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A Proposed Educational Approach To Improve Physical and Motor Abilities and Some Basic Skills For Deaf and Dumb Futsal

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Abstract

Objectives. The objective of this study was to develop an educational curriculum aimed at improving the physical abilities, motor abilities, and certain basic skills in deaf and mute futsal players. The study highlights the importance of structured planning in sports training programs to achieve the required goals and ensure the success of educational and training plans. The research was driven by the problem that developing effective curricula and educational programs requires a comprehensive and scientifically based approach. Such planning is essential to enhance players' performance across all aspects and achieve integrated skill development, rather than focusing on a single ability or skill at the expense of others.

Materials and Methods. The researcher employed the experimental method, which was applied to a deliberately selected random sample of players from the Paralympic Committee who were participating in the Iraqi league for the 2022-2023 season.¹⁷ The sample consisted of 20 deaf and mute futsal players, divided equally into two groups: an experimental group and a control group, with 10 players in each. Additionally, 3 players were excluded from the study due to lack of commitment, and 5 players were used in the exploratory experiment. The educational curriculum developed by the researcher was implemented with the experimental group, while the control group continued with their regular training program.

Results. The results of the study indicated that the proposed educational curriculum had a positive impact on improving the physical abilities, motor abilities, and some basic skills of deaf and mute futsal players. The experimental group showed significant improvements in these areas compared to the control group.

Conclusion. In conclusion, the study demonstrated that a scientifically planned and integrated educational curriculum can effectively enhance physical and motor abilities, as well as basic futsal skills, among deaf and mute players. The findings emphasize the importance of comprehensive training approaches in developing the overall performance of athletes with disabilities.

Keywords: : Curriculum, Physical Qualities, Motor Abilities, Basic Skills, Futsal

Introduction

Sports in the modern era are no longer just a means of entertainment or recreation during leisure time; they have become a basic necessity for individuals today. Physical education plays a vital and influential role in developing human capabilities in various aspects—mental, psychological, social, and motor—by serving as a purposeful educational activity aimed at achieving balanced and comprehensive development. The advancement of scientific knowledge in the field of sports, including futsal, has attracted significant attention from researchers. This interest has contributed to the development of playing methods and game plans, enhancing the aesthetic value of performance and increasing public interest in the game.

Futsal, in particular, stands out as one of the most effective methods for developing athletic skills. Its dynamic nature, rapid events, and unpredictable situations during matches excite players and audiences alike. The simplicity of its rules, the small size of its playing field, the limited number of players, and the similarities of its basic skills with those of football have made it widely practiced by athletes around the world. The growing importance of futsal in both developed and developing countries has encouraged specialists, experts, and practitioners to find innovative ways to enhance both individual and collective team performance. Achieving the demands of modern play, which involves mastering various physical and technical elements, requires training players according to structured and scientifically designed curricula. These programs must be tailored to match the abilities and potential of the players to establish a solid foundation for nurturing a new generation of athletes with special talents and advanced capabilities.

The problem identified in this research is the lack of comprehensive and scientifically grounded educational programs in futsal training, particularly those that aim to develop player performance holistically. Coaches are often found focusing on isolated abilities or skills while neglecting others, which undermines the integration needed for overall player development. Based on the researcher's personal experience in futsal and direct observation of training practices, it was noticed that many coaches fail to incorporate the essential elements that the game requires in their training programs. This oversight has resulted in weaknesses in physical fitness, motor abilities, and technical skills among players. Therefore, the research problem focuses on the need for an integrated approach to developing these components to raise the performance level of players, especially in terms of physical fitness, motor abilities, and basic futsal skills for deaf and mute athletes.

The aim of this study is to enhance physical performance, motor abilities, and certain basic skills in futsal among the Paralympic Committee team in Babylon Province through the application of a specifically designed educational program. The research objectives are: (1) to prepare an educational curriculum that improves key physical characteristics, motor abilities, and basic skills in futsal for deaf and mute players; (2) to identify the impact of the educational curriculum on these abilities and skills; and (3) to determine the superiority of the proposed educational program over the existing training programs in terms of improving physical and motor abilities, as well as futsal skills for deaf and mute athletes.

Based on these objectives, the researcher proposes the following hypotheses: (1) the proposed educational curriculum will contribute to improving the most important physical qualities, motor abilities, and basic futsal skills for deaf and mute players; (2) the educational curriculum will have a significant effect on enhancing these aspects of performance; and (3) the proposed curriculum will prove to be more effective than the currently used training programs in improving the physical, motor, and basic futsal skills of deaf and mute players.

Materials and Methods

Study participant

The research population consisted of futsal players from the Paralympic Committee in Babylon Province who are deaf and mute, participating in the 2021–2022 season. The total number of players in the population was 28. A purposive random sampling method was used to select 20 players for the study. These participants were then divided into two equal groups:¹ the experimental group (n = 10) and the control group (n = 10). Three players were excluded from the study due to lack of commitment, and five players were used by the researcher to conduct an exploratory experiment. All participants included in the study were active players in the Paralympic Committee's futsal league and provided informed consent prior to participation.

Study Organization

The study adopted an experimental design²⁷ with two groups: an experimental group¹⁹ and a control group. Both groups underwent pre-tests and post-tests to measure the variables under investigation. The experimental group participated in a specially designed educational curriculum aimed at improving physical abilities, motor abilities, and basic futsal skills, while the control group followed the standard training program.

An exploratory experiment was conducted prior to the main study to ensure the feasibility of the testing procedures and the validity and reliability of the measurement tools. This preliminary study was carried out on a separate sample of five players who were not included in the main study. The exploratory experiment took place on July 6–7, 2021, with a follow-up test conducted 14 days later on July 21–22, 2021.²³

The pre-tests for both the experimental and control groups were conducted on July 26–27, 2021, at the Housing Youth Forum Stadium in Babylon. After the educational program was completed, post-tests were administered under identical conditions on September 17, 2021. The researcher ensured consistency in testing conditions, including location, equipment, timing, and assistants, for both pre- and post-tests.¹⁴

The validity of the tests was established through expert review (content validity), and reliability was confirmed using the test-retest method over a two-week interval. The stability coefficients for all tests were found to be statistically significant, confirming high reliability (see Table 1). Objectivity was verified by having two independent referees assess performance, and a high correlation was found between their assessments.

Statistical Analysis

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS). The statistical procedures applied in the study included the calculation of mean values and standard deviations to summarize the central tendency and dispersion of the data. Additionally, the coefficient of variation was computed to assess the degree of variability relative to the mean. Paired and independent t-tests were used to compare the pre-test and post-test scores within and between the experimental and control groups, considering both symmetrical and asymmetrical sample distributions. Furthermore, simple correlation coefficients were calculated to examine the relationships between different variables under investigation. The researcher also analyzed relative importance and percentages to interpret the significance and impact of the educational intervention. These comprehensive statistical treatments enabled the researcher to accurately assess the effectiveness of the proposed educational program in enhancing physical abilities, motor abilities, and basic futsal skills among deaf and mute players.

Results

In light of the researcher's findings of the research results that have been treated statistically, the researcher interpreted the results according to the objectives of the research and its assumptions as follows:

Results of the post-tests of the physical characteristics of the experimental and control groups: For the purpose of identifying the differences between the control and experimental groups in the variables studied, the researcher used the test (t) for the independent samples and the results were as follows as in Table (2).

Table 2. Statistical treatments for post-tests of physical characteristics of the experimental and control groups.

Variables	Experimental group		Control group		Calculated t-value	Tabular value	t-Sig.
	Mean	St.d	Mean	St.d			
Explosive power	17.34	0.104	17.6	0.61	2.272	2.010	Sig.
Power	3.217	0.640	2.143	0.547	2.124	2.010	Sig.
Transition speed	14	1.032	12.4	1.052	2.720	2.010	Sig.
Speed endurance	45.9	2.557	33.1	4.463	2.151	2.010	Sig.

Under 18 degrees of freedom at level(0,05)

The results of the post-tests in Table (2) show that the calculated value of (t) (2.124) is greater than the tabular value (t) (2.010) at a degree of freedom (18) and a level of significance (0.05), which indicates a difference and in favor of the experimental group.

Results of the post-tests of the motor abilities of the experimental and control groups:

Table 3. Statistical treatments for post-tests of motor abilities of the experimental and control groups.

Variables	Experimental group		Control group		Calculated t-value	Tabular value	t-Sig.
	Mean	St.d	Mean	St.d			
Agility	9.165	1.641	10.151	0.147	2.250	2.010	Sig.

Under 18 degrees of freedom at level (0.05)

The results of the post-tests regarding the agility characteristic (Zigzag running test) shown in Table (3) show that the calculated value of (t) (2.250) is greater than the tabular value (t) (2.010) at a degree of freedom (18) and a level of significance (0.05), which indicates a difference in favor of the experimental group.

Results of the post-tests of the basic skills of the experimental and control groups:

Table 4. Statistical treatments for the post-tests of the basic skills of the experimental and

control groups

Variables	Experimental group		Control group		Calculated t-value	Tabular value	t-Sig.
	Mean	St.d	Mean	St.d			
Feint	3.2	1.477	3.04	0.151	2.112	2.010	Sig.
Passing	21.123	1.012	20.131	1.015	2.102	2.010	Sig.
Ball control	64	7.141	56	3.167	2.6	2.010	Sig.
Scoring	7.2	1.747	5.3	1.086	2.131	2.010	Sig.

Under 18 degrees of freedom at level (0.05)

The results of the post-tests show that the calculated value of (t) (2.131) is greater than the tabular value of (t) (2.010) at a degree of freedom (18) and a significance level (0.05), which indicates a difference and in favor of the experimental group.

Discussion

Discussion of the results of physical tests: The results of physical tests between the experimental and control groups after presentation and analysis indicate that there is a remarkable development in all physical characteristics, and this is due to the effectiveness of the proposed educational curriculum, which included improving the physical qualities of futsal and required by basic skills, which was prepared according to scientific foundations in terms of the goal for which it was developed, the level of players and the time period for the program to take sufficient to bring about the change in the results to an adequate and appropriate extent, and attribute The researcher attributed this improvement to the program's physical training that contributed significantly to the development of physical performance.

This is confirmed by (Edicten, 2000) that training results when the individual's performance capacity increases as a result of performing physical exercises for several days, weeks or months by adapting the body's systems to the optimal performance of those exercises. (10:21) Sulaiman Ali Hussain (1993) also asserts that jumping exercises are used to increase the ability to jump, i.e. the explosive power of the legs. (9:347)

Discussion of the results of motor tests: The results of motor tests (Agility) between the experimental and control groups after presentation and analysis indicate that there is a noticeable improvement in this trait, and this is due to the proposed planning of the training curriculum, which was developed according to the scientific foundations studied to obtain this result, as time was allocated to it in the curriculum as a single motor characteristic, and that the curriculum used contributed to increasing the players' ability to properly control the body and its parts according to the motor position of each skill.

The researcher attributes this development to the research sample in the post-test for the pre-test of agility that the proposed planning for the educational curriculum, which was developed according to the scientific foundations studied, had a positive impact on obtaining this result, and that the curriculum used contributed to increasing the ability of players to properly control the body and its parts according to the motor position of each skill and this increased the possibility of dealing with body parts smoothly without effort and this changed the values of the arithmetic media in the test Post-test and in favor of post-test.

This is confirmed by "Essam Abdel Khaleq" (1995) that agility appears in the forms of motor performance that require the speed of changing the positions of the body or its direction or stopping and then running or dodging the body and compatibility in the speed of adjusting the motor performance in proportion to the requirements of changing situations, running and zigzag running. (11:162)

Discussion of the results of skill tests: The results of skill tests between the experimental and control groups after presentation and analysis indicate that there is a tangible development in basic skills, and this is due to the effectiveness of the proposed educational curriculum, which included improving some basic skills in futsal and thus mastering them very significantly.

The researcher attributes this development to the program, which was well prepared, as its units included all the training elements, as well as the use of various training methods had a positive impact on the physical, motor and skill variables and for the benefit of the experimental group, as well as the close link between the capabilities and abilities of the players physical and functional and the performance of skills in futsal as the development of physical qualities helps significantly to the success of motor skills and development, and this is what was pointed out by "Qasim Lazam et al." (2005) that the performance of motor skills is linked Close to physical qualities such as speed, strength, agility and endurance and that good performance of motor skill is not successful if it does not rely heavily on the required physical qualities.(12:95)

As confirmed by "Amr Allah Al-Basati, 2000) requires the completion of the football player for skill performances in its multiple and varied forms during the match the need for the availability of some physical and mental qualities crucial, where the physical requirements vary in terms of type and quantity, and the timing of output depending on the quality of each skill, and that the deficiency in the possession of the player (emerging, advanced) of those physical qualities or lack of them clearly reflects the weakness of his skill level. (13:166)

Conclusion

The proposed educational curriculum has a positive impact on improving physical and motor qualities and some basic futsal skills for the deaf and dumb. The preference of the proposed educational curriculum over the curriculum used to improve the most important physical characteristics, motor abilities and some basic skills in futsal for the deaf and dumb.

4 Recommendations

In light of the objectives, results, and conclusions of the research, the researcher presents several recommendations. First, it is necessary to adopt the proposed educational curriculum due to its proven positive impact on improving the performance of futsal players who are deaf and mute. Second, the findings of this study should be communicated to the staff and coaches of the Iraqi Paralympic Committee so they can benefit from the results and apply them in their training programs. Finally, the researcher recommends conducting further studies and scientific research utilizing various educational curricula and training programs aimed at enhancing basic skills across different sports activities in general, and specifically in futsal for deaf and mute athletes.

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