



International Journal of Sports, Exercise and Physical Education

ISSN Print: 2664-7281
ISSN Online: 2664-729X
Impact Factor: RJIF 8.15
IJSEPE 2025; 7(2): 827-833
<https://www.sportsjournals.net>
Received: 12-11-2025
Accepted: 15-12-2025

Mohammed Mousa Mohammed
College of Physical Education
and Sport Sciences, Al-Qasim
Green University, Iraq

Raed Mohsin Obaid
College of Physical Education
and Sport Sciences, Al-Qasim
Green University, Iraq

Impact of flipped classroom strategy on learning passing and stopping skills in futsal

Mohammed Mousa Mohammed and Raed Mohsin Obaid

DOI: <https://www.doi.org/10.33545/26647281.2025.v7.i2k.316>

Abstract

The significance of the study lies in making the learning process diverse with the help of educational alternatives that empower students and arouse their interest, enthusiasm and excitement. An illustration of this would be the application split classroom form for coaching football. Information technology is rapidly changing the world, and it influencing every aspect of life. This becomes evident in the enormous and rapid developments in scientific understanding, reflected precisely in the swift succession of discoveries within a global system where progress is made quickly so as to cut down on time and effort for what needs to be achieved.

The next thing you knew, the methods of teaching and techniques used had to be rethought so that the learning environment will make inferences from meeting the needs and wants of those students considering these technology changes. A group of first-year students in a physical education class was the sample. They were divided into two groups comprising 10 student/group: experiment and control. The principal experiment was conducted from December 24, 2023 to March 21, 2024. There were two training sessions per week over 8 weeks, for a total of 16 sessions. On March 21, 2024 the post-tests for the experimental and control study groups were carried out. The time and location aspects were considered, and the same procedures followed as in the pre-test. The results of the study were also utilized, and data was statistically analysed and reported in a scientific manner. The researcher drew some conclusions and the most significant one was the split class method helped students acquire passing and tamping skills necessary to play futsal. The videos, prepared in normal and slow presentation speed with audio explanations and all relevant symbols/quasi-signs on the face, obviously pleased and motivated the students. You could see this in how much they learned.

Keywords: Flipped classroom strategy, Futsal skills learning, Passing and stopping skills, Physical education students, Instructional videos, Technology-enhanced learning, Sports pedagogy

Introduction

Good physical education classes are about learning how to learn, and more modern approaches have a role in this. These approaches are now quite diverse in order to cater for the needs, taste and level of students. This ensures an interesting and fun environment to learn in, which is great for learning. Physical education is such an integral part of learning that teachers and instructors need continue to find innovative ways to ensure their teaching aligns with each students' capabilities and experience as well as enhances the activity they are engaging in.

New types of learning are a valuable part of good physical education teaching. "Teachers need to employ modern tactics and methods in order to address the problems of our modern day world so that the learning can play a part in making society better. Contemporary approaches help students interact with one another and with teachers, who have the expertise to help them understand the topic and learn from each other. This approach would make learning enjoyable. Soccer is a team sport with all kinds of skills and fun, different moves. It is "better for the total education of a child." Simple skills that most babies learn take a long time and practice to develop. But with modern teaching methods that encourage a culture of interaction, such as the flipped classroom model, students can progress through stages of learning these skills more rapidly. This is timesaving, personalized for each student, and makes the lesson more interesting, fun and motivating.

Corresponding Author:
Mohammed Mousa Mohammed
College of Physical Education
and Sport Sciences, Al-Qasim
Green University, Iraq

Ahmed Hassan Nasser in 2019 study that FL approach with a programmed=sequential and random exercises plan is more effective on teaching and improving the skill of passing and managing at football. The study also found that teachers struggle to use new methods that allow students to play a larger role in their own learning. Training movies teaching thinking skills and knowledge are also an enormous help in learning the skills being studied.

Research Problem

Problem statement The performance for these skills as a whole has been on the decline, and a solution is needed to help students learn this skill. This vulnerability is rooted in an antiquated teaching method that doesn't resonate with all students. So, the researcher wanted to implement new means in which to teach the skills in a way that is appropriate for the students and aligns with student learning goals based on how technology has evolved (and continues to evolve) within education.

Research Objective

- Preparing educational videos that implement the flipped classroom strategy for skill development.
- Identifying the impact of the flipped classroom strategy on skill performance.

Research Hypothesis

- There is a positive impact of using the flipped classroom strategy on the performance of passing and stopping skills.
- There are statistically significant differences between the pre- and post-test results for the passing and stopping skills in futsal for the experimental and control groups.
- There are statistically significant differences in the post-test results between the experimental and control groups in the tests related to this research.

Table 1: During the pre-tests, it was shown that both research groups were equal in the study factors.

Variables	Unit of measurement	Experimental group		Control group		T value calculated	Level Sig	Type Sig
		Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation			
Passing	Degree	3.632	0.407	3.733	0.619	0.431	0.672	Non sig
Stopping	Degree	3.617	0.592	3.483	0.455	0.568	0.577	Non sig

Significance level $\leq (0.05)$ and degrees of freedom (18).

A good indicator of the success of the testing process is the precise formulation of the test conditions and descriptions, ensuring that sufficient copies are printed for both the examiners and test-takers (Thamer Mohsen *et al.* 2005)^[7].

Therefore, the researcher developed a description of the tests in terms of the tools and equipment required to administer the test, the nature of the test form design, and how the scores are calculated, as follows:

Test 1:

- **Test Name:** Four Second Bench Pass
- Objective of the test is to pass
- **Equipment Required:** A flat surface, measuring tape, clock, whistle, 5 indoor soccer balls (size 4 or size 5), 12 marks and some tape that will stick to the floor
- **Procedure:** The participant stands behind the bench. The ball is placed on a mark that indicates its previous path. Three stations are in front of this sign. There are four signs at each station — two large ones that are 60

Method and Tools

Materials and Method The researcher employed experiment design with two groups including an experimental group (EG) as well as a control group (CG) to achieve the objectives of the study. The study group (n=56) consisted of eligible first-year physical education students, who were selected through a purposive sampling. The reason was that all the supplies for the big experiment were on hand. Futsal teacher had the appropriate knowledge and skills because he or she was a staff in charge of futsal. The participants were first grade students, learning by flipped classroom method. These kids possessed the skills they needed because such skills had been taught at school. They could get on the internet, social media, computers and cell phones. This was the Cohort (Section B). The C section worked as the control group and they did the teacher's exercise. 10 standard futsal balls and 2 whistles were applied.

On February 8, 2024 the experimenter carried out a pilot study to identify potential problems and requirements of the main experiment (e.g., time, support from team members, equipment used, etc.). The pilot study was carried out using ten students from Section A in the college plaza. As one of the major experiments applying the split classroom method, the following procedure was executed in respect to the group which was tested starting Sunday February 14th 2024: The main experiment lasted eight weeks and involved sixteen teaching units. In accordance with college policy, they were teaching two units a week, Monday/Tuesday. The adhoc teaching methodology required to make use of educational movies in the central component of each lesson. A sports ground was used for the pre-tests on all members of the experimental and control groups on Tuesday, 19th February, 2024. The post-test was fully factored and conditioned. Tests included the ball-cooling test, and a technical passing performance test. Table (1) The researcher confirmed that both groups were similar at the results of pre-test.

cm tall, and two small ones measuring 40 cm high. The two small and the two big marks are 0.5 m apart, respectively, while between the two large marks there is a 1.5 m gap. The first, second and third stops all lie 6 m from this junction point as depicted in the picture.

- **Performance Procedure:** The participant is instructed to stop at a location designated by an auditory cue (i.e. 1, 2 or 3). The man makes the pass to the correct location in four seconds. It is random, as there is no strict order to follow.

Test Conditions

- The ball must be passed within four seconds. The attempt is considered a failure if it exceeds four seconds.
- If the ball touches the marker and enters the station, the score is calculated based on its entry.
- The test-taker receives no marks if the ball goes higher than the markers.

- The test-taker is given (5) attempts.
- If the ball goes between the two large markers, the test-taker receives (1) marks. If the ball goes between the large and small markers, the test-taker receives (2) marks. No marks are awarded if the ball does not go between the markers.

Recording: The test-taker receives the number of marks obtained in (5) attempts. The final mark for the test is (10) marks (Majid Khadanish Asad. 2011)^[4].

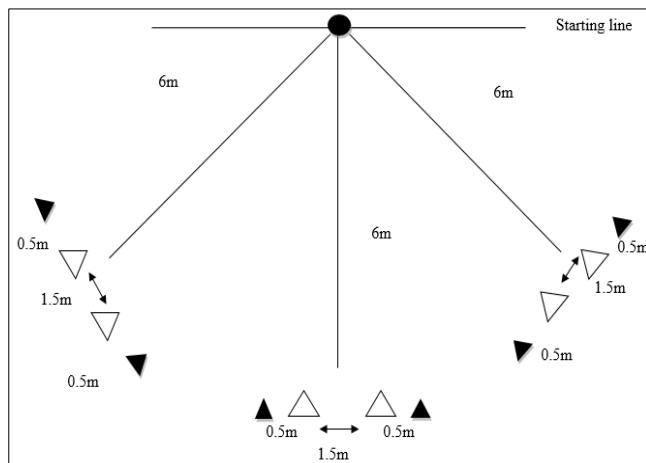


Fig 1: Show the passing skill

Test Two: Stopping (passing) the Ball Movement Test (Baath Abdul Muttalib. 2011)^[3].

Test Goal: To evaluate player accuracy, by stopping the ball passed to him by the couch testo.- 5 futsal balls and area of testing was 2mx2m area lounging on.- Procedure: The tester stays behind a line in front of testing area and he will do lots passing, to which testee will respond. The coach is on the other side of the testing area, 6 meters from the testing line, holding a ball. When the teacher says go, they toss a high ball at the subject and he or she runs from behind the starting line into the testing area trying to prevent the thrown ball from hitting any part of their body except for their arms. Then the person turns back to the opening and begins again. This is repeated five times and if several arenas are set up players move to the next one and continue. Performance condition: Ball must be stopped inside test area, ball should stop behind the line. • If the ball misses an outstretched player or if the teacher throws it and misses from below, they throw again.

- The ball is tossed upward with your hand.
- The try is no good in these cases: —The individual doesn't stop the ball.
- If the player crosses any line in the designated area by more than one foot.
- If the player stops the ball illegally.

Recording: (Two points are awarded for each successful ball pass. Total of (10) points are awarded for all attempts.)

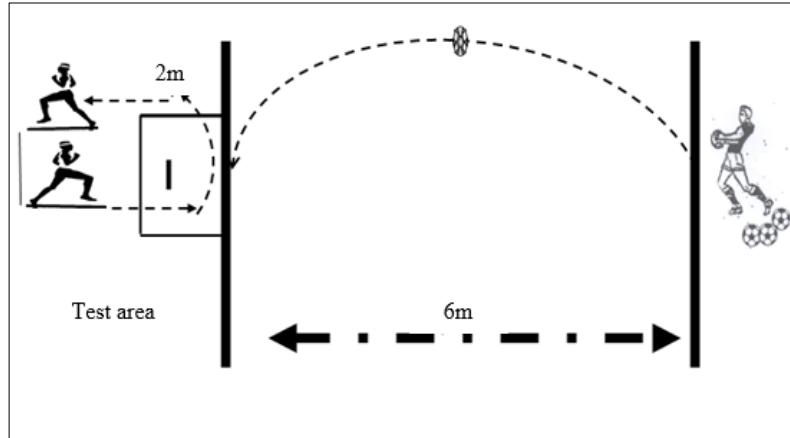


Fig 2: Show the ball stopping (passing) test

Preparing Educational Videos According to the Flipped Classroom Strategy

Working in the tradition of open class rooms, expert created learning movies. For the split classroom intervention, learning units were delivered throughout the main trial period. The learning units with the flipped classroom format were designed as follows (Appendix 1-2):

First: (Not in the classroom) Learners need to employ computer technology and social media as they learn. An effective way to communicate with each other was selected (minutes of Facebook chats or Telegram) with the students' help. There was a 3-5 minute video talk scheduled for each lesson. This clip demonstrated a skill at both normal and slow speeds, described it, and utilized the effects as well as images. The movie was sent a few days in advance of the lesson so that students had enough time to watch it and know what they were discussing. Second: (in the) lesson The section convert to practice tea teaching with two parts:

presentation and application. The students discuss the movie, ask questions, practice some of the skills (which are often hands-on) provide feedback and rate their performance. In the main part, the work of the researcher was

1- Main Section, lasting (30) minutes

The Educational Component: This is for ten minutes and consists of an elaboration of the material from the video and questions about the video lecture. These questions force our interactions while challenging students to think critically and ascertaining that they have watched the lecture and know how to answer the questions. • The Practical Part: a 20 minutes test in which pupils apply the two skills. The workshop is led by the teacher, who watches and guides as they work, stepping in to correct mistakes or assist students struggling to master a concept.

Post-tests were administered for each group on Tuesday, April 21, 2024. The time, location, instruments and the application technique for these were identical with those of pre-tests. Thereafter, the same researcher employed right statistic analysis (e.g. Statistical Package for the Social

Sciences (SPSS) to determine on both control and experimental groups through examining pre-test and post-test results.

Results and Discussion

Table 2: Shows the arithmetic means, standard deviations, calculated (t) values, and statistical significance between the pre-test and post-test of the skill tests for the experimental research group.

Variables	Unit of measurement	Experimental group		Control group		T value calculated	Level Sig	Type Sig
		Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation			
Passing	Degree	3.632	0.407	7.235	0.832	15.282	0.000	Significantly in favor of the post-test
Stopping	Degree	3.617	0.592	8.066	0.481	21.334	0.000	Significantly in favor of the post-test

Significance level $\leq (0.05)$ and degrees of freedom (9).

Table 3: Shows the arithmetic means, standard deviations, calculated t-value, and statistical significance between the pre- and post-tests of the skill tests for the control group.

Variables	Unit of measurement	Experimental group		Control group		T value calculated	Level Sig	Type Sig
		Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation			
Passing	Degree	3.733	0.619	5.100	0.619	0.416	8.508	Sig
Stopping	Degree	3.483	0.455	5.283	0.315	9.965	0.000	Sig

Significance level $\leq (0.05)$ and degrees of freedom (9).

Table 4: Shows the arithmetic means, standard deviations, calculated t-value, and statistical significance between the experimental and control groups in the post-test of the skills under investigation.

Variables	Unit of measurement	Experimental group		Control group		T value calculated	Level Sig	Type Sig
		Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation			
Passing	Degree	7.235	0.832	5.100	0.461	0.416	7.098	Sig
Stopping	Degree	8.066	0.481	5.283	0.315	9.965	15.302	Sig

Significance level $\leq (0.05)$ and degrees of freedom (9).

The differences between the pre- and post-tests of the experimental group are as follows in Table 2. These differences favor the post-test. There are statistically significant differences between the post-tests of the experimental and control group where it is in favor of the EG (Table 4). This is a result of the split classroom, according to this expert, because it allows students to learn information, ideas, facts and events that qualify them to learn how to do things. The films that students received through Facebook also helped them to learn because they were able to watch them at home, as often as was necessary for them to understand. The videos break the technical aspects of the performance down, speaking to them clearly and plainly. This is also what who said that the procedure of split classroom provides students an opportunity to learn and enhance performance. Regardless of pace, flipped learning enables students to view school information on videos at their leisure and at their convenience. Will understanding a thing take longer, and getting feedback from teachers or fellow students, while having discussions as well asking questions on social media. Flipped classroom videos have been proven to enable better and customised learning process for students. This is because they input by any time and place; support the students' kinetic memory towards everything they should be able to do somewhere in their head (); Make an effort to have them deepen comprehension about dynamics conducting kinesthetically. (Munther Mahmoud Khalifa, 2019)^[6].

This lifestyle also requires people to use all of the latest tools and access to the internet. Using this technique,

students could review the skills or knowledge they learned during each unit with movies, audio files, cartoons, or other forms of media. Prior to the learning session, students could access these materials at home or other relevant location with their computer, smartphone, or tablet. When we do look at these technologies, and the way they can support learning, what you will see is that it allows your small learning units to get shorter and your time to discuss things the student doesn't know to increase. And we also witness how the student app facilitates communication between teacher and student. This allows me to teach everything the student has to learn, and then clarify questions as well as be part of solving them and give their opinion. To make a long story short, the use of all technologies to deliver knowledge efficiently, easily and benefiting from them in managing and controlling the educational process (Hassan Arshad Wissam, 2016)^[2].

Reviewing a skill (or an item of information) multiple times can make a big difference, but how often you need to do it depends on the learner. The flipped classroom is one of the techniques that has a big impact in schools and other centers where people learn. Plus, the students received no extra practice of the skill or game itself which made them eager, nervous and curious. This was made even better using a technique like the split classroom. In this approach, students review the skill and all its parts by employing an app that they have access to for an extended period. This provides them with more opportunities to learn, practice, question themselves, discover mistakes they might have made while practicing or performing the wrong moves and

actions and replay them in their minds and brains. The expert says that the changes were due to the flipped classroom trial group enjoying this method more than the control group. Methods can influence how rapidly people learn something and how satisfied they are with their learning. It sounds like the skill monitoring and home-based review of responses used by the trial group played a part in their results. In order to demonstrate the impact and value of the method in some educational situations, we have to know what is involved in it from concepts and factors that are associated with it concerning subject matter (Mohammed Hassan Alawi, 1987)^[5].

Conclusion and Recommendations

Conclusion

- The experimental group outperformed the control group in the post-test for passing and dribbling skills in futsal.
- The flipped classroom strategy helped increase students' self-confidence by allowing them to observe and understand the skill before performing it.
- The results achieved proved the validity of the educational units developed by the researcher, as evidenced by the clear improvement in performance.

Recommendations

- Emphasize the use of the flipped classroom strategy due to its importance in making learning enjoyable and motivating for any subject.

- Encourage teachers not to limit themselves to the methods used and to diversify their teaching approaches.
- Conduct similar studies for other sports and skills across all educational levels.

References

1. Ahmed Hassan Nasser. The impact of the flipped classroom strategy according to practice scheduling on cognitive achievement and learning. 2019;1-150.
2. Arshad Wissam Hassan. Teaching some football skills to first-year intermediate students [master's thesis]. Al-Qadisiyah: University of Al-Qadisiyah, Educational Technology and Audio-Visual Aids; 2016:1-180.
3. Baath Abdul Muttalib. Design and standardization of two test batteries (physical and skill) for selecting young five-a-side football players in Baghdad aged 14-16 years [master's thesis]. Baghdad: University of Baghdad, College of Physical Education; 2011:1-218.
4. Majid Khadanish Asad. Building a battery of physical and skill tests in futsal. 1st ed. Amman: Ghayda Publishing and Distribution House; 2011:1-145.
5. Mohammed Hassan Alawi. The psychology of training and competition. Cairo: Dar Al-Maaref; 1987:1-320.
6. Munther Mahmoud Khalifa. The impact of the flipped classroom strategy on learning motivation and performance of some skills in artistic gymnastics for students. Baghdad; 2019:1-160.
7. Thamer Mohsen, *et al.* Tests and analysis in football. Mosul: University of Mosul Press; 2005:1-250.

Appendix (1)

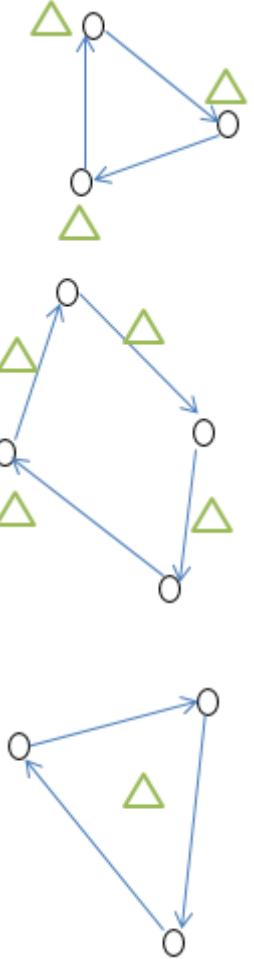
Learning Unit Model Based on the Flipped Classroom Strategy for the Skills of Passing and Stopping

- **Week:** 1
- **Day:** Monday
- **Unit:** 1
- **Unit Time:** 90 minutes
- **Learning Objectives:** To learn the skill of passing
- **Pedagogical Objectives:** To teach the student the spirit of cooperation

Tools and Equipment:

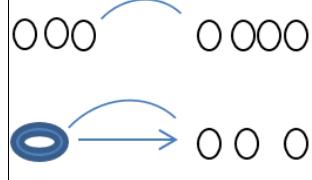
- Balls (10).
- Timer.
- Registration Form (1).

Section	Time (minute)	Details	Organization	Notes
Preparatory Section General Warm-up Specific Warm-up	20 10 10	General warm-up exercises for all muscles and joints of the body to improve the efficiency of the circulatory and respiratory systems. Specific warm-up for areas involved in skill-based activities without a ball.	xxxxxx xxxxxx ♀	Emphasize the importance of arriving on time and ensuring proper warm-up.
Main Section Educational Part	60 20	-Explanation of the video previously shared with students via social media. -Questions and answers where the instructor poses questions related to the skill. -Explanation of some rules. - Demonstration of some examples of rolling from the sole of the foot and common mistakes made by learners during performance.	x x x x x x ♀ x x x x x x	Emphasis on: -Body position -Player's gaze -Pivoting foot -Hitting foot -Teammate's position

Practical Aspect	40	<p>-(3 students) play against (3 students) where they pass the ball on the ground with the inside of the foot, using one touch of the ball and the movement is within an area of (15m x 20m) where the passing is done through it and for a distance of (6m) between one student and another, noting not to kick the ball directly, but rather a touch and passing, by kicking the ball from its middle with pressure from the other team, and the winning team is determined by the team that wins the most correct passes.</p> <p>-Four students play against four other students, passing the ball on the ground with the inside of their foot (toe pointing inwards) and kicking it from the center while moving correctly. Accuracy, firmness, and power are required in the pass, which must be made with a single touch. The game takes place within a space of 15m x 20m, and the pass itself is made from a distance of 5m-10m. The pass can be made with one foot or both feet, with pressure from the opposing team. The winning team is the one that completes the most successful passes.</p> <p>-A section of the indoor football field measuring (10 x 10) meters is used. Four students participate (3 against 1), meaning three male students against one female student. The three male students pass the ball to each other using the instep of their feet, while the other student attempts to intercept the pass by taking up a suitable position. If the ball goes out of bounds or is passed above head level, the defending student switches positions with the last student to touch the ball. The winner is determined by the student who takes the shortest time defending. The game can be modified by increasing the number of attackers and vice versa.</p> <p>-The Laws: The teacher introduces the basic rules of the game, which include (dimensions, field markings, substitution zones, goals, safety, and playing surface).</p> <p>-Fouls, penalties, and decisions.</p>		<p>Emphasis on:</p> <ul style="list-style-type: none"> -Body position -Player's gaze -Pivoting foot -Hitting foot -Teammate's position
Final Section	10 5 3 2	A short recreational game related to football. Educational guidelines. Dismissal.		

Week 3

- **Day:** Tuesday
- **Unit:** 2
- **Unit Time:** 90 minutes
- **Learning Objectives:** To learn fire extinguishing skills
- **Pedagogical Objectives:** To foster a spirit of cooperation
- **Tools and Equipment:** Balls (10) - Timer (1) - Registration Form

Section	Time (minute)	Details	Organization	Notes
Preparatory Section	20	General warm-up exercises for all muscles and joints of the body to improve the efficiency of the circulatory and respiratory systems.	xxxxxx	Emphasize the importance of arriving on time and ensuring proper warm-up.
General Warm-up	10		xxxxxx	
Specific Warm-up	10	Specific warm-up for joints involved in skill-based activities without a ball.	♀	
Main Section Educational Part	60	-At the beginning of the lecture, the video previously shared with the students via social media is shown. -A question and answer session follows, where the instructor poses questions related to the skill. -The instructor asks the students to draw a diagram (a rough sketch) and then depict the ball's position and the correct way to put it down, whether on the head, foot, or any other part of the body.	x x x x x x ♀ x x x x	Emphasis on: -Body position -Player's gaze -Ball height -Opponent's position
Practical aspect	40	-Standing in formation at a suitable distance from the ball, the students throw it by hand to a teammate to teach them how to approach and move away from the ball, enabling them to reach it at the right time. -Then, the assistant staff throws the ball to the students at appropriate heights. -Rules: The teacher explains the technical penalties and the rules for unsportsmanlike conduct.		Emphasis on: - Body position - Player's gaze - Ball height - Opponent's position
Final Section	10 5 3 2	A short recreational game related to football. Educational guidelines. Dismissal.		

Appendix (1)

Performance Evaluation Form for Handling and Dipping Skills in Football

Expert's Name..... Academic Title..... Workplace.....

Name	Preparatory Section (3 marks)		Main Section (5 marks)		Final Section (2 marks)	
	Pre	Post	Pre	Post	Pre	Post