ISSN: 2088-0324
e-ISSN: 2685-0125

Effect of Micro-Teaching Accompanied by Interactive Video on Students' Learning of Some Basic Futsal Skills

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Abstract

This study investigates the effect of micro-teaching accompanied by interactive video on students' acquisition of basic futsal skills. The background of this research lies in the need to improve teaching effectiveness in physical education, particularly in skill-based sports like futsal. Traditional teaching approaches often lack individual feedback and technological support, which are crucial for enhancing skill learning. Objective. the study aims to design an educational program based on the micro-teaching method supported by interactive video to enhance students' mastery of selected futsal skills**.** The research employed an experimental design suitable for assessing the impact of an instructional intervention. The participants consisted of 30 third-year students from the College of Physical Education and Sports Sciences at the University of Basra. The intervention included structured micro-teaching sessions integrated with interactive video content targeting three core futsal skills: passing, scoring, and dribbling. Standardized tests were conducted before and after the intervention to measure student performance. The results demonstrated significant improvement in all three skills among the participants following the program. These findings indicate that the integration of micro-teaching and interactive video is an effective instructional approach for teaching technical skills in futsal. Conclusion, the study confirms the value of micro-teaching paired with interactive video in promoting skill acquisition in physical education. As a contribution to the field, it recommends incorporating this blended teaching method in sports training and education curricula to optimize student engagement, feedback, and performance outcomes.

Keywords: Microteaching; Interactive Video; Basic Skills; Futsal

Received: 27 Jul 2025; **Revised**: 4 Agu 2025; **Accepted**: 7 Agu 2025; **Available Online**: 11 Agu 2025

1. INTRODUCTION

Scientific research has increasingly focused on various aspects of human life, with particular attention to sports due to its early developmental significance. As sports education begins at a young age, it is imperative for professionals in this field to adopt innovative teaching methods and modern technologies that meet evolving educational demands (Clarke & Norman, 2025). For the learning process to be effective, students must be guided early to explore and develop their latent motor skills before they diminish over time (Vasileva & Chumakov, 2024). This developmental process requires continuous exposure to diverse information that challenges and refines their capabilities (Salimi et al., 2023).

Effective skill-based learning in physical education hinges on creative instructional strategies. Today's learners demand more dynamic and engaging teaching methods that foster creativity and skill enhancement (Banwan Shareef, 2020). This can only be achieved through the presence of educators capable of designing curricula that stimulate interest, motivate exploration, and encourage the expression of creative potential during learning activities (Yu, 2021). Given the rapid advancement of research and educational technology, it is essential for physical education to integrate contemporary innovations, including those offered by information and communication technology (Qutaiba Younus, 2021).

One such innovation is micro-teaching using interactive video, a modern instructional strategy that has shown promise in enhancing learning across disciplines, including physical education (Wang et al., 2024). Microlearning offers unique benefits such as immediate feedback, self-reflection, and targeted skill correction, made possible through video analysis that captures student performance for detailed evaluation (Yang et al., 2022). This method allows students to identify strengths and weaknesses, facilitating scientific and structured learning. Therefore, this research explores the impact of micro-teaching accompanied by interactive video on learning key futsal skills such as passing, shooting, and dribbling (Mendes et al., 2022).

The novelty of this study lies in the integration of interactive video within micro-teaching to develop

ISSN: 2088-0324
e-ISSN: 2685-0125

technical performance in futsal—an area often neglected due to reliance on traditional instruction. Despite the increasing demands of modern sports education, outdated teaching methods continue to dominate, leading to deficiencies in the acquisition of essential futsal skills (Daryanto & Effendi, 2023). Through interviews and field observations, it has been observed that learners are rarely provided with opportunities for real-time feedback and self-assessment.

This study aims to (1) develop an educational program based on the micro-teaching method using interactive video, and (2) evaluate its effectiveness in teaching basic futsal skills to university students. Thus, this study was conceived to shift the teaching of futsal from traditional, instructor-centered methods to a learner centered model utilizing micro-teaching with interactive video. The goal is to enhance student engagement and performance through participatory feedback mechanisms involving both instructors and peers.

The hypothesis of the study posits that there will be statistically significant improvements in post-test results compared to pre-test results among students exposed to the intervention. Furthermore, it is hypothesized that the experimental group will outperform the control group in post-test assessments due to the use of interactive video micro-teaching.

2. RESEARCH METHODS

The research community consisted of third-year students in the College of Physical Education and Sports Sciences at the University of Basra for the academic year (2023-2024). The sample was randomly selected by lottery from the theoretical sciences branch, where the researcher chose the experimental group, which used the micro-teaching method, and the control group, the theoretical sciences branch, which used the method followed by the original teacher, numbering (30) students, after the absent students were excluded, numbering (6) students. Thus, the sample constitutes 78.78% of the original community.

Choosing the appropriate method to research the scientific problem is one of the important steps that the research entails. Therefore, the researcher uses the experimental method because it is appropriate for the nature of the research and its objectives, "which is one of the most efficient means of arriving at reliable knowledge." (Oliinyk et al., 2021). In light of the above, a randomly selected group with a pre-test and post-test was designed, which is called a tightly controlled experimental design (Karasievych et al., 2021).

Table 1. Shows Equivalent Choice with Pre-Test and Post-Test

Groups	Steps				
	First	Second	Third	Fourth	Fifth
Experimental group	Pre-test	Microteaching method	Post-test	The difference between the two tests	The difference between the two groups in the post-test the difference between the two groups in the post-test
Control group	Pre-test	The method used by the teacher	Post-test	The difference between the two tests	

"The research sample should represent the original society in a true and honest manner, and when the researcher collects his data and information, this can only be done from the entire society or from a sample that represents this society"(Storm et al., 2021).

The researcher prepared a questionnaire. A questionnaire containing the most important basic skills in football was presented to a group of experts and specialists, numbering (14) in each of the fields of football training, teaching methods, tests and measurement to determine the most important basic skills appropriate for the research. Using statistical analysis of the experts' questionnaire, the agreed-upon basic skills were determined through the law of relative importance.

Table 2. Shows Relative Importance of Basic Skills in Futsal According to Opinion of Experts and Specialists

No.	Basic skills	No. of agreed	Percentage
1	Passing	14	100%
2	Dribbling	14	100%

ISSN: 2088-0324
e-ISSN: 2685-0125

No.	Basic skills	No. of agreed	Percentage
3	Scoring	14	100%
4	Dribbling	12	94.28%
5	Ball control	6	38.57%
6	Running with the ball	6	37.14%
7	Heading the ball	4	24.28%
8	Side throw	5	21.42%
9	Collaboration	4	20%
10	Slipping	3	12.85%
11	Support and budgeting	4	18.57%

After identifying the basic football skills that will be included in the research, namely (Passing, dribbling and scoring), the researcher prepared a questionnaire. A questionnaire for skills tests was conducted through reviewing scientific sources and previous studies that dealt with the most important tests for basic skills in football, to be presented to experts who specialize in this field to determine the validity of the tests and the invalidity of the tests proposed by the researcher. After the process of collecting the forms, transcribing the data and extracting the percentage for each test, the tests that had a percentage of (75% or more) and were agreed upon by the experts were accepted, as Suryadi and others indicate that "the researcher must obtain a percentage of acceptance agreement of (75%) or more from the opinions of the arbitrators." (Suryadi et al., 2023).

Table 3. Shows Percentage of Skill Tests According to Experts' Opinion

No.	Skills	Tests	No. of agreed upon	Percentage
1	Passing	Pass on the sideline	14	100%
		Passing towards concentric circles of different sizes	8	57.14%
		Passing towards 3 signs of different dimensions	2	14.28%
2	Scoring	Shooting towards a regular goal divided into (5 sections)	5	35.71%
		Score towards a target divided into numbered squares on either side	12	85.71%
		Score at concentric circles drawn on a wall	2	14.28%
3	Dribbling	Dribbling test around a 4m square back and forth	14	100%

1- Scoring accuracy test, which aimed to measure the accuracy of shooting toward a target (Qutaiba, 2021).

2- Passing accuracy test, designed to assess the precision of passing within a set time frame (Mohammed Jihad, 2024).

3- Dribbling agility test, conducted to measure speed and control while maneuvering around a fixed path (Shareef, 2025).

A piolt experiment was conducted by the researcher on Sunday, March 3, 2024, at 10:00 AM, using a sample of six players from the open football division who were not part of the main research sample. The test was held on the external futsal field. This preliminary trial aimed to identify the time required to implement the skill tests, anticipate potential challenges that might arise during the actual testing process, and evaluate the readiness and capability of the assistant team in operating the necessary equipment and managing the tools effectively.

Pre-tests were administered on Monday, March 4, 2024, at 10:00 AM, involving the main research sample. The participants were divided into two groups: a control group, which followed the conventional teaching method and standard curriculum, and an experimental group, which received instruction through the micro-teaching approach using a program specifically developed by the researcher. Each group consisted of 12 students selected from the original sample, and both underwent baseline testing in the three basic futsal skills: passing, dribbling, and scoring.

The implementation of the educational program began on Tuesday, March 5, 2024, and continued through April 24, 2024, spanning a period of six weeks with one educational session per week. The researcher designed the program to include exercises aligned with the study's objectives and scientific requirements. The

ISSN: 2088-0324
e-ISSN: 2685-0125

program was reviewed and validated by a panel of experts in teaching methodology and football, who confirmed the program's suitability and relevance to futsal skill development (Vasileva & Chumakov, 2024). Each educational unit lasted 90 minutes, structured according to the micro-teaching model. The main instructional section, which emphasized skill acquisition and performance, lasted 60 minutes, while the remaining 30 minutes were allocated to the preparatory and final phases. While both groups participated in similar general learning activities, the key distinction was in the instructional method used during the main section: the experimental group engaged with the micro-teaching approach, while the control group followed the conventional method.

Post-tests were administered on Thursday, April 25, 2024, to both the experimental and control groups. These assessments evaluated the participants' performance in the same basic futsal skills—passing, dribbling, and scoring—under identical spatial and temporal conditions. The same tools, equipment, and assistant personnel were used to ensure consistency and uphold the scientific rigor of the testing environment.

3. RESULTS AND DISCUSSION

Results

The researcher presented the research results in the form of tables. The researcher displays the tables and selects them according to the requirements of the results. This is to know the extent to which the research objectives and hypotheses match the results and to know the significance of the differences between the pre- and post-tests of the control and experimental groups through analysis and discussion, as shown in Table (4).

Table 4. Pre-Test and Post-Test of Research Variables Between Control and Experimental Groups

Group	Variables	Pre-test		Post-test		Value of (T)		Sig. type
		M.	St.d	M.	St.d	The calculated	Sig. score	
Control group	Passing	2.91	1,128	4	1.44	2,460	0.000	Sig.
	Scoring	3.8	1.19	5.66	1.61	3.22		Sig.
	Dribbling	3.14	0.970	6.32	0.611	14.66		Sig.
Experimental group	Passing	3	1,205	5.8	1.11	5.46	0.000	Sig.
	Scoring	4	0.852	7.16	1,311	7.2		Sig.
	Dribbling	3.28	0.854	7.57	0.790	19.48		Sig.

At a significance level of (0.05) and with a degree of freedom of (11).

Results of pre- and post -tests of the studied variables for the control and experimental groups, their analysis and discussion

From Table 4. which shows the results of the pre-test and post-test passing for the control and experimental groups, we note that there are differences between the pre-test and post -test in favor of the post-test for the two groups for the research variables of the skill of dribbling, passing, and scoring. The researcher attributes the reason for this to the effect of the program followed for the control group and the experimental group that worked with this micro-teaching method. This is what Abdul Razzaq Kazim and others 2012 confirm: "The curriculum has developed significantly until it took a new form in recent years, and the credit for this goes to the comprehensive studies conducted in the field of education and psychology, and to the social transformations that society has experienced since the beginning of this century, and to the scientific movement that changed many values and concepts and introduced modern technology into all aspects of life" (Antal et al., 2023).

And also the role of training in its impact on the development and improvement of basic skills in football. Borges have indicated that "the goal of training is to bring the player to the highest levels of performance, through good selection of exercises that suit the players' abilities, as well as positive organization of training methods and styles, each according to its contents, to reach the ideal performance" (Borges et al., 2022).

Results of post -tests of the studied variables for the control and experimental groups, their analysis and discussion

Table 5. Shows Means, Standard Deviations, Calculated (T) Value, Statistical Significance, and Amount

ISSN: 2088-0324
e-ISSN: 2685-0125

of Development Rates for the Post-Test of Research Variables Between Control and Experimental Groups

Tests	Measurement unit	Control group		Experimental group		(T) value		Sig. type
		M.	St.d	M.	St.d	Calculated	Sig. score	Sig.
Passing	Degree	4	1.44	5.8	1.11	3.64	0.000	Sig.
Scoring	Degree	5.66	1.61	7.16	1,311	2.60	0.000	Sig.
Dribbling	Degree	6.32	0.611	7.57	0.790	6.61	0.000	Sig.

At a significance level of (0.05) and with a degree of freedom of (22)

Through Table 5. which shows the results of the post -tests of the research variables passing, scoring and dribbling with a soccer ball for the control and experimental groups. We note presence in the post -test in favor of the experimental group. Through the results presented for the skill variables of the research and the comparison between the results of the post -tests for the control and experimental groups, we note the presence the occurrence of development in favor of the experimental group.

Discussion

The researcher attributes the observed improvement in performance to the effectiveness of the educational program developed according to scientific principles. The exercises were carefully selected and structured based on pedagogical foundations to enhance basic futsal skills. The sequencing, progression, and integration of the drills were intentionally designed to promote skill acquisition, which had a clear and positive impact on the participants' technical development.

This aligns with the findings of Khazaal Jabbar and Shanta Faraj (2025), who emphasized that the correct order and arrangement of motor tasks are essential for skill development. Similarly, Majed (2022) noted that exercises play a vital role in preparing learners physically, technically, and mentally in a manner appropriate to their level and context. He also highlighted the importance of skill integration, suggesting that connecting multiple movements fosters tactical awareness and group cohesion, especially when these skills are repeatedly practiced under varying conditions.

Brun et al. (2021) supported this by stating that skill automation and mastery are achieved through repetition and exposure to different conditions, including the presence of opponents or changing environments. The researcher also found that students in the experimental group began to take greater responsibility for their learning, making independent decisions during practical sessions without always relying on the teacher.

This observation supports Melnyk et al. (2021), who stated that learner-centered approaches transfer the control of decision-making from the teacher to the student, fostering autonomy and initiative. Notably, the students demonstrated new behaviors and creative solutions not previously exhibited, which the researcher attributes to the micro-teaching method's emphasis on feedback, peer discussion, and active student involvement. The use of interactive video allowed students to visually analyze their performances, correct errors, and engage in self-evaluation. This reflective process led to real-time improvements and a more collaborative learning environment.

As highlighted by Hribernik et al. (2022), involving learners in analysis and feedback discussions enhances engagement and performance. Yang et al. (2022) also stressed the importance of timely, motivating, and need-based feedback as a catalyst for rapid learning.

Moreover, Gueta & Janer, 2021) emphasized that successful educational methods must be age-appropriate, engaging, goal-oriented, and well-structured. These conditions were carefully incorporated into the program design, including elements of movement, clarity, motivation, and scientific accuracy (Gueta & Janer, 2021).

In line with this, Haarnoja et al. (2024) argued that modern teaching strategies must enable learners to correct misconceptions and connect new knowledge to their prior understanding—an approach fully embraced

ISSN: 2088-0324
e-ISSN: 2685-0125

in this study. (Haarnoja et al., 2024) Ihsan et al. (2023) further reinforced this by describing self-regulation through self-monitoring, self-instruction, and self-reinforcement as critical to learning, all of which were embedded in the micro-teaching model applied (Ihsan et al., 2023).

However, this study is not without limitations. The sample size was relatively small and limited to one institution, which may affect the generalizability of the results. Additionally, the study spanned only six weeks, which may not be sufficient to observe long-term effects of the intervention. Other factors such as individual motivation, prior skill levels, and external influences (e.g., physical activity outside class) were not controlled in depth. Future research is encouraged to apply the program across different contexts and longer durations to validate and expand upon the findings.

4. CONCLUSION

In light of the results reached by the researcher, concluded that the use of the interactive video micro-teaching method has achieved improvement and development in the basic skills (Passing, scoring and dribbling) in football. And that the use of educational program prepared by the researcher had a positive impact on teaching the basic skills of Passing, scoring and dribbling with a soccer. There were significant differences in the pre- and post -tests of the research variables and for the control and experimental groups in favor of the post -test . There were significant differences in the post -tests of the research variables and for the control and experimental groups in favor of the group that used microteaching.

The researcher recommends the use of interactive video micro-teaching as one of the teaching and training methods by specialists in the sports field. The use of modern methods (modern technology) in the process of conveying information to develop the theoretical and practical aspects of students. Conducting similar studies and research in this field for other sports. Using educational tools and means have a positive role in developing and enhancing basic skills in football.

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