

# THE EFFECT OF AN EDUCATIONAL CURRICULUM BASED ON THE FORREST MODEL ON SOME MOTOR ABILITIES AND LEARNING THE SKILL OF STANDING ON THE HANDS ON THE MAT OF FLOOR MOVEMENTS IN ARTISTIC GYMNASTICS FOR FEMALE STUDENTS

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## Abstract

The researcher approached the research problem by surveying the opinions of gymnastics teachers about the level of female students in their performance of the researched skills, and they confirmed that it is not at the required level because the movements are characterized by difficulty and need precision in learning them, and noting the weak points that cause failure in skill performance and limited performance, and there is weakness in their motor abilities, so she conducted Using an educational model that is different from the method used by the subject teacher in improving and developing the students' motor abilities and teaching them the researched skill through the program used to achieve the basic goal of the educational process. The goal of the research: Preparing an educational program using the Forrest model in some motor abilities and learning some of the skills of standing on the hands on a mat. Floor movements in artistic gymnastics for female students. As for the research hypothesis: There is a positive effect of the educational program using the Forrest model on some motor abilities and learning the skill of standing on the hands on a mat. Floor movements in artistic gymnastics for female students. As for the third part, it included defining the research population with the female students of the third stage (College of Physical Education and Sports Sciences - University of Karbala), numbering (55) students. The sample was selected by a simple random method, where they were divided into two groups (experimental and control), numbering (50), where they were Choosing (5) exploratory experiments, and the researcher homogenized the research sample members. The variables of height, weight, and skills were measured because of their relationship to height, weight, and the research variables under study, by extracting the coefficient of variation. For the purpose of revealing and ensuring the equality of the research groups (the experimental group and the control group), the researcher used the (t) test for the two groups. It included the educational program for learning the researched skill as well as organizing exercises within the educational program. The number of educational units was (8) educational units and the time of each unit. (90), and the researcher reached the following conclusions that the educational program contributed to developing motor abilities, increasing motivation, and saving time and effort. Preparing an educational program using the Forrest model in some motor abilities and learning the skill of standing on the hands on the floor movements mat in artistic gymnastics for female students. The results showed that there is a preference for the students of the third stage at the College of Physical Education and Sports Sciences-University of Karbala for the learning style of the Forrest model in developing motor abilities

and learning the skill of standing on the hands on the mat of floor movements in artistic gymnastics for female students. The researcher recommended that it is preferable to pay attention to the pedagogical structure that allows the student to learn according to his inclinations, desires and abilities by providing the opportunity to test according to his desire. It is preferable to conduct a similar study for other subjects and stages for students of colleges of physical education and sports sciences.

**Keywords:** Curriculum , motor abilities and gymnastics.

### **Introduction**

In recent years, the sports field has witnessed remarkable developments due to the scientific and technological development taking place in the field of physical education sciences and sports sciences along with other sciences as a result of the development of scientific studies, especially those related to motor learning, specifically mental processes. The learning process is one of the foundations of the educational process, which characterizes the life of a living being since its birth. And until his death, as human activity in its various types is not devoid of learning and motor instruction .<sup>1</sup>

Learning models and their methods represent an important focus in students' teaching and learning by providing them with knowledge and positive attitudes. One of the best educational models is the Forrest model, which is accompanied by fun and entertainment. It helps learners learn the basic concepts, facts, and information of the contents of the educational material, and realize the relationship between them. The Forest model is defined as a process of participation and live communication, aiming to develop the imagination, push mental perceptions and visual representations to the mind of the recipient, and includes the story and the techniques of telling it verbally and visually for the learners through verbal performance, changing the pitches and tones of the voice, imitating the voices of different people, and coloring the performance in a way that suits them. With the situation and emotional state that it represents, by employing all energies, including body language, gestures, signals, etc., by stimulating the learner's arousal, imagination, and motivation, and facilitating learning to occur.

Motor abilities play a major role in improving the production of sports movements in general and artistic gymnastics movements in particular, which have a fundamental and effective role in forming the main physical qualities and abilities that are essential for producing sports movements. The game of gymnastics is considered one of the sports games that play an essential role and has its weight both at the level of tournaments and festivals, which has begun to expand its base and viewership. It is one of the most important basic pillars of the educational curricula in the faculties of physical education and sports sciences, as these games are characterized by their difficulty and complexity in most of their skills and movements in the six devices, as for each One of these devices has its own privacy, laws, rules, and requirements.

Since some of the artistic gymnastics skills on the floor movements mat (standing on the hands on the floor movements mat) are relatively difficult movements for female learners, and because these skills require harmonious movements through the process of transferring between the hands, legs, and torso in a coordinated manner, this requires thinking in a broader and outside the ordinary way for those skills. Skills to overcome points of difficulty in performance, so the researcher must prepare an educational curriculum using the Forrest

model, different from the educational models used by the subject teacher. The main goal and purpose of it is to help the learners think at a higher level than the normal level and devise educational solutions to improve their motor abilities and artistic performance and achieve the goal. The basic part of the educational unit.

Hence the importance of the research because the use of the Forrest model is one of the modern educational models when applied in learning some artistic gymnastics skills for female students, and because it has an essential role in providing an opportunity for female learners to find solutions to educational problems during the performance that they direct by stimulating their brainstorming to reach an acceptable degree of mastery. Technical performance of skills by female learners according to the time period given to them.

### **Research problem**

The primary goal of the educational process is to use correct models and methods that help learners reach the best level. There is no doubt that the nature of the educational program and the modern models used by the subject teacher have a major role in achieving, acquiring and developing skills, especially those skills that are characterized by difficulty and high compatibility and consistency in Performance because there are many details during its performance, so the researcher approached this research problem by surveying the opinions of gymnastics teachers about the level of female students in their performance of the researched skills and they confirmed that it is not at the required level because the movements are characterized by difficulty and need precision in learning them and noting the weak points that cause failure in skill performance and the limitations. Performance and there is a weakness in their motor abilities, so she used an educational model different from the method used by the subject teacher in improving and developing the motor abilities of the female students and teaching them the researched skill through the program used to achieve the basic goal of the educational process.

### **Research objectives**

1. Preparing an educational program using the Forrest model in some motor abilities and learning some of the skills of standing on the hands on the mat of floor movements in artistic gymnastics for female students.
2. Identifying the effect of the educational program using the Forrest model on some motor abilities and learning the skill of standing on the hands on the mat of floor movements in artistic gymnastics for female students.

### **Research hypotheses**

1. There is a positive impact of the educational program using the Forrest model on some motor abilities and learning the skill of standing on the hands on the floor movements in artistic gymnastics for female students.
2. Identify the preference of the effect for the experimental and control group.

### **Research field**

- The human field: third-year female students in the College of Physical Education and Sports Sciences - University of Karbala.
- Time range: 10/01/2023 to 01/03/2023.
- Spatial field: closed hall - College of Physical Education and Sports Sciences - University of Karbala.

**Research methodology and field procedure**

**Research methodology**

The researcher used the experimental method using equal groups with pre-tests.

**The research community and its sample**

The research population was determined by the female students of the third stage (College of Physical Education and Sports Sciences - University of Karbala), numbering (55) students. The sample was selected by a simple random method, where they were divided into two groups (experimental and control), numbering (50), where (5) were chosen for the experiment reconnaissance.

**Homogeneity of the research sample**

To demonstrate the homogeneity of the research sample members, the variables of height, weight, and skills were measured because of their relationship to height, weight, and the research variables under study, by extracting the coefficient of variation.

**Table 1.** Shows the homogeneity of the research sample in terms of height, weight, and research variables

Variables	Units	Degrees of freedom between groups	Degrees of freedom within groups	Levin value	Type of significance
Weight	Kg	1	38	395	Non sig.
Height	Cm	1	38	0,151	Non sig.

From what appears for Levin's results in the table above, we see that the sum of the values was not significant, and this indicates significance, and this indicates the homogeneity of the research sample.

**Equivalence of the research sample**

For the purpose of detecting and ensuring the equality of the research groups (the experimental group and the control group), the researcher used the (t) test for the two groups. The researcher reached the results shown in the following tables (2).

**Table 2.** Shows the equality of the experimental and control groups

Tests	Groups	mean	STDEV	(t) Value	Significance level
Stand on hands on floor mat	Control	16.25	0.79	0.16	Non sig.
	Experimental	17.90	0.85		

**Methods, devices and tools used in the research**

**Means of collecting information**

- The interview.
- Note.
- Testing and measurement.
- Questionnaire.

**Devices and tools used in the research**

- Dell laptop
- Electronic calculator: (laptop) (Lenovo) to assist with study procedures (printing) (number 1).
- The spinning wheel device: An educational device that is a spinning wheel for learning the skill of standing on the hands on the floor mat.
- Foam rugs: (50) rugs.
- Wooden box: number (50).
- 1 camera (Sony), Japanese made
- Trampoline device.
- Electronic stop watch.
- Balance beam.

**Field research procedures****Identifying some motor abilities. The researcher identified some motor abilities**

1. Motor balance.
2. Motor compatibility.
3. Movement flexibility.

**Determine tests for some motor abilities**

After reviewing scientific sources and previous studies, I used a set of tests that fit the topic and variables of the study and were most appropriate for them.

**Conditions for implementing tests**

In order to obtain accurate and objective results when conducting tests for some motor abilities and their suitability to the research sample, there are conditions and standards that must be followed.

1. Clarity of instructions for tests and understanding of their contexts and procedures by testers.
2. Providing appropriate and appropriate equipment and tools for tests.
3. The extent of the testers' motivation and response to the test accurately.

**Description of tests****First: Flexibility test**

- Test name: Dynamic flexibility test .<sup>2</sup>
- Purpose of the test: flexion, extension and rotation of the spine.
- Tools used: electronic stop watch, wall clock.
- Test specifications: An "X" is drawn on two points on the floor between the student's feet and on the wall in the middle. When she hears the start signal, the student bends and extends her torso forward and down to touch the ground with her fingertips at the "X" mark between her feet. Then she extends her torso high while turning to the left. Touch the x mark behind .

**Second: Moving balance test<sup>3</sup>**

- Test name: Walking on the beam
- Objective of the test: balance
- Equipment and tools: a balance beam (a balance beam with a width of (10) cm, a length of (4) m, and a thickness of (3-5) cm on flat ground, a stop watch.

- Conducting the test: Upon hearing the start signal, the tester walks on the beam to the end, then turns around and returns again to the starting point at maximum speed, without any part of the body touching the ground outside the beam.
- Recording: The time spent walking on the crossbar is calculated to less than 1/10 of a second. When any part touches the ground outside the crossbar, a second is added to the time spent.

### **Third: Test: Static Equilibrium<sup>4</sup>**

- Test name: Anxious standing
- Test purpose: to measure static balance
- Tools used: stopwatch.
- Test specifications: From the normal standing position, the student raises her leg, places the sole of her foot on the knee from the inside, and places both hands on the waist. When she gives the trainer the start signal, the student raises the heel of the foot she is standing on in order to rest on the ball of the foot, as she tries to maintain balance for the longest possible period of time without any accident occurring. A movement that could change the standing position or touch the heel.
- Procedures: The student is given three attempts and the best time is recorded from the moment the heel is raised until she loses balance.

### **A form to evaluate skill in artistic gymnastics**

The skill was evaluated by arbitrators in the field of artistic gymnastics by giving the student a score of (0-10) for the skill. The researcher relied on 3 specialized arbitrators, and (3) attempts were given to each student and photographed. After that, the performance was evaluated through a photographic presentation to the referees (the preparatory work was divided (3) degrees - the main section (5) degrees - the final section (2) degrees.

### **Exploratory experience**

The researcher conducted a reconnaissance experiment on a group of (5) female students who were randomly selected from the research community to perform motor ability tests on 1/15/2023.

### **Scientific foundations of tests**

The researcher extracted the scientific foundations for tests of some motor abilities:

1. Validity of the test: The researcher used content validity on a group of experienced people to verify the validity of the test.
2. Test stability: The researcher began applying the tests to the exploratory group, then the test was re-applied after (7) days, and it was noted that it gave the same test results as the previous week. .

### **The exploratory experiment of the learning model scale (Forrest)**

On January 25, 2023, the researcher surveyed the scale on a sample of (10) female students who were randomly selected from the research community. The instructions were clear and the time taken to answer the paragraphs of each of these methods for the scale (5-10) minutes is appropriate for application to sample members. search .

**Field research procedures**

**Educational program using the Forrest model**

The researcher applied the educational units using the Forest learning model to members of the experimental group, which are as follows:

- **Experimental group:** The educational program began on February 1, 2023, which is Sunday, and ended on Sunday, March 20, 2022. It included appropriate exercises for the educational units to learn the researched skill and special duties using the (Forest Model) method, in a way that is consistent with the students’ inclinations, abilities, desires, and capabilities, and to improve some of their motor abilities. I was keen to The researcher ensured that there was no difference between the groups in all parts of the educational units, as it reached (4) educational units.
- **Posttests:** After completing the application of the educational program that included (8) educational units, the researcher conducted the post-measurement to test the skill under research and on all members of the basic experiment sample from the experimental and control groups, under the same conditions and specifications as the pre-measurement, on February 20, 2023, and obtained the data and recorded it in forms in preparation for processing it. Statistically.

**Results and discussions**

**Presentation, analysis and discussion of the results**

**Presenting the results of the pre- and post-measurement teams for the individuals in the research sample**

- For the purpose of achieving the goal of the study, which includes the effect of the proposed educational program using the Forrest model on some motor abilities and learning the skill of standing on the hands on the floor movements mat in artistic gymnastics for female students, the researcher sought to adopt the following contexts:

**Table 3.** Shows the difference between the pre- and post-tests for members of the control group regarding the research variables

Tests	Pretests		Posttests		mean diff.	STD EV diff.	(t) value	Significance level	Indication
	mean	STD EV	mean	STD EV					
<b>Stand on hands on floor mat</b>	3.05	0.76	4.40	0.82	1.35	0.59	10.28	0.000	Sig.

The results showed that there were significant differences for the Forest educational model, where the skill was explained in detail, an opportunity was given for discussion among students, and feedback was given in order for it to be an essential and powerful factor in improving the learning process. The results showed that there were significant differences and the benefit was for the experimental group that used the Forest learning model, as this is The model is a motivating factor and the tendency is in accordance with the desires of the learners. The researcher attributes this development to the control group, which adopted the subject teacher’s curriculum, to the approved teaching method and to the repetitions that accompanied the educational units, as well as the careful selection of the educational units, as well as the gradation in the level of difficulty and ease of the skills and movements that guarantee performance by All (Motor learning is that the individual has acquired the skill and

mastered it and thus increased his motor ability to perform this skill and train on it)<sup>5</sup> Through the table above, the researcher attributes this development to the exercises that accompanied the educational units in the educational program and the careful selection of them helped in learning the researched skill. Well, taking into account its suitability to the students' inclinations and desires and their abilities, taking into account the continuous repetition of exercises, as well as the gradation in the level of difficulty of the movements and skills, which included performance by everyone.

- **Presentation and analysis of the results of the pre- and post-tests of the research variables for the experimental group**

**Table 4.** Show presentation, analysis, and results of the pre- and post-tests of the research variables for the experimental group

Tests	Groups	mean	STDEV	mean diff.	STDEV diff.	(t) value	Significance level	Indication
Stand on hands on floor mat	Control	2.95	0.89	4.15	0.25	16.33	0.00	Sig.
	Experimental	7.10	9.79					

- **Presentation and analysis of the post-test results of the research variables for the control and experimental groups**

**Table 5.** Shows the difference in post-tests between members of the experimental and control groups regarding the research variables

Tests	Groups	mean	STDEV	mean diff.	STDEV diff.	(t) value	Significance level	Indication
Stand on hands on floor mat	Control	4.40	0.82	10.61	0.13	10.61	0.00	Sig.
	Experimental	7.10	9.79					

The researcher instructed the experimental group to prefer the Forrest Scientific model, using this method using technological learning techniques (Data show), through slides explaining how to perform with a brief explanation of the performance, as well as showing video films explaining the skill, as well as using a laptop. Thus, the researcher agrees with Mufti Ibrahim that “ Educational means are a basic pillar in the educational or training process. The successful teacher is the one who uses these means well in addition to the other elements that he possesses in various educational or training situations. The process of using the educational means must be organized, so we should not exaggerate in its use or neglect its use”.<sup>6</sup> The use of educational means in itself puts the player or learner in a positive, interactive position with the educational situation, and it moves him from a passive, passive learner to broader areas of fruitful interaction with the educational situations that he experienced inside and outside the educational or training unit. The researcher also suggests these results to the use of exercises in The educational program that helped in learning and gaining the body’s beauty, flow, and accuracy in performance, as well as learning technique and improving motor abilities through developing their neuromuscular coordination. Giving exercises and gradually increasing them at levels of difficulty and continuing to perform them, in which more than one member of the body participates, helped this. In executing the required movements and also helping in correcting errors, through the educational program it is possible to measure the amount of learning or performance and develop the skills studied in artistic gymnastics. The researcher attributes the reason for this learning and acquisition of



the researched skill to the students' response to all learning requirements during the educational units as it is one of the most important effective means. To highlight the energies, maintain the level, and achieve the best performance according to his inclinations and desires, as well as the effectiveness in applying this model (Forrest) in his steps, helped to develop the investigated motor abilities by increasing the flexibility of the joint, the effectiveness of performance, and developing the body's balance using educational methods and model different from the followed model, and the researcher also took into account individual differences. Among the learners in preparing the prepared program and continuing to give feedback, as individual differences are the variation and difference in the level of abilities or deviation from the group average in various characteristics, as each activity is distinguished from the other by training components that affect it physically, technically, and psychologically.

### **Conclusions**

1. Preparing an educational program using the Forrest model in some motor abilities and learning the skill of standing on the hands on the floor movements mat in artistic gymnastics for female students.
2. The results showed that there is a preference for the students of the third stage at the College of Physical Education and Sports Sciences - University of Karbala for the learning style, the Forrest model in developing motor abilities and learning the skill of standing on the hands on the mat of floor movements in artistic gymnastics for female students.

### **Recommendations**

1. It is preferable to pay attention to the educational structure that allows the student to learn according to his inclinations, desires and abilities by providing the opportunity to test according to his desire.
2. It is preferable to conduct a similar study for other subjects and stages for students in colleges of physical education and sports sciences.

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