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The impact of educational units using the Lorsbach model on developing some physical variables and performing the weight throwing activity for students

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Abstract
Being interested in and practicing the weight throw activity, and through her review of the educational units at the College of Physical Education and Sports Sciences at Wasit University, the researcher noticed that a large number of students struggled with skill performance. They failed to reach the required technical level in performing the weight throw activity, despite repeated skill performance, guidance, and feedback from the instructor. The researcher explains that the difficulty of the activity and its performance, the shortcomings in the use of teaching strategies and models, and the changing roles and duties of learners and teachers in the Lorsbach model may yield greater results from learning to performing the skill for this activity, as well as adding a new role for the subject teacher in accordance with constructivist theory. Therefore, the researcher decided to test the Lorsbach model to develop some physical variables and perform the weight throw activity for students.

Research Objectives

1. Prepare educational units based on the Lorsbach model to develop some physical variables and the students' weight-pushing activity.
2. To identify the effect of the Lorsbach model on developing some physical variables and achieving the students' weight-pushing activity.

Conclusions

1. The Lorsbach model used (the experimental group) and the method used by the subject teacher (the control group) had a positive impact on developing some physical variables and achieving the students' weight-pushing activity.
2. The members of the experimental group (the Lorsbach model) outperformed the members of the control group (the teacher's method) in developing some physical variables and achieving the students' weight-pushing activity.

Keywords: Lorsbach model, physical variables, weight-pushing activity

Introduction

The teaching model is considered a specific pattern of education that the teacher performs. This pattern must be coherent and recognized. Each model differs from others, and if we see it, we can recognize it as distinct from other teaching models. Each model specializes in certain values, objectives, and a clear and logical basis in how to guide the educational process through inference, or through personal perception, or through inquiry, or through debate in information. Therefore, it was necessary to focus on the most prominent teaching models, and one of those models is the (Lorsbach Model), which emerged from the constructivist philosophy that advocated the necessity of using constructivist ideas in learning, and which in turn is based on five interconnected stages that reflect on improving the level of performance and increasing the level of understanding among students to the extent that allows them to continue performing, and this reflects a clear role in the level of thinking, as it is considered one of the important topics in the field of learning and teaching methods. Given what sports activities require of mental processes, it has an important role in the life of the individual in general and students in particular.

Strength games are considered among the activities that differ from one another in terms of components and characteristics. They include jumping, throwing, leaping, and running. Therefore, each activity has its own requirements and specifications.

Each competition forms a different competition from the other competitions due to the different characteristics of each activity.

The level of this activity among the games is determined by the specific physical abilities, and the weightlifting activity is distinguished as one of the individual games that are characterized by great muscular ability, represented by explosive power and the distinctive ability to speed. The performance of the thrower in it is characterized by technical and physical requirements for performing in competition. Therefore, it highlights the importance of the physical abilities specific to this activity. The training must be focused on developing the physical variables for the thrower, provided that it is within a well-prepared training program, as physical preparation will give the thrower a special physical fitness that facilitates the way for developing his technical abilities.

Physical variables are considered a vital system for the ordinary individual to perform daily duties, and as for the physical abilities of athletes, they have a fundamental role in practicing sports activities and achieving sports goals and athletic achievement. The importance of the research stems from the use of the Lorsbach model in developing some physical variables and achieving the effectiveness of weightlifting for students.

Research Problem

Through her observation of the educational units in the College of Physical Education and Sports Sciences-Wasit University, and her interest and practice in weightlifting effectiveness, the researcher noted that a large number of students did not reach the required technical level in performing weightlifting, despite repeated performance of skills and guidance from the professor.

The researcher attributes the difficulty of this activity and its performance to the shortcomings in the use of teaching models and strategies, as well as the change in the roles and duties of teachers and learners in the Lorsbach model, which may yield greater learning outcomes for the technical performance of this activity, as well as adding a new role for the subject teacher in accordance with the constructivist theory.

Therefore, the researcher decided to experiment with the Lorsbach model in developing some physical variables and achieving the effectiveness of weightlifting for students.

Research Objectives

1. Preparing educational units based on the Lorsbach model for developing some physical variables and achieving the effectiveness of weightlifting for students.
2. Identifying the impact of the Lorsbach model on developing some physical variables and achieving the effectiveness of weightlifting for students.

Research Hypotheses

There is a positive impact of the Lorsbach model on developing some physical variables and achieving the effectiveness of weightlifting for students.

Research Fields

Human Field

First-year students at the College of Physical Education and Sports Sciences, Wasit University, for the academic year 2024-2025.

Time Field

From 22/9/2024 to 22/1/2025.

Spatial Field

Wasit University/Field and Stadium.

Research Methodology and Field Procedures

Research Methodology

The researcher used the experimental method due to its suitability for the research problem.

Research Community and Sample

The research community was determined by the first-year students at the College of Physical Education and Sports Sciences, Wasit University, for the academic year 2024-2025, numbering (60) students. A research sample of (20) students for each group was selected by lot, one experimental and the other control.

Tools, Means, and Devices Used in the Research

Means Used in Information Gathering

1. Questionnaire
2. Measurement and Testing
3. Personal Interviews
4. Observation

Devices and Tools Used in the Research

1. Electronic stopwatch, Casio brand, made in Japan, (2) units.
2. Electronic scale, made in Germany.
3. Video camera, Canon brand, (2) units.
4. Electronic handheld calculator, made in China.
5. Measuring tape (50 m long).
6. Various Chinese-made mats.
7. Rubber discs of various weights, Swiss-made.
8. CD discs, Indian made.
9. Medical balls, Chinese made.
10. Boxes with (4) different heights.
11. Plastic hurdles with (5) different heights.

Specific Physical Abilities Tests

The tests for physical variables and weightlifting achievement for students were determined and presented to experts and specialists, numbering (9) experts, and approved by 100%.

The tests are:

1. Test of maximum strength for the back and legs [1].
2. Test of maximum strength for the arms [2].
3. Test of explosive strength for the throwing arm [3].
4. Test of explosive strength for the legs [4].
5. Front support test for (10) seconds [5].
6. Five-step test [6].
7. Achievement test for weight throwing [7].

Pilot Study

The researcher conducted the experiment on 10 students from the research community on 2024/10/3 for physical variables and weightlifting achievement tests. After 4 days, the experiment was repeated on 2024/10/7. The purpose of this experiment was to:

Determine the time taken for each test

References for this section

[1] Ali Salman Al-Tarfi, Applied Tests in Sports Education (Baghdad: National Library, 2013), p. 49. [2] Fahmy Al-Bayk *et al*., Modern Trends in Sports Training-Theories and

Applications: Methods of Measuring Aerobic and Anaerobic Capabilities, vol. 2, 1st ed. (Alexandria: Maaref Foundation, 2015), p. 76. [3] Ali Salman Al-Tarfi, Previous Source Mentioned, p. 54. [4] Kamal Abdel Hamid Ismail, Tests of Measurement and Performance Evaluation Accompanying the Science of Human Movement (Cairo: Book Center for Publishing, 2016), p. 185. [5] Fahmy Al-Bayk *et al*., Previous Source Mentioned, 2015, p. 77. [6] Sarih Abdel Karim Al-Fadhli, Measurements of Strengths and Explosive and Rapid Capabilities According to Variables of Mass, Speed, and Measurement of Power Platform (Research in the First International Scientific Conference for Youth Colleges of Physical Education, University of Mosul, College of Physical Education, 2012). [7] Sarih Abdel Karim Al-Fadhli (Translation), International Law for Strength Games (Najaf Al-Ashraf: Al-Diya for Printing, 2011), p. 239.

1. Ensure the validity of the devices and tools used in the tests.
2. Ensure the validity of the selected field tests and their suitability for the research sample.
3. Ensure the suitability of the test execution location.

Scientific Foundations for the Tests

Test Validity

Validity was verified by presenting the tests to a group of specialists in the field and track and field. There was a consensus that these tests are valid in representing the items intended to be measured.

Test Reliability

Reliability is considered one of the essential concepts in measurement and complements validity. It is one of the foundations that must be available in a scale to be suitable for use. To extract reliability, the researcher used the retest method (test-retest). The reliability coefficient was applied to a group of students (5 students) outside the research sample. The first application of the tests was conducted, and after 4 days, on the same sample and under the same conditions, the researcher repeated the tests for the second time to obtain accurate results as much as possible in both the first and second times. After obtaining the results, the researcher applied the correlation coefficient between the results of the two tests using the Pearson simple correlation coefficient, as shown in Table (1).

Test Objectivity

Objectivity means that it describes the individual's abilities as they are, not as we wish them to be. Objectivity can be obtained through the agreement of a group of experts on the objectivity of the research tests, which means that the experts gave an objective evaluation, far from subjectivity.

Table 1: Shows Objectivity and Reliability

Test	Reliability (r)	Sig.	Objectivity (r)	Sig.
1. Maximum strength for legs and back	0.88	0.000	0.92	0.000
2. Maximum strength for arms	0.90	0.000	0.94	0.000
3. Explosive strength for arms	0.92	0.000	0.93	0.000
4. Explosive strength for legs	0.89	0.000	0.92	0.000
5. Speed-strength for arms	0.90	0.000	0.94	0.000
6. Speed-strength for legs	0.93	0.000	0.94	0.000
7. Achievement test	0.92	0.000	0.93	0.000

Pre-tests

The pre-tests for physical variables were conducted, in addition to the weightlifting (achievement) test, at 9:00 AM in Wasit University on 24/10/20212, as follows:

Day 1: Weightlifting (achievement) test and measuring the sample's achievement in weightlifting.

Day 2: Physical variables tests, as follows: (maximum strength, explosive strength, speed-strength).

Equivalence and Homogeneity of the Research Sample

Table 2: Shows the homogeneity of the sample and the equivalence of the two research groups

Variable	Control Group (Mean ± SD)	Experimental Group (Mean ± SD)	F-value (Homogeneity)	Sig. (Homogeneity)	t-value (Equivalence)	Sig. (Equivalence)
1. Maximum strength for legs and back	37.14±2.54	35.00±2.75	0.8	0.78 (Not Significant)	0.1	0.2 (Not Significant)
2. Maximum strength for arms	74.23±3.21	51.00±3.40	0.6	0.92 (Not Significant)	0.4	0.8 (Not Significant)
3. Explosive strength for arms	66.87±10.57	31.00±11.03	0.7	0.70 (Not Significant)	0.3	0.8 (Not Significant)
4. Explosive strength for legs	49.34±12.17	60.41±12.24	0.5	0.55 (Not Significant)	0.4	0.5 (Not Significant)
5. Speed-strength for arms	19.35±1.43	11.47±1.03	0.4	0.60 (Not Significant)	0.1	0.1 (Not Significant)
6. Speed-strength for legs	83.19±10.01	74.12±10.15	0.3	0.63 (Not Significant)	0.2	0.3 (Not Significant)
7. Achievement test	53.01±0.62	31.00±0.43	0.3	0.78 (Not Significant)	0.2	0.6 (Not Significant)

Preparation and Implementation of Educational Units Using the Lorsbach Model

Implementation of the educational units according to the Lorsbach model began on 20/10/2024, at a rate of two educational units per week for a period of (4) weeks, and the implementation of the educational units ended on 22/11/2024. The specialized subject teacher carried out the implementation of the educational units, and the researcher had included them within the Lorsbach model. The work of the experimental group was according to the stages of the Lorsbach model, as follows:

The First Stage: (Attention)

Work in this stage is done in the main part of the lesson with educational activity and a time of (7) minutes. This stage aims to stimulate and motivate students and their interest and curiosity in the concept or learning topic through questions, or by presenting two video clips that show the skill

performance for the skill to be learned and arouse their interests. Students are asked questions about what they watched, and the duration of each clip is (1.30) minutes, which is presented through a projector during the unit implementation.

The Second Stage: (Inquiry)
Work in this stage is done in the main part of the lesson with educational activity and a time of (8) minutes. This stage aims to satisfy the students' desire and curiosity for exploration. The teacher asks the students to form (4) cooperative groups, each consisting of (5) students, to work together. After dividing them into groups, some illustrative images related to the selected skills are displayed to them. The display is done within each group, and the display duration is one minute. After that, the learners try to search for and discover some information related to the skill, discuss among themselves, record observations, and form some ideas that benefit them in teaching skills, while observing students' questions.

The Third Stage: (Explanation)
Work in this stage is done in the main part of the lesson with educational activity and a time of (15) minutes. After the students have worked among themselves through cooperative groups and discussed many ideas and information related to the skills, and tried to discover and research everything related to them, the teacher then discusses with them.
with the learners about the predictions and ideas that have been generated in them. Then the teacher explains everything related to the skills with all their details, which makes them think and hope. Then he also listens to their opinions and discusses with them what was presented to them.

The Fourth Stage: (Elaboration)
Work in this stage is done in the main part of the lesson with applied activity and a time of (25) minutes. This stage aims to apply several exercises for teaching the selected skills by linking between stages, and giving more repetitions for the exercise to increase understanding of the skill. The teacher's role is to encourage students to apply the skill and try to expand it in new situations, and answer all questions raised by students regarding the skill to be learned.

The Fifth Stage: (Evaluation)
Work in this stage is done in the main part of the lesson with applied activity and a time of (15) minutes. This stage aims to test and evaluate students' understanding and the extent of their learning of the skill they have learned, and to ensure a change in their level of thinking. Evaluation is done by the teacher in case of incorrect performance, and errors are diagnosed, and students are asked to re-perform the skill and praise correct performance. Evaluation is done through the apparent form of the movement and what has been performed, and learners are taught how to evaluate themselves.

Post-tests
Post-tests were conducted under the same conditions as the pre-tests on the students of both groups (experimental and control) on 23/11/2024.

Statistical Means
The researcher verified the results of her study using the Statistical Package for the Social Sciences (SPSS) system, including: arithmetic mean, standard deviation, Pearson correlation coefficient, T-test for correlated samples, and T-test for uncorrelated samples.

Presentation and Discussion of Results
Presentation, Analysis, and Discussion of Pre-and Post-test Results for the Control Group

Table 3: Shows the results of the control group

Variable	Pre-test (Mean ± SD)	Post-test (Mean ± SD)	t-value	Sig.
Maximum strength for legs and back	55.00±2.75	58.45±3.15	4.54	0.000 (Significant)
Maximum strength for arms	76.00±3.40	77.08±2.08	5.81	0.000 (Significant)
Explosive strength for arms	61.00±11.03	63.47±13.06	2.47	0.000 (Significant)
Explosive strength for legs	60.41±12.24	57.93±15.15	2.18	0.000 (Significant)
Speed-strength for arms	11.66±1.03	13.83±0.96	2.81	0.000 (Significant)
Speed-strength for legs	74.12±10.15	70.27±11.65	3.07	0.000 (Significant)
Achievement test	12.62±0.43	14.22±0.40	2.16	0.000 (Significant)

The table above shows that the differences are in favor of the post-test in the control group for all tests, with a significant level of (0.000).

Presentation, Analysis, and Discussion of Pre-and Post-test Results for the Experimental Group

Table 4: Shows the results of the experimental group

Variable	Pre-test (Mean ± SD)	Post-test (Mean ± SD)	t-value	Sig.
Maximum strength for legs and back	54.00±2.54	58.83±4.16	6.40	0.000 (Significant)
Maximum strength for arms	75.00±3.21	77.68±4.06	6.93	0.000 (Significant)
Explosive strength for arms	66.00±10.57	77.62±14.43	3.98	0.000 (Significant)
Explosive strength for legs	63.34±12.17	55.95±14.23	4.88	0.000 (Significant)
Speed-strength for arms	11.45±1.43	15.74±1.24	5.16	0.000 (Significant)
Speed-strength for legs	76.19±10.01	64.87±13.21	4.10	0.000 (Significant)
Achievement test	12.07±0.69	16.56±0.54	5.07	0.000 (Significant)

The table above shows that the differences are in favor of the post-test in the experimental group for all tests, with a significant level of (0.000).

Presentation, Analysis, and Discussion of Pre-and Post-test Results for Both Groups

Table 5: Shows the results of the experimental and control groups

Variable	Control Group (Mean ± SD)	Experimental Group (Mean ± SD)	t-value	Sig.
Maximum strength for legs and back	58.45±3.15	58.83±4.16	2.68	0.000 (Significant)
Maximum strength for arms	77.08±2.08	77.68±4.06	2.01	0.000 (Significant)
Explosive strength for arms	63.47±13.06	77.62±14.43	2.12	0.000 (Significant)
Explosive strength for legs	57.93±15.15	55.95±14.23	2.40	0.000 (Significant)
Speed-strength for arms	13.83±0.96	15.74±1.24	3.05	0.000 (Significant)
Speed-strength for legs	70.27±11.65	64.87±13.21	4.66	0.000 (Significant)
Achievement test	14.22±0.40	16.56±0.54	2.13	0.000 (Significant)

The table above shows that the differences are in favor of the post-tests for all tests, with a significant level of (0.000), and in favor of the experimental group.

Discussion of Results

It is evident from the previous tables that the results showed a significant difference in favor of the post-test for both the experimental and control groups. As for the individuals of the control group, this is due to the use of equal repetitions for the individuals of this group and the implementation of what is required of them during the educational units according to the curriculum supported by the teacher, which is an opportunity for the individuals of the control group to obtain these significant differences, as this group was subjected to prepared educational units that work to include objectives.

Educational units that help in preparing students and teaching them for the profession of teaching, 'Learning, if applied within educational units characterized by objectivity and clarity, leads to an increase in learning and thus the development of skill in both cognitive and motor aspects.' [1] Zaid Abdel Aziz (2008) believes that most of the changes that occur during the learning process are through the information that the learner acquires through learning the skill. This information, which takes several forms (practical or theoretical aspects), must be essential with the use of teaching methods and styles and field experience in delivering information. In addition, the experience that the subject teacher possesses enables him to achieve the objectives set, with the process of breaking down, clarifying, and explaining for all students, and then performing the required performance. 'Learning that educational and pedagogical institutions undertake will have a clear impact if it is based on the idea of teaching through prior experience and supported activity through the educational unit.' [3]

As for the reason for the experimental group's superiority, the researcher attributes this difference to the positive impact of the prepared educational units that were applied by the learners, as they work to provide a suitable educational environment that is compatible with the nature of the learner and his educational environment, and in a way that stimulates the learners' motives to achieve optimal performance, in addition to the method used by the subject teacher and the adopted model that was also applied by the teacher himself, and also what the students showed of commitment and cooperation, and their lack of absence, in addition to the enthusiasm shown by the students in the practical aspect during the educational units, as the educational units contained many practical activities and questions related to skills during the learning process that made students think and inquire about the appropriate solution and apply it practically with the help of the subject teacher, so that the process of teaching skills is achievable, which made students able to process the stimuli presented by the teacher. It also appears that the learners of the experimental group outperformed the learners of the control group. The researcher attributes the appearance of this result to the role of the Lorsbach model, which helped the learners to arrange.

References for this section

[1] Qasim Lazim Jabr, Topics in Motor Learning (Baghdad: Al-Jumhuriya Press, 2005), p. 56. [2] Nahida Zaid Abdel Aziz, Fundamentals of Motor Learning (Iraq: Al-Diya Publishing House, 2008), p. 88. [3] Abdel Moneim Muhammad Hassan, Studies and Research in Curricula, 1st ed. (Cairo: Egyptian Renaissance Library for Publishing and Distribution, 1988), p. 159.

organize the content of the academic material in an organized manner, which facilitates for students the connection between knowledge, previous and new knowledge from one side, and its various branches from another side, which contributed to organizing and employing the learner's thinking and improving their performance, which had a role in facilitating the learning process and identifying it in a logical, sequential manner without distraction of ideas, through the presence of sufficient spaces for students during the lesson to discuss information among themselves. This develops the skills of analysis and synthesis for the presented information, which included sections for the skill and its performance in a sequential manner, avoiding errors during the temporal sequence of performance. The Lorsbach model helped in forming a clear perception that not all students are at the same level of thinking, so it is necessary for them to vary in the method of asking questions and using language, concepts, and terminology appropriate to their level of thinking, in addition to the sequence and continuity in asking questions, which helped in organizing and focusing students' ideas and guiding them in sequential and organized contexts. This is confirmed by Muhammad Khairi and others, who state that "an individual cannot learn a skill or any activity from the activities unless they practice it. The learner's efficiency will not increase, and their mastery of the skill will not develop except through practice. The self-effort alone is responsible for the cognitive development of students, and the extent of the effort expended in learning will determine the extent of its benefit, retention, and mastery, both in knowledge and application." [1]

As for Saad Mohsen Ismail, he believes that "the educational curriculum, if it is a scientific curriculum for teaching beginners, works to accelerate and develop the learning process in both cognitive and motor aspects. The superiority

was clear through the improvement in the test results, which shows the extent of the impact of the Lorsbach model and its application by the students (the research sample), as all the significant reinforcements that the students received during the course of the educational units contributed effectively to increasing their exploratory motivation. This is confirmed by Wagih Mahjoub (2002), who states that "it is important for individuals to be motivated to learn motor skills for the purpose of obtaining maximum learning. If the learner views the task as not being inherently important, then..." [2]

References for this section

[1] Muhammad Khairi *et al*., Experimental Psychology (Riyadh: Al-Nahlah Private Press, 1978), p. 157. [2] Saad Mohsen Ismail, The Effect of Teaching Methods on the Development of Explosive Strength for Arms and Legs in the Accuracy of Long Shot with High Jump in Handball, PhD Thesis, College of Physical Education, University of Baghdad, 1996, p. 98.

If the motivation was limited or meaningless, then learning the skill would be very low, and perhaps no learning would occur at all [1]. The experimental group benefited from the educational units prepared by the researcher due to their effectiveness in saving effort, time, and accelerating the learning process, where the impact of the Lorsbach model appears in the development of students' skill performance, which confirms that the model added a cooperative educational atmosphere, and encourages students to interact, discuss, and exchange ideas. This is due to the model, which was built on purposeful, correct scientific foundations that take into account the actual time for exercises. The successful teacher is the one who knows the objectives that can be achieved from each type of exercise, just as he knows the exact time that the exercise takes in the daily educational unit [2]. This progress in the post-tests is due to several factors, including the nature of the educational units prepared by the researcher and the variation in the method of their application according to the stages that the Lorsbach model enjoys. This gives a variety in the output and management of the educational unit in a way that is unusual for students, and this variety in the output and management of the educational unit will certainly give motivation to learn the researched skills, which will increase the learners' confidence in themselves and then increase their experience. "The desire and motivation in the learning process, if the motive is satisfied, will result in multiple experiences that put the learners in a more free atmosphere, and less anxiety and hesitation, and thus give them a greater opportunity towards achieving the tasks assigned to them" [3]. The researcher also believes that the nature of the work within the experimental group, which worked according to the constructivist Lorsbach model and followed its logical sequence of stages, gives more opportunity for learning through repetitions and feedback, as well as the advantages that each stage of the model possesses. "Feedback has a great impact on the learning process, whether it is from the teacher (guidance and supervision) or from the individuals of the same group, which refines the learning process by correcting errors."

References for this section:

[1] Wagih Mahjoub, Motor Programs, Teaching and Learning (Amman: Dar Al-Fikr for Publishing and Distribution, 2002), p. 144. [2] Sami Al-Saffar, Football: A Curricular Book for Students of Physical Education, vol. 2, 2nd ed. (Baghdad: Directorate of Books for Publishing and Printing, 1987), p. 161. [3] Wasfi Asfour, Learning Activities: Its Tools and Applications, 1st ed. (Amman, Jordan, 1993), p. 63.

This confirms the researcher that this superiority found in the experimental group in the skills under study is due to the educational units used during the study period, which contained selected exercises in a precise manner consistent with what the student possesses of individual differences and abilities. These units were also built according to a gradual progression and included skill exercises that lead to improving the researched skills. Continuing to train on these exercises, learning them, and repeating them in a correct and precise manner had a positive impact on the students' learning process for the skills. "Regardless of how experts' opinions differ, if the educational program is built on a scientific basis in organizing the learning process, gradual progression, and observing individual differences, and using ideal and sound repetitions under the supervision of specialized teachers and appropriate educational conditions in terms of tools, time, and place, then it will inevitably lead to superiority." [2] From what has been presented, the researcher believes that the use of the (Lorsbach model) works to emphasize the connection of new knowledge with previous knowledge through asking questions at the beginning of the lesson to prepare the students mentally for the new topic and to identify their scientific background and correct their misconceptions. The use of the Lorsbach model was more positive and better than the traditional method, which made the learners capable of correct performance for the activity through the stages of the model, especially the stages of attention, inquiry, and the third stage of explaining the concept through the work of the learners through cooperative groups in which they shared solutions, predictions, and ideas, and discussed them among themselves, and when necessary, they sought help from the teacher, which increased their experience, insight, and depth in the two researched skills for the learner. "Students should be given opportunities for cooperative work without direct guidance from the teacher, and therefore the teacher should work to help students form questions through observation and asking questions according to Piaget's theory. In this stage (inquiry stage), students reach a state of confusion and imbalance, which allows them the opportunity to test hypotheses and predictions and choose some."

References for this section:

[1] Ghazi Hatl Hussein, The Effectiveness of Three Teaching Methods Using Multiple Media in Learning Some Basic Skills and Cognitive Aspects on Floor Exercises, PhD Thesis, College of Physical Education, University of Basra, 2014, p. 96. [2] Saad Mohsen Ismail, Previous Source Mentioned, 1996, p. 98.

and discuss them with peers and alternatives [1]. Al-Najdi (and others) believes that the development of concepts cannot occur except by accepting students' ideas and alternative ideas towards phenomena as a starting point to help them expand their knowledge. Learning is the use of daily knowledge with more flexibility and its application in multiple situations to integrate into a broader and more comprehensive system for scientific concepts. The purpose of showing learners' ideas and their daily concepts is not to challenge these ideas directly, but to be a starting point for new knowledge or a system of relationships that is another thing that the learner can understand. He needs a long time to accept new ideas, and he needs time to compare scientific

concepts with daily concepts to accept some ideas and reject others [2].

Conclusions and Recommendations

Conclusions

1. The method followed (control group) and the used Lorsbach model (experimental group) had a positive impact on developing some physical variables and achieving the effectiveness of weightlifting for students.
2. The individuals of the experimental group (Lorsbach model) outperformed the individuals of the control group (teacher's method) in developing some physical variables and achieving the effectiveness of weightlifting for students.
3. The Lorsbach model increased students' desire and motivation, which encouraged them to exert effort for correct performance.

Recommendations

1. Adopting the educational units prepared by the researcher using the Lorsbach model due to its effective and significant role in improving the level of skill performance and physical variables for weight throwing.
2. The necessity of urging teachers working in colleges of physical education and sports sciences to use modern educational strategies and models.

References for this section

[1] Amer Mughir Latif, The Effect of the Lorsbach Model on the Achievement of Fifth Grade Literary Students in Geography and the Development of Their Scientific Exploration, Master's Thesis, College of Education for Girls, University of Tikrit, 2017, p. 39. [2] Ahmed Al-Najdi, and Saud (and others), Modern Trends in Science Education in Light of International Standards: Development of Thinking and Constructivist Theory (Cairo: Dar Al-Fikr Al-Arabi, 2005), p. 389.

Which will contribute to raising the level of their performance and teaching the skill in a way that suits the nature of the skill and its performance, both physically and skillfully. 3. Emphasizing the conduct of similar studies on age stages not covered by this study, and on other activities and skills for current students.

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