

Attitudes of Players and Referees towards Video Assistant Referee (VAR) at an Aiding Tool in Fencing

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Research Summary

Video refereeing was first used in fencing in 2005, which reduced the objections of players and coaches to the decisions of referees, despite the apparent usefulness of using this technique, but objections also appeared by players and coaches to this technique .

A computer program that records matches through cameras and then displays the last touch when needed .This program has been developed so that it shoots the last 5 seconds before the alarm signal to record the touch.

Search objectives the research aims to identify the importance of video refereeing for players and fencing referees and the importance of applying its use in all local and international tournaments with the development of a proposal to avoid the shortcomings that will appear, the researcher used the descriptive approach using survey studies to suit the nature of the research, The research sample consisted of (5) referees and (10) players from the international fencing players and referees enrolled in the training season and enrolled in the Egyptian Fencing Federation for the training season from 2021-2022 in the Cairo region, The researcher collected data through a personal interview and made two questionnaire forms for both referees and players and relied on scientific methods in construction using the sincerity of the arbitrators, the sincerity of the content, and calculated the stability of the scale using the test and re-test laboratories, and the researcher used appropriate statistical means.

The researcher concluded the following:

In light of the objective of the research and based on the analysis of the results, the researcher reached the importance of video refereeing on the

conduct of the match and the success of the refereeing process and reduce objections from players to the results

توجهات اللاعبين والحكام تجاه التحكيم بالفيديو (الفار) كأداة مساعدة في رياضة المباراة

ملخص البحث

تم استخدام التحكيم بالفيديو لأول مرة في المباراة عام ٢٠٠٥ حيث أدى ذلك إلى تقليل اعتراضات اللاعبين والمدربين على قرارات الحكام بالرغم من الفائدة الظاهرة جليا" لاستخدام هذه التقنية إلا أنه ظهرت اعتراضات أيضا" من قبل اللاعبين والمدربين على هذه التقنية .

والتحكيم بالفيديو هو برنامج كمبيوتر يقوم بتسجيل المباريات من خلال كاميرات ثم عرض آخر لمسة عند الحاجة إليها وقد تم تطوير هذا البرنامج بحيث يصور آخر ٥ ثواني قبل اشارة التنبية لتسجيل اللمسة .

هدف البحث الى التعرف على مدى اهمية التحكيم بالفيديو للاعبين وحكام المباراة واهمية تطبيق استخدامه في جميع البطولات المحلية والدولية مع وضع مقترح لتلافي أوجه القصور التي سوف تظهر، استخدمت الباحثة المنهج الوصفي باستخدام الدراسات المسحية لملائمته طبيعة الدراسة ، وتكونت عينة البحث من (٥) حكام و (١٠) لاعبين من لاعبين وحكام المباراة الدوليين المقيديين في الموسم التدريبي والمقيديين بالاتحاد المصري للمبارزة للموسم التدريبي في الفترة من ٢٠٢١ - ٢٠٢٢ في منطقة القاهرة، وقامت الباحثة بجمع البيانات عن طريق المقابلة الشخصية وعمل استمارتي استبيان لكل من الحكام واللاعبين واعتمدت على الأساليب العلمية في البناء مستخدمة صدق المحكمين، صدق المحتوى، وقامت بحساب ثبات المقياس باستخدام معامل الاختبار واعادة الاختبار، وإستخدمت الباحثة الوسائل الإحصائية المناسبة .

وقد إستخلصت الباحثة الآتي:

في ضوء هدف البحث وإنطلاقا من تحليل النتائج توصلت الباحثة إلى مدى أهمية التحكيم بالفيديو على سير المباراة ونجاح عملية التحكيم وتقليل الاعتراضات من اللاعبين على النتائج

Attitudes of Players and Referees towards Video Assistant Referee (VAR) at an Aiding Tool in Fencing

Introduction and research problem:

Each game has its own rules on the basics of which matches are administered, and the proper functioning of the match and the high level of competition depend largely on the validity of the decisions that are renewed and the feeling of fairness of the competitors and their distance from bias.

(V:43)

The current era is characterized by the increasing popularity of competitive satisfaction and its increase in its rise at the global level, as evidenced by the increase in the number of world championships throughout the year. The increase in the number of countries competing in the Olympic Games cycle after session, and the higher the athletic level of the players, the more difficult it is to arbitrate so as to speed and accuracy of the attacks which led to frequent objections by players and coaches to refereeing decisions. Hence the need to use video refereeing technology in fencing as well as in football. (2:45)

Video refereeing was first used in fencing in 2005, which reduced the objections of players and coaches to the decisions of referees, despite the apparent usefulness of using this technique, but objections also appeared by players and coaches to this technique . (3:20)

This method is used in both individual or team play, as well as in the method of knockout, by means of a special video referee only and is chosen from among the referees who are already present in the tournament and ranked according to their points in the current play season, and the referee must be of a nationality contrary to the nationality of both competitors. The player has the right to resort to the video only once and when verifying the objection, the player has the right to resort again and when requesting to resort to the video, the main referee turns to the video referee and together they watch the kinetic analysis of the movement and the face of the dispute and then announce the result, In the World Championships and Olympic Championships, the video is displayed during the analysis on a large screen so that the spectators watch it and the right to request the use of the video in any case is for the players only, and although there are all the precautions and caveats, there are still objections

from the players and coaches, which puts the referees in undesirable situations. (1:66)

Hence the idea of this research to identify the attitudes of players and referees towards Video Assistant Referee (VAR) at an Aiding Tool in Fencing.

Search objectives:

The research aims to identify the importance of video refereeing for players and fencing referees and the importance of applying its use in all local and international tournaments with the development of a proposal to avoid the shortcomings that will appear.

Study questions:

- How much is the need to use video refereeing (VAR) in fencing?
- Is video refereeing (VAR) which is the field of research consistent with the rules of international competitions?
- Have training plans in fencing modified the field of research in line with the use of video refereeing (VAR) in arbitration?
- How much is the future expectation for the development of the use of video refereeing (VAR) in fencing?

Search terms:

1- fencing :-

- Fencing is one of the individual sports that requires special mechanical technical conditions according to the nature of the movements and that this activity depends mainly on the amount of strength and speed of the athlete especially in the application of basic skills such as stabbing, advancing and regression. (5:2)

Fencing is the sport of fighting indirectly through the weapons of players. Competitions are arranged in the form of tournaments of up to 11 hours. To qualify for the finals, swordsmen must play between 3 and 9 minutes in the preliminary matches. Later" in the rounds for knockout against different opponents during matches, the high-profile moves with uneven steps with successive movements forward and backward and many changes in direction at a distance ranging from one to one and a half meters wide and 14 meters long (8:18)

2- referee :-

- A person who passes the arbitration tests held by the Referees Committee and approved by the Egyptian Arms Federation, adheres to its records, practices arbitration on a regular basis, whether at the local or international level, enjoys a good reputation and has not been sentenced in cases of breach of honor or honesty unless he is rehabilitated in accordance with the provisions of the law and pays the annual contribution prescribed in accordance with the Financial Regulations. (4:20)

3- video arbitration :-

- A computer program that records matches through cameras and then displays the last touch when needed .This program has been developed so that it shoots the last 5 seconds before the alarm signal to record the touch. (6:32)

Research plan and procedure:

Research Methodology:

The researcher used the descriptive approach using survey studies to suit the nature of the research.

Research sample and community:

International fencing players and referees enrolled in the training season and enrolled in the Egyptian Fencing Federation for the training season in the period 2021-2022 in the Cairo region and their number was 20 players The number of 10 players and 10 referees was taken 5 by the intentionally method from each of them to conduct the basic study of the research.

Table No. (1)
Homogeneity of the research sample of referees

N = 5

Variables	Measuring unit	Median	standard deviation	Skewness
Age	Year	١٦.٤٣	٠.٤٤	.٨٢١
Training age	Year	٥٦.٠٠	٣.٦١	.٠٠٠
International Experience	Year	٤.٢٠	٠.٨٤	-.٥١٢

The results of Table (1) indicate the arithmetic average, standard deviation and torsion coefficient of the variables of the research sample, as evidenced by the homogeneity of the research sample in these variables where the torsion coefficient indicates (+-3).

Table No. (2)
Homogeneity of the research sample of players

N = 10

Variables	Measuring unit	Median	standard deviation	Skewness
Age	Year	١٧.٣٠٠	١١.٤٠٠	٠.٥٢١
Training age	Year	٥.٢٠٠	٨.١١٢	٠.٣١١
International Experience	Year	٦٨.١٨٢	١٣.٥٠٤	٠.٦٨١

The results of Table (2) indicate the arithmetic average, standard deviation and torsion coefficient of the variables of the research sample, as evidenced by the homogeneity of the research sample in these variables where the torsion coefficient indicates (+- 3).

Data collection methods:

- Personal interview and analysis of documents and records:

The researcher conducted personal interviews and analyzed documents and records for tests reached by research and studies in the field of research.

- Questionnaires for referees and players:

The researcher designed a questionnaire form for both referees and players to see how satisfied they are with video refereeing as an enabler.

First: Design of the form for referees:

- The researcher designed axes for the form for the referees.
- The researcher presented the form to the experts and the experts determined the relative importance of each axis.
- After reviewing the references and taking the opinion of the expert gentlemen and the supervisors, the researchers developed a preliminary conception of the phrases for each axis and then presented the phrases in the axes to the expert gentlemen again.
- The experts excluded some of the phrases that they saw as inappropriate or not expressing the axis.
- The researcher revised the phrases to make the form ready in its final form.

Second: Design of the form for players:

- The researcher designed axes for the form for the players.
- The researcher presented the form to the experts and the experts determined the relative importance of each axis.
- After reviewing the references and taking the opinion of the expert gentlemen and the supervisors, the researchers developed a preliminary conception of the phrases for each axis and then presented the phrases in the axes to the expert gentlemen again.
- The experts excluded some of the phrases that they saw as inappropriate or not expressing the axis.
- The researcher revised the phrases to make the form ready in its final form.

Scientific Transactions of Data Collection Tools:

- **First: Honesty:**
 - The researcher used the honesty of the arbitrators, where five academic experts in the field were hired according to the conditions for experts.
 - The questionnaires were presented to them in their initial form and in the light of their observation some adjustments were made and the questionnaires were presented to them again to calculate the coefficient of truthfulness on the questionnaires and the results indicated that all the questions in the questionnaires have achieved truthfulness coefficients of more than 70%.
- **Second: Constancy:**
 - To extract the stability coefficients of the questionnaires was used the test method of test-retest and the withdrawal of the rationing sample from the research community by random method and the first application was conducted in the period from 14/1/2022: 17/1/2022 and then the second application was repeated in the period from 24/1/2022: 27/1/2022 on the same sample and under the same conditions and the coefficient of stability was as shown in the following tables.

Table No. (3)
Correlation coefficient between the first and second application of the questionnaire on players

N=10

Phrases	First application		Second application		Stability coefficient
	S	P	S	P	
١	2,1	0,96	1,9	0,87	0,9
٢	1,6	0,51	1,8	0,42	0,61
٣	1,9	0,73	1,6	0,84	0,82
٤	2,2	0,91	2,1	0,73	0,78
٥	2,5	0,52	2,2	0,91	0,91
٦	2,4	0,69	2,1	0,99	0,89
٧	1,6	0,69	1,9	0,56	0,72
٨	2,5	0,52	2,3	0,48	0,65
٩	2,5	0,52	2,3	0,48	0,65
١٠	1,6	0,69	2,00	0,47	0,67
١١	1,5	0,52	1,7	0,48	0,65
١٢	2,5	0,52	2,3	0,48	0,65
١٣	2,5	0,52	2,4	0,51	0,81
١٤	2,5	0,53	1,9	0,73	0,71
١٥	2,3	0,94	2,5	0,52	0,77
١٦	2,5	0,53	2,3	0,82	0,89

Table No. (3) shows the coefficient of stability on the questionnaire using the test-retest and the result indicates that the questionnaire has achieved a high correlation coefficient ranging from (0.55 : 0.61), which gives an indication of the stability of these tests.

Table No. (4)
Correlation coefficient between the first and second application of the questionnaire on referees

N=5

Phrases	First application		Second application		Stability coefficient
	S	P	S	P	
١	2,8	0,44	2,6	0,54	0,61
٢	2,2	0,83	2,8	0,44	0,80
٣	2,6	0,54	2,4	0,54	0,66
٤	1,8	0,83	2,00	1,00	0,89
٥	1,6	0,89	2,00	1,00	0,55
٦	2,4	0,89	2,6	0,89	0,87

٧	2,9	0,44	2,6	0,54	0.61
٨	2,6	0,54	2,8	0,44	0,62
٩	2,2	1,09	2,4	0,89	0,91
١٠	2,2	0,83	2,4	0,89	0,86
١١	2,2	1,09	2,2	0,83	0,76
١٢	2,00	0,70	1,8	1,09	0,64
١٣	1,8	1,09	2,00	1,00	0,91

Table No. (4) shows the coefficient of stability on the questionnaire using the test-retest and the result indicates that the questionnaire has achieved a high correlation coefficient ranging from (0.55 : 0.61), which gives an indication of the stability of these tests.

Basic study:

After that, the researcher applied the research after confirming the scientific transactions and confirming the stability and truthfulness of the forms in the period from 14/1/2022 to 17/1/2021. This researcher has concluded through the personal interviews they conducted on the sample members that a large number of them did not meet the conditions for the characteristics of the players and therefore the sample was reduced to (10 players) fencing and (5) referees. Therefore, the researcher relied on the objective evaluation of the video device (VAR) in the refereeing of fencing, considering that "the use of objective evaluation has become very accurate and decisive" in most cases using the standard levels reached by the research sample of fencing players by determining a certain level of performance if exceeded by the sample members in fencing are considered to be those who benefited from video refereeing devices (VAR).

Statistical treatments used:

During the various stages of research, the following statistical treatments were used:

First: To calculate honesty and constancy:

- 1- The researcher used percentages to calculate honesty in order to compile expert opinions on all statements of the proposed questionnaire forms using the method of honesty of the arbitrators.
- 2- The researcher used arithmetic averages, standard deviation and simple correlation to calculate the correlation value between the first application and the second application in the research survey studies in order to calculate the coefficient of stability.

Second: Statistical treatment of the basic study:

The researcher used the percentage method to calculate the percentages of responses of the two research samples and the extent to which they agreed or rejected the proposed statements, as well as used arithmetic averages and standard deviation.

Show results:

The researcher presented the results of the research according to the following statement:

- 1- A descriptive statement of the scores of the players from the research sample (arithmetic average - standard deviation).
- 2- A descriptive statement of the responses of the sample players and percentages.
- 3- A descriptive statement of the scores of the judges from the research sample (arithmetic average – standard deviation).
- 4- A descriptive statement of the responses of the sample referees and percentages.

Table No. (5)
Arithmetic mean and standard deviation of players

N = 10

phrases	S	p
١	1,4	0,84
٢	2,7	0,67
٣	1,9	0,56
٤	2,2	0,91
٥	2,4	0,69
٦	2,3	0,82
٧	1,8	0,42
٨	2,00	0,66
٩	2,3	0,82
١٠	2,1	0,99
١١	1,7	0,67
١٢	1,3	0,67
١٣	2,3	0,82
١٤	2,2	0,78
١٥	2,3	0,67
١٦	2,1	0,73

Table 5 shows the arithmetic mean and standard deviation of the sample of the sample players that the minimum is (0.42) and (0.56) respectively.

While the maximum arithmetic mean and standard deviation (0.99) and (0.91) respectively were recorded in the individual players of the research sample.

Table No. (6)
Frequency and percentages of player responses

N=10

M	phrases	S	s	I agree		To some extent		Disagree	
				No.	%	No.	%	No.	%
١	Would you rather judge your video arbitration (VAR) ?	١,٤	٠,٨٤	٢	٢٠	-	-	٨	٨٠
٢	Do you prefer the arbitration to be done in the traditional way?	٢,٧	٠,٦٧	٨	٨٠	١	١٠	١	١٠
٣	Announcing the results of the match first via video, the referee (VAR) helps in achieving victory?	١,٩	٠,٥٦	١	١٠	٧	٧٠	٢	٢٠
٤	Using the video referee (VAR) gives the winning player a chance to success?	٢,٢	٠,٩١	٥	٥٠	٢	٢٠	٣	٣٠

٥	Using the Video Referee (VAR) provides an opportunity for self-expression for the winning player?	٢,٤	٠,٦٩	٥	٥٠	٤	٤٠	١	١٠
٦	The use of the video referee (VAR) provides the opportunity for the player to resist the feeling of frustration?	٢,٣	٠,٨٢	٥	٥٠	٣	٣٠	٢	٢٠
	Do you prefer to be refereed by video, that is, using legal devices, even if it is a reason for your defeat in the match?	١,٨	٠,٤٢	-	-	٨	٨٠	٢	٢٠
	Does the video referee (VAR) record what the referee clearly appreciates for everyone?	٢,٠	٠,٦٦	٢	٢٠	٦	٦٠	٢	٢٠
٩	Does the	٢,٣	٠,٨٢	٥	٥٠	٣	٣٠	٢	٢٠

	Video Referee (VAR) gain an appropriate amount of information about the progress of the matches?								
١٠	Do you prefer electronic arbitration devices only in the final slots?	٢,١	٠,٩٩	٥	١٠	١	١٠	٤	٤٠
١١	Do you feel that judging using the video device (VAR) is objective and away from subjectivity in decision – making?	١,٧	٠,٦٧	١	١٠	٥	٥٠	٤	٤٠
١٢	The video referee (VAR) helps you calculate the time of the match so you have the ability to control the opponent?	١,٣	٠,٦٧	١	٥٠	١	١٠	٨	٨٠
١٣	Does it help you adapt in	٢,٣	٠,٨٢	٥	٥٠	٣	٣٠	٢	٢٠

	the game?								
١٤	Did you modify your gameplay to accommodate the use of video (VAR)?	٢,٢	٠,٧٨	٤	٥٠	٤	٤٠	٢	٢٠
١٥	Did the coach give you some information about VAR?	٢,٣	٠,٦٧	٤	٤٠	٥	٥٠	١	١٠
١٦	Did the trainer explain to you the new method of arbitration and objections in light of the use of video (VAR)?	٢,١	٠,٧٣	٣	٣٠	٥	٥٠	٢	٢٠

It is clear from Table (6) that the percentage of responses of fencing players from the sample members, where the highest percentage in terms of importance and approval in statements 2,4,5, 6,9,10, 13, which is ranked in the table in descending order according to its percentage, which came above 50% and indicated the importance of using devices in matches while statements 1, 3, 7, 8, 11, 12, 14, 15 received percentages less than 50%.

Table No. (7)
Arithmetic mean and standard deviation of referees

N = 5

phrases	S	P
١	٢,٨	٠,٤٤
٢	٢,٤	٠,٨٩
٣	٢,٨	٠,٤٤

٤	٢,٨	٠,٤٤
٥	١,٦	٠,٨٩
٦	٢,٦	٠,٨٩
٧	٢,٨	٠,٤٤
٨	٢,٨	٠,٤٤
٩	٢,٨	٠,٤٤
١٠	٢,٤	٠,٨٩
١١	٢,٤	٠,٩٠
١٢	١,٦	٠,٨٩
١٣	١,٦	٠,٨٩

Table 7 shows the arithmetic mean and standard deviation of the sample of the sample referees members that the minimum is (1,4) and (0,44) respectively.

While the maximum arithmetic mean and standard deviation (2.8) and (1.09) respectively were recorded in the refereed individuals of the research sample.

Table No. (8)
Frequency and percentages of referees responses

N = 5

M	phrases	S	s	I agree		To some extent		Disagree	
				No.	%	No.	%	No.	%
١	The video refereeing apparatus (VAR) helps to understand the rules of performance and competitions in tournaments?	٢,٨	٠,٤٤	٤	٨٠	١	٢٠	-	-
٢	The video arbitral apparatus (VAR) is programmed to conform to the terminology of the arbitration and express them clearly?	٢,٤	٠,٨٩	٣	٦٠	١	٢٠	١	٢٠
٣	The video jury (VAR) allows	٢,٨	٠,٤٤	٤	٨٠	١	٢٠	-	-

	you to feed on the information received from the jury as soon as possible?								
ε	The video arbitral tribunal (VAR) assists the referee to make the right decision?	٢,٨	٠,٤٤	ε	٨٠	١	٢٠	-	-
ο	The video arbitral device (VAR) is self-reliant in estimating the results without the intervention of the human side?	١,٦	٠,٨٩	١	٢٠	١	٢٠	٣	٦٠
٦	The video arbitral device (VAR) relies on a recorder to estimate the results?	٢,٦	٠,٨٩	ε	٨٠	-	-	١	٢٠
٧	The video refereeing apparatus (VAR) influences the referee's decision during the course of the match?	٢,٨	٠,٤٤	ε	٨٠	١	٢٠	-	-
٨	Video refereeing (VAR) affects the outcome of the match?	٢,٨	٠,٤٤	ε	٨٠	١	٢٠	-	-
٩	The video refereeing apparatus (VAR) is compatible and evolves with the latest amendments to the rules of play?	٢,٨	٠,٤٤	ε	٨٠	١	٢٠	-	-
	Is it preferable to use judges aside	٢,ε	٠,٨٩	٣	٦٠	١	٢٠	١	٢٠

from side with the video arbitral apparatus (VAR)?									
The video arbitral system helps the referee make the right decision?	٢,٤	٠,٩٠	٣	٦٠	١	٢٠	١	٢٠	
Is the video refereeing device (VAR) the referee's opponent during the match?	١,٦	٠,٨٩	١	٢٠	١	٢٠	٣	٦٠	
Can the referee be dispensed with permanently and rely only on video arbitration(VAR)?	١,٦	٠,٨٩	١	٢٠	١	٢٠	٣	٦٠	

Table No. (8) shows the arithmetic average, standard deviation and percentage of responses of the referees members of the sample in the field of fencing, where the statements 1, 2, 3, 4, 6, 7, 8, 9, 10, 11 were the highest percentage in terms of their importance, which reached a percentage higher than 60%, which indicated the importance of using video refereeing (VAR) in refereeing tournaments and helping referees make decisions during matches. Statements 5, 12, and 13 received the lowest percentage in terms of their importance to fencing arbitrators, which was less than 60%.

Discuss the results:

Table 6's presentation of players' responses to the use of video refereeing (VAR) in their match shows the importance of using them, and has indicated the extent to which players need to take advantage of that device and pointed to them in statements 2,4,5,6,10,13 which came in percentage above 50%.

It turns out that these responses are consistent with the first question, which points to the need to use video refereeing (VAR) in fencing.

As for the second question, is video refereeing (VAR) which is the field of research consistent with the rules of international competitions?

It is clear from table 8 on the responses of referees in fencing that the statements of the agreement of this organ with international rules received a

high percentage of approval, and in the responses of the arbitrators, statements No. 2, 3, 4, 7, 8 and 9 indicated the highest percentage of more than 60%.

That is, the referees of the houses agreed that the video refereeing apparatus (VAR) is in accordance with the rules of international competitions, and this is consistent with the second and fourth questions, namely:

Does the video refereeing device (VAR) used in the field of research comply with the rules of international competitions?

Has the device been updated to comply with the rules of international competitions and tournaments?

As for the third question, which states, "Have the training plans in fencing modified the field of research in line with the use of the video refereeing device (VAR)?"

The results of Table 6 indicated that fencing players have benefited greatly from the use of the video refereeing device (VAR) in modifying their game plans to face such devices and take full advantage of them and the multiplicity of their ways of playing in international matches and tournaments. The fourth question, which refers to "the extent of the future expectation of the development of the use of video refereeing (VAR) in fencing?"

The results of the tables indicated that in the future, it is possible to develop such a device to rely on it to make judgments at the level of players, distinguish between right and wrong performance, link movements and appreciate them in general.

It is also reliable in understanding the rules of performance and competitions for players and referees.

In light of the results referred to by the study, it came to the minds of the researcher to benefit from those results in the applied field and to submit the results, conclusions and recommendations of that study to the Egyptian Fencing Federation and the Olympic Committee for the application of video arbitration in all tournaments.

Conclusions:

In light of the research objectives, results, and questions raised, and through statistical treatments, discussion and interpretation of the results, the researcher was able to derive the following:

1. Video refereeing (VAR) helps the players to improve the tactical aspects of training.
2. Video refereeing (VAR) helps in providing impartiality in the arbitration process during matches.

3. Video arbitration (VAR) helps to develop the technical aspects of the practiced activity.
4. Video refereeing (VAR) helped in enhancing the player's verbal reinforcement of results during performance.
5. Video arbitration helps arbitrators to take decisions in a correct manner.
6. Although the video arbitration (VAR) can only work through the inputs made by the human element of the judges that lead to outputs, the arbitration by the video (VAR) decided the error of the inputs with the participation of more than one referee and in a relatively short time . And according to the momentary accident in the match, which determines the winning points, which reduces the possibilities of human error and thus provides more impartiality and accuracy in the results. Within the limits of the researcher findings and conclusions, the following can be

Recommendations:-

1. Using the video referee device (VAR) in the local tournaments, in a way that provides preparation for the champions when they participate in the international tournaments.
2. Working on developing the video arbitration system (VAR) in line with the rules of the practice and the evolution of its laws.
3. Postponing the announcement of results in tournaments and matches that use video arbitration (VAR) in arbitration to take the appropriate decision after confirming the modern technologies used.
4. Putting the video referee (VAR) under the coach's hand, so that he is able to 'transfer modern technology not only to the training process, but the player's participation in following it, observing it and benefiting from it to achieve victory or advanced performance .
5. Demanding each of the Egyptian federations (boxing, wrestling, fencing, and judo) and the Olympic center for the preparation of leaders in the Egyptian Olympic committee, which is responsible for preparing, weighting and qualifying the Egyptian coach and asking them to prepare modern courses for coaches to prepare them to face these games in light of the use of the video referee device (VAR).
6. The importance of conducting future research complementary to this research in order to move to higher levels by identifying the secrets of modern training in the light of the use of electronic arbitration devices.

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