

The impact of the teaching-play strategy and its contribution to the development of some physical abilities (agility and motor coordination) in primary school students.

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Abstract:

The study aimed to identify the impact of the play teaching strategy and its contribution to the development of some physical abilities (agility - motor coordination) among primary school pupils in bouhnefieh city. The experimental approach was used on a sample of 20 male pupils, through tests of physical abilities. The results showed that the play teaching strategy has a positive role in the development of some physical abilities of pupils, and it was suggested to adopt this strategy in physical education classes by primary school teachers

KEY WORDS : Play Teaching Strategy; Physical Abilities; Agility; Motor Coordination; Primary School.

الملخص:

هدفت الدراسة إلى التعرف على أثر استراتيجية التدريس باللعب ومساهمتها في تنمية بعض القدرات البدنية (الرشاقة- التوافق الحركي) لدى تلاميذ المرحلة الابتدائية بمدينة بوحنيقية. تم استخدام المنهج التجريبي على عينة مكونة من 20 تلميذاً من الذكور، عبر اختبارات خاصة بالقدرات البدنية، أظهرت النتائج أن استراتيجية التدريس باللعب لها دور إيجابي في تنمية بعض القدرات البدنية للتلاميذ، و تم اقتراح اعتماد هذه الاستراتيجية في حصص التربية البدنية من قبل أساتذة المرحلة الابتدائية.

الكلمات المفتاحية: استراتيجية التدريس باللعب؛ القدرات البدنية؛ الرشاقة؛ التوافق الحركي؛ المرحلة الابتدائية

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1-Introduction:

Physical education and sports are considered to be the most important aspects of a society's social and economic development, as well as the country's hope for the future and the country's hope for construction and development (haoucine, 2018 :17).

Physical and sports education , with its activities that meet the needs and inclinations of children, is an essential and indispensable factor in the upbringing of children in all aspects physical, mental, emotional and social (mohamed, 2018:47)

Algeria is currently one of the countries that seek progress and advancement and makes the care of children and youth a primary objective that it seeks to achieve through the provision of all the financial, technical and educational resources to ensure that physical education is taught effectively so that they can be properly prepared to benefit everyone (Adel, 2020:30)

Playful teaching strategy is one of the modern methods in the field of education, as it combines the achievement of educational goals with the motivation of learners through recreational and interactive activities. Studies and educational research have proven the effectiveness of this method, (Nadjib, 2025:235) especially in the stages of basic education, as it helps to consolidate information and develop skills in a fun and stimulating way, as well as helping to integrate him into society, so developing the child's psychomotor abilities in the right way It requires the exploitation of the childhood stage through early guidance, development and development of these movements in the right way to have an important role in the development of the child's abilities, self-discovery and the development of his abilities and knowledge, and this study dealt with three aspects 'introductory - theoretical - and applied'. and applied". (Karim, 2016 :12)

Play is an effective educational tool that contributes to the development of cognitive, affective, and motor aspects of learners, especially in the early stages of schooling. Due to its prestigious importance, many educationalists and psychologists have been interested in studying it and highlighting its place and role in the teaching-learning process. Psychologists considered it a means of self-

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expression and a way to discharge excessive charges and energies. (Aid, 2024 :447)

Therefore, teaching with play is one of the most important modern strategies in the field of education, as it employs guided play activities aimed at achieving specific educational goals in a stimulating and enjoyable environment. It contributes to making the educational process more interesting and interactive, which reflects positively on students' learning motivation and helps them acquire skills and knowledge in a natural and spontaneous way(moanes, 2011:91).

In physical education in particular, play is a suitable environment for learning motor skills and promoting physical fitness, through educational situations that mimic the child's nature and psychological and social needs (salah, 2022:640)

The teaching of physical education to pupils in schools at different stages is a process that has its own characteristics, as it helps to develop the spirit of competition and is a situation in which the interaction between the pupil and the teacher takes place in an atmosphere of fun and pleasure, so the physical education lesson should be an enjoyable experience that the pupil feels while practising educational physical activity in the school and the teacher alike. Pupils love to move and love to learn, and we observe this while watching them play in the street or on the playground. (Liudmyla hamih, 2022 :225)

Teaching the applied aspect of this educational process includes strategies, methods and models that represent tools and procedures that address how learners familiarise themselves with the school curriculum and its educational content in order to communicate it to learners, and this prompts us to ask the following questions:

1-What is the impact of using a play teaching strategy on the development of some physical abilities (agility and motor coordination) among male primary school students (7-8 years old)?

2-Are there statistically significant differences in the post-tests between the control and experimental samples in favour of the experimental sample?

General hypothesis:

1-The play teaching strategy has a positive impact on the development of some physical abilities (agility and motor coordination) in male students of the second year of primary school (7-8 years old).

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2- There are statistically significant differences in the post-tests between the control and experimental samples in favour of the experimental group.

2- General objective of the study:

2-1-To highlight the impact of the teaching-play strategy on the development of some physical abilities (transitional speed, agility and motor coordination) in male students of the second year of primary school (7-8 years).

2-2- To find out the statistically significant differences in the post-tests between the control and experimental samples in favour of the experimental group.

The importance of the study lies in giving us an accurate analysis of how the strategy of teaching with play affects the development of some physical abilities (agility and motor coordination) of students in the second year of primary school 'males'. It also shows the effectiveness of the strategies in improving physical education as games are considered an incentive for students at this age to practice physical activities .

3- Procedural definition of the concepts mentioned in the research:

3-1- Strategy: (ali, 2023:75) It is an organisation's identification of its long-term goals and objectives, and the allocation of resources to achieve these goals and objectives. It also refers to the art of using means to achieve goals.

-It is a comprehensive long-term plan aimed at achieving certain goals in a specific context. It involves setting goals, analysing resources and opportunities, and choosing methods that contribute to future success

3-2-Teaching: (khodair, 2021 :85) An important educational process that takes into account the various factors constituting the educational process through which the teacher and the student co-operate in order to achieve the desired educational objectives.

- It is an organised process that aims to transfer knowledge, skills, and concepts from the teacher to the learner using different teaching methods and techniques within a prepared learning environment.

3-3- Playing : (giovane, 2020:33) It is a means of discovering objects and the relationships that exist between them. It is a form of physical activity with the main goal of pleasure and enjoyment resulting from that activity .

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-It is characterised by flexibility in methods and activities, including sports activities, mental games, or any type of activity that helps develop thinking, co-operation, motor skills, and the ability to solve problems.

3-4- Physical abilities: (kamal, 2004 :42) The ability of the body to cope with the demands of a particular activity.

- The ability of the body to perform various physical activities and can be developed to make the individual able to master all motor skills .

4- The methodological procedures used in the study:

4-1 Method and tools:

4-1-1-Approach used: The researchers utilised the experimental approach as it suited the research question.

4-1-2-The exploratory study: The exploratory study was conducted at E.A.K School in Bouhanifia, Mascara , between 12-23 January 2025 on a sample of 10 male students, in order to check the validity of the instrument used and collect data, as well as to check the methods used and to know the appropriate time and date for conducting these tests. This was in order to find the best way to conduct the tests and avoid obstacles and issues that could be encountered during the main study. The results are as follows:

4-1-3-Sample and methods of selection: The research sample consists of 20 male pupils, randomly selected from E.A.K School in Bouhanifia, aged between 7-8 years, who were used as a control and experimental sample (control sample: 10 pupils and experimental sample: 10 pupils).

4-1-4-Study limitations:

4-1-4-1-Human limitations: The research sample consists of 20 male pupils

4-1-4-2-Spatial limitations: E.A.K School in Bouhanifia;mascara

4-1-4-3-Temporal Limitations: Academic Year 2024-2025.

4-1-5-Study variables:

4-1-5-1-Independent variable: Playful teaching strategy

4-1-5-2-Dependent variable: Physical abilities (agility - motor coordination)

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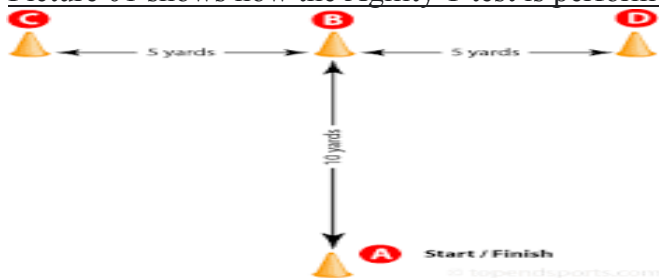
4-1-6-Study tools:

4-1-6-1 - Agility T-test:

4-1-6-1-1 - Objective of the test: To measure speed, agility and the ability to change the movement of the body in different directions quickly with body control.

4-1-6-1-2 - Procedure: The pupil stands at the starting line, the starting signal is given, he moves running to the funnel placed in front, then moves sideways, right, left and then back to the centre in order to return back to the starting line. The test should be performed as quickly as possible and in as little time as possible.

Picture 01 shows how the Agility T test is performed.



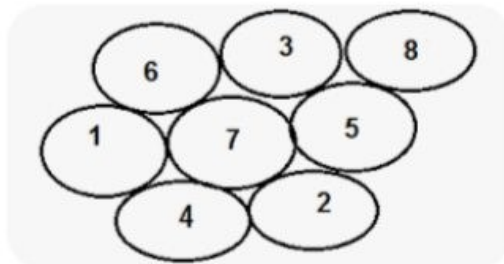
4-1-6-2- Jumping test within the numbered circles (for motor coordination):

4-1-6-2-1-Purpose of the test: Measurement of leg and eye coordination

4-1-6-2-2-Test Specifications: The tester stands inside circle (1) and on the start signal jumps with both feet to circle (2), then to circle (3), then to circle (4) and so on until circle (8)

4-1-6-2-3-Recording: The tester records the time it takes to travel through the eight circles.

Picture 02 shows how to perform the jumping test within the numbered circles.



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4-1-7- The main study: The main study was conducted at the A.E.K School bouhanifia from 26 January 2025 to 20 March 2025 on a sample of 20 male students aged 7-8 years, where the pre-test of physical abilities (agility and motor coordination) represented by the 'Agility T Test' and 'Jumping test within the numbered circles' was conducted.

A programme based on the play teaching strategy was applied to the experimental sample, while the control sample was taught with a competency-based approach strategy that relies on the diversity in the nature of lessons from competitions, training, education and play, and after applying 8 weeks of the programme, the post-test was conducted for both samples (control and experimental).

4-1-8- The scientific foundations of the tool:

Stability: To calculate the stability coefficient, we used the method of applying and re-applying the test (Test - Retest) between :12/01/2025 and 23/01/2025 on a sample of 10 students, and the stability coefficient was calculated using Pearson's correlation coefficient.

Subjective honesty: Researchers used the square root of the coefficient of determination

Table 01: Psychometric characteristics of the physical tests

Tests	Pre-test		Post-test		Stability coefficient t	Self-honesty
	Arithmetic mean	Standard Deviation	Arithmetic mean	Standard Deviation		
Jumping inside the numbered circles	8.70	1.96	42.63	1.43	0.81	0.90
Agility T-test	18.11	03	22.86	3.54	0.93	0.96

Objectivity:The tests used in our research were easy and clear to understand, not open to interpretation and far from self-assessment, so the tests used are considered to have good objectivity.

4-1-9- Statistical tools :

A. -The arithmetic mean:
$$\bar{x} = \frac{\sum x}{n}$$

x:Arithmetic mean. x:Raw score. n: Number of sample members.

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B. The standard deviation:
$$S = \frac{\sqrt{\sum (x - \bar{x})^2}}{n - 1}$$

x:Arithmetic mean. x:Raw score. n: Number of sample members.

C. T-test for correlated sums:
$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{(s_1^2 + s_2^2) - (2 \times R \times S_1 \times S_2)}{n}}}$$

2- Presentation and Analysis of Results:

2-1-Presenting the results of the differences between the control and experimental samples in the tribal physical tests:

To determine the nature of the differences between the control and experimental samples in the tribal physical tests, the t-test for independent groups was used and the following table shows this:

Table 02: The nature of the differences between the control and experimental samples in the tribal physical tests

Test	Experimental sample		The control sample		Calculated t-value	Table t-value	Percentage error	Degree of freedom	Statistical significance
	Arithmetic mean	Standard Deviation	Arithmetic mean	Standard Deviation					
Jumping inside the numbered circles	11.38	3.34	11.29	1.47	0.08	2.10	0.05	18	Undetermined
Agility T-test	19.38	1.63	20.70	1.89	1.67				Undetermined

Table 02 shows the calculated t-value between the results of the control and experimental samples in the following tribal physical

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tests:, jumping in numbered circles, Jumping inside the numbered circles, Agility T-test: 19.38, 1.63, 20.70, 1.89, and 1.67 respectively are less than the t-value of 2.10 at 0.05 level of significance and 18 degrees of freedom, which indicates that there are no significant differences between the results of the control and experimental samples in the following tribal physical tests: jumping inside the numbered circles, T for agility.

2-2-Presentation of the results of the differences between the results of the pre and post physical tests in the control sample:

To determine the nature of the differences between the results of the pre and post physical tests in the control sample, the t-test was used for correlated groups and the following tables illustrate this:

Table 03: The nature of the differences between the results of the pre and post physical tests in the control sample

Test	Pre-test		Post-test		Calculated t-value	Table t-value	Percentage error	Degree of freedom	Statistical significance
	Arithmetic mean	Standard Deviation	Arithmetic mean	Standard Deviation					
Jumping inside the numbered circles	11.29	11.4	11.09	1.93	0.73	2.26	0.05	09	Undetermined
Agility T-test	20.70	1.89	20.62	2.01	0.25				Undetermined

Table 03 shows the calculated t-value between the following pre and post physical outcomes: Jumping within the numbered circles, Agility T-test of: 0.73 and 0.25 respectively are lower than the table value of

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2.26 at a significance level of 0.05 and a degree of freedom of .09, which indicates that there are no significant differences between the pre and post physical outcomes: Jumping within the numbered circles, Agility T-test , the control sample improves in the following physical abilities: Superiority, Agility.

2-3- Presentation of the results of the differences between the results of the pre and post physical tests in the experimental sample:

To determine the nature of the differences between the results of the pre and post physical tests in the experimental sample, the t-test was used for correlated groups and the following tables illustrate this:

Table 04: The nature of the differences between the results of the pre and post physical tests in the experimental sample

Test	Pre-test		Post-test		Calculated t-value	Table t-value	Percentage error	Degree of freedom	Statistical significance
	Arithmetic mean	Standard Deviation	Arithmetic mean	Standard Deviation					
Jumping inside the numbered circles	11.38	3.34	8.66	2.01	4.42	2.26	0.05	09	Statistically significant
Agility T-test	19.38	1.63	15.95	1.42	12.8				Statistically significant

Table 04 shows the calculated t-value between the following pre and post physical outcomes: Jumping within the numbered circles, Agility T-test of: 4.42 and 12.83, respectively, are greater than the tabular t value of 2.26 at the significance level of 0.05 and the degree of

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freedom of 09, which indicates that there are significant differences between the following pre- and post-physical outcomes: Jumping within numbered circles, t for agility, in favour of the posttest because the value of the arithmetic mean in the following physical tests: Jumping within numbered circles, Agility T-test is lower than the values of the arithmetic mean of the pre-test (7.68, 11.38, 29.44, 21.10, 19.38) since these tests are measured by time and therefore the one with the lowest time is the best, and the opposite is true for the 10-second run test where the value of the arithmetic mean of the post-test (38.50) was greater than that of the pre-test (33.30), that is, the experimental sample improved in the following physical abilities: agility and this improvement is attributed to the educational programme followed by the experimental sample using semi-sports games.

4-3 Discussion and interpretation of the results:

Within the framework of our research topic, which deals with the study of 'the impact of the teaching strategy of play and its contribution to the development of some physical abilities (agility and motor coordination) among students of the second year of primary school (7-8 years) males' and through the statistical treatment of the results obtained from the tests that included agility and motor coordination shown in the tables above, we will discuss the results obtained, in light of the hypotheses put forward and the statistical analysis of the latter, in an attempt to highlight some key factors, which have a role in determining the results obtained, and may contribute to understanding the ambiguity surrounding them.

From the results of the first hypothesis, which states that : **The play teaching strategy has a positive impact on the development of some physical abilities (agility and motor coordination) in male students of the second year of primary school (7-8 years old).**

There appears to be a significant improvement for the experimental sample in each of the following tests" 30m sprint, 10 second run, jumping inside numbered circles, Agility T-test ", and we attributed this to the educational programme proposed by us, which relies primarily on games This is confirmed by a study (aiboud, 2023) Whereas, these games have a positive role on the experimental sample in developing the targeted physical abilities due to their advantages It is in line with the characteristics of the child at this stage, especially

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from its motivational aspect, which plays a great role in attracting the interest of the students This is confirmed by a study (jamil, 2021) It also allows to energise the class and create an atmosphere full of vitality, pleasure, fun and entertainment, which confirms the fulfilment of the hypothesis : The play teaching strategy has a positive impact on the development of some physical abilities (agility and motor coordination) in male students of the second year of primary school (7-8 years old).

Through the results of the hypothesis which states that : **there are statistically significant differences in the post-tests between the control and experimental samples in favour of the experimental group.**

It is clear that there is an improvement in the experimental sample unlike the control sample that did not see any development for both agility and compatibility tests and this is due to the proposed programme containing many games that developed and developed these physical abilities and the use of teaching with play had the specificity in the use of The method of diversification, innovation and time investment by increasing repetitions that contributed to the development of the targeted physical qualities, as proven by a study (Adel, 2020) As for traditional teaching, it lacked repetition, excitement, fun and competition, and this is emphasised by the fact that (Aid, 2024) "At this stage, children love to play very much, so the educator must take into account their thirst for play and their natural inclination to play The results of the (Karim, 2016) study confirm the results obtained in our study

From the statistical results, we confirm the third hypothesis that: There are statistically significant differences in the post-tests between the control and experimental samples in favour of the experimental group.

Conclusion:

Through the study, we tried to show the extent of the impact of the play strategy on the development of some physical abilities among students in the second year of primary 7-8 years. This age stage is one of the most important stages in the student's academic life because of its characteristics. In the light of the conclusions based on this study, we came to uncover the effective role that the teaching strategy plays in the acquisition and development of various physical qualities and

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all other aspects that affect the child. It is important to invest in this type of education to improve the quality of the educational process and make it closer to the reality of the learners and their interests.

We recommend The use of modern teaching strategies, especially the play teaching strategy for primary school students due to its effective and positive impact on the development of physical abilities. We also recommend employing modern methods and techniques and diversifying them during the physical education and sports class according to the requirements of the age group.

The necessity of applying semi-sports games during the class to try to create a motivational atmosphere for work to avoid boredom.

We also recommend relying on the use of games that are appropriate to the child's psychological and physical characteristics, especially at this age stage (7-8 years). Recognise the importance of games in the child's life and the development of certain skills. Similar research should be conducted in other areas related to physical abilities for the rest of the other school stages and for both sexes.

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