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The Effect of an Educational Curriculum of the Information Processing Model According to the Error Scale in Learning and Accuracy of the Performance of the Volleyball Barrier Skill for Youth

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ABSTRACT

Due to the special features of the volleyball game that differ from the rest of the games in the style of play, as any mistake may lead to the loss of a point unlike the rest of the team games, and this requires preparing the players well in all skill, physical, technical, and psychological aspects, and these are closely related to the skill performance of the volleyball players. Barrier Wall The volleyball player must possess it with the required level of accuracy, mastery and minimization of errors to reach the best levels, and learning this skill needs time and effort by the coach and the player, so attention must be paid to the use of means and auxiliary tools that contribute to enhancing the learning process in the juniors and are in line with the capabilities and abilities of the players at this stage to accelerate the learning process and correct mistakes in the early stages before it becomes a style that the player is used to in the advanced stages. , and the problem of the research lies Most trainers identify errors in general and do not rely on scientific foundations and modern methods in learning and training, in addition to the fact that the process of diagnosing errors by trainers does not use objectivity in judgment, and error measures are one of the important scientific means in identifying errors clearly and with a kind of accuracy, as well as Lack educational and training module refers to the various educational aids that contribute effectively to the educational and training units, in addition to the skill of Barrier Wall It is a very important skill that needs to be Focus and attention In her learning for her mastery and accuracy, The research aimed to process information and reduce the error rate According to the measures of error in Learn and accurately perform the barrier skill In volleyball for the youth.

1-1 Introduction and the importance of the research:

The development that has taken place in the field of sports and the achievement of The achievements were not born of chance, but came according to scientific studiesE One minute , The modern scientific method has knocked on various fields of life, including the sports field, so scientific practices have begun to take a wide space to create a renewed and developed sports world, thus investing all modern scientific ways and means to reach the world.Achievement The high athlete.

Motor learning is one of the important sciences in the field of physical education because of its importance in teaching and acquiring motor skills with the least possible effort and mastering and fixing sports skills, and since the basis on which sports events are built is to learn skills for each event and try to reach the best achievement through learning and accuracy of performance , so learning and accuracy of performance is the goal that workers in the sports field seek, so it needs curricula. Modern methods seek to be effective in learning and its time, and thus the development of sporting effectiveness is a great development.

Therefore, the preparation of players requires good preparation in all aspects of skill, physical, technical, and psychological, and these are closely related to the skill performance of volleyball players, as well as the skills of (sending, receiving, and preparation) as well as the skills of smashing, the blocking wall, and defending the field, are all skills that must beThe volleyball player must possess them with the required level of accuracy, mastery and minimization of errors to reach the best levels, and that learning these skills requires time and effort by the coach and the player, so attention must be paid to the use of aids and means that contribute to reducing the percentage of error and enhancing the learning process in the juniors and in line with the capabilities and abilities of the players at this stage to accelerate the learning process and correct mistakes in the early stages before it becomes a style that the player is used to in the advanced stages.

Therefore, the method of processing information according to the criteria that allow the evaluation of the level of performance of skills and the most appropriate for volleyball skills are the measures of error, because most of the skills deal with accuracy mainly, as it helps the specialist to choose the appropriate methods to overcome inaccuracy.

The importance of the research lies in the fact that the learning process during these stages must be subject to modern scientific foundations, especially the correction of performance errors by preparing the learner according to a method that deals with or is in harmony with the mental abilities that would reduce the rate of error

and the use of auxiliary means according to the measures of error, since correcting mistakes in group games requires such a type of method in order to differentiate the errors between the players, as they must be The educational process is oriented towards specific mistakes and for each player to avoid them early, especially in the junior stage , because this stage is in which the coach is able to modify the performance style towards the best form and thus reach the required level of accuracy of the players.

1-2 Research Problem:

Processing information and trying to reduce error rates and increase success rates in any sports game has a clear impact on performance in terms of reducing false percentages to reach the best levels, in the game of volleyball, sequential skills are considered the backbone of learning and developing this effectiveness, as it is necessary to use the right methods and methods to master it, and it also needs auxiliary means that permeate its educational units built and prepared on sound scientific foundations, and in order for the learning process to be done on a correct basis. In order to shorten the time, speed up the learning process, and develop the accuracy of the performance of these skills, especially since the performance of these skills is accompanied by many mistakes, it is necessary to use aids in these curricula that help reach the goal.

Through the researcher's observation and interest in volleyball, most coaches identify errors in general and do not rely on scientific foundations and modern methods in learning and training, in addition to the process of diagnosing errors by coaches does not use objectivity in judgment, and error measures are one of the important scientific means in identifying errors clearly and with a kind of accuracy, as well as the lack of the educational and training unit Methods or models that will address multiple information that effectively contribute to educational and training units and reduce errors, as well as the use of more than one educational tool that includes more than one skill that helps the learner developand learn such skills, in addition to the fact that the skill of the barrier is a very important skill that needs to be used in learning it for its mastery and accuracy. These reasons prompted the researcher to carry out this study by using the method of information processing according to the error scales in order to be auxiliary means in the hands of our trainers to be used to address performance errors and in order to stand in front of scientific facts through the field application of the methods used so that those working in this field can work with the results obtained.

1-3 Research Objectives:

1. Preparing an educational curriculum in the method of information processing according to the measures of error in learning andaccurately performing the skill of the barrier wall for youth in volleyball.

2. Identifying the effect of the educational curriculum on the method of information processing according to the error measures in learning andthe accuracy of the performance of the barrier wall skill for young people in volleyball in the pre-test after the experimental group.

3. Identifying the differences in the accuracy of the preparation of the educational curriculum in the method of information processing according to the measures of error in learning andthe accuracy of the performance of the barrier wall skill for young people in volleyball in the post-test of the control and experimental groups.

1-4 Research Hypotheses:

1. The preparation of an educational curriculum in the method of information processing according to the measures of error in learning andthe accuracy of the performance of the barrier wall skill for young people in volleyball has a positive effect and in favor of the post-test of the experimental group.

2. The existence of significant differences with statistical significance in the preparation of an educational curriculum in the method of information processing according to the measures of error in learning andthe accuracy of the performance of the barrier wall skill for young people in volleyball in the post-test for the control and experimental groups and in favor of the experimental group.

1.5 Research Areas:

1- 5-1 Human Field: Al-Sinaa Club Youth Players for the 2023-2024 Sports Season
2- 1- 5-2 Temporal Domain: For the period from /20-23 to //20-24.

1- 5-3 Spatial Area: Closed Sports Hall (for Al-Sinaa Sports Club).

3- Research Procedures:

The researcher used the experimental method due to its suitability to the nature of the research.

3-1 Research Population and Sample

The researcherdetermined the research population by the deliberate method, which are the playerand youth of the industry club for the season 20-23-2024, which are (14) players, and they were selected as a sample for the research and divided into

two groups (control and experimental) by simple random method, and the number of each group became (7) players, and Table (1) shows the homogeneity of the sample in the variables (training age, weight, andheight).) .

Table (1)

It shows the homogeneity of the members of the research sample in (training age,height and weight).

Coefficient* Convolution (L)	Broker (f)	Deviation Normative (p)	Middle Arithmetic (Q)	Unit of Measurement	Statistical Treatments Variables	t
0,66	2	1	2,22	month	Training Age	1
0,352	180	0,17	1,82	poison	Length	2
0,487	67	11,7	68,9	kg	Weight	3

The resulting scores were limited to (±1), which indicates the homogeneity of the sample members in the above variables.

3.2 Selection of Tests

The researcher reached these tests through a careful review of the content of many scientific sources and similar researches, and the following tests were selected:

1- Barrier wall skill accuracy test .(1:241)

2- Error measurement test for the accuracy of fixed and variable barrier skill.(2:2008)

3-3 Educational Curriculum According to Information Processing

Since the game of volleyball is one of the team games that is characterized by its many basic skills and multiplicity, the need called for the researchers to think about preparing educational units with assistive means, by thinking about finding what reduces the error rate of the barrier wall skill in the game of volleyball due to its importance in mastering the performance of the skill and its great role in reducing the percentage of error among players, and this has been achieved as the means have been designed and prepared After conducting a survey experiment through which the two researchers identified the types of measurement errors and then

(1) Mohamed Sobhi Hassanein and Hamdi Abdel Moneim: The Scientific Foundations of Volleyball and Measurement Methods , Helwan University , Al-Kitab Center for Publishing, 1999, p. 241.

(2) Saddam Mohamed Farid: PhD Thesis. University of Babylon, Unpublished, 2008

designed the tools according to the measurement errors in the research sample, "One of the important things in the manufacture of educational aids is how to manufacture them in a way that arouses the interest of the players and their motivation towards learning skills, and that they are easy touse" (52:3), and at the same time at a low financial cost and commensurate with the mistakes of the players, i.e. they are actually feasible to reduce errors and develop accuracy, and they have strength and durability. So that it is effective when performing, and this has been achieved as it was accomplished according to the purpose for which it was prepared, as well as it was not very expensive, and at the same time the trainer can use it to suit the conditions of the exercise, as well as it is easy to transport, easy to store, easy to use and apply, and it has been appreciated by coaches and players alike, it has the factors of ease and safety in use and it increases the excitement and effectiveness of the learner and his excitement in performance, and these means are:

1- **Hanging Episode (2):**

It is a ring with a diameter of (70 cm) surrounded by an open net from the bottom in a conical shape from which the ball emerges and is fixed on a pole with a height of (2) m and resting on the ground with a tight base and the height of the ring can be controlled by a switch that connects the ring to the pole, this means is used to teach the accuracy of the skill of the barrier wall by connecting the ball to the inside of the ring as well as sensing the distance between the competitor and the vacuum.

2- **Beam & Ring:**

In this method, the player defends the ball and connects it to the hoop, but with the presence of a net tied between two posts with a width of (2) m and the height of its upper edge from the ground (2.5) m, and its height and low can be controlled, it is placed between the player and the hoop, and the player blocks the ball and connects it to the ring from above the net, which helps to focus on the accuracy of the barrier wall and also helps to take the correct position to defend the field and thus develop the player's accuracy.

3- **Colored box and beam:**

This means a colored plastic square with a distinctive color in the arena measuring (1.5 m) square placed in the place of the prepared and a beam with a width of (4 m) installed on two holders with a height of (2 m) and between the player performing his skill is a barrier wall and the colored square, and he connects the ball with his hands from above the crossbar in the direction of the colored square, and it helps the player to perform accurately

3.4 Field Research Procedures

3.5 Exploratory Experiment

The researcher conducted an exploratory experiment on (5) players from the research community outside the sample, and the accuracy test and the error measurement test were applied on 9/12/2023, to the hall of the Specialized Center in Baghdad Volleyball to identify the factors and obstacles that the researchers may face when implementing the main experiment.

3.5.1 Scientific Parameters of Tests

Since the selected tests have been mentioned in the sources and used in previous researches and studies, and the scientific parameters have been extracted and applied to samples similar to the research sample, they have honesty, consistency and objectivity.

3.5.2 Pre-tests

Before starting the pre-test for the research sample members, the researcher used an introductory unit for the purpose of starting learning from a single starting point between the two groups, and the approach of the induction unit included explaining and clarifying the error scale, and after the sample was divided into two groups, the control and the experimental ones, the pre-tests were conducted on 20/12/2023 to measure the skill of the barrier wall off the field and on 21/12/2023 in the error measurement test for the mentioned skill in the hall of the Sports Club Under the supervision of the researcher and with the help of the assistant work team 3 , the playground was well prepared with the availability of tools and supplies, and it was confirmed that the conditions related to the tests were fixed in terms of time, place and the tools used.

3.5.3 Equivalence of the two research groups

Before starting the implementation of the curriculum vocabulary, the researcher resorted to verifying the equivalence of the two research groups in the variables related to the tests under study, as shown in Table (2).

Table (2)

Shows the parity of the members of the experimental and control groups in the test of the skill of defending the field and the test of error measurement of the skill of defending the field

Significance	Value (v)*		Control Group		Experimental Group		Unit of Measurement	Statistical Treatments Variables	t
	Tabularity	Calculated	on	Going to	on	Going to			
Insignificant	2،12	0,036	5,85	18,67	6,17	18,78	degree	Barrier Wall Skill Accuracy	1
Insignificant		0,79-	0,32	1,09-	0,23	1,2-	degree	Barrier wall accuracy	2

The names of the assistant work team are as follows:[3]

1- Assoc. Prof. Dr. N. Nizar Mahmoud/ Physical Education Teacher.
2- Eng. Haitham Thaer Daoud / Physical Education Teacher.

								error(fixed)	
Insignificant		1,425-	0,12	1,32	0,07	1,25	degree	Barrier wall accuracy error (variable)	3

*** The tabular value of (t) is at the significance level of (0.05) and the degree of freedom (16) is (2.12).**

3.5.4 Main experience

The main experiment was carried out on 22/12/2023, relying on the curriculum vocabulary set by the trainer and the researcher did not change the curriculum vocabulary and its time, with the exception of the use of educational modules prepared according to the method of information processing and the error scale in the main section, and the duration of conducting the main experiment was (4) Weeks) at the rate of (3 educational units) per week, the duration of each unit was (90 minutes) and the educational unit was divided into three main sections, the preparatory section (20) minutes, the main section including the educational part, the applied part (60) minutes, and the final section (10), and the control group conducted the educational units of the trainer's curriculum while learning the skill when applying the experiment. Three units per week on (Saturday, Monday, and Wednesday) starting from Saturday, 23/12/2023, and the skill was explained and presented by the trainer in the same way at the beginning of the educational part of the two groups, while the experimental group applied the experiment starting from Friday, 22/12/2023, and with three units on days (Friday, Sunday, and Tuesday), and means and tools were used in the educational units. The error scale was used in order to measure the development in the accuracy of the skill and that the use of new tools in the educational units was repeated for more than one educational unit and according to the development of the players, and the role of the researcher was to supervise the experimental group while the trainer used the units in the main section of the educational unit, as it is a new method that must be followed by the

researchers, which can beReferring to it with recommendations for subsequent research , with an emphasis on moving from one exercise to another according to the sequence set and applied by the coach, and the two researchers took into account the sequence in the use of means from easy to difficult, and the two researchers emphasized on giving feedback a role to correct mistakes, and through that, the heterogeneous error was calculated to know the amount of error heterogeneity of the player in the attempts he performs and giving information to correct mistakes, and the instructions and instructions themselves were given. for the two groups by the coach in the final section, emphasizing the mistakes and the need for better performance, then returning the means to their place and leaving.

3.5.5 Post-tests

After the main experiment was applied using auxiliary means to the experimental research group and at the end of the educational modules, the researcher conducted the post-tests of the experimental and control groups and using the accuracy tests of the volleyball barrier skill on 24/25/2/20, and the researchers conducted the error measurement test on 24/2/26/20. All the necessary requirements for the tests have been prepared and taking into account the temporal and spatial conditions in which the pre-test was conducted.

3-6 Statistical Methods:

The researchers used the following statistical methods: (4:102)

1- Percentage 2- Mean 3 - Mean 4- Standard Deviation 5- Torsion Coefficient

(1) Wadih Yassin and Hassan Mohammed: Statistical Applications and Uses of Computers in Physical Education Research, Mosul, National Library, Dar Al-Kutub and Documents in Baghdad, 1999, p. 102, p. 123, p. 155, p. 214, p. 270, p. 272.

6- (v) For independent samples 7- (v) for correlated samples 8- **Jump error**([5:216]) 9- Heterogeneous error [6:42]

4. Presentation and discussion of the results

Table (3)

Shows the arithmetic media, standard deviations, calculated and tabular value of (v) in the pre- and post-tests of the control group.

Significance	Value (v)*		Post-testing		Pre-test		Unit of Measurement	Statistical Treatments / Variables	t
	Tabularity	Calculated	on	Going to	on	Going to			
Insignificant	2،31	1,55	2,69	20	5,17	17,70	degree	Barrier Wall Skill Accuracy	1
Insignificant		1,39	0,19	0,53-	0,27	1,6-	degree	Fault Wall Skill Accuracy (Fixed)	2
Insignificant		0,29	0,57	1,25	0,09	1,33	degree	Fault Wall Skill Accuracy (Variant)	3

The tabular value of (T*) at the significance level of (0.05) and the degree of freedom (8) is (2.31).

Through the results presented in Table(3) of the results of the pre- and post-tests of the control group for the variables of accuracy and constant and variable error of the barrier wall skill , it was found that there are no statistically significant differences between the pre- and post-tests of the control group, and the researchers attribute the reason for this to Relying on exercises in which the appropriate educational means are not used according to those mistakes, and therefore the

(2) Ya'arab Khayoun: Kinetic Learning between Principle and Practice , 2nd Edition, Baghdad, Dar Al-Kutub and Documents, 2010, p. 42.

(3) Talha Hussein Hossam El-Din et al.: Learning and Motor Control (Principles - Theories - Applications), 1st Edition, Cairo, Al-Kitab Center for Publishing, 2006, p. 216.

desired purpose of the exercise is not achieved when it is used to develop the accuracy of skills and reduce their errors, and this reflects a clear concept for us about the importance of using educational aids prepared according to the error scale as they are part of the curriculum as they help to obtain various experiences to achieve the goal, and this is confirmed by Mahmoud Al-Rubaie (2011) that the assistive means "They are not secondary or supplementary subjects, but are scientifically an integral part of the curriculum."(255:7)

Although there are differences in the value of the arithmetic medians in favor of the post-test of some skills in the fixed and variable error in the control group, and this is due to practice and repetition, these are small differences that are not at the required level, and this indicates the existence of fixed errors and dispersion in the error variance, and the researchers attribute this to the lack of use of the auxiliary means prepared according to these errors.

Table (4)

Shows the arithmetic media, standard deviations, calculated and tabular value of (v) in the pre- and post-tests of the experimental research group

Significance	Value (v)*		Post-testing		Pre-test		Unit of Measurement	Statistical Treatments / Variables	t
	Tabularity	Calculated	on	Going to	on	Going to			
Moral	2‹31	2,4	2	22,35	4,84	16,60	degree	Barrier Wall Skill Accuracy	1
Moral		33‹8	0,169	0,47-	0,35	1,07-	degree	Fault Wall Skill Accuracy (Fixed)	2
Moral		11,07	0,17	0,59	0,11	1,30	degree	Barrier Skill Error (Heterogeneous)	3

The tabular value of (T*) at the significance level of (0.05) and the degree of freedom (8) is (2.31).

Through the results presented in Table (4) of the results of the pre- and post-tests of the experimental group of the variables of accuracy and constant and variable error of the barrier skill it was found that there are statistically significant differences between the pre- and post-tests and in favor of the post-tests in this group, and the researchers attribute this to the inclusion of the educational units according to the method of information processing.The variety of aids that contributed to the development of accuracy and helped the player to achieve more understanding of the nature of the performance of the skill, which makes him succeed in performing the motor skill in different play situations, through the two processes of education and training, the error is reduced and the mastery of the player increases through the acquisition of neuromuscular compatibility, as it enables him to control the motor performance, and this can be observed through the appearance of his skill in performing the movement accurately, and this was confirmed by Abdul Ghani Sobhi (1997). Learning by means and tools is an empirical basis, more effective and less error-prone in addition to the attraction that the learner feels, so he has a strong inclination and desire to use it to work on the speed of learning" (8:13), and this was confirmed by Ahmed Ezzat (1975) when he said, "Motivation is an important condition of learning, for there is no learning without a specific motivation that motivates the individual to learn" ([9:78]**).**

The researcher believes that the exercises given by the aids have a great role in the player's use of all his senses as learning tools related to the influences around him that transmit them to the mind, which analyzes, classifies and absorbs them in the form of knowledge and experiences through which he discovers scientific facts or some of them, and thus he becomes a positive feeling for his total interaction with this process, and the pursuit of these facts becomes a dear habit that remains throughout the educational units.

What increased the effectiveness of the aids in the process of facilitating and accelerating the learning process was their design according to the error despair, which had a great role in the accuracy of the players and an indicator of the amount of error and the percentage of heterogeneity each time, which helped the coach to give feedback in a timely manner, so we observe a rise in the arithmetic circles of accuracy and a decrease in the In the rate of the median of fixed and variable error, this indicates the low level of fixed errors, the coherence of errors and the lack of dispersion in the players, as the error goes in reverse with accuracy, as the higher the accuracy, the fewer errors, so the researchers believe that all the means have met the needs of the players and contributed to the shortening of effort, time and cost, and have achieved a great development in the accuracy of skill, as it had an effective effect on the mastery of performance by the players.

Table (5)
It shows the values of the arithmetic media, standard deviations, calculated and tabular values of the post-tests of accuracy and fixed and variable error in the skill of defending the field between the control and experimental groups.

Significance	Value (v)*		Experimental Group		Control Group		Unit of Measurement	Statistical Treatments / Variables	t
	Tabularity	Calculated	on	Going to	on	Going to			
Moral	2،12	2,69	2	23,37	2,77	19	degree	Barrier Wall Skill Accuracy	1
Moral		2,678	0,169	0,47-	0,17	0,67-	degree	Barrier Wall Skill Error (Fixed)	2
Moral		3,27	0,15	0,58	0,59	1,18	degree	Barrier Wall Skill Error (Variable)	3

*** The tabular value of (v) is at the significance level of (0.05) and the degree of freedom (16) is (2.12).**

By presenting the results of the post-tests of the control and experimental groups in Table (5), it was found that there are significant differences between the

experimental and control groups in the post-tests and in favor of the experimental group, where their development was greater than the control group.

The researcher attributes this to the use of the experimental group of aids in the main part of the curriculum, which the researchers believe has a positive and important effect on the development of the skill under study, the development of accuracy and the lack of errors, because "tools and devices are one of the most important key elements for the success of any program in physical education" ([90:10]), as the use of devices as an auxiliary tool leads to the development of the accuracy and level of performance of the skill. It had an effective effect on the speed and mastery of the performance of this skill in the players, as it saves time and effort and facilitates and accelerates the learning process, and if its use was easy to difficult, and the assistive means had a positive effect on the development of accuracy, and therefore the learning units and exercises used with the assistive means achieved the goal of using them in training, as they achieved a great development in terms of accuracy.In addition, educational aids have had an impact on raising the level of learning by reducing errors in the performance of the barrier skill, as "exercises and teaching aids help individual teachers, both teachers and learners, to understand the material with minimal effort and shorten time, as well as to prune performance errors" ([11:38]).

The methods used according to the method of processing information and the measurements of error.

Hanging ring : It helps to make the barrier wall accurate by entering the ball into the ring.

As for the colored square and crossbar, it serves the heterogeneous error by connecting the ball from above the crossbar to the direction of the square so that the player and the coach can know the extent of its deviation from the square, and in the case of the prepared player standing on top of the square, it is more useful to

know the extent of the ball deviation from the prepared player and try to know the player in charge of the barrier wall towards the ball and then the performance.

Wall-mounted colored circles help to accurately direct the ball while the blocker is playing to the opponent's court by increasing the neuromuscular coordination between the arms and eyes and focusing on directing the ball into the circles.

As for the large circles and the small circle placed between them: they serve the heterogeneous error when the coach asks to direct the ball towards the small circle for the purpose of performance coherence, the direction of the ball towards the large circles shows the amount of deviation from the specified goal (small circle) because the distance between the circles has been measured and is built on the basis of the playing positions in the front line.

5. Conclusions:

1- Using new exercises and aids according to information processing Error metrics in the educational module is a suitable way to address players' errors.

2- The superiority of the experimental group in the post-tests of the accuracy variable in the skill of defending the field is clear and the decline of the fixed and variable error over the control group is clear.

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