Effect of special Exercises in the Development of Some Bio kinematic Variables and Motor Transport index and Technical performance of The long-standing Front hand Skill jump Followed Somersault Aureus in the Junior Jumping Platform

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2021

Abstract

The study aimed:

1 - Differences in the values of some of the Biomimetic variables and the motor transport index and technical performance of the long-standing front hand skill jump followed Somersault aurous in the Junior Jumping Platform between the tribal test and a dementia of the experimental and control group.

The most important conclusions: The training curriculum applied using a positive impact on the development of some Biomimetic variables, the motor transport index and the professional performance of the for the trial group and this is achieved.

The researchers recommended: Emphasize special exercises, which were used in the education curriculum, which contributed to the development of some Biomimetic variables under study, the motor transport index and the technical performance of the long-standing front hand skill jump followed Somersault aurous in the Junior Jumping Platform heading of the front-end hand jump in the front for ages (11-13 years).

Key words : Bio kinematic Variables ; Motor Transport index; Somersault Aureus.

1 - Definition of Research:

1-1 Introduction to research and importance:

Today, the world has progressed in all areas of different life and life is difficult to be difficult day after day and is increasing in all areas working on the service of man. Your garden in which the privacy of special physical requirements and high technical performance has an increase in its practices from age

groups compared to the rest of the gym, and to absorb the movement has had to harness the varied science overlapping with physical science, including biomechanical science, (Simin ,L & Jinhai 2009) "which has the great impact on improving and developing a level Digital performance and digital level in all sports events". One of the science is interested in developing sports movements through study, analysis and evaluation. Enjoy it from the privacy of the Biomimetic(Meivin: 1994) "was a major role in developing many movements and a brain Devices are damaged and used in identifying important stages in all movements"which helps to learn and train these movements easier. The front of the front pneumatic.

The importance of research is reflected in highlighting the importance of special exercises that would contribute to improving and developing the skill of the front-end hands of the front, and thus important information on trained entrances and learning and identifying the most important stages that lead to the development of performance To contribute to creating a game base from players who have a good level of learning and upgrading the game at the conservative and diameter level, especially ages (10-12) years.

1- 2 Research problem:

Through the experience of researchers and their follow-up to all the country's tournament and their training, as they noticed that the research problem lies in poor physical, mobility and basic skills with players on the jumping platform for large discounts by the Committee's finalization. The researchers see this problem and address them through the preparation of exercises (surprising strength and rapid strength) using training methods in developing some Biomimetic variables and motor transport and thus improve the level of technical performance of this skill under study to a better achievement in the game.

1-3 Research objectives:

1. Preparation of special exercises for the skill of the front hand jump in front of the long-standing front hand skill jump followed Somersault aurous in the Junior Jumping Platform

2. Identify the impact of special exercises in the development of some Biomimetic variables, motor transport index and technical performance skill of the long-standing front hand skill jump followed Somersault aurous in the Junior Jumping Platform

1-4 Research hypotheses:

1- The presence of statistically significant differences in the values of some of the Biomimetic variables, the motor transport index and technical performance of the of the long-standing front hand skill jump

followed Somersault aurous in the Junior Jumping Platform between the tribal and postl test of the experimental and control group.

2- The presence of statistically significant differences in the values of some of the Biomimetic variables, the motor transport index and technical performance of the long-standing front hand skill jump followed Somersault aurous in the Junior Jumping Platform on the post test between the experimental and control groups.

1-5 Research fields:

1-5-1 The human field / players of the artistic Gymnastic age (11-13) of the Union in Dhi Qar. Training Season (2020-2021)

1-5-2 Spatial area: The training center of the Union of JMC in Dhi Qar Governorate.

1-5-2 Time for the period from: 1/8/2021 – 23/12/2021

2 - Research approach and field procedures:

2-1 Research curriculum;

The researchers used the experimental curriculum to suit the nature of the search problem.

2-2 Sample OF Research:

The research community specifies the training center of the specialized training center in the technical structure in Dhi Qar governorate, either a sample of research, which has been selected in the deliberate manner, including (6) players ranging from 11-13 years old and illusion .They have a certain level of skill as a certain level of training must be available for a basis for the development of the skillful technical in (100%) performance under study. Experimental where special exercises were applied to the skill under study. The number of control groups (3) players have been implemented traditional training approach by the coach. technical and kinetic variables and as shown in table (1)

Table (1)

Equal Research community for both groups (experimental and control) in all research variables

Table (1)

The Equivalence of the two groups shows the research variables

Tests	measurement	Control group		Experimental Group		T value	Sig	indication
		Mean	Std. Deviation	Mean	Std. Deviation			
Length	Cm	152.00	6.24	152.23	4.50	0.07	0.94	Unsigned
Weight	Kg	48.33	6.11	47.00	6.08	0.26	0.08	Unsigned
Age	Year	14.33	0.57	14.00	1.00	0.50	0.64	Unsigned
Training years	Year	6.16	0.98	6.50	1.04	0.41	0.70	Unsigned
Approaching speed	m/s	2.140	0.114	2.000	0.816	0.29	0.78	Unsigned
Landing angle after approaching	Degree	114.61	3.458	114.09	0.928	0.25	0.81	Unsigned
Maximum flexibility for knee joint angle	Degree	143.7	11.51	142.93	8.001	0.10	0.92	Unsigned
Angle hip joint	Degree	91.15	7.496	85.776	7.291	0.89	0.42	Unsigned
Angle advancement	Degree	82.060	5.631	85.778	7.291	0.70	0.52	Unsigned
Time advancement	Degree	0.1659	0.017	0.18	0.020	0.99	0.37	Unsigned
Flight angle	Degree	35.893	2.543	36.208	2.704	0.10	0.88	Unsigned
The angle of approaching the platform	Degree	29.293	4.009	29.130	4.291	0.05	0.96	Unsigned
Landing angle	Degree	31.413	2.310	36.366	2.814	2.35	0.078	Unsigned
Motor Transport Index	Degree	2.925	0.524	3.028	0.450	0.26	0.80	Unsigned
Technical performance	M/J/KG	1.866	0.639	2.000	0.816	0.22	0.83	Unsigned

2-3 Means of collection of information and data:

Arab and foreign sources, International Information Network (Internet), Tests and Measurement, Note and Experience.

2- 4 Research Tools and Effects: -

Measurement Tape, Flash Ram Number (1) Capacity (16g), Laser Tablets, Electronic Tube Number (5), Office Tools, Electronic Corrugation, Device No Pension with Accessories, Jumping Table, Video Camera Sony, Camera Photography type Panasonic,

2-5 The exploratory experience:

The researchers conducted the exploratory experience in the gym hall on 30/7/2021 on one of the samples of the research after the date of the major experience was determined, to ensure the following: the health, safety and good use of the appliances and the imaging device, b - recognition of time taking For skill training within the curriculum units, facing the work of researchers.

2.6 Establish the evaluation of technical performance for the skill of the front hand jump on the jumping table

The technical performance was evaluated from (10) degrees by (4) arbitrators accredited to the International Federation of Gymnastics and the performance and prone to the committee was filmed as a final assessment and the final degree was extracted by deleting the highest value and reasonable and then collected and divided the two centers. To extract the final degree

2-7 Field Research procedures

2-7-1 Tribal Tests

The researchers held the tribal tests for the sample of 31/7/2021 at 9:00 am and on the Specialized Training Center for the GYM in Dhi Qar Governorate. The researchers as much as possible when performing dimensional tests.

2-7.2 The main experience:

Exercise was carried out at the beginning of the main division of the device after warming:

- The total number of units (24) by (3) training units per week

- The training intensity was devoted to each exercise on the basis of one maximum repetition per player

- Changing loads for exercise (3: 1) One formation

- Exercise has been implemented on the experimental group with direct supervision by researchers at training For intersection with the control group, which is subject to the training curriculum from the coach, which depends on some bright, strength and jumping exercises.

- The experimental application began on 31/7/2021 and for (8) weeks

2-7-3 POST Test:

The last test was made by researchers on Thursday, 24/9/2201, and the same order and conditions

2-8 Statistical Means

For the purpose of processing data obtained by researchers use the following statistical means

The arithmetic, standard deviation, test (T) for independent samples and data addressed to the computer (no Pension HP) through the use of statistical program (SPSS) VER 16

3. Displays and Discussion Results:

3-1 Displays the results of the tribal and post Test for some values of the Biomimetic variables and the values of the motor transport index and technical performance of the experimental and control group

Table (2)

The Arithmetic mean and standard deviation and value (T) and statistical means are shown in the

Tribal and post Test for some Biomimetic variables, motor transport index and technical performance values of the Control groups.

variables	Tribal tests		Pas test		T value	Sig	indication
	Mean	Std. Deviation	Mean	Std. Deviation			
Approaching speed	**2.000**	**0.816**	**3.321**	**0.255**	**1.655**	**0.21**	random
Landing angle after approaching	**114.09**	**0.928**	**116.71**	**1.145**	**1.228**	**0.34**	random
Maximum flexibility for knee joint angle	**142.93**	**8.001**	**123.70**	**2.611**	**0.269**	**0.81**	random
Angle hip joint	**85.776**	**7.291**	**129.46**	**38.91**	**10.995**	**0.00**	moral
Angle advancement	**85.778**	**7.291**	**142.94**	**12.208**	**16.193**	**0.00**	moral
Time advancement	**0.18**	**0.020**	**0.14**	**0.029**	**2.368**	**0.014**	random
Flight angle	**36.208**	**2.704**	**29.927**	**4.776**	**3.327**	**0.07**	random
The angle of approaching the platform	**29.130**	**4.291**	**31.425**	**4.420**	**17.469**	**0.00**	moral
Landing angle	**36.366**	**2.814**	**51.175**	**4.505**	**2.942**	**0.09**	random
Motor Transport Index	**3.028**	**0.450**	**2.912**	**0.340**	**11.104**	**0.00**	moral
Technical performance	**2.000**	**0.816**	**5.461**	**0.143**	**11.461**	**0.00**	moral

The arithmetic mean and standard deviation and value (T) and statistical means are shown in the tribal and post Test for some Biomimetic variables, motor transport index and technical performance values of the of the Experimental and control group.

Table (3)

The arithmetic medium and standard deviation and value (T) are calculated and the statistical indication of the Tribal and Post Test for Biomimetic variables and motor transport index and technical performance values of the experimental group

variables	Tribal tests		Pas test		T value	Sig	indication
	Mean	Std. Deviation	Mean	Std. Deviation			
Approaching speed	**2.140**	**0.114**	**5.461**	**0.518**	**11.461**	**0.00**	moral
Landing angle after approaching	**114.61**	**3.458**	**116.54**	**1.866**	**4.198**	**0.05**	moral
Maximum flexibility for knee joint angle	**143.7**	**11.51**	**125.13**	**2.044**	**8.078**	**0.01**	moral
Angle hip joint	**91.15**	**7.469**	**131.46**	**38.91**	**10.995**	**0.00**	moral
Angle advancement	**82.060**	**5.631**	**138.00**	**12.208**	**16.193**	**0.00**	moral
Time advancement	**0.1659**	**0.017**	**0.15**	**0.029**	**2.368**	**0.014**	random
Flight angle	**35.893**	**2.543**	**45.800**	**4.999**	**5.327**	**0.03**	moral
The angle of approaching the platform	**29.293**	**4.009**	**32.638**	**4.420**	**17.469**	**0.00**	moral
Landing angle	**31.413**	**2.310**	**61.175**	**4.505**	**2.942**	**0.09**	random
Motor Transport Index	**2.925**	**0.524**	**6.377**	**0.501**	**11.104**	**0.00**	moral
Technical performance	**1.866**	**0.639**	**7.033**	**0.516**	**11.461**	**0.00**	moral

The results displayed in table (3) are calculated in search variables, respectively (11.461), (4.198), (8.087), (10.995), (16.193), (2.368), (3.327) 17.469), (2.942), (11.104), (11.104), and the level of significance of all variables is smaller than (0.05), indicating that there are significant differences between the results of these tribal and diminish tests and favorable tests.

Table (4)

The Arithmetic Mean and standard deviation and value (T) are calculated and statistical The post test of the two pattern left and right groups for some values of Biomimetic variables and technical performance values

variables	Experimental Group		Control group		T value	Sig	indication
	Mean	Std. Deviation	Mean	Std. Deviation			
Approaching speed	**5.461**	**0.518**	**3.321**	**0.255**	**6.42**	**0.00**	moral
Landing angle after approaching	**116.54**	**1.866**	**116.71**	**1.145**	**0.13**	**0.90**	random
Maximum flexibility for knee joint angle	**125.13**	**2.044**	**123.70**	**2.611**	**0.79**	**0.49**	random
Angle hip joint	**131.46**	**38.91**	**129.46**	**38.91**	**0.06**	**0.95**	random
Angle advancement	**142.94**	**12.208**	**142.94**	**12.208**	**0.04**	**0.70**	random
Time advancement	**0.15**	**0.029**	**0.15**	**0.029**	**0.00**	**0.7**	random
Flight angle	**45.800**	**4.999**	**29.927**	**4.776**	**3.25**	**0.03**	moral
The angle of approaching the platform	**32.638**	**4.420**	**31.452**	**4.420**	**0.27**	**0.08**	moral
Landing angle	**61.175**	**4.505**	**51.175**	**4.505**	**2.22**	**0.09**	random
Motor Transport Index	**6.377**	**0.501**	**2.912**	**0.340**	**8.09**	**0.00**	moral
Technical performance	**7.033**	**0.516**	**5.461**	**0.143**	**4.15**	**0.01**	moral

The results displayed in Table (4) are calculated in search variables, respectively (7.343), (6.435), (4.103), (3.513), (11.374) (5.031) (4.736) (3.642) (2.097), (2.097), (15.122) The level of significant signs of (0.05) indicated that there are significant differences between the two groups and the benefit of the experimental group.

3-2 Discussion Results:

It clear from tables (1) and (2) to have statistically significant differences in the results of tribal and post tests for both groups and favorable tests.

The researchers are due to the cause of this experimental group used during the implementation of the training curriculum for special exercises and are accompanied by tools used in those exercises, which had received a permanent share in the main section of the training units, (Bosco: 2004) "which helped greatly learn the movement of the front-end hand jump in the front". This evolution has resulted in the evolution.

With regard to moral differences for some research variables (approaching speed), (Y,takei,: 2007)" the motor transport index and technical performance". researchers are due to the cause of these differences in the Biomimetic variables that it is improved in the value of the knee angle by applying the training curriculum using WTA The stage of upgrading and the return of information that confirms the extension of the knee and confirms the; (Afaf Shaltot : 1985) "avoiding deep bending in the performance of jump". (Samir Mazalit :1981) said: "The flex is in a man of advancement, it should be appropriate and that there is no significant delay to delay and increase the time period."

The researchers believe that reducing the amount of bending in the knee was very important, through which(Kreighbaum ,E & Katharine, M, 2009) " motor transport is achieved better and to increase the rapid speed impact on the amount of bending as the requirements of the speed and attempt to maintain the amount of movement imposes to the learner". that does not exaggerate the amount of bending The knee detailed angle and it means a reduction in the dynamic horizontal speed, later leads to the decreasing the value of the kinetic energy acquired by the learner through close steps. And through sensory information that confirms that the trunk returns back when landing on the ground and prior knowledge of the importance of phase and emphasis on the use and repeat of their exercises effectively and actively responsible for improvement in the values of the venue of hip angle and confirms (Saeb Attia al-Obeidi :1981) "The trunk returns to the back works to turn the horizontal speed to vertical speed" and researchers also attribute the moral difference of the volume of advancement and advanced Condemns to return to some exercises that determine the start of advancement as well as (Kathryn, L& Nancy H: 2002). what

happened in the evolution of the hipper hip is caused by the evolution of the values of angle advancement will be large and then reduce the horizontal distance due to the increase in the angle of advancement and this means that the oblique payment is for upward More than front

The researchers also attribute the moral teams of the aviation angle resulting from the application of the training curriculum using optimal exercises with the use of assistance devices within some training units led to the improvement of the results of this corner and emphasize the full tide to the knee and the kinder gown when paying and leaving the land helped this improve In the corner and confirms (Ellen, Katherine m : 1981) "on the need for the full tide for all body joints for the end of the player's rise in order to raise the center of the body weight to the top and achieve the largest payment force, and researchers also this improvement in the motor transport index returns to the training curriculum The means of using special exercises, means and devices as the better synchronization whenever the strengths and the force are more powerful and this force is frank and indicating(Frank Katherine :2007) "that the motor transport index is one of the mechanical indicators, which gives a real index of motor transportation accomplishment at the moment of upgrading The mechanical energy completed is a moment of upgrading". During the aviation process caused by the advancement and improved payment and motor transport is properly, but members of the left-hand-style group have achieved better angle, (Hay , J & Miller, J, 2010)" the required level and this is due to the educational curriculum used by special exercise". the difference The evolution was due to the correct use of exercise and knowing the important points that cause performance failure and then find ways to avoid mistakes and strengthen the strengths is one of the most important learning process requirements and that of the duty of learning (Emie , B, & Larr , T, 1999). 'The horizontal distance values are reduced if they want to get better angles".

The researchers also attribute the moral difference to the technical performance variable to learning to learn from the history of the search group. Kinetic on your gymnasts, (Brain Shirki:1979) indicates that the evolution of the level of knowledge performance of the learner leads to a high capacity level and also raises fitness of motor performance or motor skill", from the results of the results in Jules (3) There are significant differences between the two sample research group and the benefit of the experimental group in all research variables values. In accordance with the required kinetic duty, (Norman : 1978) "that the task of redoes is increasing the speed of the body and obtaining appropriate acceleration until reaching the place of time It also confirms that the player needs high speed men's put on the payment place to turn the body's speed into two horizontal and vertical". The body is the moment of landing in the training curriculum used during the experience and seeing researchers as well as providing that this improvement is due to the trial sample returned to the trunk slightly when landing on the ground (on the glove) and is smaller than was in the tribal test , (Ellen, K, & Katharine M, 2007)" which was maintaining vertical

payment The body has therefore changed the hip angle when landing on the ground". resulting in the smallest corner, and maintaining the center of the body weight is an appropriate rise in the close steps in recent steps contributing to improved landing an increase in an increase in the learner to improve the process The motor transport has led to an appropriate landing angles after the consolidation steps and that small landing angle on the ground has reduced the time of committing and starting the process of advancing as the distance is cut by a center The body weight from the landing point on the ground down to the promotion phase has declined and then the time it takes this transition must be less likely to be a discrimination between distance and time in contrast Q = m / n (Samir Masalt: 1999) and then increase the speed in the transmission of the player from committing and promoting and changing the decline in decline in the amount led to the improvement of this important stage

4. Conclusions and Recommendations:

4-1 conclusions

1- The experimental group in some of the Biomimetic variables under study, the motor transport index and the technical performance of the long-standing front hand skill jump followed Somersault aurous in the Junior Jumping Platform during the results of the tribal and post averages in tests and showed results.

2- The Group has not achieved a significant development in the values of Biomimetic although there are virtual differences in the values of arithmetic between two tribal and post Test, while the Biomimetic variables have shown their moral post through the differences between the averages in the tribal and background and variables (angle Detailed Link, angle of advancement, advancement time, angle of approaching the platform and technical performance).

4.2. Recommendations

1- Need to emphasize special exercises, which were used in the educational curriculum, which contributed to the development of some of the Biomimetic variables under study, the motor transport index and technical performance of long-standing front hand skill jump followed Somersault aurous in the Junior Jumping Platform (13-15 years).

2-Need to use the training curriculum under study, in which special exercises were used.

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