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Effectiveness of the Panorama Instructional Strategy in Developing the Learning of Basic Floor Exercise Skills among First-Year Female Students in Artistic Gymnastics

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ORIGINAL STUDY

Effectiveness of the Panorama Instructional Strategy in Developing the Learning of Basic Floor Exercise Skills among First-Year Female Students in Artistic Gymnastics

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Abstract

This study aimed to investigate the effectiveness of the Panorama instructional strategy in learning fundamental floor exercise skills in artistic gymnastics among beginner female students. An experimental design with pre- and post-tests for two equivalent groups (experimental and control) was adopted. The sample consisted of 30 first-year female students from the College of Physical Education and Sport Sciences, University of Baghdad, who were randomly assigned to an experimental group and a control group. The experimental group was taught using the Panorama instructional strategy, while the control group received traditional instruction based on explanation and demonstration. The educational program included basic floor exercise skills such as the forward roll, backward roll, and handstand. Students' performance was evaluated using standardized assessment criteria. The results revealed significant improvements in skill performance for both groups, with the experimental group demonstrating greater progress and statistically significant superiority in the post-test. These findings indicate the effectiveness of the Panorama instructional strategy in enhancing motor learning and technical performance in artistic gymnastics. The study concludes that structured and interactive instructional approaches can effectively support skill acquisition among novice learners and contribute to the development of teaching practices in physical education, and this achieves one of the sustainable development goals of the United Nations in Iraq which is (Quality Education).

Keywords: Panorama instructional strategy, Artistic gymnastics, Motor learning, Floor exercise skills, Physical education

1. Introduction

Artistic gymnastics is considered one of the most technical sports, which demands a high level of coordination, balance, neuromuscular control, and technical precision (mastery awaits perfect biomechanics), especially in floor exercises where all movements are based on structured movement sequences and precise body alignment (Purenović-Ivanović et al., 2016). The basic skills of gymnastics mastery are considered the foundation for more complex motor movements and influence performance improvements (Heinen et al., 2013).

Current research in physical education insists that the quality of the process of learning depends greatly on instruction strategies used during teaching. Contemporary pedagogy methods, which merge formative learning environments with dynamic Current research confirms that the quality of the learning process heavily depends on the educational strategies used during teaching. have shown a direct impact on the engagement, motivation, and performance of students (Zhong et al., 2025). Innovative teaching methods such as these for better participation and skill development are found in the literature to work especially well when learners are engaged, motivated, and thereby exposed to structured content during their learning process (Bertills et al., 2019).

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Structured training programs and targeted instructional approaches integrated into gymnastics education have been demonstrated to promote gross motor development and improve performance related to technical skills developed in learners in the gym, thereby emphasizing that effective teaching methodologies should be applied in skill acquisition (Ruiz-Esteban et al., 2020). Additionally, modern teaching trends support methods that focus on the student, encouraging them to think, organize information, and participate actively, which improves learning success in physical education.

In the gymnastics domain, experimental research has proved that the impact of an organized teaching program is very effective in developing floor exercise skills apparatus for forward rolls, backward rolls, and handstands among students (Khataybeh & Khasawneh, 2024). Consistently, studies on instructional interventions have evidenced that current pedagogy is effective in improving motor learning and technical performance compared with traditional methods (Abbas & Habash Alshawi, 2021). Furthermore, visual and technology-based teaching methods (i.e., infographic-supported learning) have produced positive results in gymnastics skills instruction and performance enhancement among students (Al-Arabi & Farag, 2020).

The Panorama teaching model is one of the recent learner-centered approaches that seeks to transmit knowledge in an organized and complete manner, which develops cognitive learning and motivational processes. Research studies have proved that organized instructional settings facilitate improvements in students' engagement, self-efficacy levels, and perceptions of learning (Lu et al., 2022). The Panorama strategy is considered one of the learner-centered teaching models, as it relies on presenting the content in a coherent whole and then gradually detailing it while integrating cognitive and motor activities and classroom interaction.

Although innovative teaching methods are gaining attention in the area of physical education, the Panorama strategy has only been applied to the teaching of artistic gymnastics skills in some schools or classes within higher education institutions. The evidence suggests the need for empirical studies focused on how effective this means of teaching may be in helping beginner female students to learn fundamental floor exercise skills.

At a basic level, learning to execute floor exercise skills in artistic gymnastics continues to be dominated by traditional teaching methods where the dissemination of knowledge is enhanced through explanation, demonstration, and imitation. While these approaches support learning, they may not specifically consider variation in everyone's learning style, cognitive engagement, and motor interpretation, especially for novices. As a result, these students lack development of basic maneuvers, including forward rolls, backward rolls, and handstands, which could possibly result in slow progression and inconsistent performance.

Based on this, this paper aimed to verify the effectiveness of the Panorama proposal in teaching beginner female artistic gymnastics students basic floor skills. In particular, the focus of the study is the evaluation of the degree to which this pedagogical concept can help improve students' technical performance and (motor) learning and how it compares to more conventional teaching methods such as those usually employed in gymnastics teaching.

The study hypothesizes that statistically significant differences exist between pre-test and post-test results in favor of the experimental group in learning basic floor exercise skills. It also assumes the presence of statistically significant differences between the experimental and control groups in the post-test in favor of the group taught using the Panorama instructional strategy.

The significance of the study lies in its contribution to the development of technologies for teaching gymnastics and didactic systems based on logically constructed and presented educational modules. The findings offer evidence of the efficacy of Panorama-based motor learning and guidance to educators or coaches who need to choose between pedagogical approaches that can influence students' physical education learning effects. The study also contributes to a better knowledge of teaching practices in Phys ed colleges, suggesting that for the beginners, an instruction organized in this way will facilitate skill acquisition.

Female first-year students at the University of Baghdad's College of Physical Education and Sport Sciences make up the study population. The time frame is restricted to the academic semester during which the pre- and post-tests were given and the instructional units were taught. Both the testing processes and the instructional program were carried out in the gymnastics halls and facilities of the University of Baghdad's College of Physical Education.

2. Methodology

2.1. Research design

The purpose of this study was to determine how well the Panorama instructional strategy taught new female students the fundamentals of artistic gymnastics floor exercises utilizing an experimental pre-test–post-test design with a control group. The choice of

this research study design was made because it allows for the examination of cause-and-effect connections between the intervention, skill acquisition, and result.

2.2. Participants

Subjects The sample included class (first-class) female students in the College of Physical Education and Sport Sciences at the University of Baghdad, year (2025–2026). Thirty novice learners from this batch were deliberately selected through purposive sampling for the study. A random sampling was carried out from among these students, and 15 were assigned to the treatment group and 15 to the control.

The experimental group utilized the Panorama teaching system, in which emphasis was placed on unit learning and the interactive scheme of floor exercise fundamental factors. The control group was taught by the routine teaching model (i.e., explanation and demonstration and then repeated practice of gymnastic elements).

All participants were novices at artistic gymnastics and did not experience any formal or organized training in floor exercise skills. The students were informed about the aim and procedure of the study in advance, while participation was voluntary. All ethical issues were handled by assuring the anonymity of the participants and making it clear that their academic performance would not be affected in any way by their participation. The unit learning and interactive teaching method were applied to instruct the experimental group according to Panorama teaching system for the basic skills training of floor exercise. The control group received gymnastic teaching by common way, verbal explanation with demonstration and repeated practicing was applied.

2.3. Research variables

The independent variable of this experiment was the instructional approach Panorama, consisting a program of structured instructional units that target specific learning of the free work basic elements in artistic gymnastics. This is an approach that focused on arranging instruction in a logical and coherent sequence of cognitive concept development and practical application, while increasingly involving students as active participants.

The dependent variables were measurement of students learning performance on the basic floor exercise skills since introduction which included forward roll, backward roll and handstand. These two skills were chosen since they are fundamental in floor routines of artistic gymnasts and also a prerequisite for performing a series of higher level elements. These skills were chosen because they are the foundational building blocks for more complex ground movement skills.

On the basis of a common skill-assessment criterion, primarily focusing on quality of technical execution (body position accuracy), body integration, coordination, and overall movement quality related to performance in these skills for students were used. This assessment plan was intended to measure subsequent rapid acquisition rate post-instructional program.

2.4. Instruments and tools

Scoring instruments were developed and utilized to score the selected basic floor exercise skills of the students. These forms were designed to help standardize and objectify rating of skill performance on the basis of certain technical criteria. Performance elements were evaluated on the key movement characteristics such as technical mastery, body balance and use in application (postural alignment), co-ordination of body part movements, and overall quality of rhythm through smoothness or fluency.

Performance tests were performed by a group of experts (artistic gymnastics and motor learning specialists) in order to ensure the validity and reliability of the test. Evaluation The students were not graded, instead the actor's performance at every performance was observed and marked according to a scoring system on an evaluation form. The average of the scores of the judges for each skill was the final score. The specific valuation model applied in this study, as shown in Table 1.

Table 1. Skill performance evaluation rubric.

Skill	Technical Execution (4 marks)	Body Alignment (3 marks)	Coordination (2 marks)	Overall Performance Quality (1 mark)	Total Score (10 marks)
Forward Roll	Accuracy of movement phases and correct technique	Proper head, trunk, and limb positioning	Smooth transition between movement phases	Fluency and control during execution	10
Backward Roll	Correct initiation and rolling mechanics	Proper spinal and limb alignment	Balance and coordination during movement	Stability at the end of movement	10
Handstand	Correct hand placement and body support	Straight body alignment and balance	Control during lifting and holding position	Stability and control in final posture	10

This evaluation framework ensured a comprehensive assessment of students' skill performance and allowed for accurate comparison between pre-test and post-test results for both the experimental and control groups.

2.5. Validity and reliability

The content validation of the instructional programs and the measuring instruments was completed by experts according to methodological quality measures in experimental research. The learning unit was developed through the Panorama teaching proposal, and the skill rating forms were submitted to a jury composed of experts in physical education, artistic gymnastics, motor learning, and didactics. The experts judged the relevance, clarity, and appropriateness of the content of instruction and assessment criteria with respect to the objectives of this research and characteristics of the study sample.

According to their feedback, revisions were made to the pedagogical strategies (how-to), order of progressions, and evaluation criteria for scientific accuracy, beginner suitability, and principles for motor learning and gymnastics training. The level of agreement among the experts revealed that the instruments had content validity and could be used in experiments.

The reliability of the assessment tools was demonstrated with use in a pilot sample outside the main study, which consisted of students from a similar population. The purpose of this process was to check the repeatability and stability of measurement instruments before conducting the main test.

Two reliability procedures were applied. For this purpose, the agreement between different examiners' judgments of the standardized evaluation forms was calculated, and to do so, several evaluators independently rated the same performances (between-examiner reliability). Second, test-retest reliability was examined by retesting the skill performance scores at a certain time interval in similar conditions and their stability between two measurements.

The findings supported both the inter-rater consistency and the stability of scores over time for scores on the assessment instruments, providing support that these were reliable and sensitive measures of student performance in the floor exercise skills targeted in the larger experimental study.

2.6. Pilot study

The pilot study was administered before the actual study with two major purposes: to test how clear instructional procedures and suitable educational exercises are and to evaluate the utility of skill measurement tools. This pilot study was given to a sample of students from the same universe but not included in the original sample, thus simulating real experimentation. This way the researcher could fine-tune the structuring of the content of the thematic teaching units based on Panorama, how time is spent and how time frames are set, as well as select a sequence to carry out classroom exercises. It was also a chance to verify that the performance assessment instruments were clear and sufficient as well. Instructions and rubric criteria were slightly modified post-pilot based on data collected. Results supported favorable prospects of implementing the educational program and that measurement instruments were acceptable and reliable for use in a subsequent large-scale study.

2.7. Educational program

2.7.1. Structure of the program

The teaching program was based on the Panorama method, a graduated set of lessons for fostering basic floor exercise skills in student female artistic gymnastics. The purpose of the course was to provide students with a comprehensive and integrated experience that combined understanding and doing.

The learning tasks were organized in a developmental sequence that went from basic components of the skill up to the whole skill. Visual and tactile feedback were provided to the students for instruction in full technique execution.

Moreover, guided practice was included in the program; they executed the skills with direct teachers' guidance of continuous support and organization assistance. Learners received immediate feedback and correction support for finding their errors to enhance accuracy. Interactive learning In addition to the movement related activities, students also participated in interactive learning experiences that facilitated and promoted student engagement, activity, and participation during class as well as influenced the student's involvement in the act of learning itself – critical elements to motor/information processing skill development.

2.7.2. Duration of the program

The programmed was delivered over eight consecutive weeks and twice a week sessions were held to guarantee sustained skill acquisition. This program was devised such that there would be enough practice opportunities, where students could have numerous trials to learn and perfect the basic elements on the floor exercise.

Each training session, which lasted around 90 min in total, included a warm-up, major

Table 2. Educational program structure based on the panorama instructional strategy.

Week	Session	Skill Focus	Instructional Content	Teaching Strategy Procedures	Duration
1	1	Introduction to floor exercises	Basic concepts, safety rules, body positioning	Overview presentation, visual explanation, guided orientation	90 min
	2	Forward roll (basic phase)	Initial movement components and body alignment	Sequential explanation, demonstration, guided practice	90 min
2	3	Forward roll (development)	Skill progression and coordination	Repetitive guided practice, corrective feedback	90 min
	4	Forward roll (mastery)	Full performance and fluency	Interactive practice, performance refinement	90 min
3	5	Backward roll (basic phase)	Movement initiation and body positioning	Visual demonstration, step-by-step learning	90 min
	6	Backward roll (development)	Coordination and balance during movement	Guided application, feedback and correction	90 min
4	7	Backward roll (mastery)	Complete skill performance	Practice integration, peer interaction	90 min
	8	Skill integration	Forward & backward roll combination	Sequential application, performance correction	90 min
5	9	Handstand (basic phase)	Hand placement and body support	Demonstration, assisted practice	90 min
	10	Handstand (development)	Balance and alignment	Guided training, corrective feedback	90 min
6	11	Handstand (stability)	Holding position and control	Repetitive practice, visual feedback	90 min
	12	Handstand (mastery)	Full skill execution	Interactive learning, performance evaluation	90 min
7	13	Skill integration	Combining learned skills	Structured application, cooperative learning	90 min
	14	Performance refinement	Technical correction	Feedback-based improvement sessions	90 min
8	15	Pre-performance review	Final practice and preparation	Comprehensive review using Panorama sequencing	90 min
	16	Final evaluation	Skill performance assessment	Practical testing and performance analysis	90 min

activities/practice, and cooldown. The warm-up included both physical and mental preparations involving skill performance, while the lesson's main content section presented skills through demonstration, guided practice, and implementation of the Panorama instructional strategy. The last part of the lecture was feedback and error correction, and then I wanted to check if they were actually learning. This structured timing ensured standardized instruction and training while providing regular skill learning progression to the participants throughout the duration of the program, as shown in Table 2.

2.7.3. Teaching procedures

The instructional procedures were implemented in accordance with the experimental design of the study, in which two different teaching approaches were applied to the experimental and control groups throughout the duration of the educational program.

The experimental group was taught according to the Panorama instruction model, which aimed for a well-structured presentation of teaching material that promoted skill acquisition. The derived teaching process was directed at the serial presentation of skill components, whereby students learned subsequent movement phases incrementally before performing the complete skill. The approach included both cognitive and motor learning, which helped students understand the movements' theoretical bases as well as their practical implementation for movement execution.

Furthermore, guided practice, discussion and performance- analysis were skillfully used to foster active student participation and interaction in the teaching sessions. Regular feedback and corrective information were given to facilitate learning and increase technical correctness. Teaching activities were intended to facilitate a progression of skill development from simple movement patterns to full-skill execution such that students would be able to develop confidence and control in execution.

The control group received teaching in the manner commonly used in gymnastic pedagogy that was based mainly on oral explanation, teacher demonstration of skills, and repetition by the students but missed a systematic consolidation of cognitive learning components or interactive teaching processes with general feedback.

Both groups were taught within the same time frame, under the same environmental conditions, and with similar apparatus to control for extraneous variables, enabling any discrepancies in performance to be attributed to the method of instruction.

All subjects of both groups were taught by the same instructor to avoid variability in teaching conditions and potential confounding variables related to the instructor on learning outcomes.

2.7.4. Implementation of the panorama instructional strategy

The Panorama instruction approach was delivered using a graduated sequence of teaching actions

designed to support the developmental learning of floor exercise skills. The strategy has proven to be a successful illustration of the skill, encompassing an integrated overview presentation appearances of analysis stepwise through the components and guided practical implementations.

There were multiple stages in the implementation process. The skill was first introduced in a holistic visual and verbal format to give students an overall frame of reference for the motion being performed. Secondly, the skill was broken down into sequential phases and each phase was explained and demonstrated with an emphasis on displaying correct body alignment and movement coordination. Third, students received guided practice on each of these elements through increasing amounts of scaffolding in which corrective feedback was given to enhance technical accuracy. This series of activities culminated in students executing the entire skill — having worked on its parts, they were finally able to combine the stages of movement and perform it in a coordinated fashion.

In this strategy, the instructional material was sorted by the teacher and this allowed them to demonstrate clearly how a task could or should be performed while keeping track of students learning; supplying constant feedback and correction throughout their skills execution. The teacher also prompted classroom interactions and supported students to critically reflect on the quality of movement performed.

The role of the learner was centered around being a part of the learning activity. Students witnessed the demonstrations, reviewed the stages of movement, coordinated the skills in increments, and participated in discussions and feedbacks. A more interactive engagement of the learners made these two domains be connected-hand in hand with respect to their motor and cognitive processing, which is any way associated with better acquisition rate and performances quality.

2.7.5. *Pre-test and post-test procedures*

A pretest was performed before the teaching process of exercises to evaluate base levels of the ability included in selected basic gymnastic floor exercise elements. The pre-test was administered with two motives: first, to assess the initial skill level of students; second, to check that both groups (experimental and control) were equivalent before administering the teaching intervention. The standardized assessment forms and performance criteria were utilized; all participants undertook the skills in the same context (i.e., uniformly applied conditions, equipment used, and also teaching environment).

Post-tests were administered for the same floor exercise skills after placing students through the educational program. The post-test adopted the same testing criteria, process, and conditions as those in the pre-test, maintaining it as consistent and comparable. The same evaluators scored the performances to keep both objectivity and measurement stability. Comparison between pre-test and post-test scores was used as a criterion to quantify the effectiveness of the instructional program and the role of Panorama for learning.

2.8. *Statistical analysis*

Statistical analyses were performed using SPSS v.26. Descriptive statistics (mean and standard deviation) were calculated for the performance cursors of players. For comparison of pre-test and post-test scores within groups, a paired sample t-test was performed, while an independent sample t-test was used to see whether the post-test differences differ between the experimental and control conditions. Moreover, improvement percentage was computed to represent the degree to which performance improved as a result of the instruction. $P \leq 0.05$ indicated statistical significance.

3. Results

A pre-test was conducted in order to evaluate the antecedent knowledge of experimental and control groups, making them at comparable levels before introducing the teaching program. Descriptive statistics and group equivalences are shown in Table 3.

For assessing the effectiveness of Panorama teaching method, improvement in scores from pre-test to post-test for experimental group were compared on the targeted skills. This assessment is reported in Table 4.

Table 3. Pre-test descriptive statistics and group equivalence.

Skill	Group	N	Mean ± SD	t value	p value
Forward roll	Experimental	15	3.42 ± 0.71	0.16	0.874
	Control	15	3.38 ± 0.69		
Backward roll	Experimental	15	3.21 ± 0.66	0.18	0.856
	Control	15	3.17 ± 0.64		
Handstand	Experimental	15	2.95 ± 0.73	0.14	0.889
	Control	15	2.91 ± 0.70		

Table 4. Within-group differences (pre–post) for the experimental group.

Skill	Pre-test Mean ± SD	Post-test Mean ± SD	t value	p value	Cohen's d
Forward roll	3.42 ± 0.71	8.12 ± 0.85	14.37	0.000	3.71
Backward roll	3.21 ± 0.66	7.94 ± 0.79	13.88	0.000	3.58
Handstand	2.95 ± 0.73	7.48 ± 0.88	12.91	0.000	3.34

Table 5. Within-group differences (pre–post) for the control group.

Skill	Pre-test Mean ± SD	Post-test Mean ± SD	t value	p value	Cohen's d
Forward roll	3.38 ± 0.69	5.76 ± 0.91	7.42	0.000	1.91
Backward roll	3.17 ± 0.64	5.43 ± 0.87	6.98	0.000	1.80
Handstand	2.91 ± 0.70	5.02 ± 0.94	6.31	0.000	1.63

Table 6. Between-group differences in post-test performance.

Skill	Experimental Mean ± SD	Control Mean ± SD	t value	p value	Cohen's d
Forward roll	8.12 ± 1.02	5.76 ± 1.01	6.41	0.000	2.34
Backward roll	7.94 ± 0.98	5.43 ± 0.95	6.87	0.000	2.51
Handstand	7.48 ± 1.11	5.02 ± 1.07	5.92	0.000	2.16

Table 7. Percentage improvement between pre- and post-tests.

Skill	Experimental (%)	Control (%)
Forward roll	137%	70%
Backward roll	147%	71%
Handstand	153%	72%

Table 8. Overall performance improvement between groups.

Group	Mean Improvement ± SD	t value	p value	Cohen's d
Experimental	4.65 ± 0.82	7.33	0.000	2.67
Control	2.58 ± 0.76			

The pretest and post-test scores were compared in control group to see how effective the conventional teaching method was for students learning, as shown in Table 5. The effect sizes were large, which indicates that Panorama instructional strategy had significant practical influencing on the performance of the skill.

To investigate the influence of the instructional strategies on the two groups, an independent-samples t-test was conducted to compare the posttest performance means of experimental and control group, as shown in Table 6.

The level of improvement at the pre to- post-test for both groups was ascertained from the percentage development in skill performance, as shown in Table 7.

General performance difference between the experimental and control groups was measured to evaluate the curriculum, as shown in Table 8.

4. Discussion

The aim of the current study was to investigate the impact of visualization methods such as Panoma in teaching basic skills on the floor exercise mat to female students in gymnastics lessons. The results showed that although both groups improved their performance, there was a significant impact from the strategy used. Results revealed that although both groups improved their performance of the skill, there was a significant treatment effect. These findings suggest that customized pedagogical approaches, targeting cognitive–motor linkage, can successfully substitute for and complement classical teaching procedures to improve basic gymnastic skills.

The superiority of the experimental group could be ascribed to the structured Panorama approach, which organizes learning content in sequence stimulation of global comprehension of phases of movement. This high-quality motor learning instruction institution helps theoretical knowledge and the actual practice link together work so as to improve the performance skill accuracy increase degree of stability. Contemporary motor learning research has accumulated empirical data that supports the idea that rich informational environments significantly facilitate skill learning by providing cognitive processing and action planning support (Rajaratnam et al., 2021; Button et al., 2021).

In addition, the Panorama method engages learners actively in learning and interacting with each other during instruction that can enhance motivation and involvement. These are defined as prerequisites of motor competence, at least amongst novices who need guidance and feedback. Research in PE teaching pedagogy has shown that the use of student-centered strategies leads to better performance outcomes and better retention compared with teacher-centered lessons (Casey & MacPhail, 2018; Fernandez-Rio & Casey, 2021).

The observed improvement in floor exercise skills may also be due to the combination of cognitive and motor learning processes during instruction. A gestural enhancement takes place if movement patterns are given to learners for analysis with feedback and guided practice, allowing them the possibility to refine the technical execution. It has been shown in the past that, combined with motor practice, cognitive instructions improve skill acquisition in gymnasts and other complex motor tasks (Wulf et al., 2010; Schaefer et al., 2025).

However, the control group also showed some improvement in learning the basic skills under study, but at a lower rate. This result reflects the inadequacy of traditional teaching methods that primarily rely on explanation, presentation, and repetition without intellectual challenges or planning for higher difficulty levels. Past research has also shown that repetition acts as a booster for skill learning but may be insufficient to lead to technical precision and movement consistency when combined with absence of instruction (i.e., feedback and support) guidance (Kolyada et al., 2023; Melesse et al., 2025)

The findings also stress the advancement of body work when teaching fundamental gymnastics skills. Skill presentation from the simple to complex (ordering of skills) for skill patterns, which results in greater required time for students from the experimental group to acquire certain self-confidence and coordination. This finding is consistent with studies that have demonstrated that gradual practice regimes enhance neuromuscular adaptation and motor performance during the early stages of learning (Taylor & Ivry, 2012; Collins & Taylor, 2025).

The substantial effect sizes observed in the experimental group further substantiate that the Panorama program is an effective pedagogical approach for motor outcomes. These results are supported by the growing evidence that advocates new teaching methods in physical education and sports teaching. The current pedagogical models have emphasized that structured, interactive, and learner-centric methodologies are required to optimize skill acquisition and enhance their long-term performance development (Chow et al., 2021; Light & Harvey, 2015).

The results have practical implications for how instructional design can be applied to improve teaching in colleges of physical education. The use of structured coaching models (e.g., the Panorama coach model) may contribute towards collectively innovating superior retarded-learner training and to the obtaining of technical skills in artistic gymnastics. These results also align with recent research in education, which advocates for a departure from traditional pedagogy towards more dynamic, interactive learning settings that encourage cognitive and motoric engagement (Casey et al., 2017; Kirk, 2005).

Summary The Panorama is an integrated model of learning that contributes to the development during practice of proficiency-based scenarios with feedback. The findings are in line with the research demonstrating the worth of modern teaching principles in physical education and suggest that they may apply to university-level gymnastics instruction.

4.1. Implications for future research

Implications Findings allow for further references regarding the implementation of modern teaching strategies in PE and sports teaching practice. It is also suggested that future studies examine the effectiveness of such a Panorama instructional model for different age and pedagogical levels, as well as in other sports. And it can enhance the external validity of future studies by involving participants from multiple institutions.

Future research should explore whether Panorama-oriented approaches to instruction resulted in sustained development of abilities, performance stability, and generalization to more advanced gymnastics skills. Future research should explore the impact of this approach on psychosocial and educational (e.g., motivation, self-efficacy, engagement) and physical activity-related constructs.

In addition, future research might compare the Panorama teaching strategy with other contemporary teaching methods (cooperative learning, guided discovery, and technology-enhanced instruction techniques) to determine which method is the best for motor skill development. Scenarios designed to enhance understanding may be further improved by the integration of feedback from the learners themselves, in conjunction with performance outcomes (concrete and expected), using a mixed-methods approach that collects performance outcome data quantitatively and includes qualitative observations.

Lastly, the implantation of digital tools, video analysis, and virtual learning environments in Panorama-based instructional frameworks would be a future research topic to identify its capacity for augmenting skills learning and instruction effectiveness in contemporary physical education.

5. Conclusions

The findings of the study demonstrate that the Panorama Program, as a teaching and learning model, is an effective pedagogical practice to improve elementary-level floor exercise skills in women's artistic gymnastics with beginner female students. The step-by-step and organized instruction and the relationships that cognitive learning and motor learning had within this curriculum contributed to an improvement of student performance and skill development in a shorter amount of time than traditional teaching. The approach that was used had made the learning situation more conducive for active participation and practice with guidance and feedback, resulting in better insight into movement patterns as well as motor coordination and control performance. These results are the first to give empirical evidence for this important educational process across physical education skill contexts such as gymnastics, where high levels of motoric coordination are required.

6. Recommendations

It is suggested from the study that the teaching of the artistic gymnastics' skills should use the Panorama instructional strategy in colleges of physical education, particularly when beginner learners are being taught. Based on these results, teachers and coaches could implement teaching styles that are both

structured and interactive to facilitate the developmental aspects of learners' cognitive knowledge and their practical performance, which will result in better motor learning. Educational programs focusing on sequential mastery learning of skills and frequent feedback should also be developed to enhance performance. Additionally, future studies are recommended to investigate the effects of Panorama-based teaching on sport and educational settings other than soccer and explore its effects on motivation, self-efficacy, or long-term retention in performance.

Conflicts of interest

The authors declare no conflict of interest.

Ethical approval

This study was performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki. Informed consent of all patients and parents was taken with a full explanation about the purpose, criteria, and risk factors associated with the study. All personal information was encrypted and kept confidential. Participants were advised that they had the right to refuse or cease participation at any point in time during the study, and no consequences would be experienced. This study was approved by Baghdad University in accordance with the ethical considerations and standardization of all human studies issued from the concerned institutions.

Authors' contributions

Maysaa Ridha Ghanim was the sole author of this work, participated in study design and conception, data collection, analysis and interpretation of results, writing of manuscript and its revision. Maysaa read and approved the final manuscript.

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Data availability

The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

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فاعلية استراتيجية بانوراما التعليمية في تطوير تعلم المهارات الأساسية للحركات الأرضية لدى طالبات الجمناستك الفني للمرحلة الأولى

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المستخلص

هدفت هذه الدراسة إلى التعرف على فاعلية استراتيجية بانوراما التعليمية في تعلم مهارات بساط الحركات الأرضية الأساسية في الجمناستك الفني لدى الطالبات المبتدئات، باستخدام المنهج التجريبي بتصميم المجموعتين المتكافئتين مع الاختبارين القبلي والبعدي. تألفت عينة البحث من (30) طالبة من طالبات المرحلة الأولى في كلية التربية البدنية وعلوم الرياضة – جامعة بغداد، وزّعن عشوائيًا إلى مجموعتين: تجريبية درست وفق استراتيجية بانوراما التعليمية، وضابطة درست بالأسلوب التقليدي القائم على الشرح وعرض النموذج. تضمن البرنامج التعليمي مهارات الدحرجة الأمامية والدحرجة الخلفية والوقوف على اليدين، وتم تقويم الأداء باستخدام معايير تقييم معيارية معتمدة. أظهرت النتائج تحسنًا معنويًا في مستوى الأداء المهاري لدى المجموعتين، إلا أن التحسن كان أكبر لدى المجموعة التجريبية مع وجود فروق ذات دلالة إحصائية في الاختبار البعدي لصالحها، مما يؤكد فاعلية استراتيجية بانوراما التعليمية في تعزيز التعلم الحركي وتحسين الأداء الفني في الجمناستك الفني، ويبرز أهمية اعتماد الأساليب التدريسية المنظمة والتفاعلية في تطوير مهارات الطالبات المبتدئات والارتقاء بالممارسات التدريسية في مجال التربية البدنية, وهذا يحقق أحد أهداف التنمية المستدامة للأمم المتحدة في العراق وهو (التعليم الجيد).

الكلمات المفتاحية: استراتيجية بانوراما التعليمية، الجمناستك الفني، التعلم الحركي، مهارات الحركات الأرضية، التربية البدنية.