

7-25-2025

The Effect of an Electronic Refereeing Program on Selected Officiating Cases in Basketball Among Female Students

Mariam Luwaa Abdel Fattah

College of Physical Education and Sport Sciences for Women, University of Baghdad,
mariam.abd2104m@copew.uobaghdad.edu.iq

Marwa Luwaa Abdel Fattah

Department of Student Activities, Al-Iraqia University, Marwah.l.abdulfattah@aliraqia.edu.iq

Marwa Saadi Mahmoud

College of Physical Education and Sport Sciences for Women, University of Baghdad,
marwa.s@copew.uobaghdad.edu.iq

Luma Sameer Hamoudi

College of Physical Education and Sport Sciences for Women, University of Baghdad,
luma@copew.uobaghdad.edu.iq

Follow this and additional works at: <https://jcopew.uobaghdad.edu.iq/journal>

Recommended Citation

Fattah, Mariam Luwaa Abdel; Fattah, Marwa Luwaa Abdel; Mahmoud, Marwa Saadi; and Hamoudi, Luma Sameer (2025) "The Effect of an Electronic Refereeing Program on Selected Officiating Cases in Basketball Among Female Students," *Modern Sport*. Vol. 24: Iss. 3, Article 14.
DOI: <https://doi.org/10.54702/2708-3454.2085>

This Article is brought to you for free and open access by Modern Sport. It has been accepted for inclusion in Modern Sport by an authorized editor of Modern Sport.



SPECIAL ISSUE ARTICLE

The Effect of an Electronic Refereeing Program on Selected Officiating Cases in Basketball Among Female Students

Mariam Luwaa Abdel Fattah^{a,*}, Marwa Luwaa Abdel Fattah^b,
Marwa Saadi Mahmoud^a, Luma Sameer Hamoudi^a

^a College of Physical Education and Sport Sciences for Women, University of Baghdad

^b Department of Student Activities, Al-Iraqia University

Abstract

The researchers proposed the use of a ready-made electronic program that includes refereeing scenarios designed to engage students in enhancing officiating performance, in an effort to guide them toward correct officiating. The study incorporated refereeing cases drawn from the fourth-year college curriculum. Accordingly, the research problem centres on whether modern technologies influence the development of officiating performance among students. The aim of the study was to utilize an electronic program that illustrates violations, infractions, and refereeing signals in basketball, and examine its effect on improving performance. The researchers employed the experimental method using two groups—experimental and control—on a sample of fourth-year female students at the College of Physical Education and Sport Sciences for Women, University of Baghdad, totalling 27 students from Section (C). After excluding those who had failed or had excessive absences, 17 students were randomly selected using a lottery method, resulting in a final sample of 12 students, equally distributed between the two groups. The experimental group used the electronic program, while the control group followed the conventional instructional method. The pilot sample consisted of 5 students from Section (C), and the research instruments included the program and a questionnaire to assess officiating performance. Following the pre-tests and confirmation of group equivalence, the main experiment was conducted over 12 sessions at two per week, each lasting 30 minutes. Post-tests were conducted, and the results indicated a decrease in officiating errors among students due to the program. The researchers recommend adopting the program as a complementary component in basketball instruction to save time and effort, and this achieves one of the sustainable development goals of the United Nations in Iraq which is (Quality Education).

Keywords: Basketball, Electronic refereeing program, Female students, Refereeing situations

1. Introduction

Given the rapid pace of scientific advancement, emphasis must be placed on the integration and positive activation of sports to contribute to the dissemination of athletic culture and awareness through the introduction of game laws and sports-related information (Luma & Shaimaa, 2022). Basketball, in particular, holds a unique position due to its fast-paced rhythm, characterized by swift implementation of planned plays and constant transitions between

defense and offense. These dynamics often lead to errors and violations. As one of the most widely recognized team sports globally, basketball enjoys significant popularity and continues to evolve through ongoing rule modifications. Within this context, the referee plays a fundamental and influential role. Accordingly, refereeing is considered an essential skill that female students must master during their academic training. The student is expected to officiate

Received 19 February 2025; revised 18 March 2025; accepted 25 March 2025.
Available online 25 July 2025

* Corresponding author.

E-mail addresses: mariam.abd2104m@copew.uobaghdad.edu.iq (M. L. Abdel Fattah), Marwah.l.abdulfattah@aliraqia.edu.iq (M. L. Abdel Fattah), Marwa.s@copew.uobaghdad.edu.iq (M. S. Mahmoud), luma@copew.uobaghdad.edu.iq (L. S. Hamoudi).

<https://doi.org/10.54702/2708-3454.2085>

2708-3454/© 2025 The Author(s). Modern Sport. This is an open access article under the CC BY 4.0 Licence (<https://creativecommons.org/licenses/by/4.0/>).

the game and maintain control over its course with confidence.

Technological progress worldwide has become vast and comprehensive, accompanied by the widespread adoption of digital designs and electronic programs. Technology has greatly facilitated the training process, making it more accessible and engaging. It has also enabled the use of technological advancements in training and development, utilizing available capabilities to effectively deliver information and concepts to students. The design of electronic programs is regarded as one of the most effective digital tools for conveying information in an interactive and stimulating manner. These programs are among the educational activities that have been organized, produced, and computerized using programming languages to achieve specific instructional objectives. Additionally, electronic programs contribute to realizing diverse educational goals and overcoming obstacles students may face. Given the rapid pace of basketball, effective refereeing not only requires proficiency in specific refereeing skills but also the ability to move swiftly during matches in order to control the flow of play.

The research problem lies in the fact that the rules of basketball—specifically in-game officiating—are among the core subjects taught in the fourth year of the College of Physical Education and Sports Sciences for Women. Female students encounter challenges in mastering the physical movements required for refereeing and in making correct decisions, as the fast tempo of the game demands quick reactions and close monitoring of player movements during matches. This in turn requires the possession of certain physical abilities. Therefore, the researchers proposed the use of a ready-made electronic program that includes interactive refereeing situations, enabling students to improve their refereeing performance. The aim is to guide students toward accurate and effective officiating. The research includes a selection of refereeing situations aligned with the fourth-year curriculum. Accordingly, the research problem is articulated as follows: *Does the use of modern technology have an impact on improving the refereeing performance of female students?*

The study aims to employ a ready-made electronic program that illustrates violations, fouls, and refereeing signals in basketball for female students, and to examine the effect of this program on enhancing their refereeing performance.

The research hypothesizes that there are no statistically significant differences between the pre-test and post-test results in the development of refereeing performance in both the experimental and control groups. It also assumes that no statistically significant differences exist between the experimental and

control groups in the post-test results concerning the improvement of refereeing performance.

The study was conducted on fourth-year female students in the College of Physical Education and Sports Sciences for Women, University of Baghdad, from November 12, 2024, to February 25, 2025. The testing was carried out on the basketball court located in the indoor sports hall of the college.

2. Methodology and procedures

The researchers employed the experimental method using two groups—experimental and control—by comparing the pre-test and post-test results of both groups in the study variables, as this method aligns with the nature and problem of the research. The research population was selected purposively and consisted of fourth-stage female students at the College of Physical Education and Sports Sciences for Women for the academic year 2023–2024, totalling 105 students divided into four sections. The research sample was selected randomly by lottery and consisted of Section (C), which included 27 students. After excluding students who had failed or were frequently absent, 17 students remained from Section (C). Through random selection by lottery, 6 students were chosen as the experimental group and were trained using the ready-made electronic program to improve refereeing performance. Another 6 students were selected as the control group and received training through the conventional instructional method. Thus, the total number of participants in the main experiment was 12 students, representing 11.42% of the total population.

As for the pilot experiment sample, it was selected randomly using a lottery method and consisted of Section (C), comprising 5 students, representing a proportional percentage of 4.76% of the total original population. Table 1 illustrates this.

- Since the skewness coefficient falls within the range of ± 1 , this indicates the homogeneity of the sample as in Table 2

The researchers utilized the following tools, instruments, and devices:

Arabic and foreign sources, a performance assessment form for evaluating students' refereeing, observation, interview, one laptop device (DELL), six Fox whistles, and two Molten basketballs.

i. The ready-made electronic program for developing refereeing skills used in the study (Mariam, 2023, p. 76)

The researchers employed an electronic program designed to enhance the basketball refereeing

Table 1. Percentage of the research sample relative to the research population.

Section	Total Number	Final Number	Main Research Sample	Pilot Experiment Sample
C	27	17	6 Experimental Sample 6 Control Sample	5 Female Students

Table 2. Homogeneity of the research sample in the variables of height, mass, chronological age, and training age.

Statistical Parameters	Variables	Units of Measurement	Mean	Standard Deviation	Median	Skewness Coefficient
Height		Cm	165.22	4.181	166.00	–0.158
Mass		Kg	62.467	5.423	64.000	–0.295
Chronological Age		Years	22.18	0.655	22.00	0.824

performance of female students at the College of Physical Education and Sports Sciences for Women. The program includes violations, their corresponding signals, and the associated penalties, as well as fouls, their signals, and relevant sanctions. The program features video segments from actual basketball games, allowing the student to observe and interact by raising her hand upon identifying a refereeing situation. At that point, the researchers pause the video by clicking the “Click When You Notice the Situation” icon to stop playback at the moment of the refereeing incident. If the student fails to recognize the situation, the program provides an alert through a pop-up dialog box prompting the student to pay attention. The scenario is then replayed in slow motion to allow the student to focus and reflect more effectively.

Subsequently, another menu appears containing the options “Foul” and “Violation,” allowing the student to classify the situation based on her observation. If the student selects “Violation,” a drop-down list appears showing types of violations, such as traveling, double dribble, returning the ball to the backcourt, out-of-bounds, and held ball. The student then selects the violation she believes occurred. After that, another drop-down menu appears listing the corresponding penalties, including throw-ins or awarding possession to the opposing team, based on the type of violation. A video clip is then displayed showing a referee performing the appropriate signal, which the student is expected to imitate. If the student selects the incorrect violation, the program notifies her of the error and provides the correct classification.

In the case of fouls, if the refereeing situation involves a foul and the student selects “Foul,” a drop-down list appears displaying the types of fouls by name, such as holding, illegal screen (defensive blocking), pushing, foul by the player in possession, and illegal hand contact. The student selects the foul she believes occurred. Following this, a drop-down list appears with the corresponding penalties. For example, if the player against whom the foul was

committed was in the act of shooting from within the three-point arc, the penalty would be two free throws (if the shot did not score) or one free throw (if the shot was successful).

If the player against whom the foul was committed was in the act of shooting from beyond the three-point arc, the penalty is three free throws (if the shot did not score) or one free throw (if the shot was successful). However, if the player was not in the act of shooting, the penalty is a throw-in from the sideline. Following this, an instructional video appears showing a referee signaling the type of foul committed, the number of the offending player, the specific nature of the foul, and the corresponding penalty. The student is then expected to imitate the referee’s actions as demonstrated in the video. If the student selects the incorrect foul, the program informs her of the mistake and corrects the selection. Additionally, the program provides an evaluation of the student’s interaction with the refereeing situation, indicating whether her response was correct or incorrect. Image for electronic program designed to enhance the basketball refereeing in [Appendix 3](#).

2.1. Refereeing performance assessment questionnaire

The researchers assessed the refereeing performance of the students using a pre-designed assessment questionnaire. The questionnaire consisted of ten domains, each representing key aspects that students are expected to demonstrate on the court during officiating. Each domain was scored on a scale from 0 to 10, resulting in a total maximum score of 100 for the entire assessment form. The students’ performance was evaluated by the referees listed in [Appendix 1](#). The final score for each student was calculated based on the arithmetic mean of the three referees’ evaluations.

The pilot experiment for assessing the refereeing performance of the pilot sample, consisting of five female students, was conducted on Thursday, December 15, 2024, at 10:00 a.m. in the computer laboratory

Table 3. Equivalence of the experimental and control groups in the Pre-tests for the study variables.

No.	Variables	Experimental Group		Control Group		Calculated T-value	Standard Error	Statistical Significance
		–M	± SD	–M	± SD			
1	Refereeing Performance	35.00	3.19	36.00	2.88	0.62	0.45	Not Significant

Statistically significant ($p \leq 0.05$) when the p-value is less than or equal to the test significance level of 0.05.

of the Department of Theoretical Sciences at the College of Physical Education and Sports Sciences for Women. The purpose of conducting the pilot experiment was to:

- Identify and address the challenges and obstacles encountered during implementation.
- Assess the program's suitability for the sample's level.
- Determine the duration required to implement the program.
- Ensure the research sample understands the components of the program.
- Verify the functionality of the devices and tools used in the study.
- Confirm the validity of the refereeing performance assessment questionnaire and its appropriateness for the students.

Following the completion of the pilot experiment, the main experiment was conducted. Pre-tests were administered to the main experimental sample for both the experimental and control groups. The researchers evaluated the refereeing performance of the students prior to applying the ready-made electronic program designed to develop refereeing skills. This assessment was carried out with the assistance of three experts possessing scientific competence and specialized expertise (Appendix 2), using a standardized performance evaluation questionnaire (Appendix 2) to measure the students' level of officiating performance.

The pre-tests were conducted on Sunday, December 18, 2024, at 10:00 a.m. on the basketball court in the indoor hall of the College of Physical Education and Sports Sciences for Women. The pre-test was administered to both the experimental and control group participants. It is important to note that the electronic program was used to accelerate the learning process

of refereeing for the students and was not employed during actual games.

Table 3 indicates the presence of random differences between the experimental and control groups in the pre-tests for the study variable (refereeing performance), which confirms the equivalence of the two groups in the study variables. Subsequently, the practical units for the experimental group were implemented during the period from December 22, 2024, to February 1, 2025, over the course of twelve practical sessions, at a rate of two sessions per week. Each session lasted for 30 minutes. Table 4 below presents the details of the implementation of the electronic program's instructional units.

After the researchers completed the implementation of the electronic program with the experimental sample, they consulted the same experts to assess the students' officiating performance under identical conditions, in the same location, and using the same variables and sample as before the program's application. The post-tests were conducted on Tuesday, February 6, 2025, at 10:00 a.m. in the indoor basketball court at the College of Physical Education and Sport Sciences for Women. The researchers ensured that the organization and conditions of the post-tests mirrored those of the pre-tests, maintaining consistency in the testing environment and resources. This careful alignment was intended to ensure the reliability and credibility of the resulting data.

3. Results and discussion

Based on the above results (Table 5) obtained by the researchers for the control group in both the pre- and post-tests, it was observed that the post-test outcomes were more positive than those of the pre-tests regarding the study variable. This improvement is attributed to the fact that the control group was exposed to

Table 4. Implementation of the electronic program's instructional units.

No.	Title	Duration
1	Duration of the Electronic Arbitration Program Implementation	One and a half months
2	Duration of the Electronic Program Implementation (in weeks)	Six weeks
3	Total Number of Practical Units in the Electronic Program	12 units
4	Number of Practical Units per Week in the Electronic Program	Two units per week
5	Days of Electronic Program Implementation	Sundays and Thursdays
6	Duration of a Single Practical Unit in the Electronic Program	30 minutes per unit

Table 5. Presents the mean scores of the Pre-tests and Post-tests, the mean differences, the standard deviation of the differences, and the calculated t-value for the control group participants across the research variables.

Variables	Pre-Test Mean	Post-Test Mean	MD	SDD	Calculated t-Value	p-Value	Statistical Significance
Refereeing Performance	32.00	51.00	16.00	12.00	2.64	0.022	Significant

Statistically significant when the p-value is less than the test's significance level of 0.05.

an instructional curriculum and a teaching approach appropriate for acquiring the fundamental skills of basketball officiating. The curriculum content was implemented in a manner that aligned with the students' level of proficiency and their capacity to acquire and apply relevant knowledge. Moreover, the teaching was conducted by faculty members specialized in basketball, who possessed substantial instructional experience, which they effectively utilized to enhance the educational process.

Based on the results presented in Table 6, statistically significant differences were observed between the pre- and post-tests across the study variables in favour of the post-test. The researchers attribute the improvement in the experimental group's refereeing performance to advancements in both their cognitive and practical skills within the court setting. This development is credited to the use of a pre-designed electronic program operated via computer, which was tailored to the students' proficiency levels. The program facilitated the observation of rule infractions and violations in a manner that encouraged student engagement and learning.

This digital tool provided essential and relevant information through continuous visual presentation and explanation of errors and violations. If a student failed to notice a mistake or infraction during the program, a notification icon would appear with the message "Pay attention to the case," followed by a slow-motion replay of the incident. Furthermore, the correct execution of the rule was also shown. The students could compare their own performance against a model provided through in-program videos in which a referee clearly identifies the violation or error at the end of the case.

This, in turn, contributed to enhancing the students' attention and focus on refereeing cases and violations, as well as on how to correct them, thereby supporting more effective learning of officiating scenarios. As noted, focusing well on the skill assists the learner and enhances their motivation to learn.

Additionally, engaging multiple senses during computer use—particularly hearing and sight—followed by hands-on application, played a significant role in the learning process. This finding is supported by Shaimaa and Luma (2022), who emphasized that "the stimulating a single sensory experience during learning is insufficient for the learner to achieve full understanding of the instructional content. Instead, acquiring meaningful learning experiences requires the involvement of multiple senses, which are essential for supporting cognitive processes and creating meaningful learning" (p. 127). The analysis of the aforementioned tables reveals a noticeable improvement in the students' performance in refereeing scenarios. This enhancement in performance aligns with the concept that "development is a systematic process of evaluating and improving an individual's achievements across various aspects over a period of time, using a consistent and unified method aimed at identifying the best strategies to enhance performance levels" (Al-Din, 1999, p. 65). The researchers attribute this progress to several factors, foremost among them the number of units included in the applied electronic program. These units comprehensively addressed the ideal execution of refereeing movements and decisions, while also emphasizing the appropriate spatial and temporal contexts for judgment. Additionally, the use of visual feedback played a critical role, as it involved presenting and explaining each scenario by the referee, breaking down the components of each case, and correcting the mistakes made by students within the program. The systematic organization of error correction and the alignment between performance level and student effort are both crucial factors that must be considered during the practical phase of instruction.

Based on the results outlined above (Table 7) for both the control and experimental groups in the post-test phase, it was observed that the experimental group outperformed the control group. The researchers attribute these statistically significant

Table 6. Presents the means of the Pre- and Post-tests, the average differences, the standard deviations of the differences, and the calculated t-values for the experimental group across the studied variables.

Variables	Pre-Test Mean	Post-Test Mean	MD	SDD	Calculated t-Value	p-Value	Statistical Significance
Refereeing Performance	32.00	73.00	40.00	10	8.66	0.000	Significant

* Statistically significant when the p-value is less than the test significance level of 0.05.

Table 7. Presents the means and standard deviations of the Post-test scores, along with the calculated t-values for the differences between the control and experimental groups in the variables under investigation.

Variables	Experimental Group		Control Group		Calculated t-value	Standard Error	Statistical Significance
	–M	± SD	–M	± SD			
Refereeing Performance	32.00	4.00	73.00	5.00	3.76	0.02	Significant

Statistical significance is considered present when the p-value is less than the predetermined significance level of 0.05.

differences to the implementation of the ready-made electronic program, which was specifically designed to enhance refereeing performance. Additionally, the effectiveness of providing feedback, positive reinforcement, and encouragement played a key role. The feedback mechanism integrated within the electronic program improved the participants' ability and motivation to officiate, reinforced correct performance, minimized errors, and increased learner autonomy in identifying and correcting mistakes independently.

As Issa (2017) emphasized, "The success of educational or training curricula is measured by the progress achieved by the athlete in relation to the type of activity practiced. This progress depends on the individual's ability to adapt to the curriculum being implemented." (p. 96)

The visual images presented are expected to contribute to forming a motor program image within the brain, as well as to enhancing the students' ability to conceptualize refereeing situations more effectively. In other words, this approach "will assist in constructing a mental model of the described motor imagery, thereby facilitating the cognitive process of forming such a model within the brain and enabling the creation of connections between the displayed images" (Abdullah & Hamoudi, 2020, p. 103).

Khayoun (2002) also noted that "if the model is effective for the learner, the learner will attempt to reproduce the motor behaviour by retrieving the model and comparing it to their own performance after each attempt." (p. 167)

Additionally, the study by Mohamed and Ma-jeed (2022) emphasized that "the phase of exploration and innovation engages students' abilities to seek answers to their own questions, which emerge through observation, measurement, and experimentation. This occurs as they undergo unfamiliar experiences and engage in new experimental activities." (p. 141)

4. Conclusions

The researchers arrived at several conclusions, summarized as follows:

1. A clear improvement was observed in the refereeing performance of the students.

2. There was a noticeable reduction in the number of errors made by students during officiating within the class. This improvement is attributed to the use of a pre-designed electronic refereeing program tailored to the students' level and the demands of in-class gameplay, which significantly enhanced their refereeing performance compared to those who learned officiating without the electronic program.
3. The instructional approach adopted by the course instructor played a pivotal role in enhancing the students' refereeing performance.

5. Recommendations

Based on the findings of the study, the researchers recommend the following:

1. Integrating the custom-designed electronic program as a complementary component of the basketball course to optimize time and effort.
2. Implementing the specialized electronic refereeing program in the third academic year of the college curriculum.
3. Developing additional electronic programs tailored to other sports disciplines.
4. Enhancing the current program in the future to include referee movement mechanics as part of its instructional content.

Conflicts of interest

None.

We confirm that all tables and figures in this article are ours and written by the researchers themselves.

Ethical-clearance

This manuscript approved by Prof. Dr. Luma Sameer Hamoudi, Asst. Lect. Mariam Luwaa Abdel Fattah, Asst. Lect. Marwa Luwaa Abdel Fattah, and Marwa Saadi Mahmoud on (5/5/2025).

Author's contributions

All contributions of this study were done by the researchers (Asst. Lect. Marwa Luwaa Abdel

Fattah, Asst. Lect. Mariam Luwaa Abdel Fattah, Prof. Dr. Luma Sameer Hamoudi, and Marwa Saadi Mahmoud who get the main idea and work on writing and concluding also with number of experts, Prof. Dr. Warda Ali in statistics, Lect. Dr. Huda Shamil in revision, and Asst. Lect. Inaam Ghalib in translating.

Funding

This research received no external funding.

Data availability

The data that support the findings of this study are available on request from the corresponding author.

References

- Al-Din, M. K. M. W. H. (1999). *Arab refereeing and the laws of football*. Kitab Center for Publishing. 65.
- AL-Zuhairi, N. A., Ali, L. A., Talal, R., Samer, L., Alwan, N. M., Abdul Ameer, Z. A., & Nadem, M. (2023). University sports media and its relationship to the spread of sports culture at the University of Baghdad. *Ibero-American Journal of Exercise and Sports Psychology*, 18(3), 145. <https://www.ripped-online.com/abstract/university-sports-media-and-its-relationship-to-the-spread-of-sports-culture-at-the-university-of-baghdad-97909.html>.
- Abdullah, F. N., & Hamoudi, L. S. (2020). Double coding and its relationship to learning the skill of preparing and receiving a serve in volleyball among fifth-grade middle school female students. *Modern Sport*, 19(1), 97–108. <https://doi.org/10.54702/msj.2020.19.1.0097>.
- Mohamed, G. A., & Majeed, S. H. (2022). The effect of an educational approach based on the constructivist learning model on some basic offensive skills in female students' basketball. *Modern Sports Journal*, 21(3), 141.
- Issa, T. A. A. W. (2017). *Measures and tests - Design - Preparation - Organization*. Arab Group for Training and Publishing. 96.
- Sami, S., & Sameer, L. (2020). Mental motivation and its relationship to the performance of the skill of receiving the transmitter in volleyball. *Modern Sport*, 19(4), 39. <https://doi.org/10.54702/msj.2020.19.4.0039>.
- Mariam. (2023). After using a specially designed electronic program and exercises to develop the refereeing performance and some of the physical abilities of female basketball students. 76.
- Mashkour, S. H., & Hamoudy, L. S. (2022). Lateral thinking among students of the College of Physical Education and Sport Sciences. *Modern Sport*, 21(4), 121–131. <https://doi.org/10.54702/ms.2022.21.4.0121>.
- Khayoun, Y. (2002). *Motor learning between principle and application* (1st ed.). Al-Sakhra Printing Office. 167.

Appendices

Appendix 1

Experts and referees who evaluated the pre- and post-tests of refereeing performance, as well as the experts who reviewed the questionnaire designed to assess the refereeing performance of the female students.

No.	Name	Academic Title	Place of Work
1	Prof. Dr. Liqaa Abdullah Ali	Professor	University of Baghdad / College of Physical Education and Sport Sciences for Women
2	Asst. Prof. Dr. Sahar Hurr Majeed	Asst. Prof.	University of Baghdad / College of Physical Education and Sport Sciences for Women
3	Asst. Prof. Dr. Nadima Badr Mohammed	Asst. Prof.	University of Baghdad / College of Physical Education and Sport Sciences for Women

Appendix 2

Refereeing performance evaluation questionnaire.

Student Basketball Refereeing Evaluation Form

Date: / / Day: _____

The match was conducted for Section () and the students were divided into two teams.

Student's Name:

Date:

Expert's Name:

Signature:

No.	Criteria	Score										
		0	1	2	3	4	5	6	7	8	9	10
1	Student's Personality											
2	Awareness of the Course of Play											
3	Level of Control over the Game's Progress											
4	Accuracy of Signals and Decisions during the Game											
5	Cooperation with Teammates											
6	Court Movement (Mechanics)											
7	Physical Fitness											
8	Proper Use of the Whistle											
9	Correct Decisions Regarding Fouls											
10	Correct Decisions Regarding Violations											

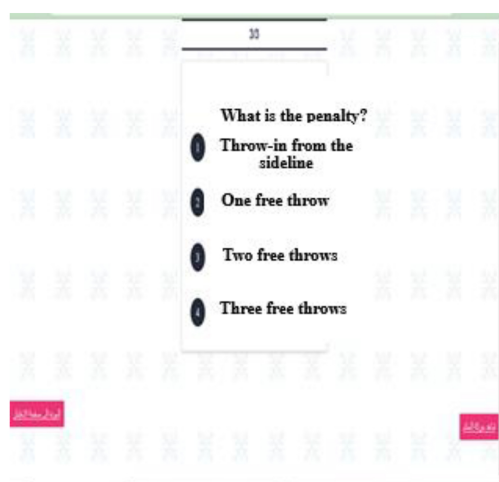
Overall Score(out of 100)

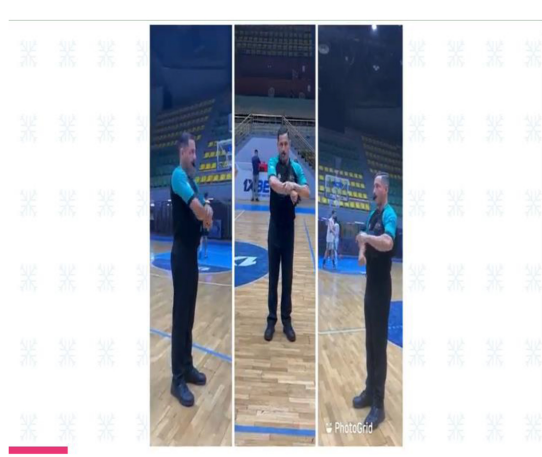
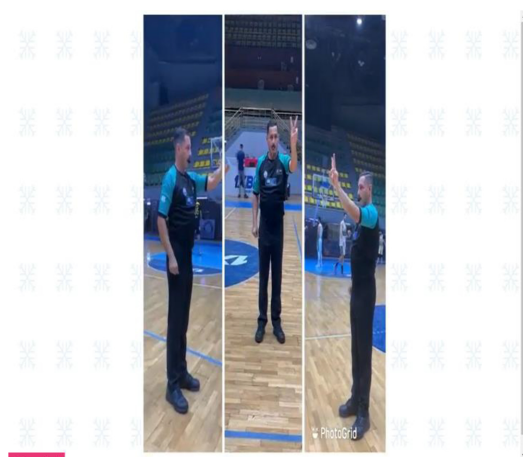
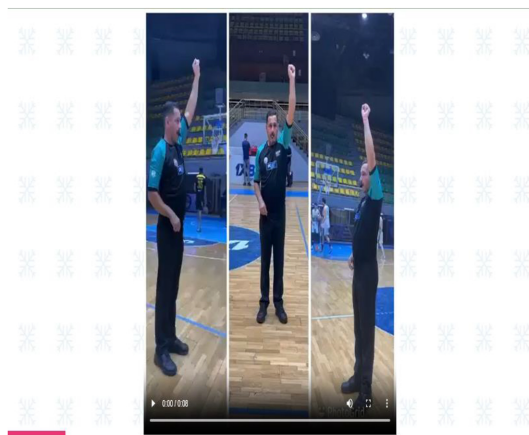
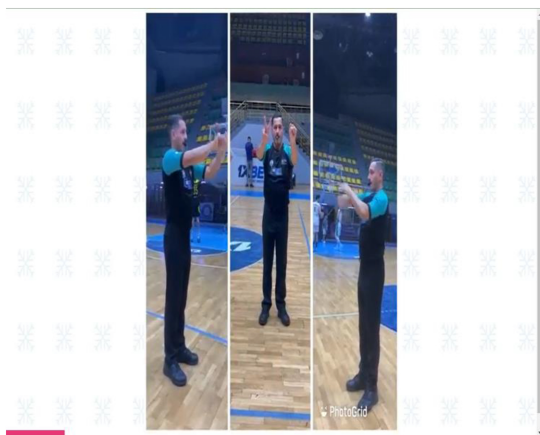
Appendix 3

Selected images from the experiment implementation.

1. Selected Images from the Electronic Program







3/3

Penalty? Resorting to the possession arrow, knowing that the arrow was pointing in favor of the red team.

- 1 Possession to the red team
- 2 Possession to the blue team

الرجاء اختيار الإجابة الصحيحة