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The effectiveness of the flipped classroom strategy to learning the skills of passing from above and blocking of volleyball for students

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Abstract

The implementation of the fundamental game skills and raising the level of the student's performance to enable him to face changes and real-world conditions of the game with a high degree of accuracy and consistency in performance is achieved through use of methods, exercises, and practices based on scientific contexts. Scientific exercises and educational materials for the student via mobile phone, computer, or social networking sites. There are many e-learning methods that rely on the use of modern technologies, such as the flipped learning method, which aims to use e-learning in an effective way in learning, to be applied with a new vision at home and in classroom lessons. Therefore, the researcher noticed a lack of use of educational curricula on the student category, "as well as "The need to introduce curricula and strategies to achieve the best results". Therefore, the researcher decided to engage in this experiment by introducing the flipped classroom strategy in learning the skills of blocking and passing from above on a sample of first-year students at the College of Physical Education and Sports Sciences at the University of Kufa, with the goal of preparing an educational curriculum in accordance with the strategy. In the inverse to learn the skills of passing from above and blocking volleyball for students.

The study aimed to identify the effect of the educational curriculum according to the flipped classroom strategy to learn the skills of hand passing from above and blocking of volleyball for students. The researcher assumed that there is a positive effect of the educational curriculum according to the flipped classroom strategy in learning the skills of passing from above and blocking of volleyball for students. The researcher used the experimental method with two control and experimental groups with pre- and post-tests.

Keywords: Volleyball, learning skills, physical education, sports sciences

1. Introduction

The world has witnessed many developments and rapid changes in our present time, which is a reflection of scientific progress and has a great impact on the application of modern scientific and technological foundations, which contribute to raising the level of sports in a special way and which appeared clearly in sports activities and skills. This is an indication of the great interest of specialists and researchers in developing the process. Educational and training on an ongoing basis in order to raise the level of technical and skill performance, achieve athletic achievement, and study the smallest details that achieve convergence of levels and reach real goals in accordance with scientific contexts. This is evident through strategies, methods, and modern teaching methods that lead to a qualitative shift in the course of education. Which led to the need for strategies to emerge that mimic this development, one of which was the flipped classroom strategy to learn the skill quickly and accurately.

Flipped learning is one of the modern methods and methods that contribute to rapid learning by helping learners acquire skills, knowledge, attitudes, principles and values. This educational method gives an important role to the learner in effective participation in educational activities. The flipped learning method aims to use e-learning in an effective way in learning, to be applied with a new vision at home and in the classroom, especially when it is well designed by activating the learner's role in learning and engaging him in an effective, positive and productive manner. C and motivates him to know the content and gives him practical experience in self-learning outside Lesson scope.

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Using this method and focusing on the importance of learning and mastering basic skills in a way that achieves more accurate and easier learning in the best possible way, specifically in learning some basic skills in the game of volleyball, and for students to learn, master and realize these skills through audio-visual means are among the basics for raising the level of student performance.

Hence the importance of research into using the flipped classroom strategy to enhance the skill and cognitive learning of students through compatibility between this method and the cognitive and skill aspects of the game of volleyball, to reach the desired goal of learning skills.

1.1 Research Problem

Effective and effective teaching becomes more difficult the more educational problems arise using teaching methods and strategies, as a result of the scientific development taking place and the increase in the number of students, but when students come full of eagerness and desire to work and play and with high motivation for learning, the teacher's good information from previous experiences influences them, confirms their efforts, and pushes them to learn. This depends on the teacher's good choice of teaching methods that organize students' learning to reach educational goals, because of their essential role in the educational situation.

Through the practice and experience of the field researcher, and following up on the teaching of volleyball in educational units, she noticed that most learners find it difficult to learn basic skills. This is also the case when applying these skills and through playing the game of volleyball.

This is what necessitated the researcher to carry out this study, which consists of choosing a teaching method that organizes students' learning to reach educational goals, because of its fundamental role in the educational situation as a result of using the flipped classroom strategy in learning the skills of passing from above and blocking the volleyball in the physical education class. In order to develop the level of students' performance by using modern teaching methods that help students improve the accuracy of their skill performance of the skills under study.

1.2 Research objective

1. Preparing an educational curriculum according to the flipped classroom strategy to learn the skills of passing from above and blocking of volleyball for students.
2. Identifying the effect of the educational curriculum according to the flipped classroom strategy to learn the skills of passing from above and blocking of volleyball for students.

1.3 Research hypotheses

1. There is a positive effect of the educational curriculum

according to the flipped classroom strategy in learning the skills of passing from above and blocking of volleyball for students.

1.4 Research Field

1.4.1 Human field: Students of the College of Physical Education and Sports Sciences.

1.4.2 Time Field: For the period from 16/2/2023 to 27/5/2023

1.4.3 Spatial Field: The closed hall in the College of Physical Education and Sports Sciences/University of Kufa.

1.5 Define terms

1.5.1 Flipped classroom: It is an educational technique consisting of two parts (interactive activities inside the classroom + educational tasks outside the classroom)." It is a type of modern learning whose idea is based on reversing the lecture procedures so that the skills and their content are learned at home through various electronic media, whether Whether it is a computer, iPad, or mobile phone, the lecture time is devoted to the practical application of skills under the supervision of the subject professors (Zhou, G. & Jiang, 2014, 543) [9].

2. Research methodology and field procedures

2.1 Research methodology

The researcher used the experimental method by designing two "equivalent groups," experimental and control, with pre- and post-tests, to suit the research problem.

2.2 Research community and sample

The research sample was chosen from the original research community for the academic year (2022/2023), which consisted of (46) students, and the researcher defined the research community as students of the first stage ((College of Physical Education and Sports Sciences/University of Kufa)). In light of this, the researcher chose the main research sample. The second stage's students were divided into two divisions (A and B), with each division having 23 students. Division (A) was chosen to represent the experimental group, and the researcher randomly selected (10) students from them (by lottery) (for the flipped classroom strategy), while Division (B) represented the control group (10) students.

2.2.1 Homogeneity of the research sample

By using the variables (Length, mass, and age) on his study sample, the researcher performed homogeneity; following that, the researcher utilized proper statistical techniques for the purpose of statistical treatments to verify homogeneity, as shown in Table (1).

Table 1: Shows the homogeneity of the research community

Variables	Unit of measurement	Mean	Median	Std. Deviation	Skew ness	Result
Length	Cm	165.78	167	1.873	0.391	Homogeneous
Mass	Kg	66.813	68.5	1.453	0.301	Homogeneous
Age	Year	18.4	18.5	0.312	0.243	Homogeneous

2.3 Means, tools and devices used in the research

2.3.1 Means of data collection

- Arab and foreign sources.
- Personal interviews.
- Tests and measurements.

2.3.2 Tools and devices used

- Legal volleyball court.
- Volleyballs (10).
- Plastic signs (12).
- Barriers (6).
- Electronic calculator (laptop) (1).

- Data display screen, posters and pictures.
- Electronic stop watch type (2).
- Measuring tape, 50 meters long.
- Chalk (bork).

2.4 Field research procedures

2.4.1 Tests used in the research

- Testing the accuracy of passing from above (Mohamed Sobhi and Hamdi, 1997, 235) ^[10].
- **Test purpose:** To measure the accuracy of numbers near the network.
- **Tools used:** A volleyball court, a net with a height of (243 metres), (10) balls, and a basketball hoop holder with a diameter of (60 cm) and raised above the level of the upper edge of the net by (70) cm. Draw a circle with a diameter (1 m) with its borders touching the center line, marked with an (X) mark at a distance of (2 m) from the

finish line, (4.5 m) from the side line (this mark is designated for the coach to stand)

2.4.2 Performance specifications

The teacher throws the ball in an arc upward towards the experimenter standing in the circle for the purpose of inserting the ball into the ring.

Each laboratory has (10) attempts, and the numbers are done from within the circle and with both hands.

- 3 marks for each attempt to enter the ring: the goal of the basket without touching the ring.
- 2 degrees when the ball enters the ring and touches the border of the ring.
- One score when the ball touches the ball without entering the ring.
- Zero when performing anything that contradicts all of the above.

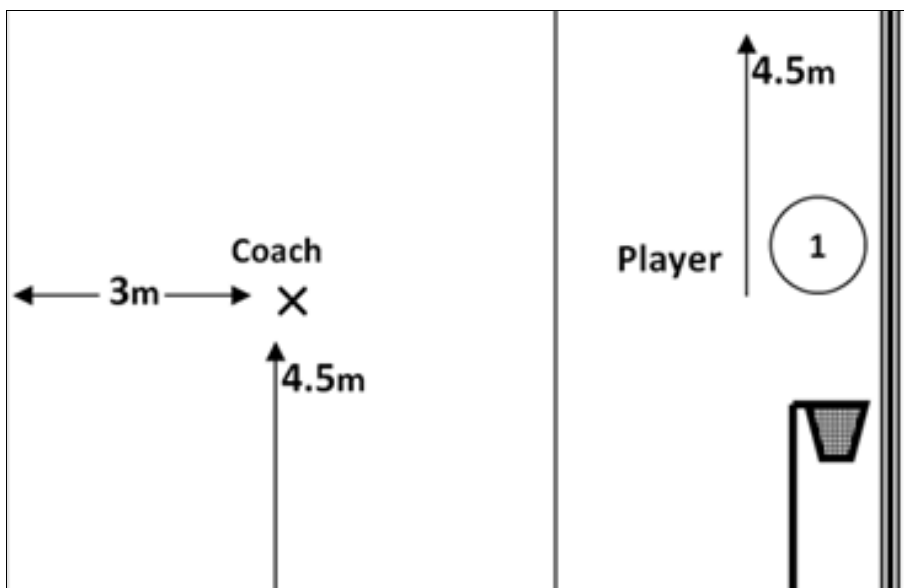


Fig 1: Performance specifications

2.4.3 Second: Performance evaluation test for the blocking skill

- **Test purpose:** To evaluate the technical performance of

the barrier skill.

- **Tools used:** Volleyball court, legal volleyballs (3), video camera (SONY), seats (3). As shown in Figure (2).

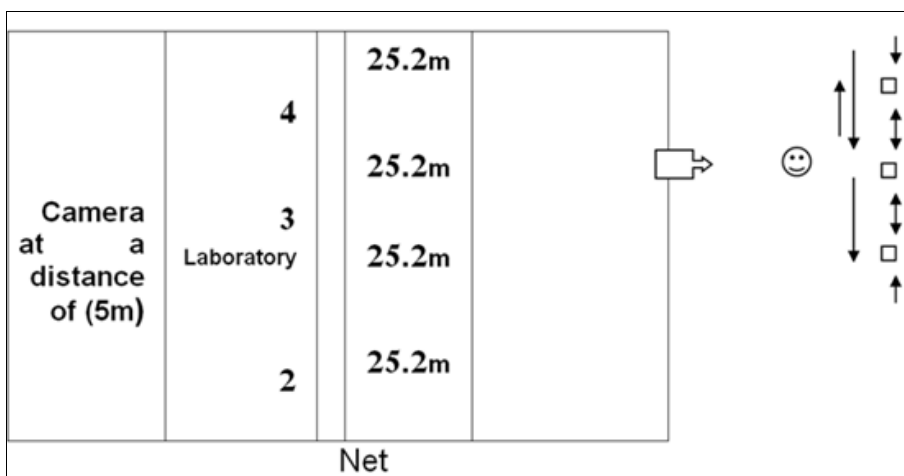


Fig 2: Explains the evaluation of the technical performance of the blocking skill in volleyball

2.4.4 Specifications for performing the test

The three seats are positioned in the middle of a row, at (2, 3, and 4), and 50 cm away from the net.

The test subject moves from centre (3) to centre (4) when the

start signal is given to touch the ball over the net with both hands. He then moves back to centre (3) and from there to centre (2) to repeat the process.

2.4.5 Performance conditions

Each laboratory student is given (3) consecutive attempts.

2.4.6 Registration

Each lab student's three attempts are photographed and then given to three knowledgeable and specialised assessors for evaluation. Each evaluator assigns three marks to each laboratory student in accordance with the selected division, awarding (3) marks for the preparatory section, (4) for the main section, and (3) for the final section. It should be noted that the total mark for each attempt is (10) marks. Following the selection of the best mark for each component, the final mark for each laboratory student is calculated by taking the average of the three best marks.

2.4.7 Exploratory experience

The exploratory experiment was carried out on February 18, 2023, with the aim of identifying the most significant barriers and drawbacks in order to overcome them:

1. Knowing the suitability of the tests for the research sample and measuring the time for performing them.
2. Ensure that the hall and tools used are valid and suitable for the tests.
3. Being aware of potential obstacles to your job and coming up with the best solutions for them.

3. Presenting and discussing the results

3.1 Presentation of the results of the pre- and post-test of the control group regarding the research variables

Table 2: Presentation of the results of the pre- and post-test of the control group regarding the research variables

Variables	Unit of measurement	Pre –test		Post –test		Value (t) Calculated	Sig level	Sig type
		Mean	Std. Deviation	Mean	Std. Deviation			
Passing from above	Degree	14.18	1.281	19.33	0.771	5.124	0.004	Sig
Blocking	Degree	3.41	1.045	5.12	0.912	3.451	0.006	Sig

3.2 Presentation of the results of the pre- and post-test of the experimental group regarding the research variables

Table 3: Presentation of the results of the pre- and post-test of the experimental group regarding the research variables

Variables	Unit of measurement	Pre –test		Post –test		value (t) Calculated	Sig level	Sig type
		Mean	Std. Deviation	Mean	Std. Deviation			
Passing from above	Degree	14.42	1.117	24.1	0.841	12.318	0.000	Sig
Blocking	Degree	4.11	1.225	7.62	0.688	8.032	0.000	Sig

3.3 Presentation of the results of the post-test for the two groups regarding the research variables

Table 4: Presentation of the results of the post-test for the two groups regarding the research variables

Variables	Unit of measurement	Post-control		Post-experimental		value (t) Calculated	Sig level	Sig type
		Mean	Std. Deviation	Mean	Std. Deviation			
Passing from above	Degree	19.33	0.771	24.1	0.841	10.023	0.000	Sig
Blocking	Degree	5.12	0.912	7.62	0.688	5.011	0.000	Sig

4. Discussion

There were noticeable variations between the pre- and post-test for the assessments of the two talents under investigation, as shown by the results in tables (3) and (4). According to the researcher, the control group participants' performance on the two skills varied significantly from one another because they repeated activities that the subject teacher had them complete. The activities that were carried out utilizing the teacher's planned methods and approaches in his instructional units were what made a difference since they helped pupils enhance their abilities and boost their confidence.

2.4.8 Pre-tests

On Sunday, 20/2/2023, the researcher administered pre-tests to the two study groups (experimental and control) in the College of Physical Education and Sports Sciences/University of Kufa's lecture hall.

2.4.9 Preparing educational units for exercises using the flipped classroom strategy

The researcher, with the help of the assistant staff, applied the main experiment to the research sample, which numbered (20) first-year students in the College of Physical Education and Sports Sciences at the University of Kufa, on Sunday, February 21, 2023. The educational units prepared by the researcher were applied to the research sample consisted of two educational units per week, i.e. Sunday and Thursday of each week, for a period of (4) weeks. The educational unit consisted of (8) educational units. The time of each educational unit was (90) minutes. The last educational unit was conducted on Tuesday, 3/24. /2023.

2.4.10 Post-tests

On (Sunday) March 26, 2023, post-tests were done on the control and experimental groups.

2.5 Statistical methods

The researcher used the statistical package (SPSS) to process and extract the data.

According to the results shown in table (4) for the volleyball tests of overhead passing and blocking, there were variations between the pre- and post-measurements, favouring the post-tests for the experimental group. - Development was also attained through the activities that used the flipped learning technique. It was clear from the experimental group sample that this contributed to reaching the objective and improving skill performance.

With these exercises, the player is able to identify various cases of exercise applications, and this makes the learners interact in performing the skill effectively, in addition to providing the learners with cognitive, physical, motor, and

tactical experiences about the environment of play and competition, teaching them to modify performance, rapid movement, and compatibility in performance in a way that suits the environment of play, its variables, and its course, and then achieves What (Khalifa, 2015) ^[2] suggested was setting a time of between (5 to 10) minutes for a ready-made video lesson so that it would be suitable for the students when they showed it, in addition, it is possible to repeat the lesson more than once and add information about performance, thus taking into account individual differences and learning speed for each student, provided that a single video clip does not contain more than one educational objective, and short educational videos are designed with high quality. (Khalifa, 2015, 26) ^[2]. The researcher attributes the reason for this development to the exercises using the flipped learning method, and these exercises enhanced the learning and consolidation of the skill by dividing it, facilitating its learning, and taking into account individual differences in learning until reaching the process of mastering the performance, and increasing the students' inclinations, desire, and interest by stimulating their motivation to search for knowledge. Blame it. (Saad Zayer *et al.*, 2002, 26) ^[3].

The usage of all contemporary technology and the internet is another need of this strategy. With the help of videos, audio files, motion pictures, or other types of media, the learner can review the knowledge or skills he acquired throughout the instructional units. If we examine these technologies and the value they add to the educational process, in addition to cutting the length of the educational units and allocating them to discussions of ambiguous subjects that may have eluded the learner, communication between the teacher and the learner through the application explained to the students, explanations of how the application works, and other benefits, Everyone concurred that it should be resolved and discussed (Hassan 2016, page (10) ^[1].

5. Conclusions and recommendations

5.1 Conclusions

From the results presented and discussed, the researcher reached the following conclusions:

1. The (flipped) method takes into account individual differences among students, increases enjoyment of learning, and enables students to share new lesson concepts through group conversation, cooperative learning, and discussion in social media applications.
2. Teaching methods (inverse and imperative used by the teacher) had a positive impact on learning the skills of passing from above and blocking of volleyball.
3. The discovery of significant variations between the pre- and post-tests of the skills being studied for participants in the experimental group demonstrates the efficacy of the instructional units and their fit to the students' physical and mental capacities.

5.2 Recommendations

1. Holding courses and workshops for physical education teachers and students to train on modern methods, including the inverted method, before applying it.
2. Encouraging teachers to use the flipped teaching method and adopt it in learning different academic skills.
3. Employing blended and flipped learning methods in teaching to reduce the rigidity of scientific concepts in science in general and the lesson of physical education in particular.

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