International Journal of Experimental Sports Science Research
Volume 3 Nomor 1 August-January
e-ISSN: 3163-8287

The Effect of Teaching Units Based on Kolb's Model on Learning Skills and Performance in the Long Jump amongst Fourth-Year Secondary School Students

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Article History
Received: 05-07-2026;
Reviewed: 09-08-2026;
Accepted: 30-09-2026;
Published: 25-10-2026;

ABSTRACT
Backgroud: The aim of the study was to investigate the impact of teaching units designed in accordance with Kolb's experiential learning model on the acquisition of motor skills and the development of performance levels in the long jump among fourth-year preparatory school pupils.
Methods: The researcher adopted an experimental approach using a two-group design (experimental and control groups) with pre- and post-tests. The study sample consisted of 42 pupils, divided into the two groups as follows: 20 pupils in the experimental group and 22 pupils in the control group.
The experimental group underwent eight teaching units at a rate of two units per week; each unit lasted 45 minutes and was organised in accordance with the four stages of Kolb's model, namely: direct sensory experience, reflective observation, abstract conceptualisation and active experimentation. The researcher used a form to assess technical performance, alongside a numerical measure represented by the best legal attempt in the long jump.
Results: The results showed a statistically significant improvement in the performance of both groups; however, the experimental group achieved greater progress, with the mean technical performance rising from 23.30 to 53.80 points, whilst the numerical level improved from 3.28 to 3.68 metres. Post-hoc comparisons also revealed statistically significant differences in favour of the experimental group in technical performance ($t = 6.713$, $p < 0.001$) and the distance achieved ($t = 4.736$, $p < 0.001$).
Conclusions: The researcher concluded that organising the teaching units for the long jump according to the Kolb model contributed to the development of skill performance and improved numerical achievement to a greater extent compared with the teaching method used with the control group.
Keywords: Kolb model, experiential learning, motor performance, numerical level, long jump, lower secondary school pupils.

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INTRODUCTION

The educational process in the field of physical education and sports science has witnessed a marked development in the methods and strategies adopted for teaching motor skills; the acquisition of a skill is no longer limited to the teacher demonstrating a model of performance and the learner repeating it, but now requires the use of teaching methods that enable the learner to participate actively in the various stages of learning. This is achieved by providing the learner with the opportunity to observe motor performance, reflect on its details, analyse its technical components, and then apply their understanding in practical practice. From this perspective, the teaching of sporting skills necessitates the creation of learning situations that help the learner grasp the nature of motor performance, recognise the sequence of its stages, and achieve integration between observation, reflection and application during execution.

Kohlberg's model of experiential learning is one of the educational models that places experience at the centre of learning and its development, viewing learning as a continuous process in which practical experience interacts with reflection, thinking, concept formation and application. This model comprises four interrelated stages: concrete experience, reflective observation, conceptual abstraction and active experimentation. This sequence enables the learner to engage with a skill in a way that goes beyond mere memorisation or direct imitation; they begin by observing the performance, then reflect on its components and identify its key characteristics, before moving on to applying their understanding in practical situations. The importance of this model is particularly evident in physical education and sports science, given the nature of motor skills, which require a continuous interaction between perception, understanding and practice. Mastery of a movement is not achieved merely by knowing its outward form; rather, it requires observing correct performance, comparing it with one's own performance, identifying potential errors, and understanding the technical sequence of the skill before re-executing it. In this context, Hunuk (2017) highlighted the importance of employing the experiential learning cycle in physical education settings, given the opportunities it provides to link practical experience with reflection and application, and to enhance the learner's role in constructing their own learning experience.

Previous studies have examined the potential for applying Kolb's model in the teaching of sporting skills, and their findings have demonstrated its effectiveness in a number of educational contexts. A study by Jabr and Raja (2019) found that a teaching approach based on Kolb's learning styles was effective in acquiring the technical skills required for the breaststroke, whilst a study by Salman (2019) revealed positive results when the model was used in learning certain artistic gymnastics skills. Furthermore, two studies on handball indicated that organising training sessions according to the learning styles associated with the Kolb model contributed to improving the acquisition of certain basic skills among female students (Dawood & Abdulhamid, 2017, 2018). In a similar vein, a study by Hussein and Salim (2023) showed that the use of a branching approach based on the Kolb model had a positive impact on the learning of certain basic football skills.

These findings suggest that the application of the Kolb model is not limited to a specific type of sporting skill, but can be utilised in a variety of educational contexts, provided that the content of the teaching unit is organised in accordance with its stages and the requirements of the targeted skill. This approach becomes particularly important when teaching skills that consist of sequential technical stages, as learning them requires the formation of a clear mental image of the nature of the performance and the sequence of its components before moving on to practical execution.

The long jump is considered one of the athletics events that requires careful organisation of the learning process, given that its execution involves successive technical stages: the approach, take-off, flight and landing. The quality of the overall performance is linked to the level of mastery of each phase and the extent to which they are integrated with the other phases, which is reflected

in the numerical score achieved by the learner. Consequently, verbal explanation and direct practice alone may not be sufficient to achieve the desired learning outcomes for some learners, particularly when they have limited opportunities to observe, reflect on and discuss the technical details of the performance, and then re-execute the skill based on a conscious understanding of its requirements.

Consequently, designing teaching modules on the long jump in accordance with the stages of Kolb's model may help to create a more interactive learning environment, beginning with a clear demonstration of the motor skill, then allowing students the opportunity to reflect on the performance and analyse its stages, followed by the organisation of technical information related to the skill and the formation of a clearer understanding of its requirements, leading to practical application and repeated attempts in the light of the experience and knowledge gained. This organisation strengthens the link between the cognitive and practical aspects of the learning process, which may have a positive impact on the level of technical performance and numerical achievement in the long jump.

In light of the above, the present study aims to investigate the impact of an educational programme designed in accordance with the stages of the Kolb model on the learning of technical performance and the improvement of the digital level of long jump effectiveness among students. The research question is defined as follows:

What is the impact of an educational programme based on the stages of Kolb's model on the learning of technical performance and the improvement of the digital level of long jump performance among students?

METHODS

The researcher adopted an experimental approach as it was appropriate to the nature and objectives of the research problem, using a design comprising two matched groups an experimental group and a control group with pre- and post-tests. Pre-tests were administered to both groups to determine their technical performance and numerical proficiency in the long jump, and to verify that the two groups were equivalent before the experiment began. Subsequently, the experimental group underwent teaching units prepared in accordance with the stages of Kolb's experiential learning model, whilst the control group continued to learn using the established traditional method. Following the completion of the teaching units, post-tests were administered to both groups to compare their results and determine the impact of the educational programme on the variables under study, in accordance with experimental research procedures in the field of sports science (Thomas, Nelson, & Silverman, 2015).

Participants and Research Sample

The research population consisted of fourth-year preparatory school pupils at Al-Furqan Preparatory School for Boys, affiliated with the General Directorate of Education for Salah al-Din Governorate in the district of Tikrit, who were officially enrolled for the academic year (2025–2026), numbering 82 pupils. The school and the research population were selected purposefully, whilst the main sample was selected randomly using a lottery method; this selection process resulted in the identification of Classes (A) and (B) to represent the research sample. Class (A) was designated to represent the experimental group, to which the teaching units prepared in accordance with the Kolb model were applied, whilst Class (B) represented the control group, which continued to learn using the traditional method. The experimental group comprised 20 pupils, compared with 22 in the control group, bringing the total number of pupils in the main sample to 42. Section (C), comprising 32 pupils, was used to conduct the pilot study with the aim of verifying the suitability of the field tests and the clarity of the procedures for their implementation. Eight students were excluded from the exploratory study because they did not comply with its requirements, as specified in the study procedures. Consequently, the proportion of the main sample to the original

research population was approximately 51.22 per cent, or nearly 51 per cent of the total of 82 students.

Moderation

Form for the Evaluation of Motor Performance for the Long Jump: For the evaluation of the ability to jump longaria, the researcher was based on a design form to assess the components of the observable motor structure of the technical performance, developed by the researcher Bara Hussein Mohammed Ameen (Ameen, 2024); The staff was presented to a trigau group of specialists in the fields of methods of demonstration and learning, motor skills and athletics to assess their weightings for the long jump event, and the total score for technical performance was established at 100 points, scientifically distributed among the components of motor performance for the event; The motor structure was composed of three main sections: a preparatory section, a prenatal section and a final section; The preparatory section was assigned either 40 per cent of the total score ( ) for the access run phase, with a level of 85.71 per cent of experts, while the main section represented 50 per cent of the total score, including the blast phase (20 per cent) with a 100 per cent record, and the flight phase (blinca) (30 per cent) with a 100 per cent record; The movement sequence ended with a final section, which included the landing phase, which represented 10 per cent of the total score, and achieved a 100 per cent record. These weightings and scores were adopted in the final form to assess technical performance and accurately record the grades obtained by the students following their performance in each phase of the movement, as shown in Figure 1.



Figure 1. Hierarchical Structure of the Long Jump Technical Performance Evaluation Form.

Methodology to assess the motor form of the long jump: In assessing the technical performance of the long jump, the researcher was based on the method of recording or movement in video, followed by an analysis and a presentation to experts and specialists; the three attempts of each student were recorded with a digital camera covering all the phases of approach, takeoff, flight and landing. Finished off in the field, the researcher asked a computer specialist to edit the

images, segment the attempts into clips and organize them in said supports to present them to three appraisers specialized in methods of demonstration and athletics, to ensure total impartiality and to deprive any partiality, video recordings and evaluation forms were sent to the blind tracing appraisers, coded with serial numbers without mentioning the names of the students or specifying their affiliation to the experimental or control group, and without indicating whether the methodology to assess the motor form of the long jump: In assessing the technical performance of the long jump, the researcher was based on the method of recording or movement in video, followed by an analysis and a presentation to experts and specialists; the three attempts of each student were recorded with a digital camera covering all the phases of approach, takeoff, flight and landing.

Completed in the field, the researcher asked a computer specialist to edit the images, segment the attempts into clips and organize them in said supports to present them to three appraisers specialized in demonstration methods and athletics, to ensure total impartiality and to deprive any partiality, video recordings and appraisal forms sent to the blind appraisers, coded with serial numbers without mentioning the names of the students or specifying their affiliation to the experimental or control group, and without indicating whether the evaluations were pre-test or post-test; Each appraiser evaluated the components of the motor skills observed for the event and requested his or her notes on the form provided for this purpose, which had a total score of 100 points. Half of the grades of the three appraisers were calculated for the best valid and legally acceptable attempt to represent the final grade approved for the technical performance of each apprentice. Each appraiser evaluated the components of the motor skills observed for the event and reviewed their grades on the form provided for this purpose, which had a total score of 100 points. Half of the grades of the three appraisers were then calculated for the best valid and legally acceptable attempt to represent the final grade approved for the technical performance of each apprentice.

Measurement of Numerical Level: The mechanism for measuring the numerical level (achievement) in the test of the jump in length is in accordance with the regulations of the International Association of Athletics Federations (IAAF). Each student is granted three consecutive attempts, while the distance covered is measured in meters and centimeters to serve a graduated tape measure of 30 meters; The tape is stretched from the edge of the sand board, which is attached to the sand pit, to the most rigged mark made by the student's body or any part of it inside the sand pit after the landing; invalid attempts are excluded if it is blinched beyond the sand board. The best number of valid results obtained by the student between the three attempts is scored and documented to serve as a standardized score for both the pre-test and the post-test. Procedures

The researcher began his procedures by conducting a pilot study as a small-scale experiment and preliminary survey on a small sample to select his research methods, identify the sample of learners who had not previously learnt the long jump skill, allocate the two experimental groups, and verify the efficiency of the tools and the supporting team. This was followed by the pre-tests for the research sample on (22 February 2026) at 9.00 am on the athletics track and field, with the aim of measuring the learners' initial level and verifying statistical equivalence and homogeneity between the two groups before commencing the experimental treatment.

Subsequently, the researcher prepared teaching units designed to teach the long jump skill, tailored to the students' physical and technical abilities; the implementation of the teaching units began on (24 February 2026) and continued until (22 March 2026), comprising eight teaching units at a rate of two units per week, with each unit lasting 45 minutes. These were divided into: a 10-minute preparatory section for physical preparation and warm-up; a 30-minute main section comprising an 18-minute cognitive learning activity dedicated to the first three stages of the model, and a 12-minute practical skills activity dedicated to the fourth stage; and a concluding section

lasting 5 minutes for cooling down and relaxation. The four stages of the model were utilised as follows:

Stage 1: Concrete Experience (Duration: 5 minutes): This stage represents the exploratory introduction to the skill; learners are presented with a comprehensive visual model using teaching aids and instructional videos demonstrating the steps for performing the long jump, first at normal speed and then in slow motion, with the aim of forming a clear mental image of the correct sequence of movements. During this stage, learners become familiar with the various components of the skill as a whole (approach, take-off, flight and landing), as well as examining the running track, the position of the take-off board and the landing area (sand pit), which helps learners grasp the general form of the movement and the learning environment of the activity without delving into any theoretical complexities.

Stage Two: Reflective Observation – (Duration: 7 minutes): This stage focuses on educational dialogue and constructive discussion between the teacher and learners through the posing of simple educational questions about what has been observed; this allows students to reflect on how each stage is performed and the importance of controlling their running strides to reach the take-off board precisely. Illustrative images of some common mistakes made during learning are also displayed, such as hesitating during the final steps or looking down whilst climbing, , and these are compared with the correct technique. This enhances the learner's ability to visually and mentally distinguish between the correct movement and common motor errors before practising it in practice.

Stage Three: Abstract Concepts – (Duration: 6 minutes): This stage aims to summarise and consolidate the technical steps and instructions for the skill into clear, simplified guidelines that are easy for the learner to remember; the correct instructional sequence is explained, starting with a gradual increase in speed as the learner approaches, placing the take-off foot fully on the board whilst raising the free knee and arms upwards, through to maintaining balance in the air, and finally extending the feet forwards whilst bending the knees to cushion the landing safely in the sand. The basic instructional and regulatory rules for a valid attempt are also clarified, along with how to avoid the common mistake of stepping over the edge of the take-off board.

Stage 4: Active Experimentation – (Duration: 12 minutes): This practical stage serves as the practical, motorised application of everything that has been built up and understood theoretically and conceptually in the previous stages; students move directly to the long jump pit to test these rules for themselves on the run-up and in the landing pit. The practical application begins with exercises that progress from easy to difficult, including adjusting the approach strides and the timing of the take-off, followed by exercises involving jumping over light foam barriers, culminating in linking the entire sequence of the jump at increasing speeds. Students do not undertake these attempts through random trial and error, but rather proceed from a clear, pre-established mental plan; their performance is immediately adjusted based on feedback from the coach, which leads to the practical consolidation of the skill and the stabilisation of the neuromuscular coordination required for precise athletic performance.

After completing all the teaching units, the researcher conducted post-tests for the long jump skill on 29 March 2026 at 10.00 am on the school's long jump track, allowing each pupil to make the three prescribed official attempts and recording their results. The performance was filmed live by specialist cameramen in the presence of the subject teacher, with the aim of presenting the footage to the assessors to determine the extent of progress made in the skill level and numerical level of the research sample.

Analyse des données

The data were analyzed using descriptive and inferential statistical methods. Means and standard deviations were calculated for technical performance and long jump distance in both the experimental and control groups. An independent sample t-test was used to check the equivalence

of the two groups in the pre-test and to compare their scores at the post-test. A paired sample t-test was used to determine the significance of the differences between the pre- and post-test measures within each group. The statistical significance threshold was set at $\alpha = 0.05$, and the differences were considered statistically significant when $p < 0.05$

RESEARCH RESULTS

The results presented in Table (1) show that the mean pre-test score for proficiency was 23.30 for the experimental group, with a standard deviation of 2.79, while the control group scored a mean of 22.95 with a standard deviation of 3.08. The t-value was 0.381, with a significance level Sig. = 0.705, which is higher than the retained significance level of 0.05. This indicates that there was no statistically significant difference between the two groups in pre-intervention performance.

Regarding the distance of the long jump, the experimental group achieved an average of 3.28 m with a standard deviation of 0.18, while the control group also achieved a mean of 3.28 m with a standard deviation of 0.18. The t-value was 0.063, with a significance level Sig. = 0.950, which is also greater than 0.05. These results indicate that there were no statistically significant differences between the experimental group and the control group, neither in terms of technical performance nor in terms of long jump distance, which confirms the equivalence of the two groups in the pre-test carried out before the implementation of the educational program.

Table 1. Means, Standard Deviations, t-Values, and Significance of Differences in the Pre-Test Between the Experimental and Control Groups

Significance Level	Sig.	t-value	Control Group		Experimental Group		Variable
			Standard Deviation	Mean	Standard Deviation	Mean	
Not significant	0.705	0.381	3.08	22.95	2.79	23.30	Skill Performance
Not significant	0.950	0.063	0.18	3.28	0.18	3.28	Long Jump Distance

Note: An independent-samples t-test was used to examine the equivalence of the experimental and control groups in the pre-test. The significance level was set at 0.05. No statistically significant differences were found between the two groups in either skill performance or long jump distance ($p > 0.05$), indicating equivalence between the groups before the intervention.

The results shown in Table 2 indicate statistically significant differences between the pre- and post-tests within the experimental group for both variables. In terms of skill performance, the mean score increased from 23.30 in the pre-test to 53.80 in the post-test. The t-value was 38.299, with Sig. < 0.001, indicating a statistically significant difference in favour of the post-test. Similarly, the mean long jump distance increased from 3.28 m to 3.68 m, with a t-value of 23.623 and Sig. < 0.001, demonstrating a statistically significant improvement in long jump distance.

The control group also showed statistically significant differences between the pre- and post-tests. The mean skill performance score increased from 22.95 to 43.18, with a t-value of 21.019 and $p < 0.001$. Similarly, the mean long jump distance increased from 3.28 m in the pre-test to 3.41 m in the post-test, with a t-value of 10.314 and $p < 0.001$. These findings indicate that both groups demonstrated statistically significant improvements in skill performance and long jump distance from the pre-test to the post-test, although the descriptive magnitude of improvement was greater in the experimental group.

Table 2. Means, Standard Deviations, t-Values and Significance of Differences Between the Pre- and Post-Tests for the Experimental and Control Groups in Skill Performance and Long Jump Distance

Significance Level	Sig.	t-value	Post-Test		Pre-test		Variable	Group
			Standard Deviation	Mean	Standard Deviation	Mean		
Significant	<0.001	38.299	3.87	53.80	2.79	23.30	Skill Performance	Experimental
Significant	<0.001	23.623	0.19	3.68	0.18	3.28	Long Jump Distance	
Significant	<0.001	21.019	6.21	43.18	3.08	22.95	Skill Performance	Control
Significant	<0.001	10.314	0.16	3.41	0.18	3.28	Long Jump Distance	

Note: A paired-samples t-test was used to determine the significance of differences between the pre- and post-tests within each group. The significance level was set at 0.05, and differences were considered statistically significant when Sig. < 0.05.

The results presented in Table (3) reveal statistically significant differences between the experimental and control groups in the post-test. For skill performance, the experimental group achieved a mean score of 53.80 with a standard deviation of 3.87, compared with a mean of 43.18 and a standard deviation of 6.21 for the control group. The t-value was 6.713, with Sig. < 0.001, indicating a statistically significant difference in favour of the experimental group.

For long jump distance, the experimental group achieved a mean of 3.68 m with a standard deviation of 0.19, whereas the control group achieved a mean of 3.41 m with a standard deviation of 0.16. The t-value was 4.736, with Sig. < 0.001, indicating a statistically significant difference in favour of the experimental group. These results demonstrate that the experimental group achieved higher post-test performance than the control group in both skill performance and long jump distance.

Table 3. Means, Standard Deviations, t-Values, and Significance of Differences in the Post-Test Between the Experimental and Control Groups in Skill Performance and Long Jump Distance

Significance Level	Sig.	t-value	Control Group		Experimental Group		Variable
			Standard Deviation	Mean	Standard Deviation	Mean	
Significant	<0.001	6.713	6.21	43.18	3.87	53.80	Skill Performance
Significant	<0.001	4.736	0.16	3.41	0.19	3.68	Long Jump Distance

Note: An independent-samples t-test was used to compare the experimental and control groups in the post-test. The significance level was set at 0.05. Statistically significant differences were found between the two groups in both skill performance and long jump distance ($p < 0.001$), with higher mean values in the experimental group.

DISCUSSION

The findings showed statistically significant improvements in both skill performance and long jump distance from the pre-test to the post-test in both the experimental and control groups, with greater improvement and significantly higher post-test scores in the experimental group. These results may be attributed to the instructional programme, which was organised according to Kolb's experiential learning cycle: Concrete Experience, Reflective Observation, Abstract Conceptualisation, and Active Experimentation. This model views learning as a process in which

experience is transformed into knowledge through reflection, conceptual understanding and subsequent application (Kolb, 1984; Kolb & Kolb, 2005).

The greater improvement observed in the experimental group may be related to the integration of several complementary learning processes within the same lesson. Students first observed a complete visual demonstration of the long jump, then reflected on what they had seen, discussed correct and incorrect techniques, identified key instructional points, and finally applied these concepts during their actual performance. This sequence is consistent with Morris (2020), who emphasised that experiential learning becomes more meaningful when experience is followed by reflection, conceptualisation and action, rather than being treated as an isolated activity.

The first phase of the program relied on pedagogical demonstrations and video presentations at normal speed and in slow motion. These visual aids undoubtedly helped students to develop a clearer mental representation of the overall sequence of gestures, including momentum, take-off, flight and landing. Observational learning is considered an important mechanism for the acquisition of motor information, especially when learners have an appropriate model and clear pedagogical cues (Bandura, 1986; Ste-Marie et al., 2012). Similarly, Han et al. (2022a) concluded that observational learning can effectively promote the acquisition of motor skills in physical education.

The use of video may also have improved students' understanding by allowing them to observe details of movement that might have been difficult to identify during a single live demonstration. Mödinger et al. (2022) reported that video-based visual feedback can support motor learning in physical education when properly integrated into instruction. In the present program, video was followed by a guided discussion and comparison between correct execution and common mistakes, making the visual experience an integral part of an active learning process rather than just passive observation.

Reflective observation and abstract conceptualization may have further strengthened learning. During reflection, students were encouraged to identify the differences between correct and incorrect execution, and to reflect on how each phase of the skill should be executed. This may have helped students establish clearer internal criteria for evaluating their own performance. Morris (2020) emphasized that reflection plays a central role in transforming experience into meaningful learning. The subsequent conceptualization stage organized these observations into concise pedagogical points that students could recall and apply while completing the task. In Kolb's model, this transition from observation to conceptual understanding allows learners to formulate principles that can guide their future actions (Kolb, 1984).

The active experimentation phase allowed students to apply what they had observed and understood through progressively organized practice. Each attempt offered a new experience that could be evaluated and refined, allowing the learning cycle to continue. This phase was supported by direct corrective feedback from the teacher. Research in physical education indicates that feedback plays an important role in learning motor skills. Zhou et al. (2021) found strong evidence supporting the positive effects of feedback, while Han et al. (2022b) reported beneficial effects for visual, verbal, corrective, and teacher-regulated feedback. These findings support the instructional structure used in the present study.

The control group also showed significant improvement between the pre-test and post-test, which was to be expected since these students continued to benefit from regular instruction and opportunities to practice this skill. However, the superior performance of the experimental group at the post-test suggests that the structured combination of observation, reflection, conceptual understanding, active application, and feedback provided an additional pedagogical benefit.

The improvement in both proficiency and long jump distance indicates that the benefits of the program were not limited to the observable form of the skill. As students developed a clearer understanding of the sequence of movements and became more adept at applying instructional

instructions during execution, this improvement was also reflected in the final outcome of the performance. This confirms the value of integrating cognitive, visual, reflexive, and practical components into physical education instruction.

Overall, the results support the pedagogical use of Kolb's experiential learning cycle in long jump instruction. The apparent effectiveness of the program is best explained by the interaction between its four stages rather than the effect of just one of them. Visual presentation provided an initial representation of the technique, reflective observation favored interpretation, abstract conceptualization helped organize key information, and active experimentation allowed students to apply and refine their understanding through practice and feedback. Future studies could reinforce these findings by including retention tests to determine whether improvements are sustainable over time.

CONCLUSIONS AND RECOMMENDATIONS

The results of the study demonstrated that the organization of long jump instruction according to Kolb's experiential learning model contributed substantially to the improvement in both technical performance and jump distance in the experimental group compared to those in the control group. The results of the pre-test confirmed that the two groups were equivalent before the implementation of the instructional program, with the experimental group achieving an average performance score of 23.30 ± 2.79, compared to 22.95 ± 3.08 in the control group, with no statistically significant difference between them ($t = 0.381$, $p = 0.705$). Similarly, the mean long jump distance in the pre-test was approximately 3.28 ± 0.18 m in both groups, with no significant difference ($t = 0.063$, $p = 0.950$). At the end of the intervention, the mean technical performance score of the experimental group increased to 53.80 ± 3.87, while the mean long jump distance increased to 3.68 ± 0.19 m. Significant differences between the pre-test and post-test measures were observed for both technical performance ($t = 38.299$, $p < 0.001$) and long jump distance ($t = 23.623$, $p < 0.001$). The control group also showed improvement, achieving post-test averages of 43.18 ± 6.21 for technical performance and 3.41 ± 0.16 m for long jump distance; however, the magnitude of this improvement was less than that observed in the experimental group. Post-test comparisons further confirmed significant differences in favor of the experimental group, both for proficiency mastery ($t = 6.713$, $p < 0.001$) and long jump distance ($t = 4.736$, $p < 0.001$).

These results suggest that the integration of visual presentation, reflective observation, conceptual organization, active experimentation, and corrective feedback fostered a more coherent and effective learning process. As a result, Kolb's experiential learning model appears to offer an appropriate pedagogical framework for teaching complex motor skills in physical education, actively involving learners and linking observation, understanding, reflection, and practice.

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