raises the overall achievement of all students (Porter et al 2008).

Comments from teachers in group A school indicated that they once invited school psychological personnel to give them in-service training on PLAP. Most teachers in group B indicated that they are rare in-service workshops on PLAP and are not sure on how it is implemented. The results concur with Nyagura and Reece (1999) who found that head-teachers in Zimbabwe put little effort on staff development activities for teachers. However both school types indicated that are not involved in action research to solve teaching and learning problems in their schools. Professional development as an out-come of supervision should be parallel to teacher needs (Johnsson, 1993), as teachers have different backgrounds and experiences, different abilities in abstract thinking, and different levels of concern for others (Beach & Reinhartz, 2000; Glickman et al., 1998; Wiles & Bondi, 1996). Hence, a more purposeful professional development targeted for individual teachers is needed. This increases the motivation and commitment of teachers and ultimately resulting in higher achieve-ment of students. Inquiry-based supervision or action research (Tracy, 1998) is important for PLAP as it focuses on solving real-life problems in the school through staff development.

The results indicate no differences in collaborative approaches by school type. However, teacher comments indicate that there are no teacher teams in same subject areas or different subject areas. Fink and Rescink (2001) posits that the head-teacher needs to develop a community of professional learners in which teachers trust, depend on and learn from one another. Peer coaching as an approach to collaborative supervision (Showers and Joyce, 1996) involves team work asking questions that clarify their own perceptions about instruction and learning (PLAP) which provides opportunities to refine teaching skills through immediate feedback and through experimentation with alternative strategies as a result of informal evaluation (Brown and McComick, 2000). Team work is important for PLAP as teachers provide daily support and encour-agement to each other and thus realize their interdependence as part of the whole school system. Peer coaching increases collaboration among teachers and reduces the time burden on head-teachers on regular and collaborative work (Ebmeier and Nicklaus, 1999). Collaborative work is based on the process of a 'critical friend' (Costa and Kallick, 1993), where in teachers in groups ask questions to clarify their perceptions of teaching and supervision. This trusted person provides data to be examined through another lens and offers critique of a friend's work. This results in self-analysis, self-evaluation and self-monitoring which Garmston et al (1993) call cognitive coaching.

The results show a significant difference in supervision by school type. Teachers' comments in group B indicate that supervision is always scheduled and liked by them while that in group A was mostly unscheduled but infrequent but makes them work harder. Most teachers in both school types indicated that these supervisions were formal and long. Luis et al (2010) found that frequent, short and spontaneous classroom visits which were followed up by immediate feedback to teachers were found in high achieving schools while low achieving schools had scheduled instructional observation and feedback was rarely provided.

The results show a significant difference in instructional supervision by school type. Comments from teachers at both school types indicate that the head-teachers do not do any classroom supervision. Classroom visitation by the head-teacher makes him or her aware of what is going on in the classroom (Durotolu, 1999) despite having little knowledge about the subject. The supervision might help the head-teacher discover something that might help the teacher improve instruction or learn something that might help him be a better head-teacher. Wood (1979) opined classroom supervision enables the head-teacher to better understand the educational program, teachers and their methods of teaching, the students and their learning abilities or disabilities and to observe the teaching-learning process. Thus, every head-teacher must keep in touch with what is being taught and how much is being learned.

Schemes when done during the holiday assume students of average ability hence teachers' plans did not show learner diversity in their classrooms. Instruction needs to be tailored to the students' ability and interests. The plan books do not indicate teaching plans for high performing or low performing students. If instruction is tailored for the average child then the above average and below average students will be frustrated.

CONCLUSION

Results indicate that not much effort is being put on Performance Lag Address program in terms of instructional supervision at secondary school level. This is highly noticeable on staff development and supervision by head-teachers. Teachers do not group students according to ability as reflected by their record books.

RECOMMENDATIONS

Collaborative effort of all participants involved in the supervisory process is important. The route taken in professional development should parallel teacher needs (Jonasson, 1993). Bondi and Wales (1980) cited by Nyagura and Reece (1990) indicate effective school based programs should have differentiated training experiences for different teachers and where teachers take an active role as planners of in-service activities. Therefore, peer coaching, wherein teachers work collaboratively in small teams to improve instruction (Beach and Reinhartz, 2000) is recommended. Such teams ask questions that clarify their perceptions of instruction and learning (PLAP) and provide opportunities to refine teaching skills. Peer coaching thus increase collaboration among teachers.

The head-teacher as a visionary of the school needs to know what is happening in the classrooms. Short unannounced visits in classrooms are recommended. These might help head-teacher discover something that might help the teacher improve instruction or learn something that might help him be a better head-teacher. The head-teach comes to understand different subjects in the school and the how students learn.

The purpose of assessing students is to know their strengths and weaknesses and hence instruction should be tailored toward those goals.

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PREPARATION AND CHARACTERISATION OF SOMETRANSATION METAL COMPLEXES OF NEW [BUTANAL (5-ETHYL-1, 3, 4-OXADIA-ZOL-2-YL) HYDRAZONE]

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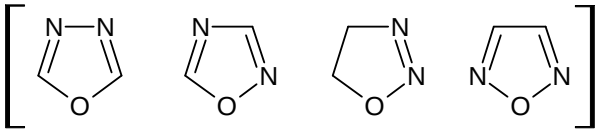
ABSTRACT

The solid complexes of Fe(II), Cr(III), Co(II), Ni(II), andCu(II)) with Synthesis of [Butanal(5-ethyl-1,3,4-oxadia-zol-2-yl)hydrazone]have been synthesized and characterized by using the spectroscopic IR,1HNMR, Mass as well as by elemental analyses C,H,N and Molar conductance the were studied.It may be concluded that the ligand coordinate through Nitrogen atoms shown in Scheme (2). For all the complexes. The ligand acts as a didentate ligand coordinating through the oxadiazole nitrogen and the nitrogen of C=N group .This view is further supported by the appearance of a band corresponding to the metal–nitrogen stretching vibration at 513–540 cm–1 in the complexes. The physicochemical data suggest the octahedral geometry for all com-plexes except for Ni and Cu complexes which were tetrahedral respectively.

KEYWORDS: PREPARATION. CHARACTERISATION. COMPLEXES. HYDRAZONE. ETHYL.

1. INTRODUCTION

1,3,4-Oxadiazole (1), is a heterocyclic compound containing an oxygen atom and two nitrogen atoms in a five-mem-ber ring. It is derived from furan by substitution of two methylene groups (=CH) with two pyridine type nitrogen (-N=) .There are three known isomers:1,2,4-oxadiazole (2), 1,2,3-oxadiazole (3) and 1,2,5-oxadiazole (4) .How-ever,1,3,4-oxadiazole and 1,2,4-oxadiazole are better known, and more widely studied by researchers because of their many important chemical and biological properties [1].



1 2 3 4

Resistance to number of antimicrobial agents among a variety of clinically significant species of
bacteria is becoming increasingly important global problem [2].There are various problems arising with the use of antimicrobials such as local tissue irritation, interference with wound healing process, hypersensitivity reactions, systemic toxicity, narrow antimicrobial spectrum, emergence of resistance [3]. So the increasing clinical importance of drug-resistant microbial pathogens has lent additional urgency in microbiological and antifungal research. A wide

variety of heterocyclic systems have been explored for developing pharmaceutically important molecules. Among them the derivatives of oxadiazoles have been playing an important role in

the medicinal chemistry [4]. Oxadiazole moiety and its various derivatives studied frequently in the past few decades and found potent in various pharmacological and pathological conditions [5]

1, 3, 4-Oxadiazole is a highly privileged structure the derivatives of which exhibit a wide range of biological activities including insecticidal [6],antiperipheral vasomotility [7],CNS stimulant,anti-inflammatory[8],hypotensive[9],insecticidal[10],bactericidal[11],hypoglycemic[12],anticonvulsive

[13],analgesic [14],muscle relaxant[15,16],herbicidal[17]and fungicidal activity[18],anti-cancer[19].antitubercular [20], antimalarial [21]

The coordination chemistry of transition metal complexes of heterocyclic compounds, involving oxadiazole ligand have attracted much attention in recent years due to the fact that those ligands around central metal ions in natural systems are unsymmetrical. Generally the prepared complexes exhibited a greater activity and show good models of biological systems that compared to (L) .[22]

Najat Al- Obaidy, Khalil K. Abid, Yusra J. Al-Niami had been Synthesized Complexes of some transition metals with derivatives of-1,3,4- oxadiazole .They were concluded the metal complexes of 1,3,4-oxadiazole Ligand exhibited biological activity and medical uses as drugs , greater activity 1,3,4-oxadiazole . and this encourage searchers to prepare new derivatives and complexes and to study their biological activity . [23]

2. EXPERIMENTAL WORK

2.1 PREPARATION OF LIGAND

FIRST STEP: SYNTHESIS OF PROPANEHYDRAZIDE

A mixture of 0.1 mole (10.2 gm) of Ethyl propanoate and 0.2 mole (10ml) Hydrazine hydrate were refluxed in 150 ml of absolute ethanol for 5hr.The resultant mixture [A] was concentrated, cooled, The resultant is Colorless liquid ,The purity of the compound was followed by TLC. Yield:85.3 %, B.p. 134-136. [24]

SECOND STEP: SYNTHESIS OF 5-ETHYL-1,3,4-OXADIAZOLE-2-THIOL :

A mixture of [A] (8.8 gm, 0.1 mole), KOH (5.6 gm, 0.1mole) and CS_2 (12 ml, 0.2 mole) was refluxed in absolute ethanol (200 ml) for 23 hours or until evolution of hydrogen sulfide ceases. The excess of solvent was removed under vacuum and the residue was mixed with ice and poured onto ice water containing hydrochloric acid.The Pale yellow precipitate which separated was filtered and recrystallized from ethanol to give 5-ethyl-1,3,4-oxadiazole-2-thiol [B] ,The purity of the compound was followed by TLC .Yield: 82.7 %, m. p. 197-199C .[25]

THIRD STEP: SYNTHESIS OF 2-HYDRAZINO-5-ETHYL-1,3,4-OXADIAZOLE

A mixture of [B] (1.94 g , 0.01 mol) and hydrazine hydrate (6 mL) was refluxed inabsolute ethanol (35 mL) for 5 hours , or until evolution of H2S ceased ,then allowed to cool , the pale yellow precipitate was filtered ,dried and recrystallized from ethanol to give 2-hydrazino-5-ethyl-1,3,4-oxadiazole[C].The purity of the compound was followed by TLC .Yield(1.59g,82%) , m.p. 167C .

FORTH STEP: SYNTHESIS OF BUTANAL(5-ETHYL-1,3,4-OXADIAZOL-2-YL)HYDRAZONE

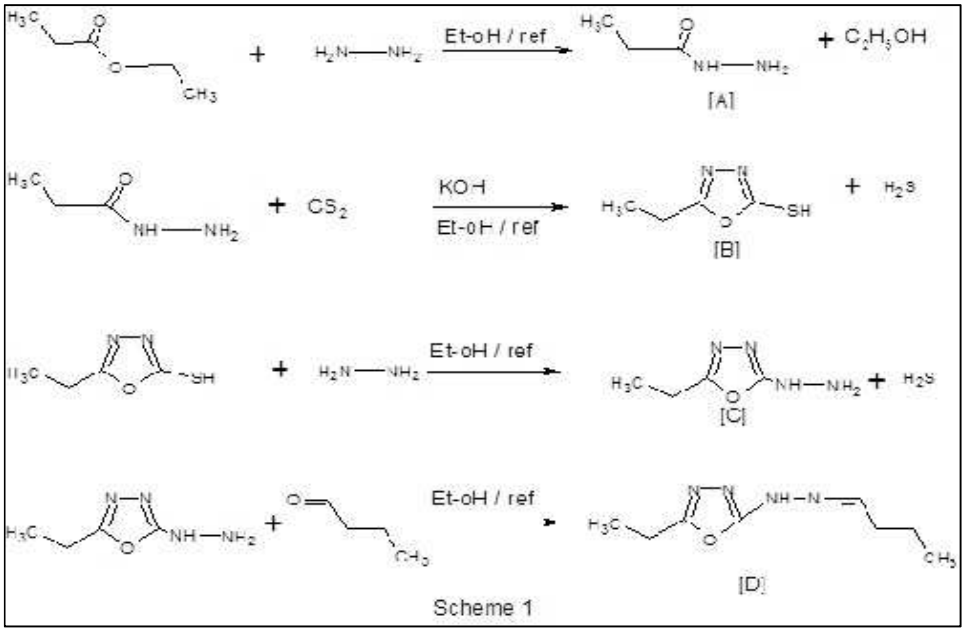
A mixture of [C] (1.92 g , 0.01 mol) and Butanal(1.849 g,0.01mol)was refluxed in absolute ethanol (35 mL) for (7) hours The bright yellow precipitate butanal(5-ethyl-1,3,4-Oxadiazol-2-yl)hydrazone [D]was filtered ,dried and recrystallized from ethanol .The purity of the compound was followed by TLC. Yield(1.54 g , 80.2%) , m.p. 158 – 160 C .[26]

2.2 PREPARATION OF COMPLEXES

The hydrated metal chloride salts of The Fe(III), Cr(III), Co(III), Ni(II) and Cu(II) (0.01 mol) was added to solution of the ligand 2.21gm (0.01mol) in hot absolute ethanol (40 mL) and the mixture was refluxed on a water bath for 2 hours and the solvent was evaporated in vacuum to half of the original volume and then cooled . The isolated complexes were filtered off , washed several times with ethanol and finally dried in air. [27]

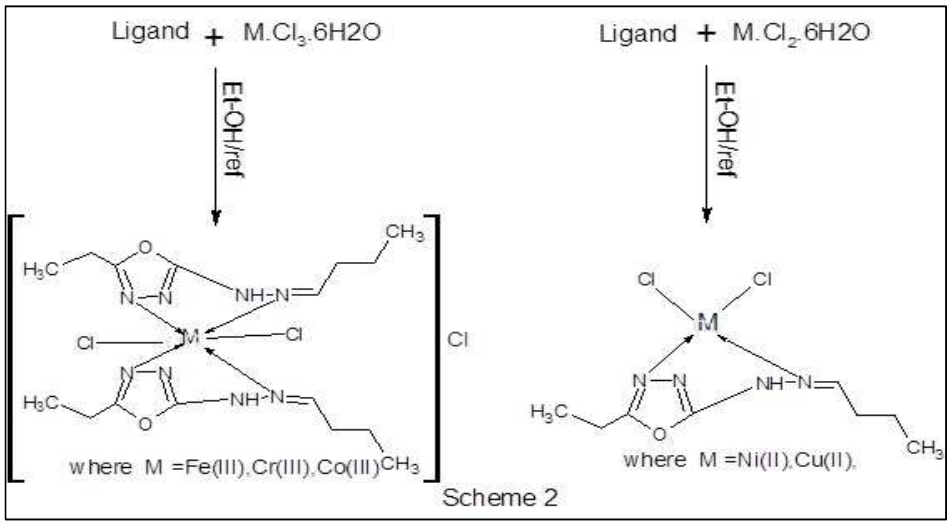
3. PRECENT WORK

3.1 PREPARATION OF LIGAND



Scheme 1

3.2 PREPARATION OF COMPLEXES



Scheme 2

4. RESULTS & DISCUSSION

The purity of the ligand and its complexes were checked by TLC . Molecular formula, physical properties and Molecular weight and molar conductance data of the ligand and its complexes tabulated in Table (1) and (2) elemental analysis and Mass Spectra Figure (5,6,7,8,9,10) , Infra-Red Spectroscopy tabulated in Table(3),(4) and (5). The calculated values were in a good agreement with the experimental values.

Table 1. Molecular formula, physical properties and Molecular weight data of the ligand and its complexes.

NO	Formula	M.Wt	Color	M.P C	Yield %
L	$C_8H_{14}N_4O$	182	Pale yellow	141-143	82.7
1	$[Fe(L)_2Cl_2]Cl$	526	Brown	177-179	87.1
2	$[Cr(L)_2Cl_2]Cl$	522	Deep brown	154-156	82.5
3	$[Co(L)_2Cl_2]Cl$	529	Deep blue	167-169	79.2
4	$[Cu(L)Cl_2]$	316	Pale green	159-161	85.5
5	$[Ni(L)Cl_2]$	311	Pale Brown	134-136	86.8

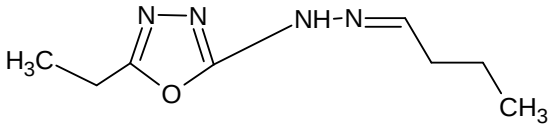
Table 2. Molar conductance data of all complexes measurements were made in anhydrous DMSO at 25°C ,Concentration 10^{-} at 298K .

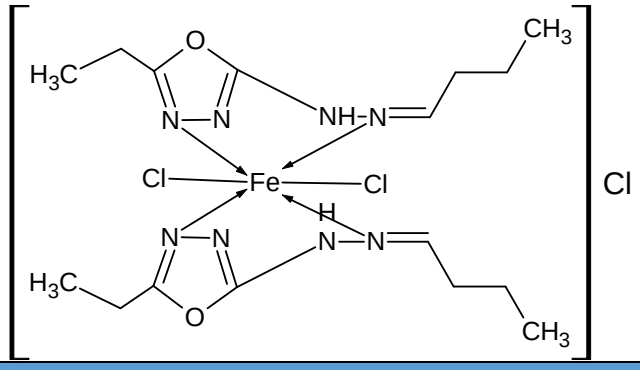
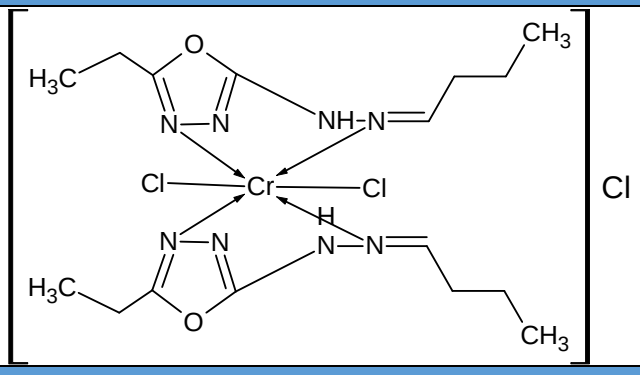
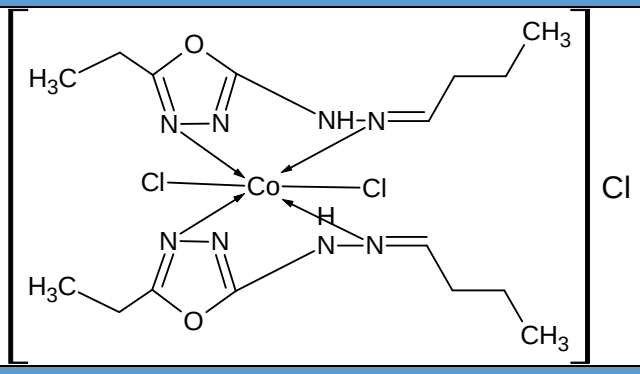
NO	Formula	$\Lambda_M(S.cm^2.mol^{-1})$	Electrolyte Type
1	$[Fe(L)_2Cl_2]Cl$	24	1:1
2	$[Cr(L)_2Cl_2]Cl$	28	1:1
3	$[Co(L)_2Cl_2]Cl$	27	1:1
4	$[Cu(L)Cl_2]$	19	Non Electrolyte
5	$[Ni(L)Cl_2]$	18	Non Electrolyte

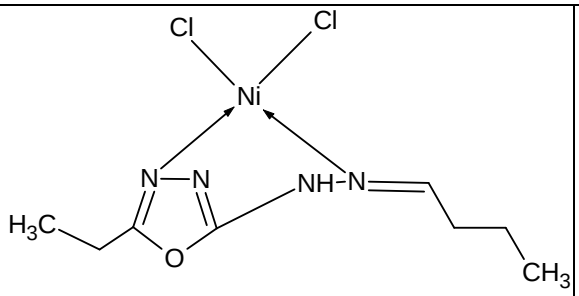
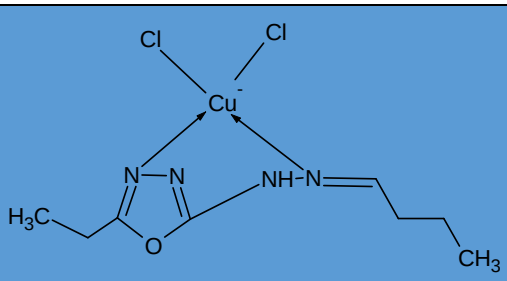
Table3. elemental analysis data for the ligand

Experimental			Theoretical		
C%	H%	N%	C%	H%	N%
52.34	7.88	30.11	52.73	7.74	30.75

Table 4. The mass spectrum of ligand and its complexes

Ion	Structure	Molecular Ion
L		182
$[C_6H_9N_4O]^{+\cdot}$		153
$[C_5H_7N_4O]^{+\cdot}$		139
$[C_5H_9N_3O]^{+\cdot}$		127
$[C_4H_6N_3O]^{+\cdot}$		111
$[C_4H_5N_2O]^{+\cdot}$		97
$[C_2H_2N_3O]^{+\cdot}$		84
$[C_4H_8N]^{+\cdot}$		69
$[C_2N_2O]^{+\cdot}$		68
$[CH_2N_2O]^{+\cdot}$		57
$[C_3H_5N]^{+\cdot}$		55

$[Fe(L)_2Cl_2]Cl$		526
$[Fe(L)_2Cl_2]^{+\cdot}$		491
$[Fe(L)_2Cl]^{+\cdot}$		455
$[Fe(L)_2]^{+\cdot}$		420
$[Cr(L)_2Cl_2]Cl$		522
$[Cr(L)_2Cl_2]^{+\cdot}$		487
$[Cr(L)_2Cl]^{+\cdot}$		451
$[Cr(L)_2]^{+\cdot}$		416
$[Co(L)_2Cl_2]Cl$		529
$[Co(L)_2Cl_2]^{+\cdot}$		494
$[Co(L)_2Cl]^{+\cdot}$		458
$[Co(L)_2]^{+\cdot}$		423

$[Ni(L)Cl_2]$		311
$[Ni(L)Cl]^{+\cdot}$		276
$[Ni(L)]^{+\cdot}$		240
$[Cu(L)Cl_2]$		316
$[Cu(L)Cl]^{+\cdot}$		281
$[Cu(L)]^{+\cdot}$		245

4.1 Infra-Red Spectroscopy:

The FTIR spectrum for L shows a characteristic stretching absorption bands. 3051cm-1, 1653cm-1 , 1624cm-1, 1373cm-1, 1431cm-1 assigned ,υ C-H Aliphatic=N of the oxadiazole ring, C=N of Azomethen group , asymmetrical C-O-C and symmetrical C-O-C stretching respectively. The C=N stretching vibrations are important to predict the bonding mode of the ligand ,these bands shift lower wavelength in the spectra of complexes compare with ligand, observed changes are the evidences of complexion had happened [28]. The IR data of the complexes are shown in Table (5) and figure(1,2,3,4). The Table lists the stretching

Frequency (υ) for some of the characteristics groups exhibited by the ligand and complexes.

Table5. Infra-Red Spectroscopy absorption bands of ligand and its complexes

NO	Compound	υ C-H Aliphatic	υ C=N of ring	υ C=N out ring	υ C-O-C Asy	υ C-O-C ,Sy	υM-N	υM-Cl
1	$C_8H_{14}N_4O$	2964	1643	1600	1379	1440	------	-----
2	$[Fe(L)_2Cl_2]Cl$	2931	1650	1591	1373	1435	540	354
3	$[Cr(L)_2Cl_2]Cl$	2955	1653	1624	1373	1431	539	356
4	$[Co(L)_2Cl_2]Cl$	2930	1644	1590	1375	1433	535	355

5	$[Cu(L)Cl_2]$	2931	1640	1562	1330	1435	513	347
6	$[Ni(L)Cl_2]$	2929	1639	1565	1332	1434	516	348

4.2 1H-NMR SPECTRA:

The spectral data for the free ligand in DMSO-solution was reported along with the possible assignments in experimental. The proton nuclear magnetic resonance spectral data gave additional support for the composition of the ligand ,All the protons are at their expected region. The CH3, CH_2 , CH_2-C=N of Oxadiazole ring and CH2 next to Azomethen ,NH and CH=N- signals, are shown in the regions of 1.3,1.6,2.7,5.7 and 8.9 ppm, respectively, The number of protons calculated from integration curves and the recorded chemical shifts in figure (5)[29] .

5. CONCLUSION

In the present work, a series ofof Fe(III), Cr(III), Co(III), Ni(II), Cu(II) complexes with new ligand (L),have been prepared and characterized on the basis of IR,1HNMR, Mass spectroscopic as well as by elemental analyses C,H,N and Molar conductance.

According to all the and physiochemical measurements as the prepared complexes, we can suggested the chemical configuration for the complexes.The ligand Butanal[(5-ethyl-1,3,4-Oxadiazol-2-yl)hydrazone was successfully synthesized. The ligand was treated to different transition metal salt to form the corresponding complexes as shown in the scheme (2). It may be concluded that the ligand coordinate through Nitrogen atoms .This view is further supported by the appearance of a band corresponding to the metal–nitrogen stretching Vibration at 513–540cm–1 in the complexes . (Cr(III),Fe(III)and Co(III) leading to the formation Octahedral geometry complexes .while the Cu and Ni atoms leading to the formation tetrahedral geometry complexes.

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APPENDICES

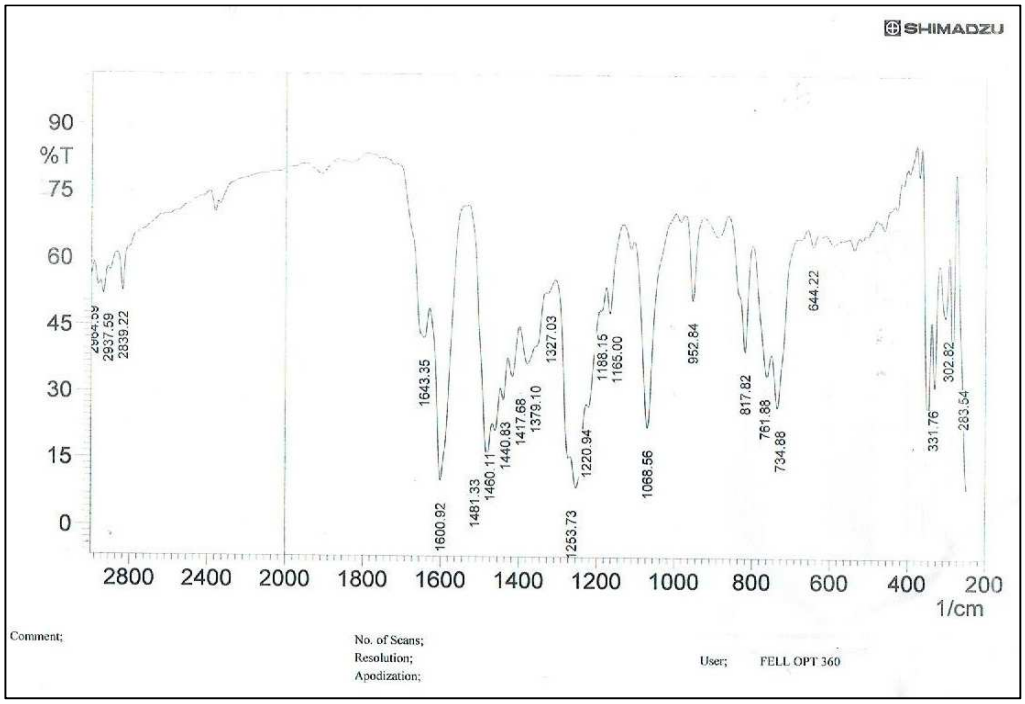

Figure (1) IR spectrum of the ligand cm-1

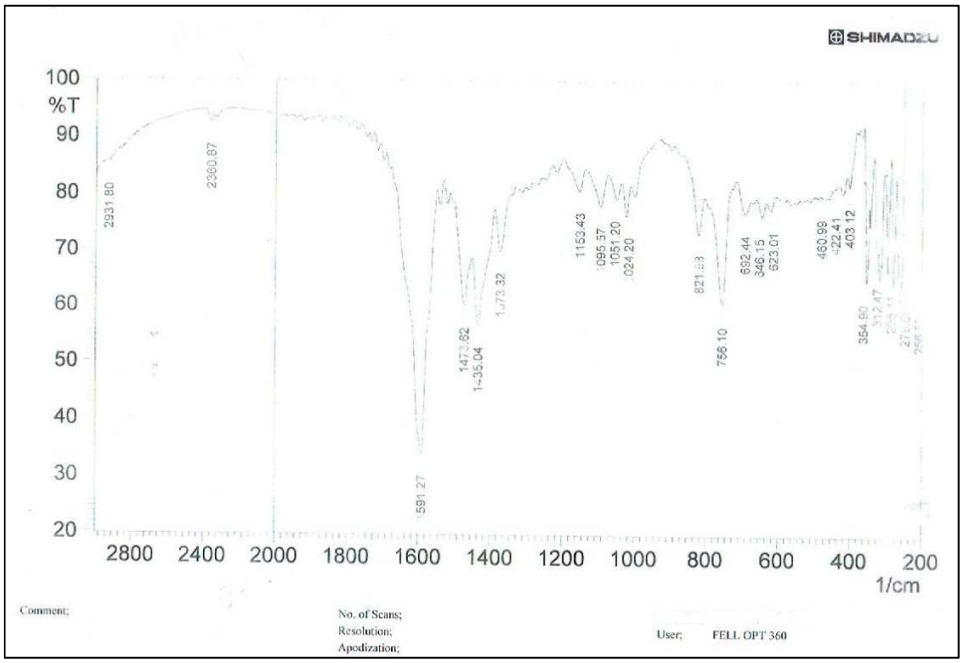

Figure (2) IR spectrum of the $[Fe(L)_2Cl_2]Cl$ cm-1

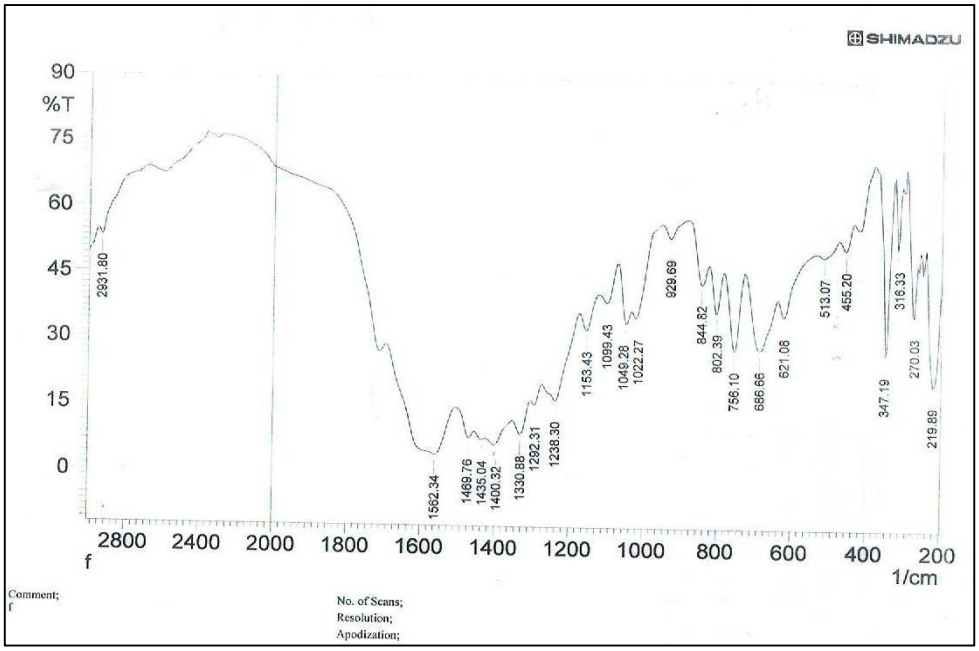

Figure (3) IR spectrum of the [Cu (L) $_{2Cl2}$] cm-1

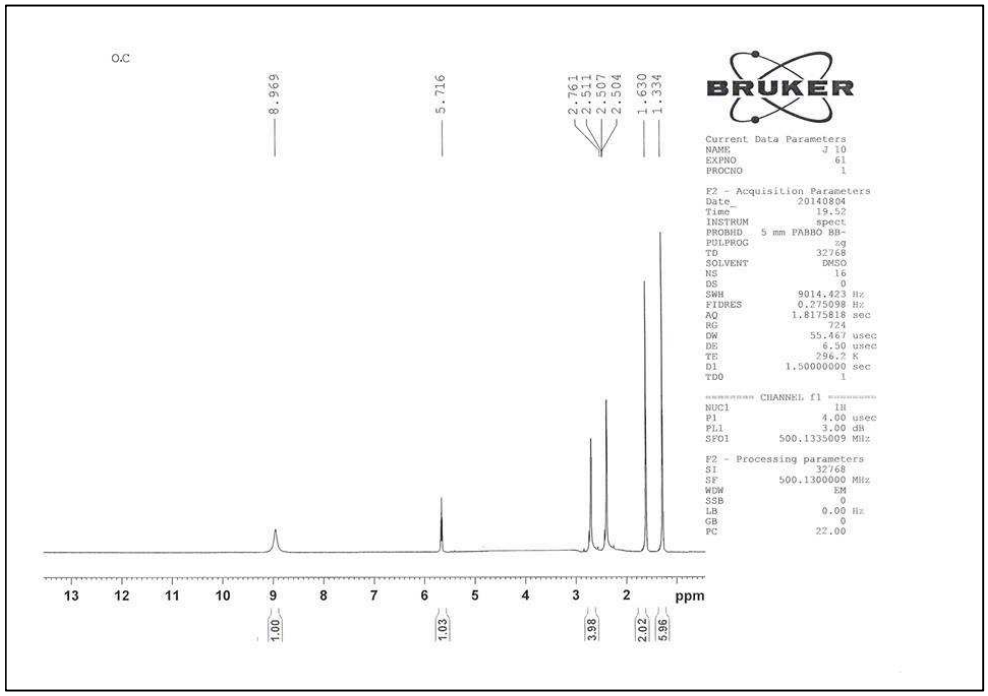

Figure (4) NMR spectra of the ligand

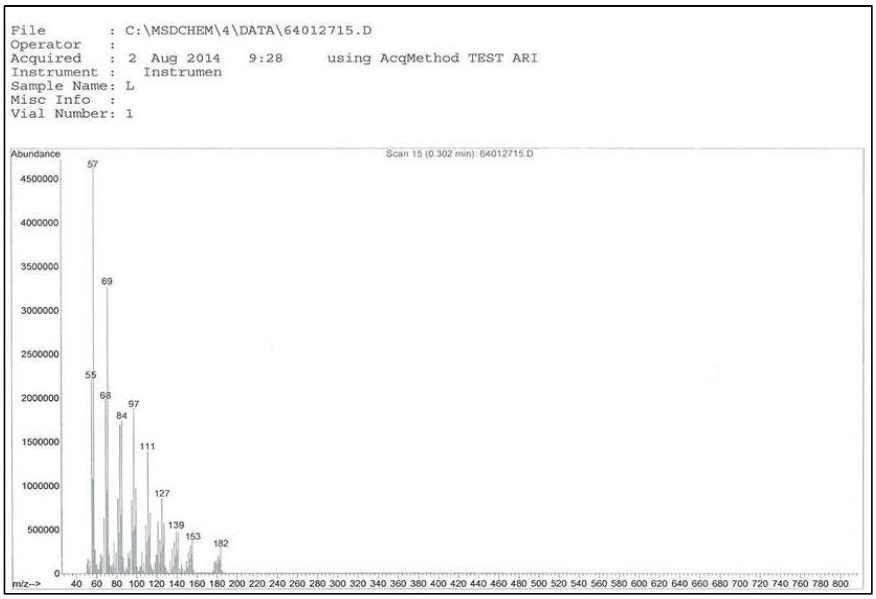

Figure (5) mass spectra of ligand

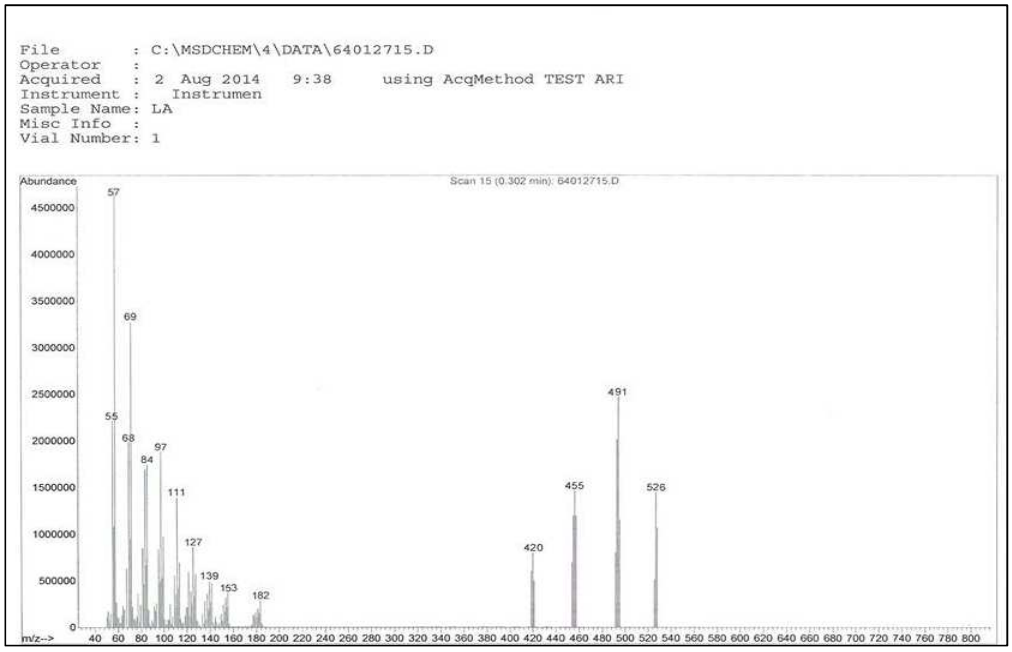

Figure (6) mass spectra of [Fe (L) $_{2Cl2}$] Cl cm-1

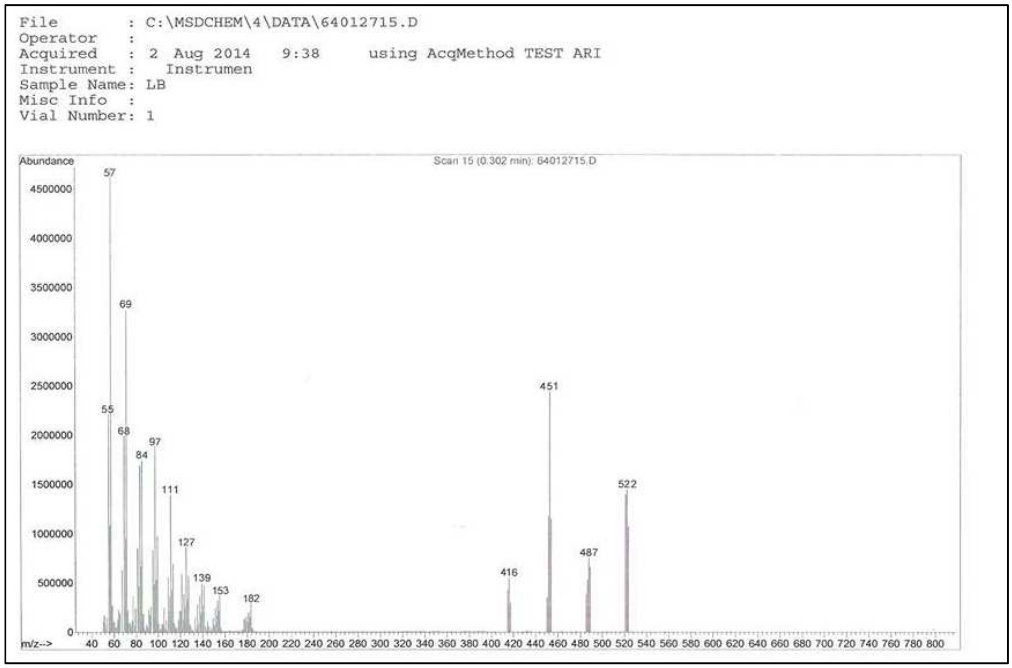

Figure (7) mass spectra of $[Cr\ (L)_2Cl_2]Cl$ cm-1

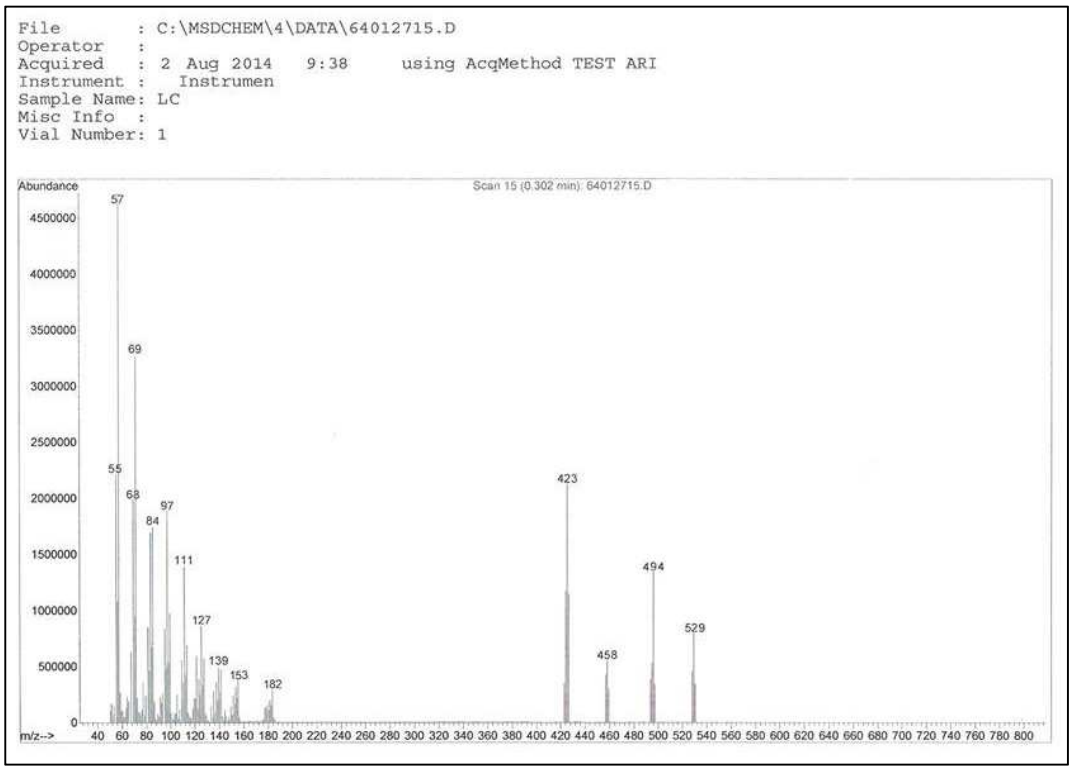

Figure (8) mass spectra of $[Co(L)_2Cl_2]Cl$ cm-1

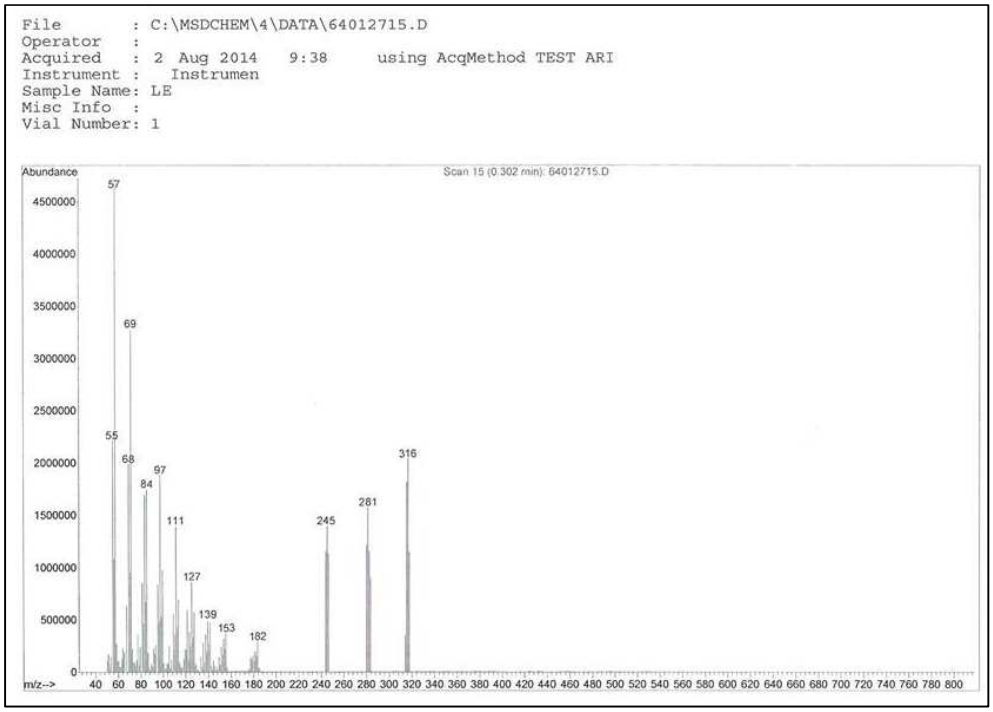

Figure (9) mass spectra of [Ni (L) $_{2Cl2}$] cm-1

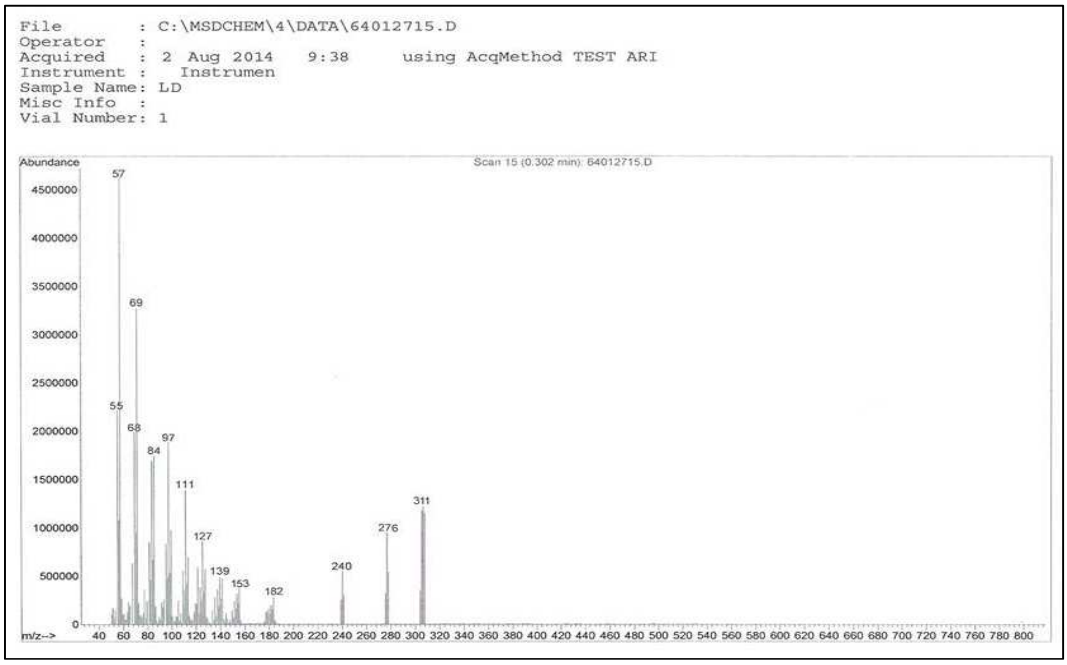

Figure (10) mass spectra of $[Cu(L)_2Cl_2]$ cm-1

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THE IMPACTOF A TRAINING CURRICULUM BY ADDITIONAL WEIGHTS IN THE DEVELOPMENT OF BEARING SPEED AND STRENGTH AND SOME KINEMATICAL VARIABLES AND COMPLESION OF 1.500 METERS – YOUTH.

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ABSTRACT

The athletics events have special specifications and requirements. Some of these events are games of track and field, middle distance running like (1500 m running), which plays the private bearing (speed and power bearing) plays a major role in the completion of this event, especially the follow-up of these qualities in each session of the race to get to know the strengths and weaknesses points at each runner.

The importance of research is the design of curriculum for trainings with additional weights codified according to the body weight of the runner to develop speed, power and some of the kinematical variables and achievement of the effectiveness of the 1500 running.

The problem with research is that a lot of coaches neglect the additional training weights (weighting) even if used by some coaches, they are widely used and does not fit with the athletes weights.

The most important results is that the effects of prepared exercises significant and positive effects for some kinematical variables which is represented by the step length and a length of time (50 m) for the members of the research sample. Also non- significant effects appeared for some the kinematical variables which represented with the frequency of each step of each cycle among the members of the research sample.

KEYWORDS: THE IMPACT, WEIGHTS, CARRY, SPEED, STRENGTH.

1. INTRODUCTION

the levels reached by many of the world champions is a fantasy after the progress that has occurred in science-related with sport field, particularly science of sports training and the science of biomechanics' .

Despite the scientific progress in the field of training , there is a need to do more researches and studies to reach many of the scientific facts in order to detect the best methods and techniques to develop each event of the sporting events optimally in the attempt to invest the human energy to its maximum, the track and field games is one of the events which affected by all elements of fitness, as according to these elements ,the level of achievement depends in different competitions as the specialist process leads in events of track and field games to raise the level of physiological aspects (functional) through the development of working of the two systems (circulatory and respiratory systems), as per each event of the events of the power games has specifications and requirements of their own. Among the events of the track and field games ;running the middle distances like (1500 m running),

which the private bearing (speed and power bearing) plays a major role in the completion of this event, especially the follow-up of these qualities in each session of the race to know the points of strengths and weaknesses for each runner and the muscle groups training involved in this event will contribute to the development of physical attributes, especially in ways that weighting to the working muscles and with performance similar to the performance of the race (running with weights and how they affect , the most important kinematical variables in running is a stride length, it's frequency and time of 50 m and the attempt of analyzing it during each session of the race to know the effects of the accumulated fatigue as a result of the length of the race distance and knowing these variables during the race and putting the appropriate solutions.

Here the importance of research lies in the design of a program of exercises with additional weights codified according to the body weight of the runner to develop speed, power and some of the kinematical variables and achievement of the event of the 1500 running.

The problem with research lies in neglecting a lot of additional weights training (weighting) by the coaches and even if has been used by some coaches, they are wildly used and does not fit with weights of the athletes because there is a relationship between the weight of the athlete and the tool of weighting , note that the weights of the athletes are different so the researcher felt to treat this problem by using weighting tools in a scientific manner which commensurate with the relative weight of each part of the body of hostility.

The research aims to:

1. Preparing a training curriculum with additional weights to the develop bearing of speed and power and some of the kinematical variables and achievement of the 1500m youth.
2. Identifying the impact of the training curriculum by running by additional weights on the development of bearing of speed and power and some of the kinematical variables and achievement for young runners 1500 m.
3. Identifying the preference of the two groups experimental and control groups in the development of the variables under study.

2. METHOD OF DETERMINING THE RELATIVE WEIGHT OF THE BODY PARTS

After it was determined the relative weight of the weight of the heavily parts relying on determining the weights which are added to the body as defined ((Rolf Wirh quoting from (Imad Kazem Ahmad 2006) ;choosing weights which are added to the arm and torso and legs according to the relative fixed parts in the sources as the relative weight of the arm reached to(6.5%) and the relative weight of the leg to (18.5%) and the relative weight of the trunk (43%) and then after measuring the total weight (kg) of the body mass , the relative weights of these parts was extracted according to the weight of each member of the sample members by using the following equation: the total weight of the hostility body × percentage of part / 100 = mass segment

The mass of the part × percentage (5% - 7%) = mass resistance of the part 0

3. DETERMINING THE PHYSICAL AND KINEMATICAL TESTS

Through reading a lot of scientific sources, letters and thesis of physical education and consulting experts and the modest experience by the researcher , has been identified the physical tests of the speed bearing and force bearing where the researcher adopted the test of(1000 m) to withstand the speed and the test (squat) until exhaustion effort to withstand the force. After selecting number of the kinematical variables by the researcher and by consulting and relying on the opinions of some experts, and after analysis the questionnaire of experts and specialists, the law (Ca 2) has been used. It is compatible with what (Marwan Abdul Majeed 1999) says.

4. TRIBAL TESTS

The researcher did the tribal tests of the physical variables on 25.8.2013, where he held a test of 1000 meters and squat on the stadium of Al-Diwaniyah club On 27.08.2013, the researcher conducted a test of achievement for the two groups (control and experimental) on the stadium of Physical Education College / University of Qadisiyah. The researcher put cameras (number3) through a distance of 50 m near the end line to portray each session of the race and at altitude of 120 cm and about 17 m from the first area to cover each camera 17 m from the Racecourse distance to ensure coverage of all the distance (50 m). Where the film was analyzed by using program (Dart fish) and the data stored in a program (Excel) and processed statistically by using the program (Spas).

Figure 1 shows the step length and a time of 50 m for some members of the sample during the race

Table (1) Shows equivalent of the two sets of the research (control and experimental)

The variables	Units of measurement	The group	A	SD	The calculated value of (t)	The tabulated value	The statistical significance
Bearing the speed	minute	control	2.53	0.085	0.33	2.571	Not significant
		experimental	2.54	0.053			
Bearing the force	repetition	control	10.30	1.5	1.26	2.571	Not significant
		experimental	11.17	1.72			
The length of the step	Meter	control	1.71	0.45	0.09	2.571	Not significant
		experimental	1.69	0.62			
The step frequency	Repetition/ second	control	3.00	0.34	1.92	2.571	Not significant
		experimental	3.23	0.16			
The achievement	minute	control	4.26	0.03	2	2.571	Not significant
		experimental	4.28	0.1			

The table(1) shows that all values of calculated (t) is smaller than the tabulated value (t) at level of significance 0.05 and degree of freedom (n 1 + n 2-2) (6 + 6-2 = 10) which is (2.571) which means the presence of equation between the two groups (control and experimental groups).

5. TRAINING CURRICULUM

Where the researcher prepared a training curriculum for the experimental group was applied in a manner training interval during the setup for a period (8 weeks) for the development of bearing and strength by weighting and by (3) training units per week and a total of (24) and training unit within days (Saturday and Monday and Wednesday) and in a manner ripple (1 : 3) have ranged between training intensity (50-70%) of the maximum bears hostility (achievement of maximum distance of running), while the control group, they practice on their own curriculum coach and using power train carrying iron.

6. POSTERIORI TESTS

The researcher carried out a posteriori tests of physical variables on 30.10.2013, where the researcher conducted a test of 1000 meters and squatted on the stadium of Al- Diwaniyah club and at 01/11/2013, the researcher did the achievement test for the control and experimental groups on the stadium of Physical Education College / University of Qadisiyah.

7. DISPLAYING, ANALYZING AND DISCUSSING THE RESULTS

Displaying, analyzing and discussing the differences between pretest and posttest for the control group and the experimental group in some elements of the fitness of the event of 1500 m.

Table 2 shows the arithmetic means and standard deviations and the value of (T) of the correlated samples to indicate the difference between pretest and posttest in the physical variables of the research and achievement of the control and experimental groups.

The rank	The variables	The pretest		The posttest		The value of calculated t	The value of tabulated t	The significance
		A	SD	A	SA			
Control group	Bearing the speed	2.53	0.085	2.50	0.51	0.98	2.57	significant
	Bearing the strength	10.30	1.5	16.50	1.50	2.88		Random
	The achievement	4.26	0.03	4.21	0.33	1.66		significant
The experimental group	Bearing speed	2.54	0.053	2.49	0.057	5.94	2.57	significant
	Bearing strength	11.17	1.72	18.33	1.63	7.05		significant
	The achievement	4.28	0.01	4.21	0.061	6.33		significant

The tabulated value at a level of significance (0.05) and the degree of freedom n-1 (5), amounting to 2.57.

From the above table ; the value of (T) of the correlated samples between pretest and posttest for the achievement variable has been reached (6.33) which is significant which confirms the presence of differences between pre and post tests and in favor of post-test , which means that the trainings prepared by the researcher have a positive impact on achievement and this shows that training programs prepared on the basis of scientific sports in the sporting training raises the physical , skill and tactical possibilities of the athlete especially when the effect and training on general specialist muscles ,there are responses of the body better and faster.

Carrying heavy loads through fixing it on the two legs or hands or trunk like weights on the sides give a possibility to improve the ability of these muscles to work against gravity ,moreover these weights are working to increase

the tensile strength or muscle tension through recruiting kinetics units larger than the working units in the case of the normal potential condition and therefore the method that is being done to recruit the motor units is characterized by the emergence of systolic force with appropriate speed to reach the best results of the muscular ability of these groups and this was confirmed by (Abdul-Hussein Taleb 2003), and this is the fact of working when you add weights to influence on the muscular sufficiency for the working muscle groups on this topic joints which gives significant influence to raise the level of ability of muscle that will affect positively on the level of speed for these parts during jumping . And that the goal of the possibility of adopting the additional weights is that they do not shed effort when you carry them on the small muscle, but also have it's impact on the muscle groups and the extent of their participation in the muscular work, which gives the ability to accomplish physical workout which increases with increasing strength in the muscles and increase their efficiency in producing the necessary energy and with high economic which gives significant influence to raise the level of ability of muscular ability that will impact positively on the level of speed for these parts during running and this is confirmed by(Ahmed Sabah Al-Obeidi, 2005) when the effect and training is on the general specialist muscles , the responses of the body will be better and faster.

This development, which helped to increase the contestants in their ability in endurance (bearing speed and power) and achievement and this what is confirmed by (Kamal Jamal Al-Rabadi 2004) that the tools of weighting and especially during running in the same style of racing helps the development of the complex capacity which represented by strength and speed, and that the primary objective of these methods is to develop your endurance.

Table 3 illustrates the arithmetic means and standard deviations and the value of (T) of the correlated samples to indicate the difference between pretest and posttest in the kinematical research variables for the control group.

The rank	The variables	pretest		posttest		Value of calculated t	Level of significance	The difference
		A	SD	A	SD			
The control group session 1	The length of the step	1.74	0.08	1.79	0.06	1.47	0.17	random
	Time of the recent 50 meter	8.88	0.09	8.82	0.23	0.80	0.44	random
	Rate of step frequency	0.20	1.37	3.17	0.17	1.37	0.20	random
session 2	Step length	1.75	0.07	1.82	0.05	3.14	0.01	significant
	Time of the recent 50 meter	9.00	0.09	8.65	0.11	9.56	0.00	significant
	Rate of step frequency	3.19	0.16	3.17	0.13	0.39	0.71	random
session 3	The step length	1.72	0.08	1.81	0.01	2.60	0.04	significant
	Time of the recent 50 meter	8.95	0.10	8.69	0.13	3.47	0.01	significant

	Rate of step frequency	3.25	0.17	3.13	0.07	1.22	0.25	random
session 4	The step length	1.71	0.11	1.79	0.02	1.73	0.12	random
	Time of the recent 50 meter	8.99	0.15	8.60	0.11	1.11	0.29	random
	Rate of step frequency	3.27	0.25	3.25	0.06	0.30	0.77	random

Note that the value of (T) at the level of significance (0.05) and the degree of freedom n-1 (5), amounting to 2.57

Seen from the table above that the value of calculated (T) for the correlated samples between pretest and posttest during the first session of the step length variable amounted to (1.47) and time (50 m) (0.80) and step frequency (0.20) (which is smaller than the tabulated value) which indicates the absence of significant differences between the two tests which means that the runners kept the sprinting speed during post-test by level asymptotic to the running speed in the pre-test and there was no differences between these variables between these sessions and this is normal, as the runner maintains the level of speed during his first session to avoid depletion his energy early and this is within the tactical side of the middle distance runners.

While comparison the variables during the second session, the value of calculated (T) of the correlated samples between pretest and posttest of the step length variable has been reached (3.14) and time of (50 m) (9.56) which is greater than the tabulated value, which indicates the presence of significant difference between the two tests and in the favor of post-test, and the impact of the training program prepared by the coach especially the step length, which is the basis of the completion of middle and long distances where the step length plays an important role in achievement especially distances that need to withstand the speed and strength bearing which contributed significantly to the development of strength bearing and thus maintenance the strength and it's development and increasing the step length with maintaining the speed frequency will help greatly in the development of speed and this is what happened with members of the research sample after the application of the curriculum and this was confirmed by (Amer Fakher Shagaty2009) that the success of the running during the stage of speed bearing depends mainly on the development of the length and frequency of the step and the development of one or both of them will lead to the development of running speed during the distance.

While The step frequency; the value of calculated (T) has reached (0.39) during the second session (which is smaller than the tabulated value at a level of significance (0.05), which indicates a lack of significant difference between the two tests depends where the middle distance runners (1500 m) depend mainly on the step length and the prepared curriculum by the coach had no effect on the step frequency.

While comparison the variables during the third session, and the value of calculated (T) for the correlated samples between the pretest and posttest for the variable of step length has reached (2.60) and time (50 m) has reached (3.47) which is greater than the value of (tabulated, which indicates the presence of significant difference between the two tests and in favor of testing, and this development is due to the impact of the training curriculum which is prepared by the trainer in the development of strength bearing especially for the two legs, and which was followed by the development of the speed of the runners.

The step frequency (1.22) (which is smaller than the tabulated value) which indicates a lack of significant differences between the two tests as showed previously that the development of the will be by one of the variables while the length or frequency of the step , the sample members depended on the length of step in the development of speed and the frequency of the step did not make any difference because the length of the race distance

and the central nervous system cannot give any active neurological stimuli for long periods which may take more than (4 minutes).

While comparison of the variables during the fourth session, the value of the calculated(T) of the correlated samples between pretest and posttest for the variable and time (50 m) amounted to (1.11) and step frequency has been reached (0.30) and the step length was reached (1.73) (which is smaller than the tabulated value when at a level of significance (0.05), which indicates a lack of significant difference between the two tests, and this can be explained on the basis that the group did not develop as a result of performing the exercises of the coach and the change did not happen in the variables at the fourth session of the race, despite specializing programs of speed and strength bearing prepared by the coach and this was confirmed by (Imad Elddin Abbas 2005) , the important methods to legalize the work of the coach is the correction tests from time to time to see how the impact of the curricula of the coach.

The impact of the training curriculum which is prepared in the variables especially the step length, which considered the basis in the completion of middle and long distances where the step length plays an important role in consummation achievement especially distances that need to withstand the speed and strength bearing , the exercises prepared by weighting on parts of the body especially the two legs worked to increase the strength bearing and so maintenance the step length and it's development after the curriculum and this was confirmed by scientists of training that the success of the running during the stage of speed bearing depends mainly on the development of the length and frequency of the step and the development of one or both of them will work to develop the speed of running during the distance.

As for recent variable time (50 m), the value of (t) has reached (2,833) which is greater than the tabulated value at a level of significance (0.05), which indicates the presence of significant differences between the two tests and in the favor of post-test, the development of strength bearing and speed bearing that helped in development of step length and thus effective contributing in the development of achievement helped to develop recent time (50 m) from each session.

As for variable of step frequency rate has been reached (-1.15), which is smaller than the tabulated value which indicates a lack of significant differences between the two tests, which means that the prepared exercises did not make any changes in this variable, the researcher shows the cause of random between pretest and posttest that some variables have studied during very short distances and that the rate of their development is very few (when you return to the arithmetic means) and that the differences did not distinguish through statistics so that the differences have emerged as random in addition the prepared exercises have their effect on the step length as they are the most important in the medium-distance run.

Table 4 shows the arithmetic means and standard deviations and the value of (T) of the correlated samples to indicate the difference between pretest and posttest in the kinematical research variables in the experimental group.

the rank	The variables	pretest		posttest		Value of calculated t	Level of significance	The difference
		A	SD	A	SD			
Experimental group Session 1	The step length	1.74	0.08	1.82	0.05	2.66	0.03	significant
	The time of 50 meter(recent)	8.67	0.13	8.56	0.23	0.33	1.04	random
	The rate of step frequency	3.27	0.15	3.11	0.13	2.28	0.05	random
Session 2	The step length	1.75	0.07	1.82	0.05	3.14	0.01	significant

	The recent time of 50 meter	9.00	0.09	8.65	0.11	9.56	0.00	significant
	Rate of step frequency	3.19	0.16	3.17	0.13	0.39	0.71	random
Session 3	The step length	1.71	0.08	1.78	0.02	1.88	0.09	random
	Time of 50 meter (recent)	8.90	0.06	8.61	0.09	4.42	0.00	significant
	Rate of step frequency	3.15	0.18	3.21	0.06	0.83	0.43	random
Session 4	The step length	1.77	0.04	1.85	0.01	3.60	0.01	significant
	Time of recent 50 meter	8.50	0.33	8.30	0.29	5.41	0.00	significant
	Rate of step frequency	3.47	0.30	3.37	0.11	0.93	0.38	significant

Seen from the table above note that the value of calculated (T) for the correlated samples between pretest and posttest during the first session of the step length variable amounted to (2.66), which shows the role of the training program by weighting on the body parts which help to develop the strength of leg muscles and thus running step length which contributed to the increase the speed of the experimental group. This was confirmed by (Qasim Hassan Hussein, 1998) that the step length is associated with height of the knee and the knee is linked to the muscular force of the leg greatly.

While time of (50 m), the value of calculated (T) has reached (0.33) and step frequency (2.28) (which is smaller than the tabulated value) which indicates a lack of significant differences between the two tests which means that the runners preserved the speed of running during the post-test with a level asymptotic to the speed of running in the pre-test and there was no difference between these variables between these two sessions and this is normal, as the runner maintains a level of speed during his first session to avoid exhaustion of his energy early, and this is a part of the tactical side of the middle distances runners. and this is compatible with (Saad Aldeen Al-Sharnouby 1998) and the runner have to change the method of running and body shape to suit the way of running and conditions of the race.

While comparison of the variables during the second session, the value of calculated (T) of the correlated samples between pretest and posttest for the step length variable has been reached (3.14) and time (50 m) (9.56) which is greater than the tabulated value, which indicates the presence of significant difference between the two tests and in favor of post-test, and the impact of the prepared training program by the researcher, especially the step length , which is the basis of the completion of middle and long distances where the step length plays an important role in consummation achievement the, especially distances that need to withstand the speed and strength, which contributed significantly to the development of strength bearing and thus maintenance the strength and it's development, and increasing the step length with maintaining the speed frequency will help them greatly in the development of speed and this is what happened with members of the research sample after the application of the curriculum and this was confirmed by a lot of coaches that the success of the running during the stage of speed bearing depends mainly on the development of the step length and step frequency and the development of one or both of them will help to develop speed of the running during the distance.

While the step frequency; the value of calculated (T) has reached (0.39) during the second session (which is smaller than the tabulated value at a level of significance (0.05), which indicates a lack of significant difference between

the two tests as the middle distance runners (1500 m) depends mainly on the step length and the prepared curriculum did by the coach did not make any effect on the step frequency.

While comparison of the variables during the third session, and the value of calculated (T) of the correlated samples to compare between the pretest and posttest for the step length variable has been reached (1.88)and the rate of step frequency has been reached (0.83) which is smaller than the tabulated value which indicates a lack of significant difference between the two tests which means that the runners maintained the step length they have and aimed to change the rate of step frequency despite the absence of a statistical difference, but the existence of differences between the means could not the statistics distinguish them and this change contributed to raise the rate of speed. While time of (50 m) has reached (4.42) and (which is the largest of tabulated value which indicates the presence of significant difference between the two tests and in favor of post-test, and this development is due to the impact of the prepared training curriculum by the trainer in the development of strength bearing especially for legs, and which was followed by the development speed of the runners.

While comparison of the variables during the fourth session, the value of calculated(T) of the correlated samples between pretest and posttest for the step length variable has been reached (3.60) and time of (50 m) amounted to (5.41), which is greater than the tabulated value at a level of significance (0.05), indicating the presence of significant difference between the two tests and in favor of post-test and this can be explained on the basis that the experimental group that applied the training curriculum by weighting on parts of the body have developed as a result of performing exercises similar to the competitive exercises and with the same way of performance, which contributed to the development of the specialist muscle and especially during the last courses of the race which be crucial to the outcome of race and we see this on the level of world champions, where the race settled in the final meters of it as a result of the convergence level of the runners so it must be followed by the analysis and study of these distances of the race.

The step frequency; the value of calculated (T) (0.93) as this variable did not develop, because the increase in the step frequency decreases in the runners and especially at the last distances of the race and this is the result of the accumulated fatigue and the central nervous system cannot send stimuli to the muscles by increasing the step frequency and sufficiency with the step length variable to increase the speed in the final meters of the race.

Table (5) Illustrates the arithmetic means and standard deviations and the value of calculated and tabulated(F) to show the difference between kinematical variables during the race courses for the control group.

The variables	Unit of measurement	Source of contrast	Sum of squares	Degrees of freedom	Average of squares	Value of calculated F	Level of significance	The difference
1.The step length	cm	Between the groups	0.005	3	0.002	0.852	0.482	random
		Inside the groups	0.036	20	0.002			
2. Time of 50 meter	sec	Between the groups	0.155	3	0.052	2.143	0.127	random
		Inside the groups	0.483	20	0.024			

3. The step frequency	Number/sec	Between the groups	0.024	3	0.008	0.573	0.639	random
		Inside the groups	0.278	20	0.014			

Seen from the above table the value of calculated (F) to indicate the difference in the variables under the study for the control group during the sessions of the race and for the posttests and the calculated value was smaller than the tabulated value which indicates a lack of significant difference between the variables during the race courses, which means that the runners did not change the rhythm of the race by speed which can be measured during these sessions so the differences appeared random between them.

Table (6) illustrates the arithmetic means and standard deviations and the value of calculated and tabulated(F) to show the difference between kinematical variables during the race courses for the experimental group

The variables	Unit of measurement	Sources of contrast	Sum of squares	Degrees of freedom	Average of squares	Value of calculated F	Level of significance	The difference
1. The step length	cm	Between the groups	0.017	3	0.006	4.387	0.016	significant
		Inside the groups	0.027	20	0.001			
2. Time of 50 meter	sec	Between the groups	0.91	3	0.303	8.953	0.001	significant
		Inside the groups	0.678	20	0.034			
3. The step frequency	Number/sec	Between the groups	0.374	3	0.125	2.967	0.057	random
		Inside the groups	0.841	20	0.042			

Seen from the above table that the value calculated (F) to indicate the difference between the four race courses in the variables under study of the experimental group and for the posttest test where the value of the (F) of the step length variable and time (50 m) bigger than tabulated value, which indicates the presence of significant difference between the courses can be identified in the favor through (LSD) law.

Table 7 shows the values (LSD) for the experimental group during the four sessions of the race (1500 m) in the post-test.

The variables	Unit of measurement	The groups		The differences of means	The Standard error	Level of significance
1. The step length	meter	1	2	00167-	0.02	0.94
			3	04667*	0.02	0.04
			4	02833-	0.02	0.19
		2	3	04833*	0.02	0.22
			4	07500*	0.02	0.00
		3	4	.07500*	0.02	0.00
2. Time of 50 meter	cm	1	2	.08667-	0.11	0.46
			3	.04833-	0.11	0.68
			4	.26000*	0.11	0.04
		2	3	0.04	0.11	0.74
			4	.34667*	0.11	0.01
		3	4	.30833*	0.11	0.01
3. The step frequency	Number/sec	1	2	.06667-	0.07	0.33
			3	.09833-	0.07	0.16
			4	.22500*	0.07	0.00
		2	3	.03167-	0.07	0.64
			4	.15833*	0.07	0.03
		3	4	.12667-	0.07	0.07

Seen from the table above the statement of the difference between the variables under study during the four race courses and illustrated through the level of significance the presence of significant difference in variable of the step length between the first session and the third session and in favor of the first session, and this is explained by the researcher on the basis that the development that happened for the sample members through the training curriculum helped to develop the step length they have during the first session compared with the second session which means that the increase of the step length during this session with level higher than the rate of step length during the first session and this confirms that the runners started with high speed level as a result of the development of the level of speed and it's bearing in general. This is confirmed by (Abdel-Maksoud Al-saeed 1997) that the use of resistors with the maximum speed is the best method for the development of all kinds of speed and speed bearing helps to rally the muscle fibers which are involved in muscular work.

As well as the a difference between the second and third session and in favor of the second session in the same variable, and this is normal where the accumulation of fatigue wastes due to the continuous performance of high intensity created an imbalance in the step length between the second and third sessions

As well as the differences between the third and fourth sessions and in favor of the fourth session, which indicates the importance of the prepared training curriculum by the researcher in creating conditions of endurance and the ability of the athlete on the performance in the last session with level better than the third session and due to the

importance of this session to resolve a result of the race .The development of speed was ordered during the development of one of its elements, and that was agreed with (Sareeh Abdul-Karim al-Fadhli 2007) a law of speed rate = step length × it's frequency, which emphasizes about the importance of increasing the length or the step frequency in increasing the rate of speed.

While comparison to the rate of speed through (50 m) m found that the presence of significant difference between the first session and the fourth one and in favor of the last session (fourth), which confirms the development of runners during this session well enabled him to make a significant change in the rate of speed which enabled him to run at a rate of higher than the rate of the beginning of the race and this is what required to resolve the race and especially the race of (1500 m) which is characterized by the element of speed until the last few meters.

While the difference between the second session and the third one was in the favor of the third session and this showed that the runner runs with level of increasing acceleration by comparing the velocities through sessions and this confirms the role of the curriculum in raising the possibility of the athlete in bearing the speed and strength to meet the requirements of specialist efficiency and this was in conformity with (Mufti Ibrahim Hamada 2001), as the training with additional weights and with certain proportions of the body considered of the training methods that affect the development of working muscle groups in the performance and work to develop the speed and the motor speed, as well as working with additional weights of the body weight aims to develop strength and speed adjectives.

While comparison of the rate of step frequency during the sessions of the race and in the favor of the fourth session which confirms the possibility of the athlete in raising the speed during the final stages of the race through the high speed frequency which is one of the important factors in raising the rate of speed.

As well as appeared a difference between the second session and the fourth one in the same variable and in favor of the fourth session, and this helps the athlete to bear the race and facing fatigue and trying to change the rate of the race during the last session to enable him to decide the outcome of the race, especially in the last meters. Here the role of the prepared training curriculum appeared on the correct scientific basis in making changes in the level of the athlete in addition to changes in his functional systems as confirmed (Adel Abdul Basir, 1999) that the work during training curriculum based on scientific grounds helps to increase the ability to adapt of the physical effort exerted during the race distances.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1CONCLUSIONS

1. The prepared exercises by weighting have positive and significant effects on the development of physical variables represented by bearing the speed, the strength and achievement among members of the research sample.
2. The prepared exercises have significant and positive effects for some kinematical variables by the step length and time of the last (50 m) for the members of the research sample.
3. A non - significant effects appeared for some kinematical variables which represented by step frequency of each session among members of the research sample.

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APPENDICES

Attachment (1) Explain the training curriculum for the experimental group

The week	The days	The distances	The intensity	The repetition	The rest	The groups	The rest	Size of the training unit	The total size
1	Saturday	400 m	50%	4	1-2 m	2	3 min	3200 m	10800 m
	Monday	500 m		4	1-2 m	2	3 min	4000 m	
	Wednesday	400 m		3	1-2 m	3	3 min	3600 m	
2	Saturday	500 m	55 %	2	1-2 m	4	4 m	4000 m	10000 m
	Monday	600 m		3	1-2 m	2	4 m	3600 m	10000 m
	Wednesday	800 m		3	1-2	1	4 m	24mm	10000
3	Saturday	500 m	60%	3	1-2 m	2	5 m	3000 m	9400 m
	Monday	800 m		3	1-2 m	1	5 m	2400 m	
	Wednesday	1000 m		2	1-2 m	2	5 m	4000 m	
4	Saturday	500 m	55 %	2	1-2 m	3	4 m	3000 m	9000 m
	Monday	600m		2	1-2 m	3	4 m	3600 m	
	Wednesday	800 m		1	1-2 m	3	4 m	2400 m	
5	Saturday	800 m	60%	2	1-2 m	2	5m	3200 m	8600 m
	Monday	1200 m		1	1-2 m	2	5m	2400 m	
	Wednesday	1000 m		3	1-2 m	1	5m	3000 m	
6	Saturday	1000 m	65%	1	1-2 m	4	5m	4000 m	9600 m
	Monday	1200 m		1	1-2 m	3	5m	3600 m	
	Wednesday	2000 m		1	1-2 m	1	5m	2000 m	
7	Saturday	7400 m	70%	1	1-2 m	2	6 m	2000 m	7400 m
	Monday	1200 m		2	1-2 m	1	6 m	2400 m	
	Wednesday	1500 m		1	1-2 m	1	6 m	3000 m	

8	Saturday	2000 m	65%	1	1-2 m	1	5 m	2000 m	7000m
	Monday	1500 m		1	1-2 m	2	5 m	3000 m	
	Wednesday	1000 m		1	1-2 m	2	5 m	2000 m	

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THE PSYCHOLOGICAL FREQUENCY AND EMOTIONAL RESPONSE AND THEIR RELATIONSHIP WITH THE STRAIGHT PUNCH (LEFT AND RIGHT) FOR THE ADVANCED BOXING PLAYERS

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Abstract

The psychological preparation of the athlete considered one of the important columns that included in the training process as well as the other training requirements, so during the follow-up and experience of the researcher for tournaments (federal and university and local communities in Iraq) noted that the psychological emotions (psychological frequency and emotional response) have an impact on the skills of the players and the results of the boxers (negative and positive) as well as coaches not giving sufficient attention to the psychological requirements, and research problem concentrated by answering the following question what is the relationship between stress and emotional response and its relationship with the straight jab (left and right) of the applicants boxers.

The researcher concluded that the performance of the straight punch (left and right) is not affected by the emotional and psychological hesitation of them. As well as the lack of significant differences between the emotional response and the psychological frequency and the left straight punch which shows the different levels of skills and the difference in the tactical and physical and cognitive levels.

KEYWORDS: THE PSYCHOLOGICAL FREQUENCY. THE EMOTIONAL RESPONSE. BOXING. SKILL. PUNCH.

INTRODUCTION AND IMPORTANCE OF THE RESEARCH

competition in individual sports and in groups means the desire to progress and to win and to get the best sporting achievements, as required to achieve this victory implementation of duties and movements and to overcome the problems and psychological difficulties faced by the players through the possession of the will and self-confidence.

The psychological tension and emotional response in the life of the sports considered one of the psychological factors that are exposed and that may affect by it's severity and by repeated exposure to negative effects on his health, "which are stressful situations able to blow behavioral disorder which may be severe and lasts for a long time (Osama Sayed Abdel Zaher AL-Asfar 2004) and the effects of these stressful situations vary according to the psychological composition of the individual, some have the ability to cope with the heaviest situations efficiently and others exposed to the physical diseases and emotional disturbances sharply as a result of some of the problems of life. The recent researches characterized by finding relationships between psychological aspects and basic skills for the purpose of arriving to optimal solution and knowing their impact on others , it has to be an emphasis on the psychological aspects because of its impact on the individual games, especially with the force games (direct contact) that need to high concentration to find correct solutions relying on the individual capabilities of the player

which be of significant impact on the level of skill. And boxing game is one of individual games, which is characterized by the diversity of their basic skills, the complex and the essential (defensive and offensive), and depends on what the player exert of the physical capabilities (skill and mental) to achieve the best results are characterized by the size of the many emotions as they grow by increasing the importance especially in tournaments and competitions because of the negative effect of emotions cause severe damage when the win not happen and the psychological emotions play a great impact in the life of athlete because they are related to personality and behavioral traits and motivations and needs.

This interaction is not limited to just respond to the multiple sporting situations in training and competitions but often the player acquire in this interaction experiences and perceptions of himself and others, the psychological frequency has an important role in the competitions where as a psychological condition with a direct impact on the performance of the athlete which makes studying it and knowing it's level and it's relationship with some variables necessary and provides for the coach the opportunity to direct the psychological preparation and guidance of the player which makes the level of psychological frequency less severe and impact on the level of the athlete . The psychological frequency considered one of the most important features of psychological characteristics.

The importance of research is examining the emotional response among players and boxing as well as to identify the psychological frequency they have as well as the nature of the relationship between emotional response and the psychological frequency of straight punch players (left-wing and right-wing).

RESEARCH PROBLEM

The preparation of the athlete psychologically is one of the important columns that included in the training process as well as the other training requirements, during the follow-up and experience of the researcher for tournaments (federal and universal and local communities in Iraq) noted that the psychological emotions (psychological frequency and emotional response) have an impact on the skills of the players and the results of the boxers (negative and positive) as well as coaches not giving sufficient attention to the psychological requirements, and research problem concentrated by answering the following question what is the relationship between stress and emotional response and its relationship with the straight jab (left and right) of the applicants boxers.

RESEARCH OBJECTIVES

- To identify the psychological frequency and it's relationship with the straight punch(left and right)
- To identify the emotional response and it's relationship with the straight punch (left and right).
- To identify the relationship of both psychological frequency and emotional response with the straight punch (left and right) for the advanced boxing players.

RESEARCH HYPOTHESES

- Existence of a relationship of significance in the psychological frequency of and it's relationship with the straight punch (left and right).
- Existence of a relationship of significance in the emotional response and it's relationship with the straight punch (left and right).
- The lack of significant correlation in both the psychological frequency and emotional response and their relationship with the straight punch (left and right).

RESEARCH METHODOLOGY

The researcher used the descriptive approach by the survey way due to it's suitability in achieving the objectives of the research.

RESEARCH COMMUNITY AND IT'S SAMPLE

The sample was selected by the intentional way from the research community which is component of the team of Diyala University of boxing, where the number of participants and for all weights (74) boxer from various colleges where the sample was represented by (44) players who represent the percentage of (62%) from the original community .The governor players excluded which totaling (5) players selected in the exploratory experience.

THE SCALE OF PSYCHOLOGICAL FREQUENCY

The researcher used a scale of psychological frequency which prepared by (Mohamed Adel Rashidi 1986) and legalized by (Firas Hassan), which consists of (29) paragraph of the five alternatives (apply to always, apply to, apply to sometimes, does not apply to, does not apply to totally) and given grades (5-1), which is legalized scale and very modern and that levels of this scale are (145-116), very high frequency, (115-87) high-frequency, (86-58) the average frequency, (57-30) acceptable Frequency, (29) and below the weak frequency .

THE SCALE OF EMOTIONAL RESPONSE

The researcher used a scale of emotional response, which is legalized scale and putted by Thomas. Ottko (Thomas .A. Tutko) in the year (1976) and re-put it's arab copy (Mohammad Hassan Allawi 1987) and (Mohamed Al-Arabi Shamoon), which consists of (42) paragraph, and for each paragraph (5) alternatives to answer is (always, often, sometimes, rarely, never). The degrees of these alternatives, less degree (1) and the highest degree (5) provides an opportunity for the player to express trends in (7) separated features with impact in the field of physical education, namely, (the desire, determination, sensitivity, adjust the tension, confidence, personal responsibility, self-control).

It is a legalized scale on the Iraqi environment, although levels of emotional response is divided as follows: (210-165) the response is very high, (164-127) high response. (126-85) medium response, (84-43) an acceptable response, (and 42) and below the response is weak.

DETERMINATION THE BASIC SKILLS OF THE BOXING GAME

The basic skills Have been identified which are of the psychological variables more influential "than others, and as shown in Table (1).

Table (1) Explains the basic skills accredited in search

The basic skills	The relative importance	The final arrangement
The straight punches (left and right)	91.3	1

10. DETERMINATION THE BASIC SKILLS THE OF THE TESTS OF THE BOXING GAME

After selecting the most important basic skills, (Abdul Karim AL-Morjani, 1998), the special tests with the chosen skill has been selected and approved by experts and has a high proportion of agreement which the researcher depended on it.

The basic skill	The tests	The percentage
The straight punch(left and right)	Boxing with the mate	91.3%

SPECIFICATIONS OF THE TESTS

TEST OF THE PERFORMANCE OF THE LEFT STRAIGHT PUNCH

THE PURPOSE OF THE TEST: evaluating the performance of the left straight punch.

DESCRIPTION OF PERFORMANCE: The exercise done by two testers:

The first one do the left straight punch for a period of (30) seconds.

The second one do the left straight punch down in front of the first tester, and testers are switched as the first one do for the trunk and the second one do the left straight punch upward.

THE QUALIFICATIONS: Punch exit –follow it by body weight –accuracy of target infecting

REGISTRATION: calculating (10) degrees for the left straight punch performance-oriented up and down, divided as follows:

1. Punch exit (2) degree.
2. Following it by the body weight (4) degree.
3. Accuracy of target infecting (4) degree.

TEST OF THE PERFORMANCE OF THE RIGHT STRAIGHT PUNCH

The purpose of the test: evaluating the performance of the right straight punch to the right of the head and trunk.

Description of performance:

Exercise done by two testers:

The first one do the right straight punch to the top for a period of (30) seconds.

The second one do the right straight punch to the bottom against the first tester and then the testers switched as the first one do to the bottom and the second one do the right straight punch to the top .

Qualifications:

- Punch exit –following it by the body weight –accuracy in the target infecting.

Registration: calculating (10) degrees to perform the right straight punch destined to the top and bottom are divided as follows:

1. punch exit (2) the degree
2. Following it by the body weight (4) the degree 3.accuracy in target infecting (4) degree.

FEILD PROCEDURES

The researcher distributed the questionnaire form on the players in the research sample in the university championship which held at the Hall of boxing in the Faculty of Physical Education / University of Diyala on (19.02.2014 - Wednesday and up to 20.2.2014), and have been done at the first day of the tournament and at nine o'clock am in the same hall ,weighing the boxers and then the test of straight punch (left and right) performed, and after that the lottery was conducted between colleges.

Participation and then the playoffs began and then the date of the final bout adjusted for the second day of the above tournament and the researcher followed the following steps:

• Distribution the scale on the boxer before (30) minutes of the bout.

• Emphasis on neutrality during answering.

• Removal any external stimulation can affect the answer of the boxer.

Table (3) shows the value of the calculated (R) between the psychological frequency and the left straight punch of the boxing players.

The variables	The arithmetic mean	The standard deviation	Value of (R)		The error ratio	Significancy
			calculated	tabulated		
The psychological frequency	141.36	36.24	-.442	0.28	.003	significant
The leftist	7.04	1.38				

Value of tabulated(R) with level of significance (0.05) and the degree of freedom (42)

The table shows (3) the value of calculated (R) between the psychological frequency and the left straight punch of the boxing players for the research sample, since the value of calculated (R) between the psychological frequency and left straight punch (-0.442) which is greater than the value of tabulated(R) amounting to (0.28) with level of significance (0.05) and the degree of freedom (42) which is a function morally.

Table (4) shows the value of calculated (R) between the psychological frequency and the right straight punch of the boxing players.

The variables	The arithmetic mean	The standard deviation	Value of (R)		Ration of error	Significancy
			calculated	tabulated		
The psychological frequency	141.36	36.24	-.424	0.28	.004	significant
The rightist punch	6.59	1.08				

Value of tabulated(r) with level of significance (0.05) and the degree of freedom (42).

The table(4) shows the value of calculated (R) between the psychological frequency and the right straight punch of the boxing players for the research sample, since the value of tabulated(R) amounting to (0.28) with level of significance (0.05) and the degree of freedom (42) which is a function morally.

Table (5) display the value of calculated (R) between the emotional response and the left straight punch for boxing players.

The variables	The arithmetic mean	The standard deviation	Value of (R)		Ratio of error	Significancy
			calculated	tabulated		
The psychological response	93.15	20.60	.480	0.28	.001	significant
The leftist punch	7.04	1.38				

Value of tabulated(R) with level of significance (0.05) and the degree of freedom (42)

Table (5) shows The value of calculated (R) between the emotional response and the left straight punch of the boxing players for the research sample, since the value of calculated (R) between the emotional response and the leftist punch of the boxing players (0.480) which is greater than the value tabulated(R) which is amounting to (0.28) with level of significance (0.05) and the degree of freedom (42) which is a function morally.

Table (6) the value of calculated (R) between the emotional response and the right straight punch of the players boxing.

The variables	The arithmetic mean	The standard deviation	Value of (R)		Ratio of error	Significancy
			calculated	tabulated		
The psychological response	93.15	20.60	.500	0.28	.001	significant
The rightist punch	6.59	1.08				

Value of tabulated(R) with level of significance (0.05) and the degree of freedom (42)

The table (6) shows the value of calculated(R) between the emotional response and right straight punch of the boxing players for the research sample, since the value of calculated(R) between the emotional response and the right straight punch boxing players (0.500) which is greater than the tabulated value (R) which is amounting to (0.28) with level of significance (0.05) and the degree of freedom (42) which is a function morally.

DISCUSSION THE RESULTS

From the tables (3), (4) the results of the value of calculated (R) between the psychological frequency and emotional straight punch (leftist and rightist), which is greater than the value of tabulated (t) with level of significance (0.05) and the degree of freedom (42) which is a function morally.

The reason why there is a significant correlation between the emotional frequency and the punch (leftist and rightist) is due to the level of emotional frequency of the boxing players because it's degree sandwiched between (86-58), and this level does not affect the chosen skill, and the experience of the boxing players contributed in reducing the ratio of emotional frequency they have, than if the players are new in the sport of boxing, in the sense that the more experienced player through practice and training , the emotional frequency reduces. Where the performance of the correct punch and in the right place and within the correct punch specifications reduces errors and increases punctuation against rival.

Where the players believe that they are better than their true potential and others are demonstrating confidence but internally acquires them feelings of failure and fear ,In another case and during sports competitions some players reach to the case of non-confidence in themselves and their abilities, which have a direct impact on the player's performance negatively, but it is better and optimized to be there is a balance between those two cases mentioned among the players and this reaches the player to the desired level of self-confidence, as that the boxing player need to adjust the frequency for the purpose of controlling his motor performance because controlling the frequency means " (Osama ratib 1997 sees) the ability to cope effectively on what is happening to the player of concern and treatment of stress and strong feelings in a positive way "(1) also his positive appreciation for himself keeps him away from the tensions and become more controlled on his performance, as that the recipe desire has big role and effective with the boxing players in strengthening the personal motivation and self-practice for playing and dedication during the training for success and excellence and appearing with the best level to provide the highest level of art during the competition (Nizar student, 2000 says) that "the players with the high degree of this factor are seeking to achieve victory and high achievement and enjoyment in the best parade and the extent of commitment and accuracy in the implementation of their duties during the match."

While for the two tables (5), (6) the results of the value of calculated (R) between the emotional response and straight punch (leftist and rightist), which is greater than the value of tabulated (R) with level of significance (0.05) and the degree of freedom (42) which is a function morally. The researcher attributes that due to the boxing players have medium emotional response for being sandwiched between the degree of (126-85) and this response has effect on the punch (leftist and rightist), and because of the chosen skill is one of the attacking skills for the sport of boxing and needs a high level of emotional response, and to calm and poise and focus to be enable to do plead-

ing punch to the opponent player. the level of emotional response indicates to that whenever indexes of the emotional response rose initially to be up to the moderate , the greater the degree of quality of performance is called a point termed the best performance and after this point, the increase in the index of emotional response lead to a decrease in the quality of performance gradually . Many of the studies in the field of psychological sports supported this model for application in the field of sports and describes (Nizar Al-Talib, and Kamel Luis 2000), in principle, with the addition of some modifications in order to fit many of the changing attitudes in the field of multi-motor performance. While (Mufti Ibrahim Hammadi, 1998) says that the emotional response varies from player to another with certain degrees and those differences due to several reasons, including differences in both maturity and genetics and the impact of the environment, nutrition, sleep and rest, and the level of fitness and disease and motivations ".

CONCLUSIONS

1. 1 The performance of the left and right straight punch is not affected by the emotional response and psychological hesitation they have.
2. 2 lack of significant differences between the emotional response and the psychological frequency and the left straight punch which means the different levels of skills and the difference in the physical, cognitive and tactical levels.

RECOMMENDATIONS

1. 1 using training modules which include modern practical theoretical exercises and for the purpose of development of the psychological and cognitive capacities of the boxing players.
2. 2-emphasis on the involvement of the players in local competitions designed to improve their own emotional responses and reduce their psychological frequency as well as an emphasis on the use of left and right straight punch.
3. 3 strengthen the confidence and the will of the players themselves in order to achieve their goals.

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THE PSYCHOLOGICAL TOUGHNESS AND THEIR RELATIONSHIP TO PSYCHOLOGICAL STABILITY AMONG THE STUDENTS OF THE FACULTY OF PHYSICAL EDUCATION, UNIVERSITY OF KUFA

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Abstract

Researchers interested in knowing the number of different factors and variables such as psychological toughness and psychological stability, so that the student can deal effectively with the psychological stresses they are facing and adapt with them to reach to the highest level. The research aims to identify the psychological toughness and psychological stability among the students of the Faculty of Physical Education, University of Kufa, as well as the nature of the relationship between psychological toughness and psychological stability among these students.

The researchers used a descriptive approach in a survey manner. research community identified by the second stage students -Faculty of Physical Education- University of Kufa's totaling (90) student, and was selected sample of them totaling (30) student at random as well as (15) student of the exploratory experience.

The researchers used a scale of psychological toughness which has been contained on the scale (47) paragraph, and a scale of psychological stability which has been contained on the scale (21) paragraph. Measurements of psychological toughness and psychological stability had been applied to the sample's students totaling (30) representing students of the second stage of Physical Education- University of Kufa to come out the researchers with several conclusions:

• The majority of the second stage students have good psychological toughness and psychological stability.

• There is a direct correlation between the psychological hardness and psychological stability.

• The higher the psychological hardness and psychological stability the better the results.

KEYWORDS: PSYCHOLOGICAL. TOUGHNESS. STABILITY. PHYSICAL. EDUCATION.

1. INTRODUCTION

the lessons of Physical Education have a great prestige in most countries of the world because of the availability of fun and exciting for students and followers from various segments of society, so that recent years have seen a

growing interest in research and investigation for new methods in teaching methods, as well as relying on the scientific foundations of the determinants of the selection process for students who own preparations and capabilities enable them to access them, and also Researchers interest in knowing a number of factors and the different variables such as psychological hardness and psychological stability, so that the student can deal effectively with the psychological stresses they are facing and adapt to reach the highest level, the psychological hardness considered the intact adaptation process and good in times of stress and pressure and shocks with the survival of hope and self-confidence and the ability to control emotions (emotional regulation), and the ability to solve problems, to understand other people's feelings and sympathy with them, which possess the learner set of attributes to help him to cope with the sources of pressures, including the ability to adhere to, and the ability to challenge, and the ability to control things of life, and the student needs many of the educational requirements in a psychological stiffness variables and psychological stability and controlling it at the beginning of each educational unit, as many studies reached that the psychological hardness and psychological stability has significant influence in the behavior of the individual and his character, and his awareness of the nature of the environment and then in the way they conduct.

From here demonstrated the importance of research in the interest in the important psychological variables like psychological hardness and psychological stability through the good psychological readiness to enable the student to do performance and face all the changing circumstances in public life, and from here we must study the nature of the psychological hardness and psychological stability and knowing the relationship between them.

The research aims to identify:

1. Psychological toughness and psychological stability among the students of the Faculty of Physical Education, University of Kufa.
2. nature of the relationship between mental toughness and psychological stability among the students of the Faculty of Physical Education, University of Kufa

2. RESEARCH METHODOLOGY

The researchers used a descriptive approach in a survey manner.

3. RESEARCH SAMPLE

The research community Identified by students of second stage of Physical Education-University of Kufa's totaling (90) student, and was selected sample of them totaling (30) student at random as well as (15) student of the exploratory experience.

4. SELECTION'S PROCEDURES FOR MEASUREMENT OF THE PSYCHOLOGICAL HARDNESS AND PSYCHOLOGICAL STABILITY

The researchers used a measure of mental toughness and contains (47) paragraph, extension (1), and the answer of the paragraphs by three alternatives which are (always apply, apply sometimes, does not apply) varying (3-2-1), respectively, where the highest degree on the scale are (141), while the less degree is (47) degrees.

As a measure of psychological stability, has been contained on the scale (21) paragraph, extension (2), and the answer to paragraphs by three alternatives are (always apply, apply sometimes, does not apply at all) and the scores of the scale (1-2-3-4-5), where the highest score on the scale is (105) while the less degree is (21) degrees.

In order to apply the scales, the researchers introduced it to a group of experts and specialists (See extension 3) For the purpose of ruling their validity, and has obtained their satisfaction.

5. THE MAIN EXPERIMENT OF THE RESEARCH

Measurements of psychological toughness and psychological stability has been applied to the sample's students totaling (30) representing students of second student of Physical Education, University of Kufa on 11/02/2014.

6. THE SCIENTIFIC BASIS FOR THE MEASUREMENT OF THE PSYCHOLOGICAL HARDNESS AND PSYCHOLOGICAL STABILITY

Where the researchers checked the veracity of the two scales through veracity of the content when presented to a group of experts and specialists. Then a reliability coefficient of the test founded by testing and re-testing on the exploratory sample, since the test was held on Wednesday, 08/01/2014 and was re-test on 01/22/2014 and after unloading data , the value (t) extracted , from it the researchers found that the psychological hardness scale has a high degree of stability, as the value of (t) (0.87), while the scale of psychological stability has a high degree of stability as well as the value of (t) (0.89).

7. DISPLAYING, ANALYZING AND DISCUSSING THE RESULTS

the results displayed and discussed through analyzing the responses of the sample members on the search tool, according to the objectives as follows

8. IDENTIFYING THE PSYCHOLOGICAL HARDNESS AND PSYCHOLOGICAL STABILITY AND THE RELATIONSHIP BETWEEN THEM

Regarding the first objective of the research which is identifying the mental toughness and psychological stability and knowing their relationship for the students of the second stage- Faculty of Physical Education- University of Kufa. the total score for each student was calculated, the highest score obtained by the student in the scale of psychological hardness are (141) and the lowest score is (47) it has been shown that the highest degree obtained (117) and the lowest score (66) for the results of the sample members totaling (30) students, but in order to know the nature of reality of psychological hardness of the sample as a whole, the arithmetic mean of the sample has been calculated and it was equal to (97.22) and standard deviation (9.91) and all of which are higher than the theoretical mean of the scale which are totaling (94 degrees), and as shown in Table (1).

While the scale of psychological stability, the highest degree obtained by the student in the scale is(105) and the lowest score is (21) It has been shown that the highest degree obtained (98) and the lowest score (44) for the results of the sample members which are totaling (30) students, but in order to know the nature of the reality of psychological stability of the whole sample, the arithmetic mean of the sample was calculated and he appeared equal to (79.29) and standard deviation (6.96), all of which are higher than the theoretical mean of the scale and totaling (63 degrees).

Table (1) the sample results in a scale of the psychological frequency of mental toughness and psychological stability

The test	The arithmetic mean	The standard deviation	Value of calculated T	Value of tabulated T	significancy
The psychological toughness	97.22	9.91	0.87	0.35	significant
The psychological stability	79.29	6.96			

The table (1) shows that the value of calculated(t) is higher than the value of tabulated (t) at a level of significance (0.05) and the degree of freedom (29), and this means that the students of the second stage have psychological hardness and psychological stability and can be interpreted as a psychological variables and their importance and active impact in public life which is consequently reflected on the results of the student and his or her performance, as the learner needs good psychological hardness and psychological stability, because the psychological hardness means controlling with the internal and external emotions, which are exposed to in learning the skills and different situations , especially in the lessons of Physical Education, so the student if available to him a range of psychological variables, including the psychological hardness and psychological stability, because they are "important and basic personal factors in improving the performance of psychological performance and psychological health, as well as maintaining the healthy behaviors," as well as they are working as a barrier between the student and the physical injury which is related with the lessons of Physical Education . the learner with a hard personality deals seriously and effectively with the pressures which facing it in the learning process, and tends to be optimistic and to deal directly with the sources of stress, so it can transform stressful situations to situations with less threat, and therefore it would be less susceptible to the adverse effects which are associated with the stresses of lessons or public life.

9. CONCLUSIONS

According to the results that have been reached by the researchers, can formulate the following conclusions:

- Most of the students of the second stage of psychological toughness have a good stability.
- There is a direct correlation between the psychological hardness and psychological stability.
- The higher the psychological hardness and psychological stability the better the results.

10. RECOMMENDATIONS

According to the findings of the research results, the researchers recommend the following:

• the trainers used the two scales of psychological hardness and psychological stability to know the tendencies of students and what is the level of psychological variables have to be taking into account how to give instructions to the students.

• The researchers also proposes:

A - Conducting a similar study on a class of players.

B - Conducting a study on the relationship between mental toughness and psychological stability and some other psychological variables.

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APPENDICES

Extension (1) a scale of mental toughness in its final formula.

Dear Student: - below there are the instructions of the scale, the researchers hoped you to read it carefully and give the exact answer on the scale paragraphs do not mention the name and do not leave any paragraph unanswered.

rank	The paragraph	always	some times	never
1	Whatever the obstacles, I can achieve my goals			
2	take my decisions with myself and do not dictate from an external source			
3	I think the fun of life and its excitation lies in the individual's ability to face its challenges			
4	The value of life lies in the loyalty of the individual to some of the principles			
5	When planning for the future often being sure of my ability to do			
6	Stormed to solve problems and do not wait to occur			
7	Most of the times of my life wasted in meaningless activities			
8	My success in my life depends on my effort, not luck or coincidence			
9	I have a curiosity and desire to know what I do not know			
10	I think that my life have goals and meaning live for it			
11	Life chances and not work and struggle			
12	I think that the exciting life which have problems that I can face them.			
13	I have certain principles adhered to and keep them			
14	I think that the failure is due to the reasons lie in the same person			

15	I have the ability to persevere until the end of the solution to any problem I've been having			
16	I do not have goals that should to uphold or defend			
17	I think that everything that happens to me often is the result of my planning			
18	Problems mobilize my strength and my ability to challenge			
19	I do not hesitate to participate in any activity that serves the community in which I live			
20	There is nothing in the reality called luck			
21	I feel the fear and the threat of what would happen to my life such as circumstances and events			
22	I hasten to stand beside others when confronted with any problem			
23	I think that chance and luck play an important role in my life			
24	When I solve a problem I find pleasure to move to solve another problem			
25	I think that being away from the people is a booty			
26	I can control things in the course of my life			
27	I think that facing the problems is a test of my endurance and my ability to persevere			
28	interest in myself does not leave me a chance to think about anything else			
29	I think that unfortunately, due to poor planning			
30	I have a love of adventure to explore what surrounds me			
31	I hasten to do anything I think it serves the family or community			
32	I think that my effect is weak on the events that occur to me			
33	I hasten to face problems because I am confident in my ability to solve them			
34	Pay too much attention to what is happening around me of the issues and events			
35	I think that the life of individuals affected by external forces beyond their control			
36	the fixed and static life is the life that interests me			
37	Life in all not worth that we live			
38	I believe in the popular wisdom "carat luck nor acre cleverness"			
39	I think that the life that does not involve a change is boring and routine life			
40	I feel responsibility towards others and hasten to help them			

41	I think that I have a strong influence on what is happening around me of events			
42	I feel fear of life changes because of every change may involve a threat to me and my life			
43	Interested in the issues of the homeland and join them when-ever possible			
44	I plan for my life and do not leave it at the mercy of chance and luck and external conditions			
45	Change is the tradition of life and what is important is the ability to confront it successfully			
46	I change my principles if circumstances called for it			
47	I feel scared to face problems even before they occur			

Extension (2) the scale of psychological stability in its final formula

Dear Student:

Keep in your hands a set of paragraphs you are required to read and approve the extent to which is expressive of your feelings and your behavior and your thoughts, and then show how they conform or not conform to you, by putting the sign (×) in front of each paragraph under a suitable alternative, knowing that the answer will not be seen by one only the researcher will only be used for the purposes of scientific research.

With thanks and appreciation

rank	paragraphs	Very few	few	average	much	So much
1	I expect that conditions improve in the future.					
2	My faith helps me to love the team members.					
3	I am delighted when my colleagues achieve high achievements					
4	I have the ability to adjust myself.					
5	My thinking limited with the superiority in the race					
6	my performance Improves whenever the race be-ing the more difficult					
7	When the coach excites me getting my desire to win.					
8	I find some difficulty to perform certain exercises.					
9	I love to compete in activities that require physical exertion.					
10	I feel I took my rights in this competition.					
11	Tension and thinking increase when thinking about the importance of the match.					
12	I have a good relationship with the coaches.					
13	my focus weakens and my mind strays during the race.					
14	Encourage of the public about the race existing me.					
15	I hasten to provide assistance to those who need it.					

16	I feel the sense of existential realize when doing something new.					
17	I'd win more than performance.					
18	I go to the race with joy and happiness.					
19	In the important game , I do special effort					
20	I feel self-confidence during training and competi-tion.					
21	Follow good planning in training.					

Extension (3) Table shoeing names of experts who depended on them the two researchers in scales of mental toughness and psychological stability

rank	Name of the expert	The Specialization	Place of work
1	D.Hussein Rabiee	Educational Psychology	Physical Education College / University of Babylon
2	D.Nahida Abd Zaid	Kinesthetic learning-Volley-ball	Physical Education College / University of Babylon
3	D.Yassine Allwan AL-Timimi	Sports Psychology	Physical Education College / University of Babylon
4	D.Haider Abd AL-Ridah	Sports Psychology	Physical Education College / University of Babylon
5	D.Haitham Husein AL-Jubbori		Physical Education College / University of Babylon

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THE CORRECT SEQUENCE OF MOTOR TRANSPORT BETWEEN BODY PARTS TO SKILL BEATING OVERWHELMING INDICATION OF MUSCLE ELECTRICAL ACTIVITY AND MECHANICAL VARIABLES

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, ** Physical Education College, Baghdad University

ABSTRACT

The problem with question-based on motor transport, trends in respect of any body parts that begin with movement and their transition to other parts of the integration of performance in line with the requirements of the game, we all know from previous studies that transport the parties, trunk activist from the upper to the lower limb or trunk, they we try in this research show that there are only moving cluster or detailed activist who is associated with the trunk and move opposite like indicated by sources. The researchers used the descriptive for the purposes of analysis, the sample b (3) players, overwhelming beat higher professional volleyball clubs excellent (2013-2014) and use a device to measure electrical activity and program (Kinovea) kinetic analysis, the researchers used percentage, arithmetic mean of the results, it was concluded that the process of motor transport for the crushing blow skill in volleyball from moment to moment basis and payment starts with the muscles of the trunk and muscles of men and shoulder, and the study recommended a Research on other games and other muscles to substantiate the theory of motor transport.

KEYWORDS: SEQUENCE. MECHANICAL. SKILL. INDICATION. MUSCLE.

1. INTRODUCTION

The continuous development of theories of the mechanical human body and its specificity. Needs from each researcher to extrapolate the results and their conclusions scientifically which commensurate with the need for them according to the specificity of the human body ,and one of these concepts is the concept of moving transport between the different parts of the body while doing any movement. The research discussed on the idea of where the movement starts and where is transmitted and where to end, and whether that use of some assistive devices such as electrical activity device of muscle and video imaging to identify some of the mechanical variables help in the discovery and proof of this idea, and this subject considered one of the important topics that will help to select the correct tracks to work on their education and help to train the special muscles without random in the work of these muscles. As is known that motor transport means "the gradient in the movement of the parts so this gradient characterized towards the motor duty for the exploitation of the overall strength to serve the movement ," which means "a scientific term used by the human body to increase the effectiveness and efficiency or strength or speed of the organ which has to do the performance(wajeeh mahjob 1987) and the motor transport considered one of the most important characteristics of the athletic movements "(Sareeh Abdul Karim, 2010), that the nature of the human body and its component parts necessitate be a process of communication between these parts and transfer movements for each part of the body parts in the kinetic performances with high specificity and renewed depending to the potential mechanics of the motor device and the foundations of physiological laws of biomechanics (Najah Shalash and Akram Mohammed 2000), which also is a " dynamic synergy between muscle group and the other for the purpose of consolidating one of the two groups the other to contribute to the achievement

of the desired goal" (Bstaiwisy Ahmed 1996), so the importance of the research is that from where to start movement where transmitted and what is the sequence of moving to other parts during the skilled performance of the athletic effectiveness, we all know that all the studies of Arab or foreign indicated that there are two types of the motor transport ; the first one be from the extremities to the trunk and the second from the trunk to the extremities and this case is considered one of the scientific problems that intersect with mechanical performance, considering that the motor transport starts from the bigger mass to smaller to ensure the arrival of these parts equally when applying the various movements and cannot be contrary, all these questions, the researchers wanted to be answered through scientific experiment using a device to measure the electrical activity of the muscle (EMG) who cares planning electrical muscle and recording the electrical activity of contracted muscles and to what extent the involvement of muscles in the movement (Baumann, W.1989) and this scheme is defined by two variables (X) time and the unity of the milli seconds m.sec)) and second (Y) the signal strength and the unity of the micro volts (uV) (Safaa Abdel-Wahab, 2009). The kinematical analysis of one of the skills that shows the motor transport clearly which is a skill of overwhelming striking of volleyball in order to prove the validity of this analysis or its mistake. The research aims to find out the value of the electrical activity of some leg muscles, trunk and arm of the skill of overwhelming strike by volleyball.

2. RESEARCH METHODOLOGY

The researchers used a descriptive approach for the purposes of analyzing the results.

3. RESEARCH SAMPLE

Represented by (3) players, specialists by the high overwhelming strike in volleyball from the Premier League (2013 to 2014 m).

4. RESEARCH VARIABLES

two phases have been identified from the analysis of the performance of the skill of the muscular work corners and the kinematical one, the two phases of build and pushing. The electrical activity variables are as shown in Table (1).

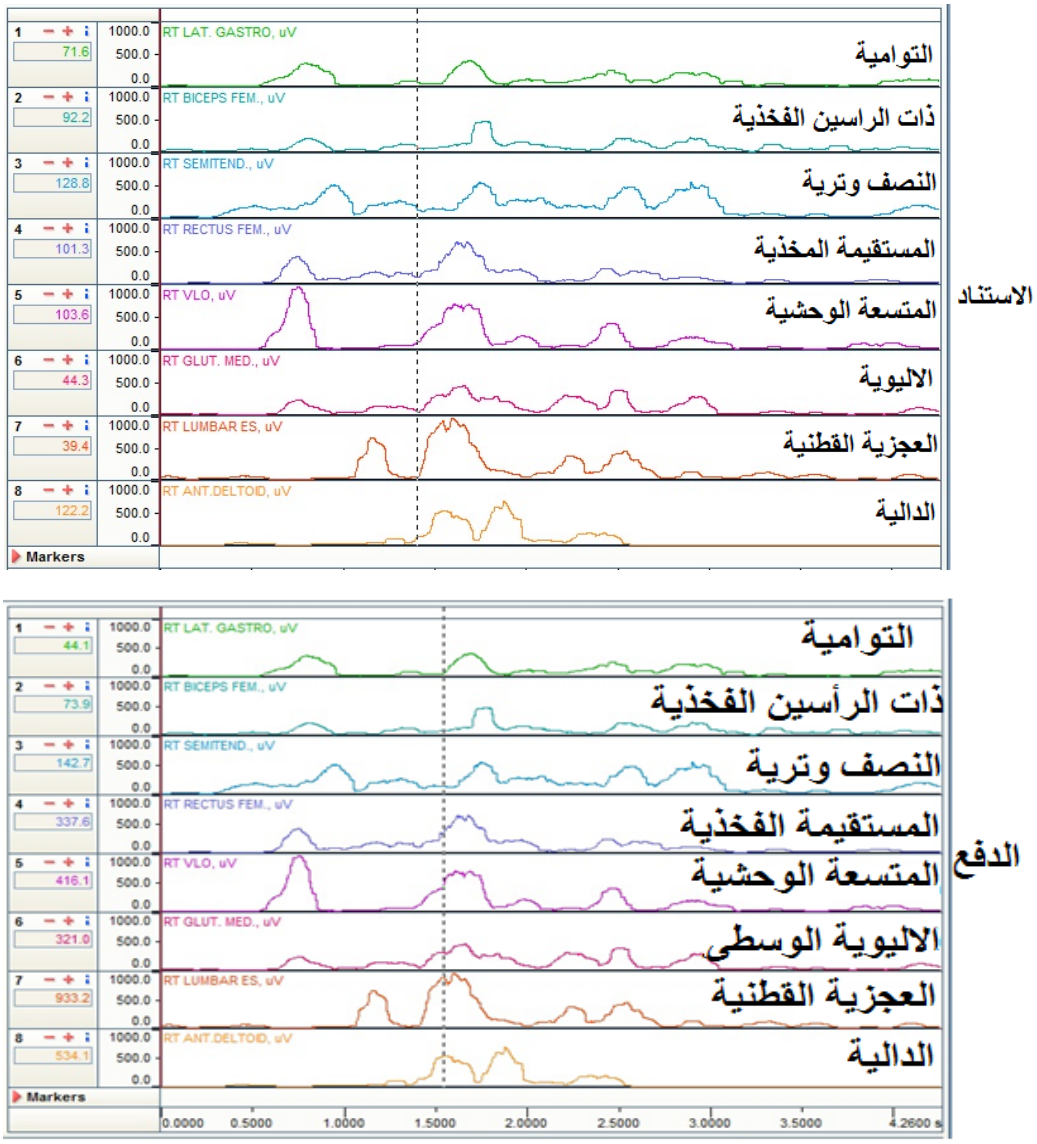
Table (1) the studied muscles in the research for the analysis of muscle activity and units of their measurement

rank	muscles	
1	Gastronomies Muscle	• Time-sec • The summit-milli volt
2	Biceps Femoris Muscle	
3	Semitendinosus Muscle	
4	Rectus Femoris Muscle	
5	Vastus Lateralis Muscle	
6	Gluteus medius Muscle	
7	Lumbar Muscle	
8	Ant Deltoid Muscle	

The kinematical variables: the researchers used a kinetic analysis program (Kinovea0.8.7)

1. The absolute angle of the leg in the farthest bend: which is the angle between the horizontal lines which pass through the point of the knee point parallel to the land with the line of the leg.
2. The absolute corner of the thigh (Bieceps) in the farthest bend: which is confined between the imaginary horizontal line which pass in point of the knee joint which is parallel to the and the line of the thigh
3. The angle of the thigh muscle: in the farthest bend: which is confined between the imaginary horizontal line which pass through a point parallel to the hip that parallel to the land and the thigh.

4. The absolute angle of the humerus: which is confined between the imaginary vertical line between that pass from the shoulder joint and humerus.
5. The absolute angle of the trunk: It is the angle between the imaginary horizontal line that pass through the hip point which is parallel to the land with the trunk line.



The form of (1) a graph of muscle electricity during the moments of supporting and pushing.

2-7 the field experiment :was conducted on Sunday (23/02/2014) pm, in the volleyball court in the Physical Education College / University Baghdad and given (4) attempts for each member of the research sample to perform the skill of the overwhelming striking which is straight and high by the volleyball, The researchers used statistical pouch (SPSS) for data processing.

5. DISPLAY THE RESULTS, ANALYZING AND DISCUSSING THEM

Table (2) shows the results of research variables in the supporting phase and their angles and the time of work after (0.05sec) and the value of motor transport.

Rank	Variables	Value of the activity The supporting phase	Angles of support	Value of activity after 0.05 sec	Value of transport
1	Gastronomies Muscle	50.3	61	37.4	12.9-
2	Biceps Femoris Muscle	56.9	69	51.0	5.9-
3	Semitendinosus Muscle	117.1	69	132.2	14.9
4	Rectus Femoris Muscle	104.4	73	188.8	84.4
5	Vastus Lateralis Muscle	115.4	73	296.6	181.2
6	Gluteus medius Muscle	29.8	82	185.1	155.3
7	Lumbar Muscle	45.6	82	662.6	617
8	Ant Deltoid Muscle	127.9	20	195.0	67.1

Table (3) value of the values of the motor transport level of the muscles between the two phases of support and after (0.05) sec.

rank	Values of transport	Names of muscles	Rank of muscles according to EMG
7	662.6	Lumber	617
5	296.6	Vastus lateralis	181.2
6	195	Gluteus medius	155.3
4	188.8	Rectus femoris	84.4
8	185.1	Ant Deltoid	67.1
3	132.2	Semitendinosus	14.9
2	51	Biceps femoris	-5.9
1	37.4	Gastronomies	-12.9

Can be seen from the table (3) that in gastronomies muscles; the decreasing level of muscle activity was (25%). And decreasing values of muscular activity of the biceps femoris muscle (10%). The other muscles were at the stage of increasing the proportions of muscular activity (in semitendinosus muscle, the increase at rate of (11%). In rectus femoris ; the level of increase (44%) , for the vastus lateralis muscle was (61%) and , for the Gluteus medius (83%), for the lumbar muscle (93%) and for the deltoid muscle (34%). Notes that the biggest increase was in the lumbar muscle which correlated with the trunk through the hip which are gluteal and vastus lateralis femoris and then all these muscles joint torso and thigh which begin the movement.

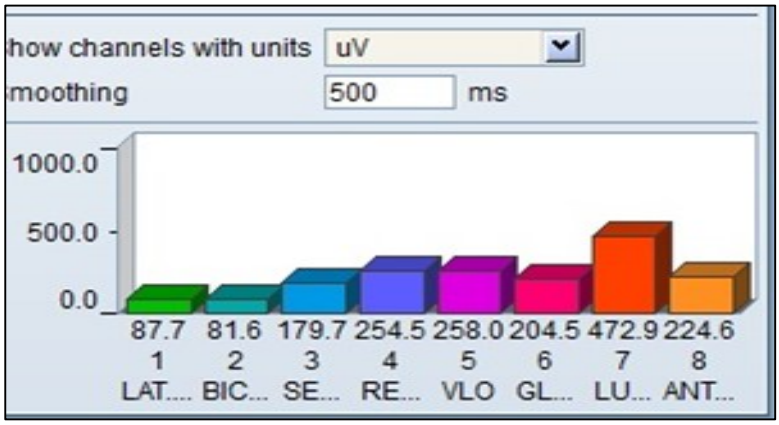


Figure (2) chart for muscle activity at the moment of support and beginning the moment of pushing

Analysis the order of the values of the motor transport of muscle activity according the level of increasing and their discussion:

Table (4) ordering the values of the motor transport level of muscle activity according the level of increasing

Rank of the muscle	The muscles	Values of transport	Level of activity according to the EMG	Rank of the muscle according to the values of increas-ing
7	Lumbar	662.6	617	%93
6	Gluteus medius	296.6	155.3	%83
5	Vastus Lateralis	195	181.2	%61
4	Rectus Femoris	188.8	84.4	%44
8	Ant Deltoid	185.1	67.1	%34
3	semitendinosus	132.2	14.9	%11
2	BicepsFemoris	51	-5.9	-10%
1	Gastronomies	37.4	-12.9	-25%

Can be seen from the table (4) that sequence of the values of the increase in muscle activity for the motor transport was started by trunk muscles then frontal thigh muscles and then the shoulder, then the semitendinosus muscle and this is a scientific evidence to begin the transfer process by trunk before the other parts, and also notes that transportation has been by the size of the muscle and then starting with work according to the requirements of the last part of the skill which is the arm which it's represented by the shoulder, the mentioned values came as result of what is given by these devices of digital values . The aim of this work by using the electrical activity of the muscle is to provide information for the researchers about the muscular activity of a group of these muscles to get an accurate estimates according to the nature of the motor track and the motor to be used in the analysis of mus-cle and skilled tracks (2004 A. Rainoldia, Melchiorrib).

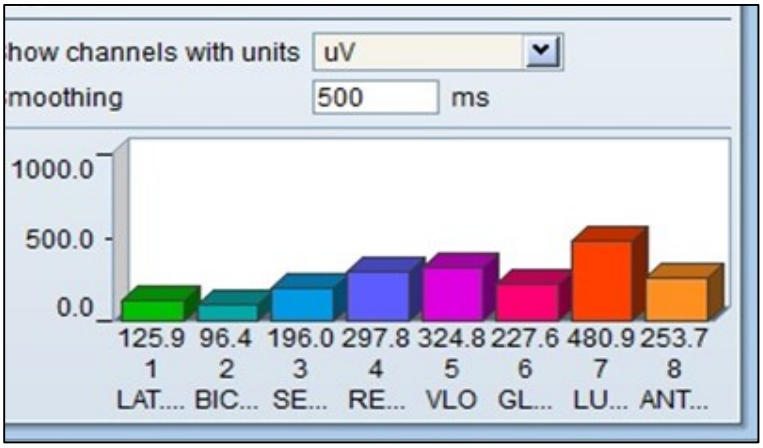


Figure (3) graph of the activity of the muscles at the end of the pushing

That what is happening from the momentum of the trunk is added to the momentum of the arm through the axis of the shoulder, and from the other side that the movement of the trunk will help the effective tide by the hips which is supplementary for the movement of the trunk to be the end of the movement by the ankles for the men and by the wrist during striking the ball for the arms , and these muscles are of great significance in the two phases of pushing and jumping for the volleyball player (2001Kakihana, W.and Suzuki). The researchers added that trunk by its movement be based on the two legs during stability of the two legs on the ground, and so the trunk starts with the movement and followed by pushing by the legs, and it is possible for the arms to change their tracks in the air because it is based on the largest part which is the trunk, because the decision of the path of the trunk has identified trends of the force to it from the moments of support and leaving the ground (Yaroub Khyoun 2009), that the results achieved in the skill of overwhelming striking can be realized in any movement from the other movements like scoring by handball, basketball, weights lifting, the high jumping , and the beginning of swimming, disc throwing, and hammer throw, tennis at the moment the transmitting or striking the ball in football.

6. CONCLUSIONS

1. The process of motor transport for the overwhelming skill in volleyball from moment of support to the moment of pushing started by the trunk muscles then the rectus and then the shoulder muscles.
2. The first summit of the activity began by trunk then shoulder then the leg
3. The highest activity appeared in the lumber then vastus lateralis then rectus femoris then deltoid then semitendinosus.
4. The highest percentage of increase in the activity of the muscles started in the trunk and then the frontal leg muscles then deltoid then semitendinosus.

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THE EFFECT OF USING STYLISTIC THE CONSTRUCTIONAL LEARNING ON EDUCATION SOME MOTOR SKILLS ON THE BALANCE BEAM IN WOMEN'S GYMNASTICS

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ABSTRACT

The aims of the research are Identifying the effect of the constructional learning On education Some Motor Skills on the Balance Beam In Women's Gymnastics , The researcher used the experimental method The subjects were Two Year College of physical education students 2014were divided two groups, experimental group was applied the constructional learning and controlling group was applied method of learning. After data the researcher concluded following the Learning Motor Skills of Using Stlistic the constructional learning have apositive effect on the students motor skills as shown in pre and posttests.

KEYWORDS: EFFECT. WOMEN. GYMNASTICS. CONSTRUCTIONAL LEARNING. MOTOR SKILLS.

1. INTRODUCTION

The style of constructive education considered one of these methods that make the learner is the axis of the educational process and aims to "intervention the teacher in the preparation the learner and his awareness that there is a problem requiring a solution and he needs an appropriate strategy to achieve that effort, the effort of the learner which achieve it by himself to get deeper learning and more useful than if he forced than if forced to make this effort to get the knowledge."(6:34), and the collaborative learning is a process based on the philosophy of construction which emphasizes on an importance of that learning is meaningful and to get to it , the learner has to use all his knowledge and his past experiences that found in his structure of knowledge to be able to understand the knowledge of new construction and are in this education there is a help for students for building their scientific knowledge according to successive stages (integration, exploration, explanation, and expansion and correction). (121: 6), and the process of learning skills of the artistic gymnastics still depend on the conventional methods used in the lessons and characterized often by neglecting the aspects that urges thinking and linking the past experiences with new information to enable the learner to enrich his knowledge and development of skills and teaching him the methods of right thinking. the researcher sees that the style of constructive learning is one of the modern methods which depends on the active participation of the learner through raising his mind and discovering the concepts by itself and its interaction with the new situation by depending on the subjective experiences and thus the development of mental abilities and increase experiences and this in turn is reflected in the learning process in a positive way. Through the above, the importance of research lies in the identification of the impact of the structural style of learning in the education of some motor skills on a balance beam in the women's artistic gymnastics.

2. RESEARCH GOAL

The research aims to identify the impact of the structural style of learning in the education of some motor skills on a balance beam in the women's artistic gymnastics for the two sets of the research

3. RESEARCH METHODOLOGY

Experimental method has been used for its suitability with the research problem

4. RESEARCH SAMPLE

The research sample was selected from the second grade students in the Faculty of Physical Education / Baghdad University for the academic year (2012-2013m) and the number of its members (34) students were divided into two experimental (17) has been asked to use the constrictive education, and the control (17) was asked the use of the traditional style of learning (Prince) in teaching motor skills.

Table (1) shows equality of the research sample of skills under discussion

Rank	Skills	The experimental group		The control group		Value of calculated (t)	The difference
		A	SD	A	SD		
1	The background	0.73	0.614	0.76	0.627	0.14	Random
2	The saddle shaped ascent	0.970	0.650	0.969	0.590	0.370	Random
3	The landing	1.3	0.60	1.05	0.527	0.83	Random

Significant at ≤ (0.05)

Shown in table (1) that the value of calculated (t) is less than the tabulated value of (t) this means that the two groups are unequal in the test of motor skills under discussion

5. DETERMINATION THE MOTOR SKILLS

Motor skills have been identified based by depending on the curriculum of the second stage students of the College of Physical Education / University of Baghdad, as has been chosen three motor skills specific to the balance beam to be taught on a balance beam, and these are the skills (the skill of saddle shaped ascent- skill of rolling background the skill of landing).

6. PRETEST

Were given induction unit of the two sets of research (experimental and control) before doing tribal tests where included explanation of motor skills and displayed them by the subject teacher, then the tribal tests conducted at (Wednesday), corresponding to (02.05.2014) and the researcher filmed the tribal tests and displayed them on four elements which are experts in the game of artistic gymnastics to calculate the final score and the final score was calculated for each student according to the international law of gymnastic.

7. THE CURRICULUM

include (18) educational unit and the style of constrictive education was applied on the experimental group of the research while the control group was left to the style used in the lesson by two learning units in the week, and the time of learning unit (50 minute) and the curriculum was implemented starting from (6 / 2/2014) until (04/08/2014) and the work of a researcher was limited to the main part only as began by explaining the motor skill and displayed it in front of the students and ask questions about the previous skills that have a relationship or that are close in terms of technique or performance of the new skills to be learned and this phase called : calling phase which means the teacher calls the students to learn new skills . After this step the teacher begins by asking questions about the skills which are wanted to be learnt to know about what they have of information about the skills to be learned to get to the good level of a good. Then the exploration phase starts after through the implementation of the skills by the students under research and training based on the information who received them from the teacher during the explanation and presentation of skills and what they have of previous experience as

that the teaching skills under discussion in the second semester. Finally, the final stage is called the explanations and solutions stage where the students are able to perform the skills in seriousness and activity and the role of the school here is limited to give feedback to the students in time of need. Then the student starts the performance of the skill by itself without the intervention of the school and its dependence on internal feedback in correcting the mistakes.

8. POSTTEST

Post-test was conducted on a research sample on (04/10/2014).

9. STATISTICAL METHODS

Was used the statistical bagful (SPSS) for data processing for research

10. DISPLAYING RESULTS, ANALYZING AND DISSCUSSING THEM

Showing the results of tests before and after psychomotor skills under discussion for the experimental and control groups, analyzed and discussed:

Table 2 shows the results of tests before and after the control group.

Rank	Skills	Pre-test		Post-test		Calculated(t)	The differ-ence
		A	SD	A	SD		
1	The background rolling	0.73	0.614	4.573	1.065	19.090	significant
2	The saddle shape ascent	0.970	0.650	4.580	1.040	15.060	significant
3	landing	1.3	0.60	6.520	1.055	17.060	significant

Significant at ≤ (0.05)

Table 3 shows the results of tests before and after the experimental group

Rank	Skills	Pre-test		Post-test		Calculated(t)	The difference
		A	SD	A	SD		
1	The background rolling	0.76	0.627	5.2	1.004	16.234	significant
2	The saddle shaped ascent	0.969	0.590	5.320	1.2	19.069	significant
3	landing	1.05	0.527	5.90	1.099	22.670	significant

Significant at ≤ (0.05)

Through the results show that the experimental and control groups may have learned motor skills under discussion and that is due to the commitment of the research sample by the educational units and training on skills through repetition accompanied by feedback through performance and correcting it in each stage of learning led to the stability of the level of learning and progress it positively and that's what was clearly evident in the arithmetic means , which raised in the post-test as the "the feedback increases the energy of individuals and their motives and enhance the right performance." (282: 8). As the diversity in performance of skills and through the principle of

gradual learning from easy to difficult helped students to learn skills and their excellence in the performance to suit their abilities as "the level of practitioners of the game can be improved by defining what is appropriate for their abilities." (126: 5) and thus achieved the first hypothesis that there were statistically significant differences between pre and post- tests in learning skills under search.

SHOWING THE RESULTS OF A POSTERIORI TESTS OF TWO EXPERIMENTAL AND CONTROL GROUPS IN MOTOR SKILLS UNDER RESEARCH AND ANALYZED AND DISCUSSED

Table 4 shows the results of a posteriori tests of two experimental and control

Rank	Skills	The control group		The experimental group		The calculated value of (t)	The difference
		A	SD	A	SD		
1	The background rolling	4.573	1.065	5.2	1.004	5.430	significant
2	The saddle shaped ascent	4.580	1.040	5.320	1.2	5.676	significant
3	landing	6.520	1.055	5.90	1.099	5.56	significant

Significant at ≤ (0.05)

Table (4) noticed the presence of statistically significant differences between the experimental and control groups and in favor of the experimental group and the researcher attributes that due to adopting the style of constructivist learning in its approach as the constructivist learning helped the student to interact directly with the school to learn the skills under discussion by exploring ideas and depending on the past experiences stored in the motor memory which act as internal feedback given to them to correct the error thus helped in controlling the skill and access to the required motor synergy that "the constructive learning approach helps students to build their knowledge and connect them with the previous knowledge and through the ability to retrieve information and linking the new knowledge with the previous knowledge and the development the skills of higher-order thinking and problem solving skills "(383: 1), as well as the style of constructivist learning helped to develop the intellectual and sensuous of the learner and depending on itself in correcting mistakes which means that it reduces the proportion of dependency thus reduced the burden on school material and it has achieved the goal of research.

11. CONCLUSIONS

1. Learning skills under research using constructivist learning has achieved positive results for the experimental group.
2. The use of constructivist learning in the learning process has led to an increase in the desire of students to learn motor skills and giving them the opportunity for dialogue with their colleagues and with school and thus led to the formation of positive attitudes toward gymnastic lesson.
3. Superiority of the experimental group on the control group in learning the skills in under search.

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