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Impact of an Educational Program Using Marzano's Dimensions Learning to Learn Some Basic Football Skills for Students

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Abstract

This study aims to explore the effect of an educational program designed according to Marzano's model of dimensions of learning on students' acquisition of some basic skills in football, the researcher used experimental method on 60 students from faculty of Physical Education Sports Sciences at University of Maysan, divided into two groups, experimental control, each group consisting of 30 students. Educational program was implemented using Marzano's model of dimensions of learning on students in experimental group for a period of 4 weeks, with two educational units per week, as 3 educational units were allocated to each skill. Results of study showed effectiveness of educational program using Marzano's model dimensions of learning in learning some basic football skills among students in experimental group, with superiority over control group students led the researcher to recommend relying on Marzano's model dimensions of learning in learning basic skills in football, given its effectiveness in improving skill performance learning level of some basic football skills among students in experimental group.

Keywords: Educational Program, Marzano's Dimensions Learning, Students

Introduction

To attest era present impressive developments in various fields life scientific process, so requires this evolution numbers generation able on to understanding several concepts in field athlete, owns ability on thinking development same solution problems that he faces challenges in process of learning skills, movements, performances, many researchers sought to development all materials educational process in this field, in what in that football material to keep up with modernity in this era that it is characterized by explosion creativity technology, this requires researchers in educational process, especially in sports field, search is on for modern educational models methods applicable in sports field in general in learning football skills in particular, based on scientific foundations taking into account individual differences between learners, in order to reach better performance levels(Chang et al., 2020; Fizi et al., 2023; Weber-Main et al., 2019). with acceleration that is happening at present time in terms of technological progress in process method of delivering knowledge information to learners, it is necessary to apply use educational models that keep pace with this development in order to get educational process on right path. among these models, Marzano model stands out, which it aims to development acquisition assimilation knowledge scientific in a way purposeful in framework knowledge skills mental abilities, as he suitable models to accommodate knowledge scientific to connect all aspects of educational process that are appropriate to abilities in line with students' orientations, comprehension knowledge scientific it was completed design form this makes learners focus of educational process, as well as makes from teaching guide directed(González-Pérez & Ramírez-Montoya, 2022; Marcelino, 2025; Richey & Klein, 2014).

Model is based Marzano on theory structuralism that arrive to that knowledge condition essential for experience students their interaction with surrounding environment, since football represents broader field in which unity of thought action is manifested, as it requires learner to think with his mind at same moment that moves with his body, to perform basic skills required in football, which constitute fundamental principle upon which learner relies is that more diligently learner studies understands technical aspects of these skills, more proficient they will be in applying these skills in future, as they are graduates of physical education colleges future teachers, lies importance of research in finding an educational model(Giulianotti et al., 1996; Kuswoyo et al., 2020; Raya-Castellano & Uriondo., 2015). It helps in process of learning some basic skills in football developing appropriate solutions through educational situations that student may encounter, with guidance direction from teacher(Kuswoyo, 2017, 2020).

Learning basic football skills is a process that requires careful understanding, high concentration, interaction, cognitively kinetically conjunction with achieving effective results, with current development in introducing modern applied models in sports field, need has emerged to adopt modern cognitive models that support this process facilitate learning skills more deeply quickly(Akbar et al., 2025; Kuswoyo & Betaubun, 2019; Sullivan et al., 2021). Marzano's model comes as an experimental model for choosing most appropriate ways to transfer this information knowledge, because teaching learning process requires use of modern models that are correctly applied utilized in sports aspect, this was achieved through researcher's selection of a suitable model that helps learning skills faster, with excitement suspense, while activating role student positive self-effort in facing educational problems addressing them, thus leading to raising level of performance of skills being researched, the researcher decided to try Marzano model in subject of football to teach some basic skills as a modern teaching model applied in sports field for academic year 2025/2026.

Research objectives to developing an educational program using Marzano's dimensional model Learning to learn some basic football skills for students. Identifying impact of educational program designed using Marzano's model of dimensions of learning on learning some basic football skills for students.

Assuming of study there are statistically significant differences between pre-test post-test results of experimental control research groups in learning some basic football skills for students, there are statistically significant differences between post-test results of experimental control research groups in learning some basic football skills for students.

Materials and Methods

Research methodology is defined as "a set of scientific steps followed by research to address a problem or to identify develop a phenomenon, provided that these steps are scientifically approved". So the researcher chose experimental method because it is suitable given nature of problem, aim is to arrive at real solutions results appropriate to research problem.

The researcher identified community intentional research first-year students in faculty of Physical Education Sports Sciences, Maysan University, for academic year 2024-2025, numbering 190 students, the researcher obtained total number of students distributed across Applied Sciences Branch Theoretical Sciences Branch from Registration Division at Maysan University. Study sample was selected from sections 1, 2 in Applied Sciences Branch, numbering 80 students. Number of students for exploratory experiment was 20 students, rest were randomly divided into two groups: first experimental group 30 students other control group 30 students.

Determining tests

It was completed to set specific tests with skills basic under study after examining on literature sources scientific relationship, was chosen a test most suitable tests for skills passing, dribbling, thwarting, in what harmonize with study goals nature sample research, it was approval this is amazing tests in picture final from before.

Passing Test Towards a Small Goal at 10 m Distance

Test Objective: To measure passing ability Test Equipment: (3) footballs, measuring tape, small goal measuring (75 x 100 cm) Test Content: The test subject stands with a ball at a distance of (10m) from the goal. Upon hearing the whistle, they pass the stationary ball towards the goal, Performance Requirements: The test begins with ball number (1) and ends with ball number (3)

How to Record the Test Result: The test subject is given (3) attempts. Two (2) points are awarded for a successful attempt, and one (1) point is awarded for a successful attempt in which the ball touches the crossbar or goalposts. Zero points are awarded for a failed attempt.

Ball Rolling Test Between Five Cones (2m Distance Between Cones)

Test Objective: To measure ball rolling skills. Test Materials: Football, measuring tape, spray paint, and five (5) cones. Test Procedure: After marking the test area, the student stands with the ball behind the starting line. Upon hearing the whistle, the student rolls the ball between the cones and returns to the starting line. Conditions for Test Performance: The student may start by passing the first cone from either the left or right. The student must not stop moving during the test. If the ball goes out of the student's control, the attempt is not counted, Scoring: The student is given two consecutive attempts. The best attempt is recorded. The student's score is the average of the total time taken for the two attempts.

Ball Control Test Inside a Square (2 x 2 m) from a Distance of (6 m)

Performance Measurement Device: Measures performance in stopping and regaining control of the ball using the sole of the foot, wrist, or belt. Test Equipment: Five (5) students, a test area (2 x 2 m) on line (B) within reach and (6 m) away on line (A). How it Works: The student approaches from the designated test area. The teacher, holding the ball, stands on line (A) with fairness. After giving the starting signal, the teacher throws the ball high to the student, who approaches from the starting line into the test area. The student attempts to control the ball with any part of their body, then returns to the starting line and starts again. The student then repeats the five-part sequence. Test Verification: The ball is not thrown beyond the line and within the designated test area. The ball is thrown with both hands from below and upwards. The ball is thrown again if the teacher makes a mistake. The correct attempt is not given in the following cases: if the student fails to control the ball. If the player crosses any line in the designated area by more than one advance. If the player stops the ball illegally

Scoring: One (1) point is awarded for each correct attempt, totaling three (3) points for all three attempts. The white arrow with blue markings indicates the student's movement within the designated area after the teacher throws the ball..

Pilot study

The researcher conducted a pilot study on 20 students from outside research sample on Sunday, September 29, 2024 on Faculty of Physical Education Sports Sciences at University of Maysan field, Testing passing, dribbling throwing skills, as purpose of pilot study was as follows: Determining suitability of tests for sample. Knowing suitability of equipment tools used in tests. Identifying time that each test takes, as well as total time for all tests. Identifying efficiency of support team.

Scientific basis of skills tests

Validity: A valid test is one that measures what it was designed to measure or achieves what it was designed to achieve. the researcher used self-validity empirical validity root of reliability, as shown in Table (1).

Reliability: Test reliability means "reliability of a test, i.e., if test is administered a second time under same conditions to same group, we obtain same or very close scores. To determine reliability of measurement, the researcher used test - retest method to establish reliability coefficient, administered tests to a pilot sample then re-administered them after seven days to same sample, using same test sequence under same conditions. the researcher then calculated reliability coefficient using Pearson's simple correlation coefficient obtained results with high reliability coefficients, indicating a significant correlation, as shown below.

Objectivity: It is based on data collected as test results. These results were extracted with high accuracy in a way that made it easy to calculate raw test scores, test is free from guesswork interpretation, thus eliminating any bias, this test is considered highly objective. Objectivity was calculated using correlation between scores of two judges. This was achieved through a second application of test to students in pilot sample. the researcher then calculated simple correlation coefficient (Pearson's) between evaluation results of two judges as shown in Table (1).

Table 1. Explains results scientific basis of performance tests

Variables	Intrinsic Validity	Test retest reliability	Objectivity factor of two referees
Passing test	0.977	0.956	0.920
Dribbling test	0.965	0.932	0.931
Throwing test	0.982	0.966	0.937

Applying pre-tests to sample

The researcher conducted pre-tests for skills passing, dribbling throwing on experimental control research sample, with each sample consisting of 30 students from sections 1, 2 of applied sciences branch, on Sunday at ten o'clock, corresponding to 6/10/2024, with provision of all required supplies, in stadium of Faculty of Physical Education Sports Sciences at Maysan University, with help of assistant work team.

Equivalence of study groups

In order to avoid factors that affect results of main experiment, the researcher distributed groups after obtaining results of pre-tests of skills being researched in football. In order for the researcher to attribute differences to experimental factor to start from one starting point, the researcher resorted to equivalence between experimental control groups, used appropriate statistical method represented by t-test for independent samples. If value of significance level Sig. is greater than 0.05, it indicates that differences between two groups are not significant, meaning that two groups are equivalent. Table (2) shows equivalence of groups.

Table 2. Equivalence of sample for groups is demonstrated in variables

Variables	Measurement unit	Experimental		Control		(t) value	Sig. level	Sig. type
		Mean	St.d	Mean	St.d			
Passing test	Degree	2.30	0.750	2.37	0.809	0.331	0.742	Insig.
Dribbling test	Sec.	17.70	0.915	17.43	0.679	1.282	0.205	Insig.
Throwing test	Degree	1.20	0.407	1.23	0.430	0.308	0.759	Insig.

Applying educational program using Marzano model

The researcher began educational program designed according to steps of Marzano's model, program will be implemented on Tuesday. Approved 8/10/2024 ended on Tuesday approved 5/11/2024 educational program lasted for 4

weeks sequence included 9 educational units, with two educational units per week, to be implemented on day 1. On Sunday Tuesday, (3) educational units were allocated for passing skill, (3) educational units for rolling skill, (3) educational units for extinguishing skill. experimental research group had its own program according to steps of Marzano's model, while control group applied same number of units their time in method followed by teacher.

Post-tests

After last learning unit was completed, post-tests were administered, for skills being researched, it was conducted on Sunday, November 10, 2024, at football field in Faculty of Physical Education Sports Sciences at Maysan University, in presence of support staff, conditions under which pre-tests were conducted were taken into account in order to obtain most accurate best results.

Statistical methods

Statistical research results were processed using SPSS social statistical package to calculate each of values mean, standard deviation, simple correlation coefficient (Pearson), independent samples t-test, related samples t-test.

Results

Presentation of pre- post-test results for groups

After extracting data from specific data for each of tests under study, including pre-test post-test for two research groups experimental control data were processed by researcher, were statistically analyzed as shown in Table (3).

Table 3. T- Test Of Groups In Pre- Post-Tests Of Some Basic Football Skills

Variables	Groups	Measurement unit	Pre-test		Post-test		d.	SD_d	Calculated (t) value	Sig. level	Sig. type
			M.	St.d	M.	St.d					
Passing skill	Ex.	Degree	2.30	0.750	4.77	0.728	2.467	0.191	12.929	0.000	Sig.
	Co.	Degree	2.37	0.809	3.87	0.346	1,500	0.161	9.341	0.000	
Dribbling skill	Ex.	Sec.	17.70	0.915	14.03	0.629	3.667	0.341	10.747	0.000	Sig.
	Co.	Sec.	17.43	0.679	16.07	0.907	1.367	0.207	6.606	0.000	
Throwing skill	Ex.	Degree	1.20	0.407	2.83	0.379	1.633	0.102	16.089	0.000	Sig.
	Co.	Degree	1.23	0.430	2.07	0.254	0.833	0.091	9.139	0.000	

Presentation of post-test results for experimental control groups

To determine significance of differences between post-test results to learn performance the researcher statistically analyzed some of basic football skills of students in experimental control groups using t-test for independent samples, as shown in Table (4):

Table 4. t- test in post-tests of experimental control groups in learning to perform some basic football skills

Variables	**Measurement unit**	**Experimental group**		**Control group**		**Calculated (t) value**	**Sig. level**	**Sig. type**
		M.	**St.d**	**M.**	**St.d**			
Passing skill	Degree	4.77	0.728	3.87	0.346	6.117	0.000	Sig.
Dribbling skill	Sec.	14.03	0.629	16.07	0.907	5.973	0.000	Sig.
Throwing skill	Degree	2.83	0.379	2.07	0.254	9.206	0.000	Sig.

Discussion

Discussion of pre- post-test results

Post-tests were administered to both experimental control groups in performance learning some basic football skills for students: By presenting results of pre- post-tests of researched football skills for experimental control groups, as shown in Tables (3, 4), statistically significant differences were found in pre- post-tests, favoring post-tests, the researcher attributes this improvement to effectiveness of educational program he prepared using Marzano's model for experimental group, which he designed in a scientific applied manner that suits characteristics stage of learners, takes into account their physical cognitive capabilities, the researcher attributes differences that appeared in post-test results to sequential educational stages included in Marzano's model, where each stage plays an important role in transferring knowledge.

Program aims to enhance organize knowledge in learner, contributing to clearer more stable cognitive learning, educational program incorporates an appropriate density of repetitions in exercises, providing learners with ample opportunities to practice apply motor skills practically in all their technical details. This helps solidify correct performance reduce errors during learning, through this educational program designed using Marzano's model, ensured presentation of diverse learning activities for skill its various performance types, both dynamic static, while emphasizing correct body posture during performance, the researcher agrees with (Wajih Mahjoub) "exercise leads to skill development, achieving correct technique automaticity in performance, ability to recognize identify errors. It also facilitates transfer of learning to other similar skills, model Marzano made available for students opportunities cooperation in performing basic football skills communication around correct ideal performance which led to change in style thinking their feelings their behavior to trend Positive which help on development ability achievement, it helped model Marzano in nutrition information that needs it learners in completion skills targeted for performance shares in picture large in that knows all learner what request from in context position educational matter that led to more preparation for optimal performance turnout attic from before students, this is what students in experimental group excelled at compared to control group.

By presenting results of pre- post-tests for some basic football skills for students, as shown in Table (3,4), it became clear that there were statistically significant differences between pre- post-tests in favor of post-tests for control group, the researcher attributes this improvement to fact that learners in control group were subjected to educational units according to program prepared by subject teacher, which included planned educational objectives as well as skill exercises that contributed to providing learners with necessary information knowledge, as well as employing it in practical aspect within educational unit. These educational units, which are based on method followed by subject teacher, represented by verbal explanation presentation of kinetic model, contributed to improving level of learning among learners, which was reflected positively on skill aspect, as it helped to form an initial cognitive image of motor skills, improve ability to represent information related to them, which led to a rise in level of performance in some basic football skills, but they came after students of experimental group in terms of performance results.

Conclusions

Study results demonstrated effectiveness of educational program using Marzano model dimensions of learning to learn some basic football skills among students in experimental group outperformed students in control group, educational exercises included in educational program, based on organized scientific principles, contributed to enhancing learning of some basic football skills among students in experimental group through logical progression. Educational program contributions stomach using Marzano's model to improve learning of some basic football skills, through organizing content, which enhanced correct performance among learners in experimental group.

Recommendations

Relying on Marzano's model in learning basic football skills, given its effectiveness in improving skill performance learning level of students in experimental group, educational programs include activities skill-based exercises that promote learning of required skills, thus contributing to enhancing cognitive aspect of learners according to steps of Marzano's model. To conduct similar studies using Marzano model on other skills in games activities at other educational levels.

References

Akbar, A., Karim, Z. A., Syafitri, F. U., & Cahyani, F. I. (2025). Sports Psychology Perspectives on Cognitive Aspects in Shaping the Pathways of Young Football Players in Indonesia and Malaysia. *Retos*, *66*, 1194–1205. https://doi.org/10.47197/retos.v66.111634

Chang, K.-E., Zhang, J., Huang, Y.-S., Liu, T.-C., & Sung, Y.-T. (2020). Applying augmented reality in physical education on motor skills learning. *Interactive Learning Environments*, *28*(6), 685–697. https://doi.org/10.1080/10494820.2019.1636073

Fizi, R. M., Winarni, S., Guntur, & Hartanto, A. (2023). A game model in physical education to improve motor skills, cooperation, and discipline of primary school learners. *Pedagogy of Physical Culture and Sports*, *27*(6), 448–455. https://doi.org/10.15561/26649837.2023.0602

Giulianotti, by R., Bonney, N., & London, M. H. (1996). Book Reviews FOOTBALL, VIOLENCE AND SOCIAL IDENTITY, edited. In *AGGRESSIVE BEHAVIOR* (Vol. 22, pp. 67–70).

González-Pérez, L. I., & Ramírez-Montoya, M. S. (2022). Components of Education 4.0 in 21st Century Skills Frameworks: Systematic Review. *Sustainability*, *14*(3), 1493. https://doi.org/10.3390/su14031493

Kuswoyo, D. D. (2017). Hubungan Antara Kekuatan Otot Tungkai dengan Ketepatan Shooting ke Arah Gawang pada Peserta Ekstrakurikuler SMP Patra Mandiri 2 Palembang. *Jurnal Pendidikan Olahraga*, *7*(2), 37–40.

Kuswoyo, D. D. (2020). *Buku Ajar Sepak Bola*. Penerbit NEM.

Kuswoyo, D. D., & Betaubun, P. (2019). Relationship between speed with dribbling skills on the students of physical education department in playing football at Universitas Musamus. *International Journal of Advanced Research in Engineering and Technology*, *10*(6), Article 6. https://doi.org/10.34218/IJARET.10.6.2019.006

Kuswoyo, D. D., Wasa, C., & Dongoran, M. F. (2020). Back-up training effects to the students' ability in heading the ball. *Edu Sportivo Indonesian Journal of Physical Education*, *1*(1), 25–32. https://doi.org/10.25299/es:ijope.2020.vol1(1).5190%0AHow

Marcelino, R. (2025). Beyond winning in physical education: The role of continuing professional development in fostering a learning-focused climate. *British Educational Research Journal*, *51*(5), 2474–2490. https://doi.org/10.1002/berj.4183

Raya-Castellano, E. P., & Uriondo., L. F. (2015). A review of the multidisciplinary approach to develop elite players at professional football academies: Applying science to a professional context. *International Journal of Performance Analysis in Sport*, *15*(1), 1–19. https://doi.org/10.1080/24748668.2015.11868773

Richey, R. C., & Klein, J. D. (2014). Design and Development Research. In J. M. Spector, M. D. Merrill, J. Elen, & M. J. Bishop (Eds.), *Handbook of Research on Educational Communications and Technology* (pp. 141–150). Springer. https://doi.org/10.1007/978-1-4614-3185-5_12

Sullivan, M. O., Woods, C. T., Vaughan, J., & Davids, K. (2021). Towards a contemporary player learning in development framework for sports practitioners. *International Journal of Sports Science & Coaching*, *16*(5), 1214–1222. https://doi.org/10.1177/17479541211002335

Weber-Main, A. M., Shanedling, J., Kaizer, A. M., Connett, J., Lamere, M., & El-Fakahany, E. E. (2019). A randomized controlled pilot study of the University of Minnesota mentoring excellence training academy: A hybrid learning approach to research mentor training. *Journal of Clinical and Translational Science*, *3*(4), 152–164. https://doi.org/10.1017/cts.2019.368

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