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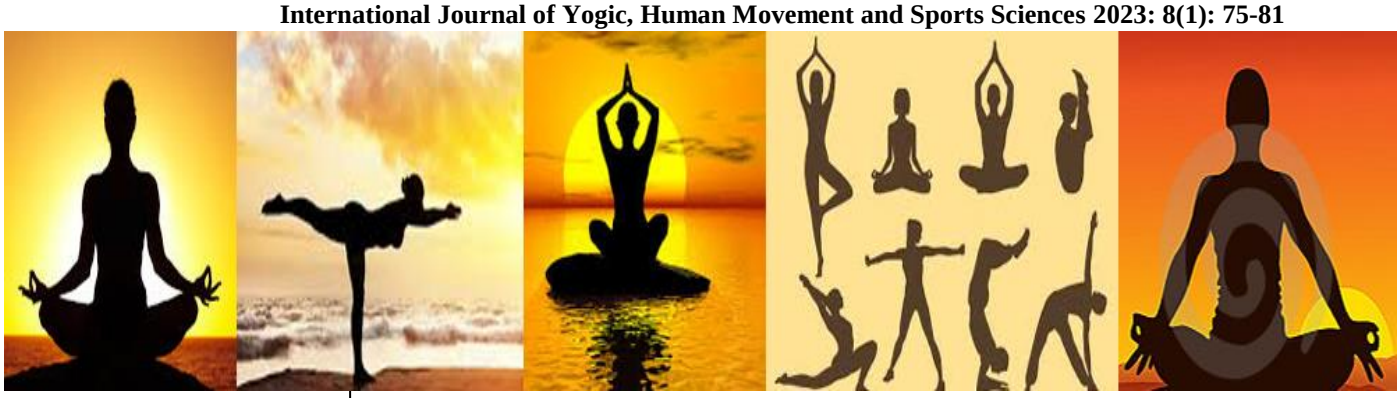

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The effectiveness of free exercise and the curriculum of the physical education lesson to developing the motor qualities for secondary school students

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Abstract
The importance of the research lies in identifying the performance of some exercises freely in the physical education lesson in the development and development of some special qualities in motor fitness, as for the research problem, it was that most schools are weak in the output of the physical education lesson for the secondary stage at the present time and that the adoption of traditional means and methods are prevalent for the present time, which is the princely method by the subject teacher and this method is restricted to freedom in the movement of the student and this is reflected in the student's creativity in The researcher shows the importance of using some free exercises during the physical education lesson, which contributes to the development and development of some special motor qualities. The research aims to find out the effectiveness of performance freely for some special exercises in the physical education lesson for middle school students: The researcher assumes that there are significant differences of statistical significance between the control and experimental groups in the post-tests and in favor of the experimental group.

Keywords: Free exercise, motor qualities, secondary school

1. Introduction
That physical education is part of public education that seeks to achieve the general goals through the participation of students in the performance of the movement purposeful, as this is achieved through the school curriculum, which is the main pillar of the educational process through which the objectives of physical education are achieved, and that the achievement of the goals of public education and physical education in particular is only through the inclusion of the school curriculum on lessons and events of physical education. Where the physical education lesson is the implementing tool of the school curriculum, it is the basis for developing students' capabilities, and the proper selection of the content of the lesson is an effective factor that helps the teacher and the student to achieve the required educational goals, and he stressed the need to pay attention to the physical education lesson and its components for the purpose of achieving the highest level of learning, as well as educational and physical purposes, because it represents the cornerstone of all physical education curricula. Free performance in the lesson is one of the important methods of development in school sports lessons and the importance of free learning that gives the student freedom to practice physical exercises, games and various sports activities after determining.
And that the teacher's task does not end after achieving free exercise and reaching the goal, but requires continuing to link free exercises with gradation in the high development of teamwork and then setting the duties of the activity and self-reliance, even if it is in a simplified manner, taking into account the ability of students and their work force to work each student in developing himself and purely self-motivated in order to achieve the exchange of aspects of evaluation with the other and gain the ability with the organization or raise the public and private level of students.
The free performance of exercises is one of the modern methods in the field of physical education, which provides the opportunity and employment of some learning skills with high effectiveness, which contributes to the development of students' level behaviorally, cognitively

and emotionally, and also it is a pattern of learning patterns that we teach the student about how to learn movements, games and sports activities freely without being bound by the orders of the physical education teacher, as free performance receives great attention from psychologists and education because it achieves for all students learning commensurate with his abilities and self-speed in Learning and the student takes a positive role in learning.

The importance of research lies in identifying the performance of some exercises freely in the physical education lesson in the development and development of some special qualities in motor fitness, and during the implementation of the special curriculum in the physical education lesson, which leads to the acquisition of many different skills as well as the acquisition of some physical and motor qualities, as the motor qualities are acquired qualities and can only be developed through the participation of students in the implementation of motor duties.

1.1 Research Problem

Through the work of the researcher as a teacher of physical education in the Iraqi Ministry of Education and that most schools are weak in the output of the physical education lesson for the secondary stage at the present time and that the adoption of traditional means and methods are prevalent for the present time, which is the princely method by the subject teacher and this method is a restriction of freedom in the movement of the student and this is reflected in the creativity of the student in the development of some motor qualities and the researcher shows the importance of using some free exercises during the physical education lesson, which contributes to the development of And the development of some special motor qualities.

1.2 Research objective

- Knowing the effectiveness of performing freely for some special exercises in the physical education lesson for middle school students.
- Knowing the effectiveness of the differences between the control and experimental group for some characteristics of motor fitness

1.3 Research hypotheses

- There are significant differences of statistical significance between the pre- and post-tests and in favor of the post-test.
- There are significant differences of statistical significance between the control and experimental groups in the post-tests and in favor of the experimental group.

1.4 Research fields

1.4.1 The human field: Fourth-year middle school students.
1.4.2 Time field: From 16/10/2022 to 28/12/2022.
1.4.3 Spatial field: Osama Bin Zaid Preparatory Playground for Boys.

Theoretical studies

The physical education lesson is part of the general education that seeks to achieve the general educational goals, as this is achieved through the lesson, which represents the smallest educational unit in the physical education curriculum, and is considered the basic unit of the curriculum, as it represents the smallest part of the basic material and carries with that all its properties, and exercises, games and various sports activities with their scheduled effectiveness are just means through which the teacher works to achieve many goals, as each stage of study has its own curriculum It is divided into two parts, where the first semester is intended for the beginning of the school year and another part and is special for the second semester, i.e. after the spring break, and this is according to the curriculum and decisions of the Iraqi Ministry of Education, and that each curriculum has its own objectives as it differs from the objectives of other curricula, and the most important goals that serve the lesson of special physical education in the physical education curriculum are the following:

1. Trying to build and develop motor qualities in general and comprehensively for students.
2. Communicating information about health and meaningful theories within an important policy framework to students.
3. Raising some good habits such as will and good moral qualities for students.
4. Trying to build basic mathematical abilities, especially the ability to love competition for students.
5. Trying to develop students' motor skills.
6. Trying to reach the integrated performance of the sports movement or get closer to the high level.
7. Develop the thinking ability of students through sound mathematical behavior.

There are special characteristics of a successful physical education lesson, summarized as follows

1. That the parts of the lesson plan be interrelated and consistent with the ages of the students.
2. Preparing tools and preparing stadiums and sports equipment before implementing the physical education lesson.
3. The goals should be clear and known.
4. Attention to the educational aspects during and after the lesson.
5. Students' participation in achieving the objectives of the lesson and their desire to perform with self-motivation.

There is also an agreed and recognized division of specialists and researchers in the methods of teaching physical education to divide the lesson share in general into three sections and each part has its own purposes, and these parts are all not independent of each other, each part must be linked to the other to work to achieve the purposes of the lesson as a whole, and then contribute to achieving the objectives of the school curriculum, and these sections It is: (preparatory section). (Main section). (Concluding section).

Where the preparatory section is the main entrance to the physical education lesson, as it aims to create muscle groups in the body, as the preparatory part works to move the body from the state of rest to the state of work, as well as is one of the most important parts of the physical education lesson, it is different movements and physical positions aimed at finding balanced growth for all parts of the body, and this section consists of (introduction), which is one of the important sections of the preparatory part, Because it achieves its goal by creating the appropriate educational conditions for the lesson, such as habituation, control, cooperation and respect for laws, and the introduction is that it is those procedures that the physical education teacher attends to start physical activity by raising students' motivations and recording attendance, and this section also contains a part (warm-up), which is preparing the body and delivering it to the most difficult and strongest work to avoid sports injuries, and occupies great importance

and influential in increasing the rate of energy metabolism and increasing the speed and access of oxygen to the tissues of the body, and increases the speed of The conduction of the nerve stimulus, which then leads to an increase in the speed of contraction and relaxation of muscles, and also contains physical exercises where they play a key role in the preparatory part of the.

As for the main section, it is considered one of the most important sections because it achieves the objectives for which the physical education lesson was developed, as it includes educational and applied activities, and that it is the real and practical translation of the school physical education curriculum, in which various sports skills are learned and the skills acquired by learners are refined during application and practice.

As for the final section, it is a section to calm down, relax and gradually drop the load and return the body to its normal state, as the end of the lesson is interesting and enjoyable and brings joy and pleasure to the students. The motor qualities that a person acquires from the ocean are those that include the ability to move the body sufficiently and strongly for an appropriate period of time, we find the individual who has a good level of motor qualities will help him to acquire a lot of motor skills for that, which are qualities that are learned from the ocean any acquired and either that this characteristic is a skill we see or learn, which are also qualities acquired from the environment and training or practice is the basis for them and develops according to the individual's physical, sensory and cognitive ability, the motor qualities are of particular importance, as these qualities contribute to the human being an effective contribution and each movement requires a certain amount of flexibility, agility, balance and some other movements.

2. Research methodology and field procedures

2.1 Research Methodology

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

2.1.1 Experimental design

The researcher used one of the design models that are referred to under the tight control (design 2) "the design of the random control group pre- and post-test, where the researcher chooses in this type two equivalent groups in all variables and one of the two groups is subject to the experimental variable and leaves the second group as it is in reality and then notes the difference in performance attributed to the independent variable:

Table 1: illustrating the design of the randomized control group with pre and post-test (two groups are equivalent):

Design number	Groups	Steps				
		First	Second	Third	Fourth	Fifth
2	Experimental group	Pre-test	independent variable	Post-test	Pre-test /post-test	The difference between the two groups in the post-test
	Control group	Pre-test	-	Post-test	Pre-test /post-test	

2.2 Research community and sample

The researcher selected the research sample by the intentional method, and they are the students of the fourth stage in the Osama Bin Zaid School for Boys. The researcher chose this school for the following reasons

1. The researcher is a teacher of physical education in the same preparatory school.
2. Continuous and encouraging facilitation and cooperation from the administration by virtue of the relationship between professors.
3. Ease of supervision of the experiment by the researcher.
4. Availability of a good assistant team with the presence of a physical education teacher (second).
5. Most of the students of this preparatory school belong to the same social environment.
6. It provides a football field and field and provides the necessary tools to complete the experience.

Where the fourth phase consists of two divisions (A-B), the total number of students is (71/student), and the two divisions were divided into two groups (control and experimental) in a random manner, as the number of students in each group was (30/student) after excluding students who failed and those with chronic diseases. Their number is (11/student).

2.2.1 Homogeneity of the research sample

For the purpose of knowing the homogeneity of the two groups before the implementation of the main experiment, the researcher found the homogeneity using the method of the square of the large standard deviation divided by the square of the small standard deviation and the quotient compared to the tables (F) and as shown in the table.

Table 2: showing the knowledge of the homogeneity of the control and experimental groups in terms of (age, weight, and height)

Variables	Experimental group Std. Deviation	Control Std. Deviation	(F) calculated	(F) Tabular	Sig type
Age	0.50	0.47	1.06	1.89	Non Sig
Weight	9.37	8.58	1.09		Non Sig
Length	6.93	6.54	1.05		Non Sig

2.3 Methods and tools used in the research

2.3.1 The researcher used the following necessary means

Scientific sources and references. Observation and personal interview. Grade registration form.

Tests and measurements:

The researcher used the (Harrow) motor fitness test, and this test consists of the following items:

- Running in form (8). Throw the ball. Jump on both sides of the complex. Arm push.
- Rebound running. Sit up from lying down.

2.3.2 Devices and tools used in the research

- Electronic stopwatch, skipping rope, indicators, soccer balls, small wooden box.
- Measuring tape, part of the box divided, Swedish seat, basketballs, handballs, volleyballs.

2.4 Equivalence of the two groups

For the purpose of finding equivalence between the two groups (control and experimental) in the pre-tests, the researcher used the (T) test for independent samples of equal number, which showed that there were no statistically significant differences between the members of the two groups in those variables mentioned, which indicates the equivalence of the two groups in those variables.

Table 3: showing the equivalence of the two groups in the motor fitness tests:

N	Variables	Control group		Experimental group		value (t) calculated	value (t Tabular	Sig type
		Mean	Std. Deviation	Mean	Std. Deviation			
1	Running in shape (8)	11.24	0.87	11.26	11.24	0.09	200	Non sig
2	Sit up from lying down	9.46	2.30	9.93	9.46	0.75		Non sig
3	Jumping on either side of the seat	17.26	3.88	17.7	17.26	0.46		Non sig
4	Arm push	7.4	1.45	7.2	7.4	0.48		Non sig
5	Bouncing running	3.00	0.33	3.02	3.00	0.06		Non sig
6	Throw the ball	6.13	1.56	6.36	6.13	0.54		Non sig

The tabular value of (t) is under the level of significance (0.05) and with a degree of freedom (58) equal to (2.00).

2.5 Field research procedures

The researcher took a set of the following steps:

- Administrative action: Addressing the administration of Osama Bin Zaid Preparatory School for Boys with an official request for the purpose of facilitating the task of conducting the research.
- Preparing the tests: The (Harrow) special test in kinetic fitness was chosen, which includes six tests.
- Choosing the assistant team: The researcher sought the assistance of the second teacher of physical education in order to conduct the tests and supervise the implementation of the experiment.
- Developing teaching plans: The researcher adopted the annual curriculum in the Iraqi Ministry of Education in developing teaching plans.

Scientific basis for the test

First: Validity

To confirm the validity of the test, the researcher calculated the subjective validity of the test, which is the validity of the empirical scores in relation to the real scores that have been cleared of the impurities of chance errors, if the subjective validity of the test items ranged between (0.875-0.994), and the following table shows that.

Table 4: showing the self-validity of the (Harrow) motor fitness test:

N	Variables	The value of self- validity
1	Running in shape (8)	0.992
2	Sit up from lying down	0.912
3	Jumping on either side of the seat	0.875
4	Arm push	0.923
5	Bouncing running	0.994
6	Throw the ball	0.936

Second: Reliability

The reliability coefficient was calculated using the (re-test) method, as the test was applied to (30/students) from Osama Bin Zaid Preparatory Students for Boys, on 10/16/2022, and the test was re-tested after one week on 10/23/2022. It ranged between (0.78-0.98), which indicates that the test has high reliability, as shown in the table.

Table 5: showing the reliability coefficient of the (Harrow) physical fitness test:

N	Variables	The value of self- validity
1	Running in shape (8)	0.97
2	Sit up from lying down	0.84
3	Jumping on either side of the seat	0.78
4	Arm push	0.86
5	Bouncing running	0.98
6	Throw the ball	0.86

Third: Objectivity

The standardized tests have a high degree of objectivity, so their recording and application are carried out in objective ways, and because the (Harrow) motor fitness test is a standardized test and has specific and clear instructions for its application and scoring points in a manner free from ambiguity and interpretation and consists of a number of items, and for this reason the (Harrow) test is objective High.

Exploratory experience

The researcher conducted the exploratory experiment on a sample of (30/students) from Osama bin Zaid Preparatory Students for Boys, on 10/16/2022, during which the following were identified:

- Identify the nature of the tests and the possibility of implementation by middle school students.
- Identify the time required to implement the experiment.
- The special and final form for recording grades.
- Preparing the auxiliary work team when carrying out the final exam.

Pre-test

The pre-test was conducted for the two groups (control and experimental), as the test was conducted for the experimental group on 26-27/10/2022 and for the control group on 30-31/10/2022 at exactly eight o'clock in the morning.

Preparing lesson plans

The researcher prepared study plans according to the curriculum of the Ministry of Education for the preparatory stage, and it consisted of (16/ units) over (8/ weeks) at the rate of two educational units per week, with a time of (45/ minutes) per unit. The educational unit was divided into three sections, namely:

- Preparatory section: (15 minutes).
- The main section: (25/minute).
- The concluding section: (5/ min).

Experiment application

The researcher applied the teaching plans as of 1/11/2022. In applying the educational unit, the researcher took into account the performance of exercises freely for all sections of the unit.

Post-test

The post-test was conducted for the two groups (experimental and control), as the experimental group was conducted on 25-26/12/2022 and for the control group on 27-28/12/2022, in the same conditions as the pre-test as possible.

Statistical means

1. Arithmetic mean. 2. Standard deviation. 3. Coefficient of homogeneity. 4. T-test for independent samples of equal number. 5. T-test for correlated samples.

Presentation, analysis and discussion of the results

This section deals with presenting, analyzing and discussing the pre and post tests for the two groups (control and experimental) and presenting the results of the post tests for the two groups (control and experimental), as well as discussing all the results in order to verify the validity of the research hypotheses.

Presentation and analysis of the results of the pre and post tests for the group (the control group)

First: Presentation and analysis of the results of the running test

Through the data, it is noted that the arithmetic mean of the group (the control group) in the pre-test was (11.26), while the arithmetic mean of the post-test was (8.55), and this shows that there is a preference for the post-test because the graph described the performance for us, and accordingly the researcher used the (T) test interrelated samples to find out the significance of the differences.

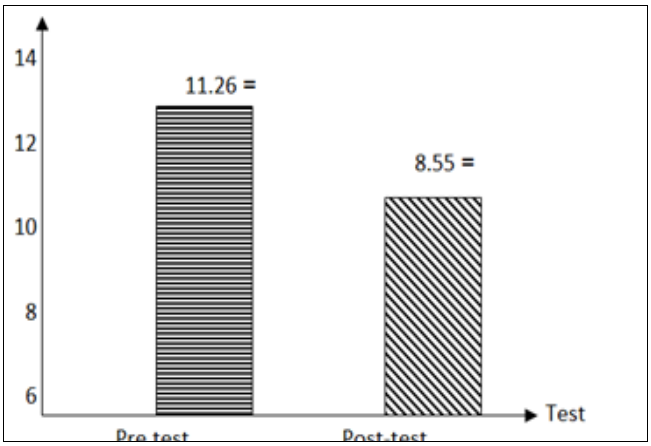

Fig 1: The arithmetic mean of the control group in the pre- and post-test in the running test is shown in Figure 1.

Table 6: The table shows the sum of the squared differences between the pre and post- test, the calculated (t) value, and the tabulated (t) value for the (control) group in the running test in Figure (1).

Test	F	F2	Calculated (v) value	Tabular value of (t) under (29) degree of freedom	Sig type
Running in shape (8)	80.6	277.74	10.13	1.70	Sig

The data in the above table shows the sum of the differences and the sum of the squared differences between the pre and post-test and the calculated (t) value and (t) value for the (control) group, as the calculated (t) value was (10.13) and when compared with the tabular (t) value at a degree of freedom (29) Below the level of significance (0.05), it reached (1.70), and this indicates the presence of significant differences in favor of the post-test in this test.

Second: Presentation and analysis of the results of the sitting test from lying down

Through the data, it is noted that the arithmetic mean of the group (the control) in the pre-test was (9.93), while the arithmetic mean of the post-test was (16.7), and this indicates that there is a preference for the post-test because the graph described the performance for us, and accordingly the researcher used the (T) test. Interrelated samples to find out the significance of the differences.

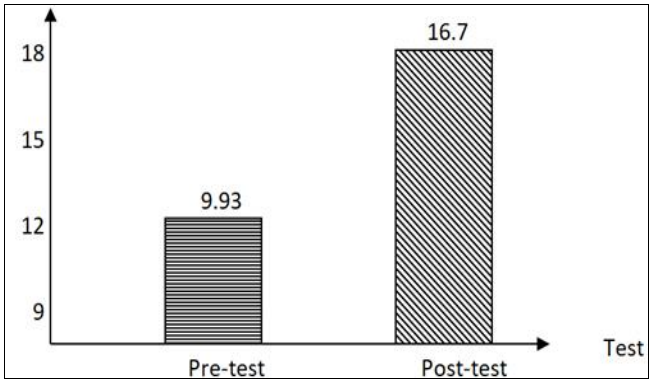

Fig 2: It shows the arithmetic mean of the control group in the pre-test and the post-test for the control group in the sitting-from-lying test

Table 7: The table shows the sum of the squared differences between the pre and post-test, the calculated (t) value, and the tabulated (t) value for the (control) group in the sitting-from-lying test

Test	F	F2	Calculated (v) value	Tabular value of (t) under (29) degree of freedom	Sig type
Sit up from lying down	203	1626	12.56	1.70	Sig

The data in the above table shows the sum of the differences and the sum of the squared differences between the test (pre and post) and the calculated (t) value and the tabular (t) value for the (control) group, as the calculated (t) value was (12.56), and when compared with the tabular (t) value At the degree of freedom (29) and below the level of significance (0.05), it reached (1.70), and this indicates the presence of significant differences in favor of the post-test in this test.

Presentation and analyze the results of the pre and post tests for the (experimental) group

First: Presentation and analysis of the results of the running test in Figure (8)

Through the data, it is noted that the arithmetic mean of the pre-test was (11.24), while the arithmetic mean of the post-test was (7.33), and this indicates that there is a preference for the post-test; Because the graph described the performance for us, the researcher should use the (T) test for correlated samples to know the significance of the differences.

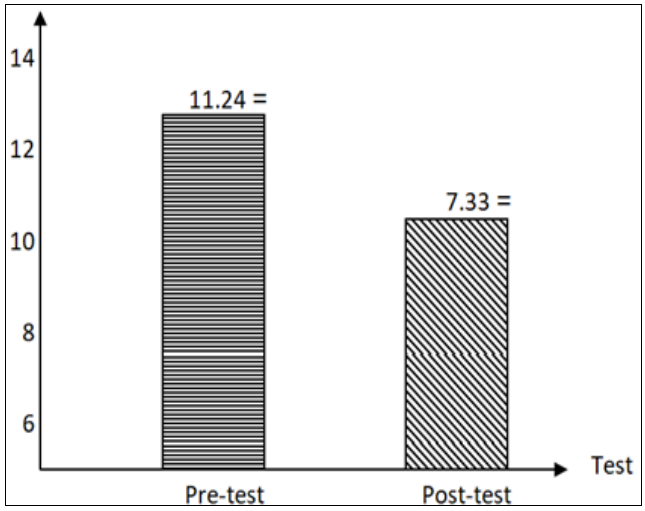

Fig 3: The arithmetic mean of the experimental group in the pre- and post-test in the running test is shown in Figure (3).

Table 8: The table shows the sum of the squared differences between the pre and post-test, the calculated (t) value, and the tabular (t) value for the experimental group in the running test in Figure (1)

Test	F	F2	Calculated (v) value	Tabular value of (t) under (29) degree of freedom	Sig type
Running in shape (8)	117.31	486.97	21.72	1.70	Sig

The data in the above table shows the sum of the differences and the sum of the squared differences between the pre and post test, the calculated (t) value and the (t) value for the (experimental) group, as the calculated (t) value was (21.72) and when compared with the tabular (t) value at a degree of freedom (29) Below the level of significance (0.05), it reached (1.70), and this indicates the presence of significant differences in favor of the post-test in this test.

Presentation and analysis of posttest results for the two groups (control and experimental)

First: Presentation and analysis of the results of the running test

Through the data, it is noted that the arithmetic mean of the (control) group in the post-test of the (control) group amounted to (8.55), while the arithmetic mean of the (experimental) group amounted to (7.33), and this indicates that there is a preference for the (experimental) group, because the graph described to us Accordingly, the researcher used the (T) test for independent samples of equal number to find out the significance of the differences.

Discussing the results of the pre and post tests for the group (the control group)

By comparing the results of the pre and post tests of the group (the control group), as these results showed that there are significant differences in favor of the post test, and the researcher attributes the reason for these differences to the exercises and games that are used in the lesson of physical education according to the prescribed curriculum, through the students practicing classroom sports activities and that In the field of lesson or extra-curricular for students, as well as the use of exercises and games in the lesson of physical education leads to the activation of the nervous and physical system and it plays a role in the development of psychological aspects.

Discussing the results of the pre and post tests for the (experimental) group

By comparing the results of the pre and post-tests of the (experimental) group, as these results showed that there are significant differences in favor of the post test, and the researcher attributes the reason for these differences to the students' practice of exercises and games in the prescribed school curriculum, as well as to the performance of these exercises and games freely and without restriction from Before the teacher, as this freedom contributes positively to liberating the student's personality and providing his motivation towards learning, and this freedom allows the student to choose the appropriate place and the appropriate group for him, which makes the student feel happy, fun and pleasure, which increases his knowledge stock.

In addition, education must be free for those who wish to learn without being forced or restricted, so we allow those who wish to learn to determine their desire according to their capabilities, inclinations, and this is only achieved if education is free.

Discussing the results of the post-tests for the two groups (the control and the experimental)

In order to verify the second hypothesis by comparing the results of the post-test for the (control and experimental) group, it appears that there are significant differences in favor of the (experimental) group. of the number of repetitions, which positively affects the development of the motor fitness elements, as we find the student, individually, bears the responsibility of initiating and preparing to take all decisions during teaching and learning activities, and the student shows his willingness to perform a series of activities or teaching units in a free manner, he takes all decisions and alerts students. The teacher has the duty to support and assist during performance.

4. Conclusions and recommendations

4.1 Conclusions

Through the results that appeared, the researcher reached the following:

- Performing the exercises freely had a positive effect on the development of the motor characteristics of the (experimental) group better than the control group.
- Free performance stimulated students' motivation in the (experimental) group better than the (control) group.
- Free performance led to investing time in the (experimental) group better than the (control) group.

4.2 Recommendations

- Free use of exercises and teaching plans, the subject of research, for middle school students to develop motor fitness.
- Provide adequate devices and tools that serve the application of performing exercises freely in the physical education lesson for this stage to develop motor fitness.
- Carrying out similar studies on different samples to deepen the research path by using free exercises to develop motor fitness.
- Use exercises freely to develop the level of physical fitness.

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