

The Effect Of Various Introductory Exercises Accompanied By Real-Time Feedback On Learning To Perform The Skill Of The Forehand Kick In Badminton

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Abstract

The research problem can be known through the following questions:

- Do the introductory exercises accompanying the real-time feedback help in learning the skill of striking the forward dimensions of badminton?

The study aimed at:

1. Preparing a variety of introductory exercises accompanied by real-time feedback in learning the performance of the skill of striking the front dimensions of badminton.
2. Recognizing the effect of various introductory exercises accompanied by instantaneous feedback on learning the performance of the skill of hitting the front dimensions of badminton.

The researchers used the experimental method with two groups, representing the research community with the (200) students of Fink Private School, and the sample of the research was chosen in a deliberate way from the students of the fifth grade of primary, numbering (16) students from the research sample, and the sample of (12) students was divided Randomly and equally into two groups by lottery method. As for the statistical treatments, the statistical program (spss) was used to extract the required results that serve the study.

The research reached the following conclusions:

- 1- The various introductory exercises accompanied by real-time feedback in learning the performance of the skill of hitting the front dimensions of badminton had a great effectiveness in developing and improving the skill performance.
- 2- There are statistically significant differences in learning the performance of the two frontal strokes in badminton between the experimental and control groups and in favor of the experimental group.

I-Definition of research:

I-I Introduction and importance of the research:

As a result of the recent scientific development and the global revolution of development in all fields in general and in the higher education institutions in particular, recent studies have proven that the process of correct education starts from the early age stages because of its distinguished position among those interested in most countries of the world. This interest is one of the most important standards by which the progress and civilization of countries are

measured, their advancement, attention to the talents of their children, and their assistance in the proper motor development of any event.

There are many methods and ways through which learning exercises can be practiced and organized, and this depends on the type of skill or effectiveness and its requirements, as well as on the level of learners and the capabilities available in the educational environment.

The students in this age group is attracted to various games, especially if the games are different and new to him. Here we have to make room for him to satisfy

his desires first and teach him new skills that help him to perform them correctly.

The game of badminton is one of the individual games that has witnessed a clear development in recent times, as a result of its entry into the Olympics, which increased the competition of countries in devising the best educational methods to help develop the performance of their players. One point, requires the player to possess high physical, skill and mobility qualities and a high ability to find appropriate ways for the obstacles he faces during the match.

The importance of the research is manifested in the interest in using a variety of introductory exercises in learning the skillful performance of some basic skills in badminton is essential to understanding the student's learning, so developed countries pay special attention to this stage and see the need to build educational programs for this important stage. This crucial period of an individual's life is characterized by general specifications that distinguish it from other periods in human life. It is the period during which the student's senses are sharpened, which are considered as doors and an entrance to mental knowledge.

2-1 Research Problem:-

As a result of the researchers' interest in the game of badminton, they noticed that there is a lack of use of modern methods in exercises that help to learn skills for beginners in the early stages, and that beginners make many mistakes in performance. Also, this use of introductory exercises may help the novice in the easier learning of the skill and mastering it better, especially if accompanied by feedback during the performance to correct errors and enhance the level. The researchers decided to study this problem and develop solutions to it through the following question:

- Do the introductory exercises accompanying the real-time feedback help in learning the skill of striking the forward dimensions of badminton?

3-1 Research Objectives:

1- Preparing a variety of introductory exercises accompanied by real-time feedback in learning the performance of the skill of hitting the front dimensions of badminton.

2- Recognizing the effect of various introductory exercises accompanied by instantaneous feedback on learning the performance of the skill of hitting the front dimensions of badminton.

1.4 Imposing search:

- There is a statistically significant relationship in learning the performance of the front-dimension stroke in badminton between the pre and post-tests.
- There is a statistically significant relationship in learning the performance of the front-dimension stroke in badminton between the experimental and control groups.

1-5 Research Areas:

The human domain: the fifth grade of primary school students enrolled in Fink Private School / Erbil.

Time range: to be determined

- Spatial domain: Fink Private School halls / Erbil

1-6 Defining the terms:

Miscellaneous introductory exercises: "It is a competitive and recreational activity performed in different formations for groups of individuals without being bound by the literal international laws of the game"(Khatib, 1992, p. 244)

3- Research methodology and field procedures:

3-1 Research Methodology:

The researchers used the two-group experimental method for its suitability in solving the research problem and achieving the research objectives.

3-2 The research community and its sample:

The research community was represented by the students of Fink Private School, who numbered (200) students. As for the research sample, it was chosen in a deliberate way from the students of the fifth grade of primary, numbering (16) students from the research sample. Also (4) students were chosen randomly because they represent the exploratory experiment. The sample of (12) students was randomly divided into two groups by lottery method, the first group (experimental) and the second group (control) with (6) students for each group, and table (1) shows this.

This school was chosen for the following reasons:

1- Availability of a suitable room for practical application.

2- Availability of the necessary tools to perform the physical education lesson.

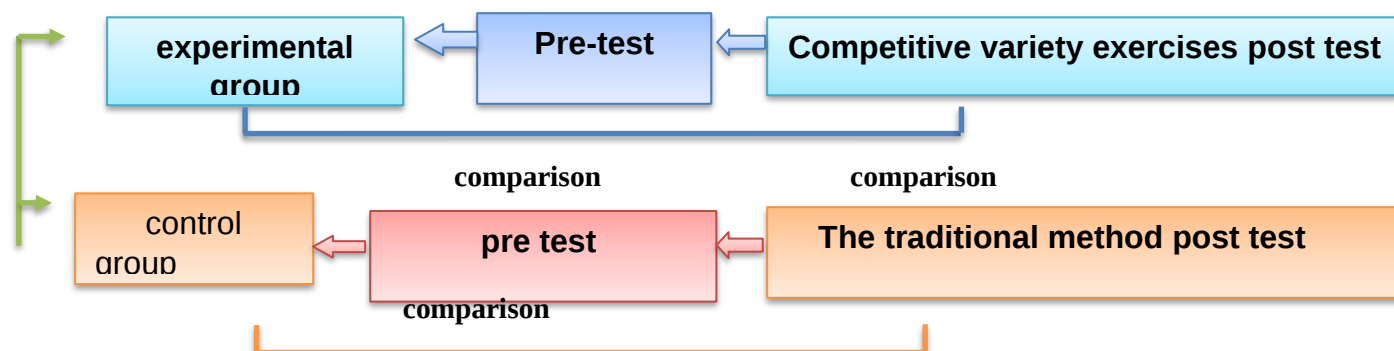
3- Availability of the research sample.

Table (1) Research population and sample size

N o	Study population	exploratory experience	The research sample	Number of samples	method
1	200	4	experimental group	12	Various introductory exercises
2			control group	12	School style

3-3 Experimental Design:

The researchers relied on the experimental design of equal groups with pre- and post-tests" (Abbas, 2012, p. 192). Figure (1) illustrates this.



Figure(1) the experimental design of the two groups

3-4 Scientific bases for the tests:

The researchers conducted tests on a sample of the research community, which numbered (4) players, the exploratory experiment sample, after which the validity and reliability of the tests were extracted.

3-4-1 Honesty:

The researchers obtained the apparent validity by presenting the tests to a group of experts and specialists.

2-4-3 Stability coefficient:

In order to obtain the stability of the test, the researchers applied the tests to the sample of the research community, the exploratory experiment, which numbered (4) players, on (15/11/2021), and they were re-applied to the same sample on (22/11/2021) and under the same circumstances in which they were made. Conducting the first test, as the simple correlation coefficient (Pearson) was found between the first and second tests, and the researchers obtained the stability of the tests.

Table (2) The scientific basis of the tests

Test	the group	Arithmetic mean	Standard deviation	Correlation coefficient (reliability coefficient)	self- honesty
Forehand	first application	3,305	0,211	0,905	0,951
	second application	3,267	0,190		

3-5 homogeneity of the research sample:

The researchers performed homogeneity among the research sample for the variables (age, height, body weight) in order to ensure that all the players fall within the normal distribution by calculating the torsion coefficient, which falls within (± 1). Table No. (2) shows the procedures for homogeneity of the research sample.

Table (3) the homogeneity of the research sample

torsion modulus	mean	Standard deviation	Arithmetic mean	Measurement unit	Statistical value variables
0,086	12,000	0,668	11,916	the year	the age
0,312	143,000	2,429	143,583	cm	height
0,848	42,500	2,193	43,416	kg	weight

From Table (3), it can be seen that the skewness coefficient values range between (± 1) and this indicates the normal distribution of the sample, that is, it is homogeneous in the variables (age, height and body mass).

3-6 Means, devices and tools used:

3-6-1 Data collection methods:

(Arabic and foreign sources, the Internet, performance evaluation questionnaire form, tests and measurement).

3-6-2- Tools and devices used in the study:

An equipped badminton court and chart, an HP laptop calculator, a Sony camera and accessories, 12 badminton rackets, a 12-pack Yonex badminton, a medical scale, a measuring tape, an adhesive tape, a badminton net.

3-7 the tutorial.

The researchers presented a proposed educational program to the experts and specialists, their opinions and suggestions were taken to prepare the final version of the educational program and its applicability to the experimental research group, which included the effect of a variety of introductory exercises accompanied by real-time feedback on learning the performance of my forehand skills in badminton.

The implementation of the educational program relied on the following paragraphs:

3-7-1 The time plan of the educational program:

- Duration of the educational program (16) educational units.
- Implementation of the educational program took (8) weeks at a rate of (2) educational units per week.

- The exercises in the educational units were sequenced according to their order in learning the technical performance of the skill forehand.

3-7-2 Sections and content of educational units:

After reviewing the scientific sources and some previous studies, the sections and content of the educational units were prepared and presented to specialists in the field of sports to express their opinion on the validity and modification of what they deem appropriate. In addition to the exploratory experiments, the researchers determined the time achieved in the educational unit, especially the applied section in terms of time, repetition and comfort between the exercise and the total rest between exercises. The educational unit was divided as follows:

First, the preparatory section:

The total time took (10) minutes, and its goal was to warm up in a general way for all parts of the body to serve the main section of the educational unit, as well as to give physical exercises according to the type and importance of the skill given.

Second: The main section:

The total time of the educational and applied section took (30) minutes, where the teacher explained and applied the introductory exercises, especially for the students of the fifth grade of primary school, in an overlapping manner, because the majority of the introductory exercises depend on immediate feedback on performance. This is done on all educational units for the experimental group, while the control group did not. These exercises are performed, but relied on the traditional exercises within the curriculum followed by the school, which included learning the stroke of the frontal

dimensions with badminton, and the total educational unit time (45) minutes, as the school implements the unit curriculum: by explaining the movements, then displaying them and applying them in practice by female players.

Third: The concluding section:

The total time took (5) minutes, and included calming and relaxation exercises.

Table (5) the duration of the course

Unit no	Weeks	Teaching unit time	Time in minutes in a week	Total time in minutes
16	8	45	90	360

Table(6) the sections and content of the educational unit and the time for each

Departments of the educational unit		time	Activities
Prep		10	Special warm-up managerial activity
Main	The educational and practical part	30	A simplified explanation of the concept to be learned
			Application of the concept through the implementation of educational duties
Final		5	Relaxation exercises

3-8 Evaluation of Technical Performance:

The researchers relied on the virtual form of movement in evaluating the technical performance of the skill or movement, because the motor skills in question lead once and their duty ends. So, the researchers prepared a questionnaire form to determine the degrees of the virtual motor construction sections of the technical performance of the front-kick skills, and it was presented to a group of specialists in the sports field in order to determine the degrees of the sections of the virtual construction that includes (the preparatory section, the main section, the closing section), provided that the total score is from (10) degrees, and the sports skills or movements performed by the students can be evaluated by one of the following methods(Mahjoub, 1987):

The first method: performing the movement and evaluating it by experts or an expert by watching with recording.

The second method: Performing the movement and evaluating it after recording it pictorially by means of a cinematic or video (film) and then displaying it by well-known projectors and analyzing it by experts and specialists.

The researchers used the second method above to evaluate the apparent shape of the movements under study. The researchers used video imaging and prepared it on a CD (CD) to evaluate the technical performance of the research sample by three assessors, who are experienced and specialized in the game of badminton, as each of them was evaluated

by giving a score to the player of the total grade of (10) degrees.

3-9 Administrative and organizational procedures:

3-9-1 Administrative Procedures:

In order to facilitate the research procedures and facilitate the researchers' task, the concerned authorities were approached to obtain official approvals to conduct the research.

3-9-2 Regulatory Procedures:

The researchers gave an introductory lecture to the subject teacher, the assistant work team, and the students, on how the educational unit work, explaining the method used in learning and performing the movements under study. They state the objectives of the educational units and all their contents, commitment to the educational units and not being absent, knowing the effectiveness of educational exercises, and emphasizing the performance and implementation of all the duties assigned to them. during the educational unit.

3-10 Experiments:

3-10-1 The first reconnaissance experiment:

The two researchers conducted the exploratory experiment on Monday, November 15, 2021, on students from outside the research sample, who numbered (4), in order to reach accurate results

before implementing the educational program. The teacher, under the supervision of the researchers, conducted the first exploratory experiment. The pilot experiment aims to:

- 1- The validity of the educational curriculum for application in the final form.
- 2- The appropriateness of the time of the educational units for the research sample.
- 3- The possibility of the teacher to apply the introductory exercises.
- 4- Validity of the devices and tools used.
- 5- How to streamline the work and organize the students in the hall.
- 6- Providing safety conditions for the safety of the students.
- 7- Ensuring the ease of performing the exercises within the prescribed time.
- 8- The ability of the sample members to apply the introductory exercises.
- 9- Knowing the obstacles that the teacher and students encounter in order to avoid mistakes.
- 10- Knowing the ability of the assistant work team to carry out their tasks accurately
- 11- Determining the performance time and repetitions for each exercise.
- 12- Create a clear picture of the nature of work and how to implement it.

2-10-3-2

3-10-2-2 The second reconnaissance experiment:

The researchers conducted the exploratory experiment on 22/11/2021 on a sample of the research community of (4) female students and they were excluded from the main experiment after the completion of the second exploratory experiment, and the purpose of the exploratory experiment was:

- 1- Adjusting the factors affecting the process of photographing movements, including:
 - A- Verify the location of the filming and the validity of the camera used.
 - B - The height of the camera.
 - C- An angle for shooting for the purpose of body clarity during the skill performance.

3-11 Research Procedures:

3-11-1 Tribal tests:

The tribal tests of the research sample were conducted on Wednesday 1/12/2021 at exactly nine

o'clock in the hall of the Finik Private School in Erbil. The time, the tools used, the method of implementation and the assistant work team were specified to work to provide the same conditions when applying the post tests. The trainer with the help of the assistant work team explained and presented these movements before starting the implementation of the tribal tests in order to form a clear picture of each movement in front of the study sample.

3-11-2 Main research experience:

The curriculum was implemented for the introductory exercises accompanied by immediate feedback on Monday 6/12/2021, as the first group (the control group) worked with the subject school to learn the skills without using the introductory exercises, while the second group (the experimental) learned the skill by using the preliminary exercises accompanied by the immediate feedback.

3-11-3

Post tests:

The post tests were conducted for the research sample after the completion of the educational program, which began on 6/12/2021 and ended on 6/2/2022. /Erbil, using the imaging device, where the performance of the front-dimension stroke of the experimental and control groups was filmed, and under the same conditions, tribal tests were conducted in terms of location, devices, tools, method of implementation and work.

3-11 Statistical means:

The statistical package program (SPSS) version (24) was used to process the data for the research, which included the following statistical means: (arithmetic mean, standard deviation, median, skew coefficient, simple correlation coefficient (Pearson), t-test for independent and dependent samples).

4- analysis and discussion of the results:

4-1- Presentation and analysis of the results of the differences (T) between the two research groups (experimental and control) in evaluating the performance of the front-dimension stroke in badminton for the fifth graders of primary school:

4-1-1 Presentation and analysis of the results of the differences (T) between the two tests, the pre and post-tests of the experimental group in evaluating the performance of the front-dimension stroke in badminton for the fifth graders of primary school:

Table(7) the arithmetic means, standard deviations, t-values, and the level of significance (sig) between the pre and post-tests in evaluating the performance of the skill of striking the front dimensions of the fifth-grade primary schoolgirls of the experimental group.

no	physical variables	pre		post		T value	Statistical significance)sig(
		c	a	c	a		
1	Front Dimension Stroke	2,443	0,271	6,165	0,317	21,831-	0,000

*

Significant if the significance level (sig).(0.05) $\geq$
It is evident from Table (7) that the arithmetic mean of the forehand in the pre-test of the experimental group was (2,443) with a standard deviation of (0.271), while the arithmetic mean in the post-test reached (6.165) with a standard deviation of (0.317) bearing in mind that the value of the significance level is sig. (0.000) and the value of (t) is (-21,831), which indicates that there are significant differences

between the results of the pre-test and the post-test in favor of the post-test.

4-1-2 Presentation and analysis of the results of the differences (T) between the pre and post-tests between the pre and post-tests of the control group in evaluating the performance of the skill of hitting the front dimensions with badminton for the fifth-grade students:

Table (8) the arithmetic means, standard deviations, t-values and the level of significance between the pre- and post-tests in evaluating the performance of the skill of striking the frontal dimensions of the fifth-grade pupils of the control group.

No	physical variables	pre		post		T value	Statistical significance)sig(
		c	a	c	a		
1	Front Dimension Stroke	2,386	0,328	3,778	0,672	3,664-	0,015

*

Significant if the significance level (sig).(0.05) $\geq$
It is evident from Table (8) that the arithmetic mean of the forehand in the pre-test for the control group was (2,386) with a standard deviation of (0.328), while the arithmetic mean in the post-test was (3,778) with a standard deviation of (0.672), note that the value of the significance level is sig (0.015) and the value of (t) is (-3,664), which indicates that there are significant differences between the results of the pre- and post-test and in favor of the post-test.
4-1-2-1 Discussing the results of the differences between the pre and post tests for the experimental and control groups to evaluate technical performance:

After the results of the tests for the experimental and control groups were presented and analyzed in the previous axes, it appears from the results of tables (7) and (8) that there are significant differences between the pre and post-tests of the experimental group in evaluating the technical performance of the

skill of hitting the front dimensions in badminton and in favor of the post tests. The reason for this is that the players in the experimental group performed special educational exercises, which directly affected the speed of improvement in the technical performance of teaching movements (under research). The researchers found that this skillful behavior had a positive impact on learning the movement and its good performance by the students. More accurately, this was shown by the result of the experimental group between the two tests (pre- and post-tests) and it was in favor of the post-tests.

As for the control group, the indications of the differences in the pre and post-tests in evaluating the level of technical performance of the control group were in favor of the post tests that followed the traditional method. In addition to the continuous practice in the course of the curriculum followed by the students, and its contents of explanation, presentation and giving instructions and instructions for each of the curriculum vocabulary, which leads

to education and then an improvement in the level of performance of skills learning (under research).

The researchers attribute this difference that appeared in the results of the pre and post tests for the experimental group and in favor of the post-test to the difference in the effect of the preliminary exercises, especially for the experimental group, from the traditional approach, if it relied on the preliminary exercises that were built on scientific foundations and principles of raising the level of technical performance of students in the game of badminton, and he adds The researchers have another reason, which is that the use of introductory exercises accompanied by instantaneous feedback forces the students to reconstruct each exercise and in each technical performance of skills (under

research). The students practice them, as the interference between the preparatory exercises gives the students the ability to distinguish between the exercises in terms of similarities and differences and makes each of them a meaning in his memory, especially if these exercises are derived from the forms of the learned movements and their parts, and they serve the technical performance in the first place, which works to increase the Improvement and control in a high form on technical performance.

4-1-3 Presentation and analysis of the results of the differences (t) between the two post-tests of the experimental and control groups in evaluating the performance of the skill of hitting the front dimensions in badminton for the fifth graders of primary school:

Table(9) Arithmetic means, standard deviations, t-values, and significance level (sig) for the skill of forehand stroke with badminton for the dimensional tests of the experimental and control groups.

No	physical variables	Experimental group		Control group		T value	Statistical significance)sig(
		c	A	C	a		
1	Front Dimension Stroke	6,165	0,317	3,778	0,672	7,864	0,000

* Significant if the significance level (sig) $\leq$ (0.05).

It is evident from Table (9) that the arithmetic mean of the forehand stroke for the experimental group was (6,165) with a standard deviation of (0.317), while the arithmetic mean of the control group was (3,778) with a standard deviation of (0.672), noting that the value of the significance level (sig) (0.000) and the value of (t) is (7,864), which indicates that there are significant differences between the results of the two groups and in favor of the experimental group.

4-1-3-1 Discussing the results of the differences between the post-tests of the experimental and control groups to evaluate technical performance:

Through our observation of Table (9) it becomes clear to us that the experimental group outperforms the control group between the two post-tests in assessing the performance of the skill of hitting the front dimensions with the badminton and in favor of the post test for the experimental group. It contributed to achieving an improvement in the technical performance of the skills to be learned compared with the control group, which in turn relied on the usual method used by the teacher. The

exercises that the researchers put together with the experimental group worked to increase the female learners' awareness and experience, which led to an improvement in the level of correct technical performance for each movement, that is, it helped to take the appropriate range and its reflection on their competently and highly skilled performance.

In light of what was discussed, the introductory exercises that the researchers used with the experimental group have clearly affected the speed of improving the technical performance of the skill (under research). This is by employing these exercises to produce the motor duty (skillful performance) accurately, in addition to the nature of the introductory exercises and the transition from one skill to another eliminates boredom during the performance of the exercise, and increases the fun of the students. It moves from one movement to another during the implementation of the preparatory exercises. Schmidt and Wrisberg (2000, p. 244) said, "[o]ur ambition is to increase the learner's capacity to comprehend and control skills or movements during the technical performance of skills or movements in any game".

The researchers believe that the introductory exercises prepared in this study have contributed to providing decisive assistance to learn the skill and master it, and this was confirmed by the results of the obtained post-tests, and the feedback that accompanied working with the preparatory exercises in correcting errors and modifying the motor path of the students of the research sample, which contributed significantly in achieving good results. Abaya (1995, p. 39) indicates that "the role of the teacher is to control the work of small groups, help the learner when needed, provide feedback, and monitor the process of collective participation in small groups".

5- Conclusions and recommendations:

5-1 Conclusions:

The researchers reached a number of conclusions, namely:

- 1- The various introductory exercises accompanied by real-time feedback in learning the performance of the skill of hitting the front dimensions of badminton had a great effectiveness in developing and improving the skill performance.
- 2- There are statistically significant differences in learning the performance of the forehand stroke with badminton between the pre and post tests and in favor of the post test.
- 3- There are statistically significant differences in learning the performance of the forehand stroke with badminton between the experimental and control groups and in favor of the experimental group.

5.2 Recommendations:

- 1- Urging teachers in other schools to use these exercises to teach and develop the skill of the forehand kick with badminton.
- 2- Conducting training courses and workshops for teachers to take advantage of the various introductory exercises accompanied by real-time feedback to learn to perform the forehand kick in badminton.
- 3- Conducting similar research using a variety of preparatory exercises in other sports.

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