Effect of Using Indirect Mental Training to Learn Football skills

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Effect of Using Indirect Mental Training to Learn Football skills

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Abstract

Study purpose. The research is aiming to reveal effect of using mental training indirectly in learning some basic football skills and to compare in post-test between two research groups to learn some basic football skills among second-grade middle school students.

Materials and methods. The researcher used experimental method for its suitability to nature of research. The research community is represented by second-grade middle school students at Al-Furat Intermediate School for Boys for academic year (2024-2025), numbering (95) students distributed among three sections. The research sample consisted of sections (A, B), which were selected by lottery. Thus, the sample number reached (65) students. A number of sample members were excluded due to their lack of equivalence with sample, in addition to excluding students from section (C), who were selected as a sample for stability and exploratory experiments. Thus, final sample number reached (24) students divided into two groups, an experimental and a control group, with (12) students for each group, at a percentage of (25.263%) of original community. The proposed program was distributed by lottery. The educational programs took six weeks to implement, with two educational units per week for each group, each unit lasted 45 minutes.

Results. The results obtained reveal significant differences between results of pre- and posttests for two research groups in learning skills of side throw and ball control, in favor of post-test. attributed to effectiveness of educational programs used and clear impact on learning and developing skills of side throw and ball control in soccer. The players benefited from educational component through explanation and presentation, through instructions and guidance, or through use of educational videos or educational images. These educational methods helped players form a complete understanding of selected skills.

Conclusion. Concluded that educational programs implemented on two research groups had a positive impact on learning the side throw and Ball control skills in soccer. The experimental group, which used an indirect mental training program accompanied by skill exercises, outperformed the control group, which used traditional method skill exercises program only.

Keywords: Indirect Mental Training, Side Throw, Ball control, Football.
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Introduction

Mental training is a psychological exercise used to reduce fears and increase courage before important matches through visualization and self-suggestion, where new synaptic connections are created in the player's brain, enabling him to reach his full potential at the right moment (Dhahi et al., 2022). In order to reach distinguished levels, we find that researchers and workers in the sports field are constantly searching for what is new in the field of motor learning to learn and develop motor skills. Improving the skill, planning, and psychological performance of football players. The field of motor learning has witnessed sig development, with regard to preparing educational situations in a way that stimulates player motivation achieves the goal of the educational process. The learning method is the basic pillar for transferring information from the teacher to the learner in a better way with less effort and time (Lindsay et al., 2023). The selection of educational methods is one of the important and key matters in the educational process. The more economical the methods used are in terms of time and effort when teaching different skills, the more effective and beneficial they are in the learning process (Weerakkody et al., 2021). Many researchers and trainers have paid attention to mental training, as it represents a vital topic in the field of motor learning (Ramadhan et al., 2023) .

Mental training is an essential part of preparing a player to acquire motor skills and positions and to enter competitions (Röthlin et al., 2020). Mental training includes visualizing movement, skill sequence, positions, goals, and all aspects of competition, including the field, referees, equipment, and tools (Stamatis et al., 2020). The importance of mental training stems from the fact that its use is not limited to participation in competitions only, but rather is used in the field of movement in general and in stages of learning and acquiring motor skills in particular, and it plays an important role in learning process (Öner, 2022). In addition, mental training aims to bring the player to the highest possible level, enabling him to increase his ability to achieve success and reach the desired goals (Olivan et al., 2023) Success in performing motor activity also helps develop level of skill performance (Gustian et al., 2024) , One of the principles of motor learning is to emphasize learning and training with different training methods (Ihsan et al., 2024).

Indirect mental training is one of these effective methods in the field of motor learning, as the use of this method contributes to learning and developing different skills (Ce & Çİ, 2025). There are two types of mental training methods: direct mental training and indirect mental training, where several audio and visual means are used, as well as the player's participation in explaining the skill and others in the indirect mental training method (Kaplánová, 2020). Hence, the importance of research to prove the effectiveness of the mental training method emerges. Football has many requirements, as it imposes multiple movement duties on players accordingly, the methods of teaching and training it, both technically and mentally, have become numerous. Mental training is one of the important educational and training methods that researchers have come up. With the rapid development, there has become an urgent need to find methods that help to reach the highest levels. From here, the problem of research has emerged in answering the following question: Does the indirect mental training method have an effect on learning some basic football skills among middle school? The effect of using indirect mental training in learning some basic football skills.

Comparison in post-test between two research groups in learning some basic football skills.The researcher assumes that there are significant differences between results of pre- and post-tests in learning some basic football skills for two research groups. However, there are no significant differences between two research groups in post-tests in learning some basic football skills.

Materials and Methods

Study participants

The researcher used the experimental method because it is suitable for the nature of the research. The research community represents the second intermediate grade at Al-Furat Intermediate School for Boys for the academic year (2024-2025) , with a number of (95) students distributed among three classes. The research sample consisted of two sections (A, B), which were chosen by lottery, thus the sample size reached (65) students. A number of sample members were excluded due to their lack of equivalence with the sample, in addition to excluding students from section (C), who were chosen as a sample for stability and exploratory experiments. Thus, the final sample size reached (24) students divided into two experimental and control groups, with (12) students for each group, at a percentage of (25.263%) of the original community. The proposed program was distributed by lottery, starting from 10/24/2024 until 12/5/2024.

Study organization

Experimental design

The design of two equivalent randomized groups with tightly controlled pre- and post-observation.

Data collection methods

Content analysis of scientific sources.
Personal interview.
Survey.
Measurements and Tests
Measure both length and mass and calculate chronological age.
Test some mental abilities.
Tests of some elements of physical fitness.
Tests of some basic football skills.

Main research experiment

After conducting pilot experiments on samples from the research community, and working to overcome and address the difficulties and obstacles that the researcher faced, the main experiment was conducted on the experimental group, which began on 10/24/2024 and ended on 12/5/2024.

Scientific basis of tests

The scientific foundations of the tests (validity, reliability, and objectivity) were applied, as shown in Table 1.

Table 1. Shows coefficients of validity, reliability and objectivity of the skill tests for the side throw and suppression skills in football.

No.	Statistical features Tests	Unit of measurement	stability coefficient	Self-honesty	Objectivity
1	Side throw	Degree	0.975	0.987	0.92
2	Ball control	Degree	0.89	0.943	0.94

It is clear from Table 1 that the values of the correlation coefficients ranged between 0.89 - 0.987 which indicates that the tests have high coefficients of validity, reliability and objectivity.

Homogeneity and equivalence of research groups

The homogeneity and equivalence process included the following variables:

- Homogeneity in growth variables (mass, age and height):

The researcher conducted the homogeneity process in the growth variables (mass, age and height) for the research sample individuals, as shown in Table 2.

Table 2. shows results of (T) test between two research groups in variables (age, height, and mass).

No.	Variables	Unit of measurement	Experimental group		Control group		Calculated (t) value	Sig.
			M.	St.d	M.	St.d		
1	Age	Month	161	1.954	158,750	2.598	2,398	0.169
2	Height	cm.	151,666	2.424	149,916	1.676	2,057	0.122
3	Mass	Kg.	48,416	0.9	47,833	0.937	1.555	0.614

* The difference is not significant when the probability value is greater than (0.05).

Table 2 shows that there are insignificant differences between experimental and control research groups in variables of (age, height, mass) because values of probability of error rate are greater than (0.05), which indicates equivalence of two research groups in those variables.

- Equivalence in some mental abilities between the two research groups:

Table 3. shows results of (T) test between two research groups in mental imagery.

No.	Mental processes	Unit of measurement	Experimental group		Control group		Calculated (t) value	Sig.
			M.	St.d	M.	St.d		
1	Mental imagery	Degree	8,250	0.753	8,458	0.655	0.722	0.597

* The difference is not significant when the probability value is greater than (0.05).

Table 3 shows that there are insignificant differences between experimental and control research groups in mental image, as value of probability of error rate is greater than (0.05), which indicates equivalence of two research groups in those variables.

- Equivalence in some elements of physical fitness affecting the selected skills between two research groups:

Table 4. shows results of (T) test between two research groups in some elements of physical fitness.

No.	Elements of physical and motor fitness	Unit of measurement	Experimental group		Control group		Calculated (t) value	Sig.
			M.	St.d	M.	St.d		
1	Explosive power of the arm muscles	Meter	8,670	0.675	8,455	0.833	0.353	0.469
2	Flexibility	cm.	16,835	2.785	17,185	3,190	0.292	0.876

* The difference is not significant when the probability value is greater than (0.05).

Table 4 shows that there are insignificant differences between experimental and control research groups in elements of physical fitness (explosive strength of arm muscles and flexibility) because values of probability of error rate are greater than (0.05), which indicates equivalence of two research groups in those variables.

- Equivalence in skill tests for the selected skills in football between two research groups :

Table 5. Shows results of the (T) test between two research groups in skills of side throw and suppression in football

No.	Skills	Unit of measurement	Experimental group		Control group		Calculated (t) value	Sig.
			M.	St.d	M.	St.d		
1	Side throw	Degree	3.833	1.029	3.916	1.311	0.173	0.184
2	Ball control	Degree	4,583	0.996	4,333	0.887	0.649	0.631

* The difference is not significant when probability value is greater than (0.05).

Table 5 shows that there are insignificant differences between experimental and control research groups in skills of (side throw and suppression) because values of probability of error rate are greater than (0.05), which indicates equivalence of two research groups in those variables.

Timeline of educational programs

The two educational programs included (24) educational units among two research groups as follows:

(12) Educational units for experimental group according to indirect mental training program accompanying skill exercises.

(12) Educational unit for control group according to:

The implementation took six weeks, distributed over two educational units per week, and duration of each educational unit was 45 minutes.

Statistical analysis

The researcher used statistical program SPSS, which included the following statistical methods:

mean, standard deviation, simple correlation coefficient (Pearson), χ test for related samples, χ test for independent samples, as well as the use of: percentage, self-reliability coefficient.

Results

Showing the results of the differences between the pre- and post- tests for the experimental group in learning skill The throw side and ball control in ball foot

Table 6. shows means and standard deviations for pre- and post-tests and calculated values for the two skills. Throw Side and Ball control in football

No.	Skills	Unit of measurement	Pre-test		Post-test		Calculated (t) value	Sig.
			M.	St.d	M.	St.d		
1	Side throw	Degree	3.833	1.029	6,500	1.243	14,182	0.002
2	Ball control	Degree	4,583	0.996	6,833	0.937	10,340	0.005

Significant difference at a margin of error of (0.05) and a degree of freedom of (11) table value of (2.20).

It is clear from Table 6 There are significant differences between means of pre- and post-tests of experimental group, in favor of post-test of skills. The throw Side and ball control, values reached (T) respectively (14.182, 10.340) and by observing error ratios, which amounted respectively to (0.002, 0.005) which is less than ratio (0.05). Which indicates the significance of the differences.

Showing results of differences between pre- and post- tests for control group in learning skill Side throw and ball control in ball foot

Table 7. shows the means and standard deviations for the pre- and post-tests and the calculated values (T) for the two skills

No.	Skills	Unit of measurement	Pre-test		Post-test		Calculated (t) value	Sig.
			M.	St.d	M.	St.d		
1	Side throw	Degree	3.916	1.311	5,000	1.348	*13,000	0.005
2	Ball control	Degree	4,333	0.887	5,416	0.792	*13,000	0.005

*Significant difference at error rate ≤ (0.05) and in front of degree Freedom (11) that Table value (T) =2.20

It is clear from Table 7 that there are significant differences between means of pre- and post-tests for control group, in favor of post-test, in learning skills of side throw and ball control, as calculated (T) values reached (13.000, 13.000) respectively, and by observing error rates, which reached (0.005, 0.005) respectively, which is smaller than rate (0.05), which indicates significance of the differences.

Displaying the results of post-test comparison between two research groups in learning skills of side throw and ball control.

Table 8. shows results of post-test comparison between two research groups in learning skills of side throw and ball control

No.	Skill	Measurement unit	Experimental		Control		Calculated (t) value	Sig.
			M.	St.d	M.	St.d		
1	Side throw	Degree	6.500	1.243	5.000	1.348	2.833	0.010
2	Ball control	Degree	6.833	0.937	5.416	0.792	3.997	0.001

*Significant difference at an error rate of ≤ (0.05) and a degree of freedom of (11), noting that table value of (T) = 2.20

Table 8 shows significant differences between the arithmetic means in post-test between experimental group and control group, favoring experimental group in learning side throw and dunk skills in soccer. The calculated T values reached (2.833, 3.997), respectively, and error rates reached (0.010, 0.001), respectively, which are smaller than (0.05), indicating significance of differences. The difference favors experimental group, as mean is higher than that of control group for both skills.

Discussion

The results obtained in Tables (6,7) reveal significant differences between results of pre- and post-tests for two research groups in learning skills of lateral throw and ball control, in favor of post-test. The researcher attributes these differences to effectiveness of educational programs used and their clear impact on learning and developing skills of lateral throw and ball control in soccer. The players benefited from educational component (through explanation and presentation, through instructions and guidance, or through use of educational videos or educational images). These educational methods helped players form a complete understanding of selected skills.

As well as understanding its nature and what is required of them when performing it (Permadi et al., 2021). Indicate that “learner must have a clear idea of skill he wants to learn, especially important points of motor progress." Practice and repetition of exercises led players to learn and master skills. This was confirmed by (Koester, 2023) that "practice, effort in learning, and continuous repetitions are essential in learning process, and achieving coordination between the movements that make up skill through proper sequential performance."

The results presented in Table (8) show that the experimental group (which used the indirect mental training program accompanied by skill exercises) outperformed the control group (which used only the skill exercises program) in all skill tests for the selected skills. The researcher attributes this superiority to the difference in the proposed educational methods in educational part, as the control group applied a skill training program only, where skill was explained and presented and then applied physically (traditional method). As for the experimental group, it applied the proposed mental training program in the indirect method accompanied by skill training, where educational videos were shown to distinguished players, followed by the physical performance of the skill. Indirect mental training had a positive impact on raising level of skill performance and contributed to ease and smoothness of performance.

This fundamental difference in educational methods in educational part led to a difference in their level of learning selected skills, which contributed to developing level of performance of the players in two research groups, but at a different level in skill achievement.

The researcher indicates that development of the level of players in experimental group is due to success of the proposed educational program. Using indirect mental training accompanied by skill exercises and its impact on advancing level of learning of the individuals of that group for the selected skills, The educational methods integrated with indirect mental training and used in the educational or applied part were sufficient to provide a clear picture of skill, which contributed to a complete perception of the movement path, which led to an increase in players' experience when practicing these skills, as (Kumbar & Patil, 2024) indicate that "methods and techniques of education are of great importance in the educational process and that these methods and techniques affect the speed of learning".

In addition, "the progress of any player's level and the extent of his success depends to a large extent on the degree of his mastery of motor skills (Ali Qutaiba Younus, 2022), and this can be achieved by following the correct scientific method in the methods and techniques of learning and training". (Stamatis et al., 2023). The researcher adds that mental training contributed significantly to consolidating the skill and its motor path in the player's memory, as it also contributed to improving concentration, which prevents distraction, as "the effect of mental practice can regulate aspects related to the skill, which is the cognitive aspect, and it also helps the learner to train within different strategies" (Orlanes et al., 2024). "One of the benefits of mental training is improving concentration" (Staiano et al., 2022), "as mentally visualizing the things we want to do and how we would react in certain situations helps us focus better, which helps prevent distraction and distraction" (Çelik, 2020). From this, the researcher concludes that mental training using the indirect method has a great benefit in learning selected skills, which leads to an improvement in the level of skill performance.

Conclusions

Based on the research results, the methods used, and the limitations of the sample and data collection instruments, the researchers concluded that the educational programs applied to two research groups had a positive impact on learning skills of side throw and dribbling in football. The experimental group, which used an indirect mental training program accompanied by skill exercises, outperformed control group, which used traditional method (skill exercises program only).

Recommendations

Based on the research results and conclusions obtained, the researchers recommend that emphasis on use of indirect mental training in learning basic football skills. Use mental training to develop tactical aspect of football. Use both direct and indirect mental training methods in learning basic football skills for other age groups.

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Conflict of interest

There is none

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