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SPECIAL EXERCISES USING THE ASSISTIVE RINGS APPARATUS AND THEIR IMPACT ON TEACHING THE FRONT AND BACK LEVER SKILLS ON THE RINGS APPARATUS

T. Dr. Nada Ibrahim Abdul Rida
Tikrit University – college of physical education and sports sciences
n.ib.sport@tu.edu.iq
T. Dr. Jamal Sukran Hamza
Baghdad University – college of physical education and sports sciences
Jomal.hamza@cope.uobaghdad.edu.iq

Research Objectives:
1. Creating customized workouts for young athletes, ages 9 to 11, utilizing the assistive rings apparatus.
2. Creating an apparatus for assistive rings that considers the steady improvement of stability abilities on the rings.
3. Determining the effect of the unique exercises with the use of the assistive rings' apparatus.

Research Hypotheses:
1. Players' ability to learn and improve their skill performance on the rings apparatus is enhanced by the assistive apparatus.
2. The development and learning of skill performance are impacted by the skill-specific exercises performed with the assistive ring's device.

Eight players aged nine to eleven, who were part of the original population of Baghdad/Al-Rusafa, make up the research population. Six players, or 80% of the research population, make up the research sample. When choosing the research sample, the researchers considered a crucial requirement: each member of the sample had not used the rings equipment for research purposes. Research skills on the rings apparatus in artistic gymnastics were effectively taught by the unique workouts utilizing the assistance apparatus. The player's skill level and physical capabilities allow for the appropriate use of the assistive apparatus as a tool for education and assistance. The researchers recommended emphasizing the use of assistive apparatus due to their positive and effective impact on learning, increasing excitement, and motivation in training. They also recommended emphasizing the use of the assistive apparatus in teaching the skill of kip from the inverted hang and the skill of rolling from the support position to the support position.

Keywords: Exercises, Assistive Apparatus, Rings, Gymnastics

Introduction

The training methods and techniques for skills in each sport vary from one coach to another, depending on the tools and equipment available in the training hall and the coach's sports culture and creativity in innovation. Utilizing all available sports sciences and the manufacturing of specialized training apparatus sets one coach apart from another, reflecting on the competition results of their athletes.

Men's artistic gymnastics is one of the sports where the coach must have extensive training and academic knowledge to evaluate the players' techniques and abilities. Because the apparatus itself competes in this sport, a gymnast's technical ability is essential. Sufficient physical and motor skills are necessary for efficient performance. To influence the motor groups needed to master any ability on the six artistic gymnastics apparatuses, certain exercises are essential. The third apparatus in the men's artistic gymnastics sequence, the rings apparatus, requires an elevated level of physical and motor skills because the gymnast must maintain equilibrium while performing skills while suspended from moving cables. Special exercises play a crucial role

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in teaching and skill development by using innovative apparatus that serve the motor task through the correct path of the body's center of gravity and body axes. Assistive apparatus help achieve the highest stages of stability in skill performance by using them in the three parts of the skill: the initial, main, and final parts. Sometimes, they provide a change in the training scenario.

According to a study by Ali (2017), the suggested special workouts helped to increase static strength, which had a significant impact on how well the participants' motor skills developed on the ring's apparatus. With the experimental group employing the suggested workouts surpassing the control group in the development of static strength and technical performance on the rings apparatus, the results demonstrated notable improvements in the static contraction test through the angle support. In a similar vein, Mohamed's (2013) study found that:

1. In comparison to pre-tests, the experimental group's balancing skills (front, rear, and side) improved in post-tests.
2. The control group also showed growth in their ability to balance in post-tests as opposed to pre-tests.
3. The differences in mean scores indicate that the experimental group, which utilized the suggested activities from the curriculum, improved their balancing skills more than the control group.

According to a study by Firdous (2015), there were notable variations between the experimental and control groups' motor ability pre- and post-test results, with the post-test showing more advantage. In the post-test for motor skills, there were also notable variations that favored the experimental group.

Research Problem:

A gymnast competing must complete one static hold to receive the requisite half of a point in addition to the skill value. A reduction is made from the technical performance score if at least one static skill is not performed for two seconds or more. Previous research supports the current study by recommending the use of special exercises with assistive apparatus to teach specific gymnastics skills on the ring's apparatus, developing the sample through post-tests, and applying methods for teaching basic skills through the sample and curriculum used.

Research Objectives:

1. Preparing special exercises using the assistive rings apparatus for young athletes aged 9-11 years.
2. Designing an assistive rings apparatus that accommodates the gradual development of stability skills on the rings.
3. Identifying the impact of special exercises using the assistive rings apparatus.

Research Hypotheses:

1. The assistive apparatus is highly effective in learning and developing the skill performance of players on the ring's apparatus.
2. The skill-specific exercises using the assistive rings apparatus influence the learning and development of skill performance.

Methodology and Tools:

Since the experimental approach is appropriate for the type of research, the researchers employed it. The research population and sample, which included eight players who train at the Amanat Club in Baghdad, were specifically chosen. The players are junior category athletes from specialized schools, ages 9 to 11. Six players, or 80% of the research population, made up the research sample. Using a one-group design, the researchers had each player complete pre-tests, the specific workouts utilizing the assistive device, and post-tests.

Data Collection Methods and Tools:

- Data collection methods: Arabic and foreign sources, the Internet, personal interviews, observation, experimentation, tests, and measurements.

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- Tools: SPSS version 18 for statistical analysis, questionnaires, and skill performance evaluation forms.
- Equipment: Official rings apparatus, mats, magnesium, assistive rings apparatus, and a video camera.

Field Research Procedures:

Designing the Assistive Apparatus:

After determining the correct measurements suitable for teaching juniors according to the required performance and special exercises, the researchers designed and used the apparatus for the two skills. Its components are:

1. General Iron Frame: Consists of two semi-rectangular bases, with one side measuring one meter in length from the bottom and the other side measuring 50 cm from the top. The iron used is hollow with a diameter of 20 cm, and the height is two meters. The bases are connected at the top and bottom in an artistic manner to ensure stability while the player performs the skills.
2. Rings: This part consists of two legal rings, made of reinforced compressed plastic instead of wood, attached to a strap for securing the rings and the other end for hanging from above.
3. Rubber Ball: A ball with a circumference of 1.5 meters, used during the main and final parts of learning.
4. Rubber Cords: Two rubber cords are used, fixed at the top to the end of the rings' canvas strap, with the other end attached to the feet through a foot belt.

Figure (1) illustrates the assistive apparatus and its components used in performance.

It was evident from seeking the advice of specialists that the suggested assistive device functions properly and that the device was appropriate for teaching the two search skills. In the research sample curriculum, the researchers made use of the assistive device, particularly in the major and most important section. With three educational units per week, the experiment comprised twelve instructional units over the course of four weeks. Three apparatuses accounted for the total unit time, which was 150 minutes (rings, vault, and parallel bars). To ensure that the research sample was repeated, the researchers used the principle of rest and repetition. The researchers made sure that the foundations and tenets of science were followed in the curriculum they created.

The post-test was administered using the identical methodology as the pre-test following the completion of the implementation of the educational program for the front and back balance skill. The pre-tests were completed under identical conditions and situations that the researchers created. The two talents

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under evaluation were then captured by the researchers, who later transferred them to digital format and burned them onto laser disks. After that, they were shown to assessors who were Central Gymnastics Union approved judges. Each ability on the evaluation was worth ten (10) points on a point scale.

By taking the arithmetic mean of the two middle scores from the judges' scores and eliminating the top and lowest scores, the researchers followed the International Technical Gymnastics Law. The player's ultimate score was calculated by dividing these scores by two. The statistical values of the research findings, such as the mean, standard deviation, percentage ratio, and T-value for correlated samples, were extracted by the researchers using the Statistical Package for the Social Sciences (SPSS).

Using a sample of two players who were not part of the research population, the researchers ran a pilot test to see if the suggested ring apparatus was suitable. These athletes were Maysan Youth Team members, ranging in age from 8 to 11. Experts watched while the pilot test was carried out. As a result of the pilot test, the researchers determined that:

1. The proposed apparatus is suitable as an educational tool.
2. The apparatus is suitable for the skills for which it was designed.

Tests used in the research:

Tests of skills: Every specialized sport has its own set of regulations that dictate what kinds of movements or skills can be used. Based on these rules, a system of scoring points based on technical performance—or movement structure—has been devised. As with gymnastics skills, points are determined using direct observation in this manner.[1].

Back Lever Skill Test:

Test Objective: To measure the player's performance ability and determine their final score for performing the back lever skill on the rings.

Test Tools: Legal gymnastics rings, four sponge mats with a height of 20 cm each, stopwatch.

Test Evaluation: The test is evaluated based on the player's technical performance only, with the highest score achievable being ten points in the rings.

Test Procedures: The player must choose which skill to use before climbing the rings. The player then adopts the hanging position on the rings and uses force to raise their body to the back lever position. When the player reaches this position, they straighten their arms with the rings entirely while also straightening their torso rearward. The player holds the position for two seconds before moving back to the hanging position on the rings when they are parallel to the ground.

Recording: In accordance with the international gymnastics' legislation, the evaluation is carried out by four judges. The player's final score is determined by taking the average of the two scores and dividing it by two. The following law establishes a 10-point rating system for performance evaluations:

[1] Ali Sumoum Al-Fartousi (et al.): Measurement, Testing, and Evaluation in the Sports Field, Baghdad, Al-Muhaimin Printing Press, 2015, p. 311.

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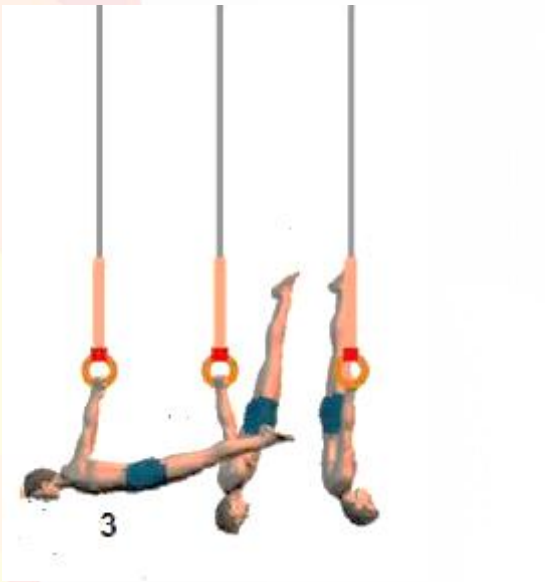

The image (2) illustrates the method of performing the skill.

The Front Lever Skill Test from Reverse Hang:

Objective: To measure the player's ability to perform the front lever skill on the rings and determine their final score.

Test Tools: Gymnastic rings, four sponge mats with a height of 20 cm.

Test Evaluation: The test is evaluated based solely on the player's technical performance, with the highest score being ten points.

Test Procedures: The player must choose which talent to use before mounting the rings. With arms outstretched and a straight body, the player then adopts the reverse hang position on the rings, maintaining full extension with the rings. The player holds the posture for two seconds once their body achieves a parallel position with the ground, after which they return to the reverse hang position.

Scoring: Four judges evaluate each performance in accordance with international gymnastics regulations. The player's final score, which is evaluated on a scale of ten points, is determined by taking the average of the two scores and dividing it by two.

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Figure (3) illustrates the method of performing the skill.

Post-intervention assessments: The research sample underwent post-intervention tests and examinations in the Al-Tahadi Youth Center's Hall in the Housing District of Baghdad following the conclusion of the specific exercises on the suggested assisted ring apparatus. By employing the same equipment and tools for shooting the tests, the researchers made sure that the conditions were identical to those used in the pre-intervention trial. This included setting up the tests and preparing the same support personnel. Concerning the statistical techniques:

The researchers used the statistical package (SPSS) to calculate:

1. Percentages
2. Mean
3. Standard deviation
4. T-test for correlated samples.

Statistical Characteristics	Sample	Measurement Unit	Pre-test	Post-test
Research Variables			M	±SD
Front Scale	6	Degrees	2.833	±0.258
Back Scale	6	Degrees	3.083	±0.376

Results:

Table (1) shows the arithmetic means and standard deviations of skills and physical abilities in both the pre-test and post-test.

Table (2) illustrates the differences in means, standard deviations, T-values, and significance in both the pre-test and post-test.

Research Variables	Measurement Unit	M	SD	T-value	Calculated Sig.	Significance
Front Scale	Degree	2.833	.516	13.440	.000	Significant
Rear Scale	Frequency	4.166	.875	11.656	.000	Significant

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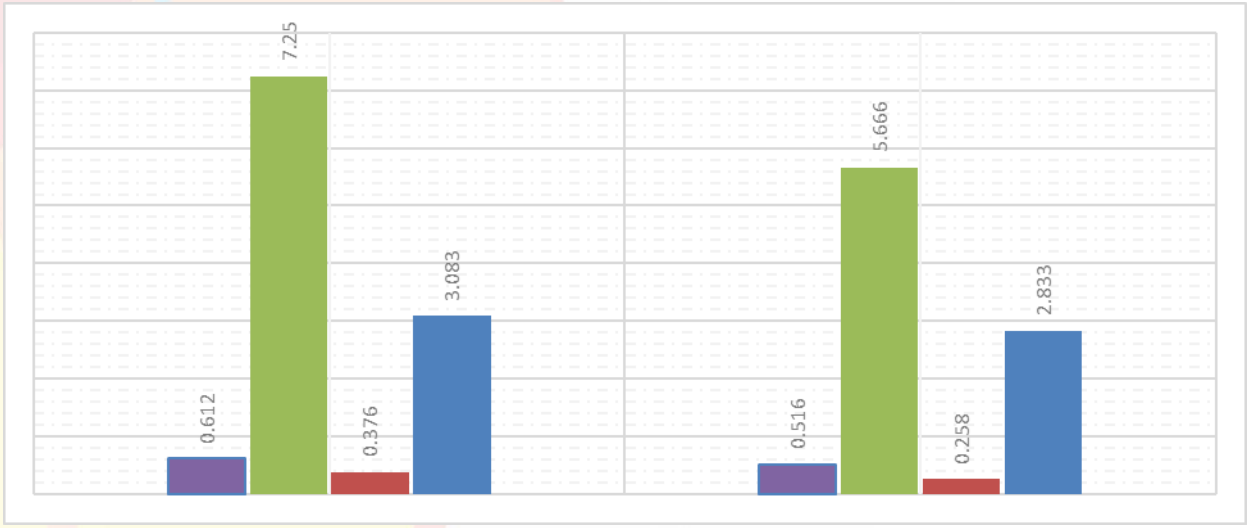
statistical significance at a confidence level of 0.05 if the error rate is less than or equal to 0.05, with 6-1 degrees of freedom.



The figure (4) shows the bar charts for the means, standard deviations, and their values in the two tests for the skills of the research sample.

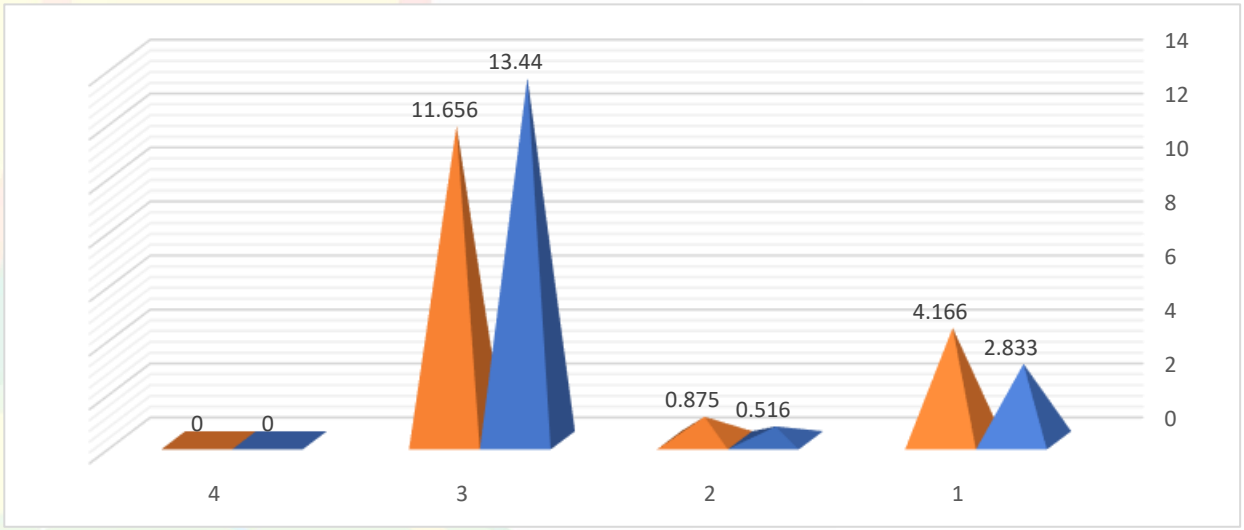


Figure (5) illustrates the histogram bars and their values for the pre-test and post-test for the research sample.

Discussion

A considerable difference between the pre-test and post-test for both the front and back scale skills on the rings is shown by the discussion of Tables (2, 1) and Figures (5, 4), preferring the post-test in learning these skills. The variations in the tests' arithmetic means demonstrate this. This demonstrates that because assistive devices supply and enable a multitude of psychological, physical, and motor components for skill acquisition, they have a substantial influence on the process of teaching sports skills. Additionally, they change a part of the routine training for the learning process. Along with offering the player specialized training in the gymnastics learning process, they also provide a variety of assistance positions. As it serves as the basis for preparing gymnastics newcomers, Ahmad Al-Hadi contends that "training using similar exercises in their

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motor path to technical performance leads to improvement in achievement levels in gymnastics." Since this sport involves performing gymnastic skills, it necessitates specificity in certain body regions."[2]

Utilizing assistive technology aids in assessing the degree of stimulation, which in turn helps in the creation of precise motor curricula that improve motor imagery and contrast it with the past and recommended practices in motor programs. Auxiliary equipment is also useful for training skills and is necessary for the education and training of gymnasts since it helps them build the strength, flexibility, and body awareness necessary for improved skill performance. Additionally, "players must repeatedly perform motor skills in order to reach a high level of motor learning, as repetition is an effective process for acquiring learning."."[3]

Conclusion

The findings show that teaching the front and back scales skills on the rings in artistic gymnastics is impacted by specific workouts performed using the aided rings apparatus. It is advised that the player use the assisted rings equipment for certain exercises that are appropriate for their skill level and physical capabilities as an auxiliary and educational tool. Due to their beneficial and efficient impact on the educational process, the researchers support placing a strong emphasis on the use of supported technology. Additionally, they stress the use of the aided device in teaching abilities like rolling from a support position to a handstand and the backward hanging scale.

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[2] Ahmed Al-Hadi Youssef; Advanced Methods in Gymnastics Training, 2016, p. 189.
3 Richard A. Schmidt and Craig A. Wrisberg: Motor learning and Performance, 2nd Edition, Human Kinetics Books, Champaign Illinois, 2000, P 21.