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Original

Aplicación de fundamentos técnicos ofensivos del baloncesto en la coordinación motriz

Application of offensive basketball technical fundamentals in motor coordination

Carlos Santiago Villacís Fonseca[1]
ORCID: https://orcid.org/0009-0003-2414-1131

Julio Alfonso Mocha Bonilla[1]
ORCID: https://orcid.org/0000-0002-8903-4746

Universidad Técnica de Ambato, Facultad de Ciencias Humanas y de la Educación, Ambato-Ecuador.(1)

Autor de correspondencia
cvillacis6919@uta.edu.ec

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Resumen

La coordinación motriz en el baloncesto es la capacidad de realizar movimientos de manera controlada y efectiva, integrando diferentes partes del cuerpo en acciones motrices específicas del juego. El presente trabajo investigativo tuvo como objetivo analizar la coordinación motriz post-interveción de un programa de ejercicios de fundamentos técnicos ofensivos en la disciplina del baloncesto. El estudio corresponde a un enfoque mixto de tipo cualitativo y cuantitativo, cuya modalidad de investigación fue aplicada a través de un diseño analítico – descriptivo. La muestra de estudio fue constituida por 50 escolares cuya edad fue de 9 y 10 años, como instrumento se aplicó el Test 3JS que permitió realizar un análisis de la coordinación motriz constituida en dos dimensiones: coordinación locomotriz y coordinación de control de objetos, se realizó un programa de intervención el cual duro seis meses de aplicación, es decir, un corte longitudinal con aplicación de un pre test y un post test. El análisis de los resultados revela un nivel significativo en la coordinación motriz en todas las dimensiones de la coordinación motriz para el género masculino, sin embargo, en el género femenino se obtuvo valores más significativos tras la aplicación del programa de intervención realizado.
Palabras Clave: coordinación motriz, movimiento, loco motricidad, fundamentos baloncesto.

Abstract

Motor coordination in basketball is the ability to perform movements in a controlled and effective manner, integrating different parts of the body in specific motor actions of the game. The objective of this research work was to analyze the post-intervention motor coordination of a program of offensive technical fundamentals exercises in basketball. The study corresponds to a mixed approach of qualitative and quantitative type, whose research modality was applied through an analytical-descriptive design. The study sample consisted of 50 schoolchildren aged 9 and 10 years old. The 3JS test was applied as an instrument, which allowed an analysis of motor coordination in two dimensions: locomotor coordination and object control coordination; an intervention program was carried out, which lasted six months of application, that is, a

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longitudinal cut with the application of a pre-test and a post-test. The analysis of the results reveals a significant level in motor coordination in all dimensions of motor coordination for the male gender, however, in the female gender more significant values were obtained after the application of the intervention program.

Keywords: motor coordination, movement, crazy motor skills, basketball fundamentals.

Introduction

Motor coordination refers to the body's ability to perform movements in a fluid and efficient manner, integrating different muscle groups in addition to the sensory systems (Bennasar-García, 2023). This ability is fundamental in various daily, physical and sports activities, as it allows us to execute complex movements with precision and control (Buenaño, 2023). Motor coordination develops throughout life, when we begin childhood, when we learn to walk, run, jump and perform physical activities. As we grow older, practice and experience in different sports or physical activities contribute to improve these skills, hence, motor movement (Zhang, 2023).

Lermanda (2023) mentions that, during childhood, motor coordination is important for the overall development of the child. Activities that require coordination, such as playing soccer, dancing or exercising, not only strengthen our physical skills but also our social and cognitive skills. Play and physical activity help children learn and interact with their environment, encourage cooperation and promote the development of self-esteem (Espinal, 2023).

Working on motor coordination from an early age helps us to prevent injuries by allowing children to move in a safer and more controlled manner. Therefore, motor

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coordination from infancy is necessary to achieve a harmonious development, balancing their motor functions (Orona-Escápite, 2023).

Motor coordination is very important for physical fitness and a healthy lifestyle, the regular practice of activities requires coordination, such as dance and sports, as it not only helps us to maintain agility and strength, but also contributes to our mental and emotional health. Therefore, it is essential to continue promoting and practicing activities that improve motor control, promoting a healthy life throughout our lives (Erazo-Verdezoto, 2024).

Basketball, being a high-intensity and dynamic sport, requires a combination of technical, physical and motor skills to be successful. Among these skills, motor coordination plays an important role. This skill develops the individual performance of the player, it is also crucial for the implementation of team strategies and the improvement of technique in general (López-Pérez, 2024).

Motor coordination refers to our body's ability to perform precise and efficient movements through the integration and synchronization of muscles, tendons and sensory systems. In the context of basketball, motor coordination is a multiple skill that allows players to perform complex tasks such as dribbling, shooting, passing and blocking, defensive and offensive movements with fluidity and control (Mejia, 2021).

Avila & Guerra (2024) mention that one of the main aspects in basketball is hand-eye coordination, the ability to synchronize hand movements with visual information, used for dribbling, shooting and passing. Players must be able to read the position of the ball, the location of their teammates and opponents, adjust their movements consecutively; likewise, we have hand-foot coordination, the ability to coordinate hand movements with the feet, which allows

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efficient control of the ball during dribbling and facilitates quick and directional movements. Mejia & Perez (2021) state that a good ball control during the movement requires a precise synchronization between hands and feet. Another very important aspect is to combine movements between the upper and lower body, which is fundamental to execute skills such as suspension shooting, rebounding and defensive movements (Calderón, 2021).

As Rojas (2024) points out in basketball, motor coordination is fundamental in the teaching of the technical fundamentals of basketball, as it impacts several key aspects of performance; a well-developed dribble allows us to handle the ball with agility and precision. The ability to change direction quickly while maintaining control of the ball is essential for overcoming defenders and creating attacking opportunities; while shooting accuracy is the coordination between the eyes, hands and body that is crucial for effective shooting. The ability to adjust the strength and angle of the throw based on the position of the basket and the opposing defense, can make the difference in the decisive moments of the game, it is also important the execution of plays, which require the coordination of quick and complex movements, such as cuts, changes of direction and combination of passes, so that we have fluid movements and a more effective execution in the team's strategies (Morocho, 2023).

Basketball, a sport that combines physical, tactical, mental and coordination skills, requires a deep understanding and precise execution of technical fundamentals. These fundamentals are not only the basis of the game, but also determine the success of the team, both at amateur and professional level and, are important in the performance of the players (Galatti, 2015). One of the main fundamentals according to (Avila, 2024) is dribbling, as the ability to control the ball in motion, which allows us as players to advance in the field of play,

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overcome defenders and create attacking opportunities; it requires control, coordination and speed. Players must learn to use both hands with equal dexterity, control dribbling speed and vary their technique to deceive opponents, as well as advanced skills such as bouncing between the legs and behind the back, which are essential to creatively beat defenders. Zambrano-Intriago (2023) mentions that shooting is one of the most important skills in basketball, because the accuracy with which we throw the ball to the basket can determine the outcome of the game. In turn Crespo Guaraca (2022) states that the pass is the action of transferring control of the ball from one player (passer) to another (receiver) of the same team, because it relates to the members and allows the development of collective play, also the method and application of the game contributes significantly to the teaching-learning process in the acquisition of specific motor habits of basketball.

Finally, according to Suárez-Cadenas (2017) the offensive rebound: is when a player of the attacking team recovers the ball after a missed shot. This allows us to keep possession of the ball and generate a new scoring opportunity. Inside players, especially centers, are usually the specialists in this type of rebounding. To rebound effectively, it is important that we master the proper technique. In short, rebounding is an essential skill that every basketball player must master in order to contribute to the success of his team. Both offensive and defensive technical fundamentals are key to winning games (Toapanta, 2024). Therefore, our study aims to analyze the post-intervention motor coordination of a program of offensive technical fundamentals exercises in the discipline of basketball.

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Methodology

For the drafting of the state of the art we based ourselves on the theory based on the synthetic analytical method, that is to say, we analyzed each of the variables of the study, we resorted to sources of consultation of different indexed databases to analyze the methodological theoretical currents related to the proposed study.

The present research was carried out by means of a mixed approach, qualitative in nature due to the study of the offensive technical fundamentals of basketball, where we observed the technical qualities of the students of General Basic Secondary Education; it was also quantitative because we analyzed numerical data related to the measurable parameters of motor coordination.

The research sample was made up of 50 students of fifth, sixth and seventh years, which are divided into 25 girls and 25 boys of General Basic Education of the Educational Unit “El Oro”.

The research was of an applied type, because we conducted fieldwork in the “El Oro” Educational Unit; the scope of the research responds to a descriptive explanatory analysis according to the variables of study of the subject raised, that is, the application of the offensive technical fundamentals of basketball and its effect on motor coordination. Subsequently, we verified the fieldwork data and its application to substantiate the conclusions of the study, this allowed us to relate the results obtained with the current theoretical references to establish the respective conclusions.

According to Cenizo (2016) motor coordination is the set of capacities that organize and regulate in a precise way all the processes of the motor act in function of a pre-established

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motor objective. Such organization is approached as an adjustment between all the forces produced, both internal and external, considering all the degrees of freedom of the motor apparatus and the existing changes in the various situations.

In the study we analyze the motor coordination, this type of motor skills are worked at the beginning of the training period, specifically in the stage of general preparation, once these skills are consolidated we proceed with the work of the technical fundamentals of basketball, where we observe quantitatively and qualitatively the motor coordination, the test evaluates based on quantitative scores ranging from 1 to 4, for greater ease in the study we used a qualitative scale where 1 is considered retardation, 2 is risk, 3 is considered in development and 4 is considered normal, in this way the teacher observes and notes the progress in each training session, every 2 months qualitative observations were recorded, which helped us as teachers to correct the problems that arose in motor coordination of children.

There are several tests to analyze motor coordination, among the most used we present them in Table 1.

Table 1
Test to analyze motor coordination

Test	Author/Year	Age of Application	Aspects To Be Measured
TGMD-2 (Test of Gross Motor Development-2)	Ulrich, (2002)	3 to 10 years.	Locomotion skills (running, galloping, hopping, jumping, hopping, horizontal jumping, and side stepping). Object control skills (hitting, bouncing, catching, kicking, over-the-shoulder throwing, and under-the-hip throwing).
Test KTK	Kiphard & Schilling, (1974)	5 to 14 years.	The tests it evaluates are walking backward while maintaining balance, hopping on one leg, sideways hopping, and moving laterally.
Test Jack Capón	Jack Capón, (1978) adapted by Carrasco Sergio, (1990)	4 to 10 years.	It determines the body parts. Balance board evaluates dynamic balance, laterality and visuo-motor association. Jumping with one foot, its purpose is to evaluate gross motor coordination and dynamic balance.

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			Jump and fall to evaluate dynamic balance, gross motor coordination and kinesthetic coordination. Obstacle course to evaluate spatial orientation. Receiving a ball to evaluate hand-eye coordination and eye tracking.
Test Motor SportComp	Ruiz Pérez L., (2017)	12 to 16 years.	The 7-meter run on one leg, 7-meter run with feet together, back and forth run, movement on supports and lateral jumps.
Test 3JS	Cenizo et al., (2017)	6 to 11 years.	Vertical jumps Spins Throws Foot strikes Slalom running Bounce with slalom Driving without slalom

For our study we selected the 3JS test taking into account the age of the subjects, as well as the level of observation of the motor tasks, which are appropriate for analyzing the offensive technical fundamentals of basketball since they evaluate hand-eye and foot-eye coordination. In the development of the research, we applied the technique of direct observation related to the variable offensive technical fundamentals of basketball, while for the variable motor coordination we used the 3JS Test which aims to assess the level of motor coordination of children aged 6 to 11 years. The instrument consists of a course of 7 tasks performed consecutively and without intermediate rest such as: vertical jumps, turning, throwing, foot strikes, slalom running, bouncing with slalom and driving without slalom. This instrument assesses motor coordination and object control coordination (Cenizo et al., 2016).

The data collection was performed based on the following steps:

-Selection of the study sample.

-Application of the test (pre - intervention - post).

-Data collection and analysis

-Data processing, using Excel and SPSS software packages.

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-Statistical analysis in SPSS version 25

-Tabulation of information, statistical analysis and results:

The processing of the information and statistical analysis was an essential component in carrying out the study, since this research involves the collection of quantitative data in two moments through a longitudinal study, the statistical processing of the data and the results obtained, which we analyzed using SPSS version 25 statistical software.

The realization of the intervention program based on the technical fundamentals of basketball involved several steps to ensure its effectiveness. First, we established the theoretical framework, which was the theoretical-methodological guide of the program, then we chose the various methodologies based on the authors who work on tactical game approaches with direct instruction, according to the class objectives. Secondly, we defined the specific objectives to be worked on in the program to improve technical, tactical and group work skills among students. Thirdly, we followed the established planning conformed by class sessions, where we worked according to the programmed sequences and progressive work activities, where we carried out five weekly work sessions, one for each day, the work was done from Monday to Friday, with an intensity of 90 minutes daily, each session was adapted according to the effort and complexity of the exercises, depending on the levels of motor skills of each individual; As a progression we apply the inductive-deductive method, that is, we work through inductive-deductive type sessions, that is, from the easy to the complex. Fourthly, we implemented progressive evaluation methods in each class session, which allowed us to adjust the strategies according to the progress observed and the feedback received. Finally, during the six months of work we fostered collaborative learning, which

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has allowed students to reflect on their performance and progress, i.e., the practice and interaction of meaningful learning experiences related to the offensive technical fundamentals of basketball and motor coordination. Next, we analyze the main offensive basketball fundamentals with their strategies proposed in our intervention.

Table 2
Proposed intervention program

Rationale	Proposed Strategies
Dribbling and Dribbling	• Ball grip: the fingertips are used to bounce the ball, keeping the hands in a proper position. The ball should be in contact with the fingertips, not the palm. This allows for better control and precision when dribbling. • Proper posture: keep the legs bent and the body slightly leaning forward. This provides stability and allows you to move quickly in any direction. One leg should be slightly more forward than the other to facilitate movement. • Forward gaze: you keep your eyes on the field of play, not on the ball. This allows you to watch defenders and your teammates, making it easier to make quick decisions during the dribble. • Variation in speed: you change the speed of the dribble to disorient defenders. You can alternate between a fast dribble and a slower dribble, using feints and changes of direction to get past opponents.
Throwing	• Ball grip: the ball is held with the fingers and the back of the palm, using the other hand on the side to protect the ball. This ensures proper control during the throw. • Foot position: feet are kept shoulder width apart, with a slight bend in the knees. The feet should be parallel and pointing towards the hoop to facilitate the throw. • Throwing motion: the throw is initiated with an extension of the legs and trunk, followed by flexion of the elbow and wrist. The sequence should be fluid, allowing the ball to rise in a proper trajectory. • Post-throw follow-through: after throwing, the arm is held extended in the direction of the hoop and the trajectory of the ball is observed. This helps to improve accuracy and correct errors in future throws.
Passing	• Correct grip: hold the ball with fingers extended and palms slightly away from the ball, thumbs pointing upwards. The elbows should be close to the body, without crossing the arms. • Basic position: maintain a triple threat position, with feet shoulder width apart, knees bent, and weight evenly distributed. This allows you to react quickly and pass the ball accurately. • Arm extension: project the ball with a fluid movement of the arms, extending the elbows and wrists to give speed and accuracy to the pass. The fingers should be pointing towards the receiver when releasing the ball. • Following the pass: keep your eyes on the ball until it leaves your hands and watch the trajectory of the pass. This allows you to correct mistakes and ensure that the receiver can catch the ball.
Rebounding	• Anticipate the trajectory of the ball after the shot. • Positioning between the hoop and the nearest opponent. • Jumping vertically with hands up to catch the ball. • Protect the ball with elbows and body to prevent it from being snatched. • Falling softly with the ball under control.

Results

Based on the objective of the research, we carried out the application of the selected instrument, for this reason we detail below the main results of the 3JS Test, with which we

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analyzed the motor coordination of the male and female genders before and after the application of the intervention program.

Table 3
Characterization of the study sample

Variables	Male (n=25 – 50,0%)			Female (n=25 – 50,0%)			Total (n=50 – 100%)	
	M	CV	±DS	M	CV	±DS	M	±DS
Age (years)	9,16	1,56	1,25	9,44	1,09	1,04	9,30	1,15
Height (cm)	1,29	0,00	0,05	1,35	0,01	0,08	1,32	0,07

In the analysis of the study sample, we determined that there is numerical equality (number of subjects) for the male and female genders. In relation to the variable age, the female group presented a higher average value of 0.28 compared to the male group, i.e., women are older. With regard to the height variable, the females presented an average greater than 0.02 in relation to the male group; therefore, the female group is older and therefore taller than the male group.

Table 4
PRE and POST analysis in locomotor coordination Male gender

MALE GENDER LOCOMOTOR PATTERN						
Difference Periods	**N**		**Vertical Jump**	**Longitudinal Turn**	**Average**	**Stroke**
PRE test 3JS		M	3,04	2,52	2,92	2,82
	50	CV	0,21	0,34	0,16	0,23
		DS	0,45	0,59	0,40	0,48
POST test 3JS		M	3,76	3,76	3,95	3,82
		CV	0,19	0,19	0,04	0,14
		DS	0,44	0,44	0,20	0,36

In the analysis of locomotor coordination in relation to the male gender according to the results of the PRE and POST applying the 3JS test, we were able to determine that in the vertical jump test there was a difference of medians of 0.72; in the longitudinal rotation test the results obtained reflect a difference of medians of 1.24 and in the running test there was a

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differentiation of medians of 1.03. The results obtained from all the tests with respect to the locomotor coordination after the intervention of the program, determined that there was a difference of 1.00 in the statistical analysis of the medians.

Table 5
PRE and POST analysis in locomotor coordination Female gender

FEMALE GENDER LOCOMOTOR PATTERN						
Difference Periods	**N**		**Vertical Jump**	**Longitudinal Turn**	**Average**	**Stroke**
PRE test 3JS	50	M	2,48	2,32	2,36	2,38
		CV	0,34	0,23	0,24	0,27
		DS	0,59	0,48	0,49	0,52
POST test 3JS		M	3,64	3,60	3,48	3,57
		CV	0,24	0,25	0,26	0,25
		DS	0,49	0,50	0,51	0,05

In the analysis of locomotor coordination in relation to the female gender, according to the PRE and POST results of the application of the 3JS test, we were able to determine that in the vertical jump test there was a median difference of 1.16; in the longitudinal twist test the results obtained reflect a median difference of 1.28; while in the running test there was a median difference of 1.12. The results obtained from all the tests with respect to female locomotor coordination determined that there was a significant difference of 1.19 after the application of the intervention program.

Table 6
PRE and POST analysis in the coordination Object Control Male gender

Difference Periods	**MALE OBJECT CONTROL**						
	N		**Precision Throwing**	**Precision Hitting**	**Dribbling**	**Driving**	**Average**
PRE test 3JS	50	M	2,88	2,36	2,28	2,04	2,39
		CV	0,28	0,24	0,21	0,29	0,25
		DS	0,53	0,49	0,46	0,54	0,50
POST test 3JS		M	3,84	3,72	3,64	3,68	3,72
		CV	0,14	0,21	0,24	0,23	0,20
		DS	0,37	0,46	0,49	0,48	0,45

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With respect to the male gender, in the second dimension of evaluation which was object control, in the precision throwing test we were able to determine a differentiation of 0.96; while in the precision hitting test there was a difference of 1.36; in the bouncing test the results also reflect statistically that the differentiation reached 1.36 and finally in the driving test a differentiation of 1.64 was established. For the total of these object control tests, a significant difference of 1.33 was shown after the application of the intervention program.

Table 7
PRE and POST analysis in the coordination Object Control Female gender

Difference Periods		**FEMALE OBJECT CONTROL**						
		N		**Precision Throwing**	**Precision Hitting**	**Dribbling**	**Driving**	**Average**
PRE	test		M	2,48	2,20	2,32	2,20	2,30
3JS		50	CV	0,26	0,17	0,23	0,17	0,20
			DS	0,51	0,41	0,48	0,41	0,45
POST	test		M	3,68	3,60	3,68	3,72	3,67
3JS			CV	0,23	0,25	0,23	0,21	0,23
			DS	0,48	0,50	0,48	0,46	0,48

Based on the second dimension, the evaluation corresponding to object control, in the precision throwing test for the female gender, we obtained a difference of 1.20; in the precision hitting test there was a difference of 1.40; while in the bouncing test the results statistically reflect that the difference reached 1.36; and in the driving test we established a difference of 1.52. For the total of these object control tests, a significant difference of 1.37 is shown after the intervention program.

Figure 1
Analysis of the results of locomotor coordination and object control before and after the male gender intervention.

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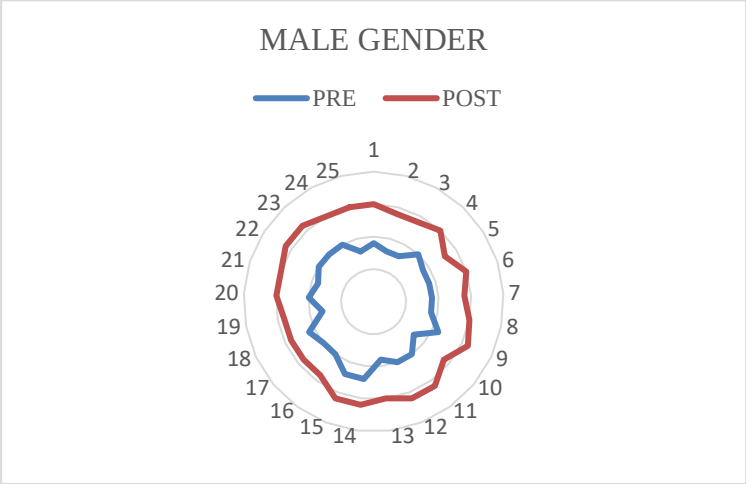
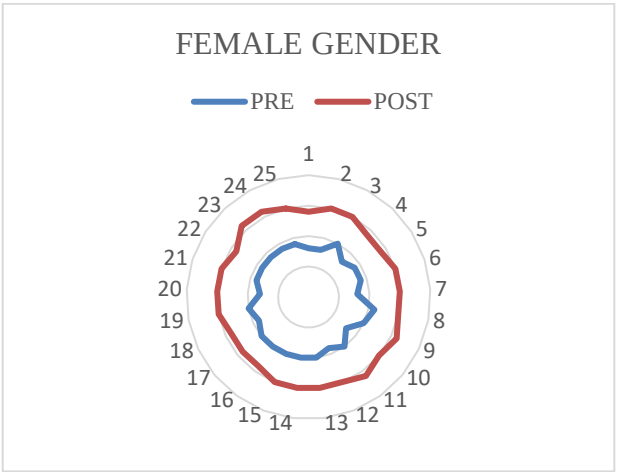


In Figure 1, referring to the male gender, we can visualize in the dispersion scale, in the different tests such as: vertical jump, longitudinal turn and run that corresponds to locomotor coordination; in addition, in the precision throwing, precision hitting, bouncing and driving that corresponds to object control, we can observe differences in the results of the post-test, that is to say, significant results.

Figure 2
Analysis of the results of locomotor coordination and object control before and after the female gender intervention.



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In Figure 2, in relation to the female gender, we can visualize in the dispersion scale the results in locomotor coordination: vertical jump, longitudinal turn and running; in the same way we observe significant results for object control: precision throwing, precision hitting, bouncing and driving; finally, we can appreciate that the results of the post-test for the female gender were more significant than in the males in the two dimensions.

Discussion

The purpose of our study was to analyze the post-intervention motor coordination of a program of exercises of offensive technical fundamentals in the discipline of basketball, where we determined one by one the evaluation criteria in each of the tests that make up the 3JS motor coordination test, we made a set of observations to each of the executions of the students, which facilitated the quantitative analysis of the scores of motor coordination in the study sample, we could identify for our case that the female gender obtained more significant scores than males. Next, we will perform a comparative analysis of the 3JS Test with the most commonly used tests to analyze motor coordination.

- KTK is a battery of tests designed to evaluate gross motor coordination in children from 5 to 14 years old, it is composed of 4 specific tests that allow to evaluate different aspects of motor coordination, to identify deficiencies in motor coordination as children grow, in this way it is possible to identify coordination deficiencies, allowing appropriate interventions if necessary (Kiphard, E, J., & Schilling, F., 1974).

- TGMD-2 is a tool used to assess gross motor development in children aged 3 to 10 years. This test focuses on measuring fundamental motor skills through two subtests: locomotor skills and object control skills. It allows observing the quality of movement rather than just the

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final result, i.e., it evaluates the development of gross motor skills in children through the observation of 12 basic motor skills (Ulrich, 2000).

- MABC-2 establishes 3 age ranges (4 to 6 years, 7 to 10 years and 11 to 16 years), it is an assessment tool designed to identify and describe difficulties in the motor development of children and adolescents aged 4 to 16 years. It allows to observe both the quality of movement and the final outcome. It is widely used in different clinical and educational contexts to detect motor difficulties from an early age. This battery allows us to identify deficits in motor development and plan appropriate therapeutic interventions (Henderson, 2007).

Conclusions

After carrying out a theoretical and methodological analysis of the different instruments to evaluate motor coordination, considering the ages of the participants and the different assessment tests, we can conclude that the 3JS test is a reliable, valid and useful instrument to evaluate motor coordination in children between 6 and 11 years of age; In short, the seven tests provided by the 3JS test are considered easy to apply at the programmed age, that is, they do not present much difficulty at the time of their study, rather they are considered of a specific nature for their execution in the field of sports and Physical Education, the assessment criteria are very specific for the area of Physical Education. The evaluation criteria are very specific for the area of Physical Education, since it has both qualitative and quantitative evaluation scales, the most used is the one presented in this study, since the values range from 1 and 4 points, being 1 the value corresponding to delay and 4 as the normal value, with which we could analyze in each session the execution of the exercise parameters associated with motor coordination.

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We consider that teachers and researchers in the area of Physical Education and sports can make use of the 3JS Test, since this type of instrument can be applicable to various sports, both individual and collective, in addition the instrument is very effective for assessing the motor skills of children in the school stage, as it is a good complement to analyze the parameters of motor coordination; its diagnosis and early evaluation helps both teachers and coaches to observe the results at the level of locomotor coordination and control of objects.

The assessment of motor patterns is of great importance, especially at an early age, where greater attention should be paid to the development of motor skills, which are the main foundation for the acquisition of technical gestures not only in basketball, but can be adapted to any type of formative sport, so that our study can be replicable in any context, both educational and sporting, since motor evolution requires the application of intervention programs before, during and after to observe the motor development of children.

The study carried out based on the results obtained in the tables and figures presented in the results, it can be seen that after the application of the intervention program of offensive technical fundamentals exercises in the discipline of basketball, the scores found for both the male and female gender presented significant values after six months of intervention. However, in the study sample, more significant values were found in the female gender, since when analyzing the characterization of the study sample, the females presented greater chronological age than the males; therefore, the values found in the motor patterns were more significant than in the males.

Finally, for our case study, the intervention program based on the application of offensive technical fundamentals in the discipline of basketball was effective for the selected

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sample, however, we can conclude that the choice of creative strategies and methodologies by teachers and coaches will enable the motor development of children, it should be noted that the choice of the duration of the intervention, as well as the components of intensity, frequency and progression and during the sessions will depend on the objectives to be achieved, Furthermore, its applicability will be subject to the initial diagnosis of the participants, since an initial evaluation gives us the possibility of designing new intervention programs according to the needs of the children in order to develop motor skills and contribute to the harmonious development of the child, the so-called bio-psycho-social development, which encourages us to explore new lines of research in other types of sports, therefore the study can be replicable in any educational and sports context.

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