

The effect of interfering waves strategy in developing some basic volleyball skills for intermediate first graders

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Abstract: The research objectives to reveal the effect of using the interfering waves strategy in learning some basic skills in the game of volleyball (serve from the bottom facing, receiving the serve from the bottom, and preparing from the top) for the first intermediate students, the researchers used the experimental method, and the research sample consisted of (32 A student with (16) students in each group, and by lottery two groups were named to represent one of them the experimental group and the other the control group, and parity was achieved between the two groups in the variables (age, weight, and height) in addition to achieving parity between them in basic skills (under study), And the overlapping waves strategy was used with the experimental group players, but with the control group, the method was used by the trainer, and the implementation of the experiment took nine weeks with two educational units per week for each group of 18 educational units, and the time for one educational unit was (45) minutes, and the experiment started on 10/2/2018 until 1/15/2019 The researchers used the following statistical methods: the mean, standard deviation, simple correlation coefficient (Pearson), (t) test for two related means and two equal samples, and (t) test for two unrelated means and two equal samples. And after analyzing the data statistically, the researchers reached conclusions, the most important of which are: The use of the overlapping waves strategy had a clear role in learning some basic skills (under study) for the experimental group players. Take advantage of the overlapping waves strategy in physical education lessons for all school levels.

Keywords: Interfering waves, strategy and skills.

1. Introduction

Physical education is considered a science like the rest of the sciences. It uses the latest scientific methods and methods developed by scientists and researchers in a manner consistent with the nature of all society and its circumstances. This is what has contributed to the upgrading and development of physical education from scientific and educational institutions to the community. Sports activities are also an important means to achieve educational goals. This is because the academic subject is not a self-directed goal to be achieved. Rather, these activities have become means that the teacher can invest to reach through them to achieve the goals set according to the concept of modern education .¹

It also aims to prepare students to reach their simple abilities to the highest possible level, and to work on their numbers and make them successful academics, and in order to achieve these goals it is necessary to deliver the teaching curriculum vocabulary to the learner according to scientific foundations and strategies commensurate with their abilities, including the interlocking waves strategy, which is one of the teaching strategies that It works to provide and guide students when studying a specific problem and to reach appropriate solutions in an organized manner that contributes to saving time and effort by the teacher, especially in difficult situations or aspects that require accuracy in their implementation. ²

As none of the skills are more important than others, as they are the movements that the learner should implement, according to the circumstances required by the volleyball game, in order to reach positive results, economy, effort and delay in the state of fatigue. Through the foregoing, the importance of researching the variables that it studies is the strategy of overlapping waves and its role in developing social, psychological, skill and physical skills, which is a fundamental factor in achieving mental health, as well as its importance in learning basic skills in volleyball, to be an effective means for teachers to benefit from And, as well as the importance of the research sample, which is represented by middle first-grade students who represent future teachers, also the importance is embodied in preparing educational units according to the strategy of overlapping waves to depend on what the learner has of information or previous perceptions about the skill (to be learned) and employing it in

the learning process for the new skill And according to his own capabilities and abilities, and it is done through educational units and in the form of cooperating groups, each of which has multiple duties and tasks, which provides a great opportunity in learning.³

The common strategy in learning basic skills in the game of volleyball is the strategy that follows the American approach that makes the teacher a decision-maker, imposing it on students not to exploit this strategy and diminish its advantages, but our current era is an era of cognitive prosperity and educational work, and this is what the researchers observed (Being a student, trainer, and teacher) while watching practical lectures of volleyball and personal interviews with some teachers of physical education and sports sciences, as teaching strategies must keep pace with this development, as working according to a strategy followed by the teacher determines the abilities and creative capabilities of the learner. Studies revealed that there are many teaching strategies, each of which has a special position in terms of goals and characteristics and has an effective role in learning basic skills as well as speeding up its learning. However, these strategies do not meet enough attention from most of the workers in the field of teaching in physical education and sports science,⁴ as the lack of Reliance on modern educational strategies represents the problem of research, so the researchers decided to use a strategy Interlacing waves by preparing educational units according to this strategy in learning some basic skills in volleyball.

2. Research objectives

1. Knowing the effect of using the interfering waves strategy in investing the time of the physical education lesson for first intermediate students.
2. Knowing the effect of using the interfering waves strategy in learning some basic volleyball skills for first intermediate grade students
3. Identify the effect of educational units according to the strategy of overlapping waves in learning some basic skills in volleyball for students (experimental group) in pre and posttests.
4. Identify the effect preference in the post-tests between the two groups (control and experimental).

3. Research hypotheses

1. There is a positive effect for educational units according to the strategy of overlapping waves in learning some basic skills of volleyball for first intermediate grade students.
2. There is a preference in influencing the strategy of overlapping waves (the experimental group) and the strategy followed (the control group) in learning some basic skills of volleyball for students of the first intermediate grade and in favor of the strategy of overlapping waves (the experimental group).

4. Research fields

- The human field: The first intermediate grade students are (13-14) years old in Al- Irfan Intermediate School for Boys.
- Time range: 10/2/2018 - 1/15/2019.
- Spatial field: the internal and external arena of the school.

5. Research Methodology

The researchers used the experimental approach in the manner of equal groups, because it searches for the cause, and how it occurs, as it is defined as "what the researchers introduce from a variable in reality, and this is an intended change."⁵

And because the experimental method "represents the most honest approach to solving many practical problems in a scientific and theoretical manner," ⁶so researchers used to reach the desired results.

Research community and sample

Research community

The research community is determined from two students, whose number is (52) students, and whose average age ranges between (13-14) years.

The research sample

The research sample was chosen deliberately from the original research community, and by drawing lots, and by (32) students, representing 61.5% of the research community, as they were divided into two equal groups, and

by (16) students per group, which is an appropriate percentage to represent a community Research is a real and honest representation.

The researchers excluded a number of sample individuals to achieve homogeneity, and the excluded ones are:

1. Exploratory experience personnel.
2. Older than (12-13) years.
3. Students are practicing the game.

Table 1. Shows the research population, its selected sample, and the percentage

Variables	N	Number of sample selected	Percentage
A sample pilot experiment	10	32 Student	61.5%
The two students are the oldest year	5		
Students are practicing the game	5		

The homogeneity of the sample and the equivalence of the two research groups

Homogeneity of the sample

Before starting the implementation of the educational curriculum, the researchers resorted to checking the homogeneity of the research sample in the variables related to the morphological measurements (height, weight, age), and as shown in Table (2).

Table 2. Shows the homogeneity of the sample members in the variables (Age, Weight and Length)

Variables	Mean	SD	Median	Skewness	N
Age (in months)	133.5	133	3.8	0.44	32
Weight (Kg)	41.3	41	4.5	0.32	
Length (Cm)	143.13	143	6.18	0.05	

The two research groups are equivalent

Before starting the implementation of the educational curriculum, the researchers resorted to checking the parity of the two groups of research in the variables related to skill tests, which are the accuracy of performance of the skills under study, as shown in Table (3).

Table 3. Shows the equivalence of the experimental and control groups in accuracy tests for the skills of preparation and reception of serve and serve from the bottom facing the volleyball

Variables	Control group		Experimental group		(t) calculated*	Type of significance
	Mean	SD	Mean	SD		
Accuracy test preparation skill	2.05	0.43	2.06	0.37	1.09	No sig.
Test the accuracy of the serve reception skill	0.92	0.23	1.22	0.7	1.25	No sig.
Accuracy test of serve skill from below	1.57	0.53	1.40	0.35	1.05	No sig.

*The tabular score = (2.14) at the level of significance (0.05) and the degree of freedom (30).

Aids, devices and tools used in the research

- Arab and foreign sources.
- Personal interviews.
- Auxiliary work team
- Tests and measurements
- Weight measuring device.
- A length measuring tape.

- (2) electronic stopwatch.
- Volleyball balls, number (8).
- Volleyball court.
- Colorful adhesive tape.

Tests used in the research

The selection of tests is one of the important steps in scientific research in order to measure the variables related to the research. Selection "is a set of exercises given to the individual aiming to define his abilities, aptitudes, or sufficiency".⁷

After the researchers, being a teacher, trainer, and player, were informed of most of the available resources related to his research, standardized tests were chosen to measure my skills (reception, serve from the bottom, preparation from the top, and serve from the bottom facing) with the volleyball of the age stage of the research sample. Because it suits the extent of validity and suitability for the age of the research sample.

Field research procedures

Pre-tests

The pre-tests were conducted for the research sample, after implementing two initial educational units, in which they included an explanation of the preparation skill through an explanation of the skill. Then the research sample applied this skill during the educational unit, and at the end of the unit, pre-tests for technical performance and accuracy of the preparation skill were conducted on Monday 10/10/2018.

The educational curriculum

As for the vocabulary of the educational curriculum, it was as follows:

- The educational curriculum took (18) weeks divided into (3) weeks for the preparation skill, (3) weeks for the reception skill, (3) weeks for the serve skill from the bottom confrontation, and by two educational units per week, thus the total number of educational units for the preparation skill reached (6) Educational units for each skill, by two educational units per week, so the total number of educational curriculum units is (18) units for all skills.
- The teaching unit time (45) minutes.

Post tests

After completing (6) educational units in a period of (3) weeks to learn the skill of preparation, and with two educational units per week, the post tests were conducted for the two experimental groups, and under the same conditions that were in the pre-tests for this skill, and the post tests were conducted on Monday 5/11 / 2018.

6. Results and discussions

Table 5. Shows the mean of mean, standard deviations, and the two values of (t) calculated and tabular between the pre and posttests of the skills under investigation (the control group)

Variables	Pretest		Posttest		(t) calculated	(t) tabulated	Type of significance
	Mean	SD	Mean	SD			
Transmitter from the bottom	17.93	2.18	25.2	3.26	4.76	2.13	Sig.
Preparation from above	9.6	2.64	19.13	2.31	3.04		Sig.
Receive the serve from the bottom	9.80	2.86	19.00	2.47	2.99		Sig.

Table 6. Shows the mean of mean, standard deviations, and the two values of (t) calculated and tabular between the pre and posttests of the skills under investigation (experimental group)

Variables	Pretest		Posttest		(t) calculated	(t) tabulated	Type of significance
	Mean	SD	Mean	SD			
Transmitter from the bottom	17	2.79	32.07	3.12	4.95	2.13	Sig.
Preparation from above	10.33	2.56	24.00	2.04	4.48		Sig.
Receive the serve from the bottom	10.26	2.54	24.47	2.82	3.36		Sig.

Table 7. Shows the mean of mean, standard deviations, and two t-values calculated and tabular between the post tests of the skills under investigation (experimental and control group)

Variables	Control group		Experimental group		(t) calculated	(t) tabulated	Type of significance
	Mean	SD	Mean	SD			
Transmitter from the bottom	25.2	3.26	32.07	3.12	2.69	2.04	Sig.
Preparation from above	19.13	2.31	24.00	2.04	2.82		Sig.
Receive the serve from the bottom	19.00	2.47	24.47	2.82	3.14		Sig.

The researchers attribute this development in the level of learning of the individuals of the research sample to the use of the strategy of overlapping waves, and this method has a different concept in the performance of the duty assigned to the learner, whereby it is to determine multiple levels of performance for the same assignment divided among all students in the manner of groups and stimulate competition between them and other groups as per His technical ability to perform, that is, at whatever level he begins to perform.⁹

The goal of the educational unit is to contain all students to perform the same duty to move in the process of dimensions to inclusion. Hence, the teacher's tasks are clear as he is responsible for implementing the educational and training process through the use of the interlocking wave strategy, which achieves the desired purpose of the educational, educational and social concept first by containing all students and at the same time working to develop the skills performance of two students in addition to the effectiveness of the educational units using this method that contributed to the development Physical and skillful capabilities.¹⁰Through the foregoing, the development of some basic skills in volleyball cannot be achieved in the desired manner except through the use of various educational methods in the process of learning and training that achieve the desired purpose.¹¹

The researchers attribute this superiority in performance to the strategy that was used in the application, as the researchers used the strategy of overlapping waves in education, since this strategy has advantages that can constitute a great addition in the learning and teaching process represented in transforming the educational material into multiple stages. The learner uses more than one sense in his learning, as well as investing the previous information in a way that serves and develops the learning process, and this increases the learning opportunities and the great ability to comprehend and comprehend and thus the possibility of applying the student to what he has learned to the fullest. "The best model for learning is to be through vision. Nevertheless, the stimulation and acceleration of learning will occur if the information is presented and processed by more than one sense".¹²

7. Conclusions

1. The strategy of overlapping waves used in the research has a positive effect, and the great and effective impact on the learning process and the development of some basic skills in volleyball.

2. Take advantage of the strategy of overlapping waves in physical education lessons for all academic levels of the proposed educational units, an active role in developing students' level of learning some volleyball skills.
3. The interlocking wave strategy is the best in learning some basic skills in volleyball than the method used by the teacher with students and thus achieved the goals and objectives that were set in order to achieve them.
4. The experimental group that learned according to the strategy of interfering waves was superior to the control group that used the strategy used in the post-test in learning some basic skills of volleyball for students.

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