Scholar's Digest- Journal of Multidisciplinary Studies
Volume 5, Issue 5, May 2026
ISSN (E): 2949-8856
Scholarsdigest.org

THE IMPACT OF MOVEMENT STORY-BASED EXERCISES ON ACQUIRING KINESTHETIC PERCEPTION AND SELECTED FLOOR GYMNASTICS SKILLS AMONG PRESCHOOL CHILDREN

Asst. Prof. Dr. Mohammed Nasseer Falih
General Directorate of Education in Al-Qadisiyah/
The Open Educational College Al-Diwaniyah Study Center
mohammadfalih1964@gmail.com

Abstract

Objectives: This study aimed to investigate the impact of movement story-based exercises on the acquisition of kinesthetic perception and selected floor gymnastics skills among preschool children. Methodology: The researcher employed an experimental approach using a pre-post test design with two equivalent groups (experimental and control). Population and Sample: The research population consisted of children (aged 5-6 years) from public and private kindergartens in Al-Diwaniyah province for the 2025-2026 academic season. A purposive sample of (20) male children was selected from "Al-Rayahheen Kindergarten," and equally divided into two groups (10 per group). Results: The findings demonstrated a significant superiority of the experimental group, which utilized the movement story approach, compared to the control group in post-test assessments of both kinesthetic perception and gymnastics skills. Conclusion: The researcher concluded that movement stories play a pivotal role in transitioning children from a state of "random movement" to a state of "conscious and purposeful movement," effectively enhancing their physical and cognitive development.

Keywords: Movement Stories, Kinesthetic Perception, Floor Gymnastics, Preschool Children.

Introduction

The kindergarten stage is considered a significant stage for society and family. A society which is active and lively is made up of families that optimally take care of their kids. Women have been sharing men’s rights and responsibilities nowadays. Due to life’s demands, mothers have stepped into different professions. The shift in the education of children has caused efforts to place children in kindergarten. Due to this reason,

kindergarten became an important educational institution that seems to take on the educational and social burden of this age group.

According to psychoanalysts, preschool is a very important stage of human life and consists of an important phase of development that lays the foundation on which the personality itself will be formed. In addition, giving importance to early childhood means giving importance to the future of the state. Proper preparation of the child is necessary for facing the cultural and civilizational challenges arising from the inevitability of progress. A child inherits a biological setup of instincts and inclinations, which motivate him to engage in specific behavior to achieve particular goals. One of the strongest present since birth and lasting impulses is the "inclination toward movement." This drive helps the child to move around the environment and to understand the world.

Simply put, the story of the movement is "a verbal and narrative translation of a set of motor experiences, through which the child lives by the events of the story with the help of his own body. When a telling teacher narrates a story talking about 'space' the child does not listen but become the 'astronaut'. Thus, their movements do not remain mechanical but creative actions coming from an internal conviction".

Motor education programs are important for children to enable them to have cognitive-motor experiences that enhance the perceptual ability to use one's body effectively and that seems to provide access to the understanding of space and object (e.g., height, depth, and spatial extension). This involves acquiring the ability to control one's body center through three aspects of balance as well as catching, throwing, rolling, dribbling and pushing based on the hand-eye and foot-eye coordination including the level of auditory discrimination, imitation of visual movement, perception of similarities and differences of forms, and movement innovation. The risk of injury is reduced due to all these reasons.

Importance of the Study:

The importance of the present study is manifested in being a serious scientific effort to bring together the psycho-perceptual aspects and the motor-skill performance during kindergarten. This is very important because most program implementation in kindergarten physical education takes the form of direct instruction or a random play that is not organized purposefully. This inflexibility often causes the child to dislike the performing of difficult athletic movements, such as a floor gymnastic skill due to high concentration, physical discipline which does not match the nature of the child of play and imitation. Due to the child's age, they can not comprehend technical explanations or commands to perform a Forward Roll or a Scale. Hence, the researcher to studied this case to determine the effects of movement story-based exercises on acquiring kinesthetic perception and selected floor gymnastics skills by preschool children.

1-2 Research Objective :

To investigate the impact of movement story-based exercises on the acquisition of kinesthetic perception and selected floor gymnastics skills among preschool children.

2- Methods and Procedures:

In conducting the research, the experimental method was used with pre-postest design with two equivalent groups.

The current research population (both male and female) consists of children, who are (5-6) years-old at the time of research, in (2025-2026) and are from public and private kindergartens in Al-Diwaniyah Province. The amount of children from the research population is .(45)

Children sample: A purposive sampling was done by the researcher of (20) male children of "Al-Rayahheen Kindergarten". The sample was even distributed into two groups.:

- **Experimental Group:** (10) male children.
- **Control Group:** (10) male children.

Table (1) illustrates the homogeneity and equivalence between the control and experimental groups across the investigated dependent variables.

Table (1)

Table demonstrates the homogeneity and equivalence of the research samples in the key variables.

Variables	Unit	Control Group		Experimental Group		T-Value	Sig.
		Mean	SD	Mean	SD		
Chronological Age	Month	65.2	1.2	67.4	2.5	1.55	0.24
Height	cm	115.4	3.5	114	2.9	0.41	0.67
Weight	kg	20.8	2.3	21.3	2.1	0.66	0.52
Kinesthetic Perception	cm	31.2	3.44	33.12	4.26	0.21	0.82
Forward Roll	Degree	3.50	1.24	3.20	1.09	1.75	0.11
Front Scale	Degree	3.04	1.45	3.80	1.67	0.35	0.73
Shoulder Stand	Degree	3.11	1.90	2.50	1.18	0.34	0.18

2-2 Research Instruments & Tests:

I. Kinesthetic Perception Test: (4: 213 **)**

To test the ability to comprehend forward leaping distance by covering a specified distance without visual input. Being able to reach the designated distance successfully is a strong indicator of a high level of kinesthetic spatial perception.

Tools: (Measuring Tape, Eye Blindfold , Chalk , Marking Tape , Gymnastics Floor Mats).

Method of Execution:

The distance between two lines drawn on the ground is (58.81) cm. The child will stand at the starting line to see the distance needed to jump forward. After placing the eye mask, he/she will count to (5). In Jumping from the starting line, he/she will try to touch their heels to the ground at the finish line. Two attempts are given for the jump.

Scoring: The distance jumped by the child between the two lines is recorded to the nearest (1) cm. Then the total of both attempts is calculated..

2. Floor Gymnastics Skill Performance Test:

Test Procedures: The assessments of children's performance in specific floor gymnastics skills (the Forward Roll, the Front Scale, and the Shoulder Stand) were carried out video graphically. These tapes were then subjected to a technical examination by a panel of experts and specialists in gymnastics.

A specialized technical evaluation form divided the evaluation of each skill into three basic phases (in evaluation method).:[1]

1. **Preparatory Phase.**
2. **Main (Executive) Phase.**
3. **Concluding Phase.** The total score for each skill performance was set at (**10**) points.

I. Preliminary Procedures and Pre-testing:

All sample members were given an overview of the basic gymnastic skills (Forward Roll, Front Scale, and Shoulder Stand) in two introductory sessions to ensure they have a basic understanding of the performance requirements. The physical tests for the kinesthetic perception and gymnastics skills were conducted on Monday, December 8, 2025, at 9:00 a.m. on the gym "Al-Rayahheen Kindergarten.

II. The Proposed Program (Experimental Group).

The individuals in the experimental group were subjected to a program based on Movement Stories for (24) educational units in (2) months (3 units per week). The program was intended to evaluate the effect of these exercises on perception and gymnastics skills from December 14, 2025 to February 05, 2026.

III. The Control Group:

The control group followed the standard curriculum prescribed by the kindergarten administration. The experimental program featured a series of stories simulating physical exercises, designed to bridge the gap between imagination and motor skill acquisition.

- **Story: (A Stroll in the Kindergarten Garden)** : **Focus:** Correct walking patterns and varied running techniques.
- **Story: (Birds Building Their Nest)**: **Focus:** Soft landing jumps and bilateral foot balance.
- **Story: (The Tortoise and the Hare)**: **Focus:** Transitional speed and agility.
- **Story: (Magic Colors)**: **Focus:** Reaction time and visual perception.
- **Story: (The Snowman)**: **Focus:** Stability and static balance.

[1] - • Prof. Dr. Hamid Nouri Ali: Motor Learning / Gymnastics – University of Al-Qadisiyah.• Asst. Prof. Dr. Basma Tawfiq Saleh: Motor Learning / Gymnastics – University of Al-Qadisiyah.• Asst. Prof. Dr. Hassanin Ali Kadhim: Tests and Measurements / Gymnastics – University of Al-Qadisiyah.

 Story: (The Wall Clock): **Focus:** Trunk flexibility and circular movements.
 Story: (Rolling the Wool Ball): **Focus:** Preparation for the **Forward Roll** (Tuck position).
 Story: (The Bridge over the River): **Focus:** Developing the **Front Scale** skill.
 Story: (The Rescue Plane): **Focus:** Arm balance and lateral stability.
 Story: (The Clever Cat): **Focus:** Crawling and weight-bearing on hands and knees (Quadrudedal movement).

Main Experiment (Post-testing):

After implementing the planned educational program a post-test was performed to assess kinesthetic perception and selected floor gymnastic skills (Forward Roll, Front Scale, and Shoulder Stand). The testing was held on Sunday, February 8, 2026, at 9:00 AM, in the same place (the gymnasium of "Al-Rayahheen Kindergarten"), in order to keep the environmental conditions as consonant as possible with the pre-test.

3- Results, Analysis, and Discussion:

3-1 Presentation of the Statistical Results for the Pre-test and Post-test of the Control Group.

Table (2)

The differences in the study variables between the pre-test and post-test for the control group.

Variables	Unit	Pre - Control		Post - Control		T-Value	Sig.
		Mean	SD	Mean	SD		
Kinesthetic Perception	cm	31.2	3.44	29.66	3.09	3.06	0.02
Forward Roll	Degree	3.50	1.24	5.30	2.14	2.71	0.04
Front Scale	Degree	3.04	1.45	6.12	1.45	2.55	0.04
Shoulder Stand	Degree	3.11	1.90	5.48	1.78	2.11	0.05

"At a significance level of 0.05 and degrees of freedom (9)."

3-2 Presentation of the Statistical Results for the Pre-test and Post-test of the Experimental Group.

Table (3)

The differences in the study variables between the control and experimental groups in the post-test.

Variables	Unit	Pre - Experimental		Post - Experimental		T-Value	Sig.
		Mean	SD	Mean	SD		
Kinesthetic Perception	cm	29.66	3.09	23.29	3.19	5.78	0.00
Forward Roll	Degree	5.30	2.14	8.75	2.56	3.43	0.01
Front Scale	Degree	6.12	1.45	8.10	2.83	3.11	0.02
Shoulder Stand	Degree	5.48	1.78	7.90	2.10	2.89	0.02

"At a significance level of 0.05 and degrees of freedom (9)."

3-3 Presentation of the Statistical Results for the Post-test of the Control and Experimental Groups.

Table (4)

Comparison of post-test results between the control and experimental groups for the study variables.

Variables	Unit	Post - Control		Post - Experimental		T-Value	Sig.
		Mean	SD	Mean	SD		
Kinesthetic Perception	cm	29.66	3.09	23.29	3.19	5.78	0.00
Forward Roll	Degree	5.30	2.14	8.75	2.56	3.43	0.01
Front Scale	Degree	6.12	1.45	8.10	2.83	3.11	0.02
Shoulder Stand	Degree	5.48	1.78	7.90	2.10	2.89	0.02

At a significance level of 0.05 With degrees of freedom (18)

4- Discussion of Results.

As seen in Tables (2) and (3), there are significant differences between the study variables for both the control and experimental groups in post-tests favour. This means that the prescribed curriculum textbook for kindergartens has achieved the objective of improving psychomotor perception and certain gymnastics skills, mainly through recreational games that contributed significantly to the improvement of the dependent variable.

In addition, the experimental group had a much better mean significantly higher than the mean of the control group. This shows that the exercises made by the researcher were very effective as they were specially made for this kindergarten age group. Learning such skills at this age is hard; thus we need to let children express them through 'motor stories' which have excitement, thrill and movement. As seen in the literature, "playing games especially group games is a dynamic activity whose practice is for pleasure and joy. Furthermore, it helps in the overall development of a personality" (5: 63).

Results in the post-test were likely caused by exercises using 'motor stories' that made children enthusiastic and enhanced their involvement in the acquisition of skills. This is in line with "the children's natural inclination to move and to be able to fulfill their desire to move through play positively impacted their skill levels and psychomotor awareness :3) " . (33

According to Table (4), the results in favor of the experimental group that used educational exercises based on the 'motor stories' approach showed a significant difference between the control and experimental group. According to the researcher, the exercises implemented can improve psychomotor perception and the performance of skills based on their effectiveness. This method managed to create the desire in children and made them practice for the right reason. The students learned these skills because they were told the motor stories wherein was easier to understand and comprehend the various presentation model. As stated by (Abdel Hamid Sharaf) "presenting certain educational tools or models that demonstrate the intended movement awakens a useful desire in the student and breeds a tendency for the love of acquiring motor skills(55 :1) ".

As psychomotor perception improved significantly, the development of gymnastics skills improved considerably. The researcher agrees with Nizar and Kamil (1993) who concludes that: Psychomotor perception of skill performance when followed by or was appended to by actual physical performance in the motor learning process is highly effective. Learning about how the 'performance' works or how it is carried out is more effective than learning limited to just 'performing'.

5- Conclusions.

1. Motor skills story-based exercises helped in stabilizing and transitioning the child from random action to conscious action level.
2. According to the most research, the motor stories were so exciting and suspenseful that the kids effectively learned some gymnastic skills.
3. As a result of responding to the psychological state, psychomotor perception improved significantly, as evidenced by the performance of various gymnastics skills.

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