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THE EFFECT OF AN EDUCATIONAL CURRICULUM USING THE JIGSAW STRATEGY TO LEARNING SKILLS OF VOLLEYBALL FOR SECONDARY SCHOOL STUDENTS

Hussein Farhan Sheikh Ali
Directorate of Misan Education, Ministry of Eduaction of Iraq
hus3689@gmail.com

Munadhil Adil Kasim
Directorate of Misan Education, Ministry of Eduaction of Iraq
munadhiladil2016@gmail.com

Abstract
The importance of understanding motor learning leads to learning and understanding the basic skills of each sporting event, which helps improve the precise motor performance of the skills and correct the player's style when performing the skill. Sports performance is one of the types of activities practiced by men in which kinesthetic learning has an important role, whether in training or competition, and it has a positive or negative impact on cognitive and functional mental processes at the same time. The importance of the research lies in preparing an educational curriculum according to the Jigsaw learning method to learn the most important service and reception skills in the game of volleyball, aiming to achieve more effective, elaborate, and economical learning in effort, cost, and learning time. As for the research problem, it was the lack of use of modern methods in learning service and reception skills, so the researchers considered The use of the Jigsaw educational method that was used in many theoretical scientific fields only and its introduction on the sports side and benefiting from it in practical application will be a new experience for this method in the practical sports side, and this will help in developing service and reception skills. The aim of the research is to identify the effect of the educational curriculum using the Jigsaw learning method on the learning and retention of service and reception volleyball skills between the two groups, pre and post. As for the most prominent conclusions and recommendations reached by the researchers, the exercises in a Jigsaw learning style had a positive impact on the development of skills in service and reception in the experimental research sample. Generalizing the curriculum of exercises in a Jigsaw learning style to teachers of secondary school students in Iraq in the development of skills in volleyball, codifying a curriculum of exercises in a Jigsaw style in proportion to the quality of the sample in terms of gender, biology, and training age, because these exercises have a high impact on effective learning.

Keywords: Curriculum, Jigsaw, Service, Reception, Volleyball.

Introduction

The process of choosing the most appropriate educational method for learners requires identifying the various locations and circumstances surrounding the educational process, as the

educational method differs according to the level and characteristics of students as well as the different study material, available conditions, and capabilities, and on the basis of that, there is no single educational method that achieves the best results (Schmidt & Wrisberg, 2008). The educational style is the teacher's way of interacting with the educational situation that shows the characteristics of his personality or in which teaching methods and tactics interact, as this leads to the emergence of individual differences between teachers in their work within the field of work (Abou-Khalil et al., 2021). And, in response to the interest in educational methods and the ongoing search for the most appropriate ones to transfer information to learners, a series of educational methods were developed with the goal of providing teachers with a comprehensive view of teaching, allowing them to be more flexible and influential on learning (Prediger, 2019). Understanding kinesthetic learning leads to learning and understanding the basic skills of each sporting event, and this helps to improve the precise kinetic performance of the skills and correct the player's style when performing the skill (Moon, 2022). Sports performance is one of the types of activities practiced by men in which kinesthetic learning has an important role, whether in training or competition, and has a positive or negative impact on the cognitive and functional mental processes at the same time, depending on the level of the athlete as well as the age stage and level of achievement. It cannot be said or asserted that this learning is negative or positive until it is compared with the result of performance or achievement (Wang & Zhu, 2019). The volleyball game is one of the games that is characterized by speed in performance in addition to the game skills that require teaching and developing service and reception skills in this event (Farias et al., 2019). One of the learning methods that helps in learning the basic skills of sporting events is the jigsaw method, hence the importance of research in preparing an educational curriculum according to the jigsaw method to learn the most important service and reception skills in the game of volleyball.

Research Problem

Despite the efforts made in the educational process, it still faces a number of problems and difficulties, including the low level of skill performance in some educational stages; poor skill performance is an educational and psychological problem for players and students due to the negative effects it leaves on them, such as weakening motivation to learn and making them feel frustrated; and that teaching in the field of physical education and sports sciences differs from other fields or specializations in that educational methods are closely related to practical application (Gallardo-Guerrero et al., 2022; The low education in this case represents a deficiency in achieving the goals because theoretical education alone is considered deficient if it is not accompanied by practical application (Kirbas, 2020).

And through the experience of the researchers being teachers of volleyball, he noticed that some of the teachers or coaches did not take into consideration the impact of modern teaching methods in developing service and reception skills and their practical application, as well as the lack of interaction with the study material by the students, as the student needs to reflect on what he has learned. On the theoretical side, from information to actual application on the field, service and reception skills need a large knowledge structure to help him move correctly according to the many and changing playing situations. The stage of skill performance, whether service or reception, in the game of volleyball is the most important and difficult stage to be

taken care of (Rasulovich, 2022). Therefore, the researchers decided to use the Jigsaw educational method, which was used in many theoretical scientific fields only, and to introduce it to the mathematical side and benefit from it in practical application. This was a new experience for this method in the practical sports side, and this helps in developing service and reception skills, and thus this development benefits the student's potential. In the practical application of service and reception skills in volleyball, as well as gaining time and effort, the method teachers may use to achieve the best results may be effective.

Research Objective

Identify1the effect of the educational curriculum using the Jigsaw learning method in learning and retaining service and reception volleyball skills between the tribal and remote groups.

Research Hypotheses

The educational curriculum in a Jigsaw learning style has a service and reception effect on learning and retaining service and reception volleyball skills between the tribal and post groups.

Research fields:

Human field: Students of the fifth stage, secondary school students of Misan - for the academic year 2021-2022.

Time field: For the period from 10/10/2021 to 9/12/2021.

Spatial field: Al-Andalus School stadium of Misan.

Methodology

Research Methodology:

It is the path that the researchers take to achieve its objectives based on a set of foundations and rules, perhaps the most important of which is knowing the nature of the problem under study, which requires the researchers to choose the appropriate approach to detect the problem at hand. With the nature of the research problem, and achieving the desired goals.

Table 1: Shows the experimental design of the research sample

Groups	Pre- Test	Experimental Processing	Post- Test
Experimental Group	Application of service and reception tests.	Application of service and reception tests.	Application of service and reception tests.
Control Group	Application of service and reception tests.	Curriculum followed by the teacher.	Application of service and reception tests.

The research community and its sample: The research community was determined by students of the fifth stage in the secondary school students of Misan for the academic year (2021-2022), and their number is (12) students, because service and reception skills are taught at this stage. (30.33%) of the community members, and the selection of the main sample for

the research in a simple random sampling method by (12) students constituted (25 %) of the community, and (6) students were excluded due to absence, which constituted (33.33%).

Table 2: Showing the details of the research community

Research Community	Sample Research	Sample Survey Experiment	Main Trial Sample	Excluded
18	12	6	12	3

In order to adjust the variables accompanying the work of the main experiment, and to identify the validity of the sample and the moderate distribution of the values of its variables, the researchers found homogeneity for the research sample in terms of length, weight, age, and training age, using the skew coefficient, the results showed that the members of the research sample were distributed naturally in the research variables, and then there were no abnormal values, as the values of the skew coefficient were limited to (±1), which indicates the normal distribution of the sample.

Table 3: Shows the homogeneity of the research sample

Variables	Unit of Measurement	M	SD	Torsion Coefficient	Volume Sample
Length	CM	160. 76	356.	0.592	12
Weight	KG	60.56	4.66	0.589	
Age	Year	17. 25	1.12	0.308	
Education Age	Year	3.05	0.486	0.408	

Means of collecting information:

Research tools:

1. Arabic and foreign references and sources.
2. Testing and measurement.
3. Personal interviews.
4. The form for recording the results of measurements and tests.
5. The assistant work teams.

Devices and tools used in the research:

1. Electronic watch number (2).
2. Computer (laptop) type HP number (1).
3. Scale device for measuring weight.
4. Leather measuring tape.
5. Legal volleyball goals (2).
6. Legal volleyballs (15).
7. Colored adhesive tape.

Exploratory experience

The exploratory experiment was conducted on a sample of (6) students outside the research sample and from the same stage of study to determine the pros and cons, timings of the exercise,

repetitions, flow of work, organization and conduct of tests, and the extent of their conformity to the research sample and the assistant work team, and it was discovered that the tests and evaluation form achieve the desired objective.

Selection of Skills and Tests

The researchers determined two volleyball skills based on the curriculum of the Ministry of Education released by the General Directorate of Education for the fifth preparatory stage and the selection of skills and assessments:

1. Service Skill.
2. Reception Skill.

As for the tests, a set of tests for the skills of service and reception were offered to a group of specialists in volleyball to select what is appropriate.

2-4 Field Research Procedures:

Pre-Tests:

The researchers conducted tribal tests on the research sample of players who represented the experimental and control groups, on Monday and Tuesday corresponding to October 11-12/10/2021 at exactly ten o'clock in the Al-Andalus School stadium of Misan.

Jigsaw Learning Exercises for Research:

For the purpose of obtaining the best results in the development of research variables (service and reception skills), for volleyball students in the secondary school students, educational exercises were prepared for the Jigsaw learning method, which in its evaluation relied on the opinions of some experts and specialists in the field of kinetic learning and volleyball. , to have a scientific level commensurate with the capabilities of the sample and to achieve the state of progress in the desired skill level. Here are some details of the approach used for the exercises:

- The prepared training curriculum is for secondary school students of Misan.
- The educational training curriculum for Jigsaw learning exercises was applied for a period of (8) weeks for a period from Wednesday 13/10/2021 until Thursday 9/12/2021.
- The educational training curriculum for scientific learning exercises includes (16) training units, at the rate of (2) training units per week.
- The training days of the training curriculum for Jigsaw learning exercises were (Sunday, Thursday).
- The total educational unit time (45) minutes, which is allocated for Jigsaw learning exercises, ranges between (20 minutes) within the main section of the dose.

Post-tests:

The post-tests of the groups (control and experimental) were conducted on Monday and Tuesday, corresponding to 11-12/10/2021, at exactly ten in the morning in the sports stadium at the Al-Andalus School of Misan, after completing the implementation of the educational curriculum. The two researchers worked to provide the same conditions in terms of place, time, tools, method of implementation, and the work team that conducted the pre-tests.

Statistical Means:

The researchers utilized the statistical methodologies outlined in the Statistical Portfolio for Social Sciences programmer (SPSS, version 23).

Results:

The (T) test was used to know the differences between the arithmetic media of the pre- test and post-tests for each of the groups control and experimental method and to ensure the impact of the curriculum on learning the skills of service and reception in volleyball.

Table 4: Showing the mean averages, standard deviations, and value (T) for the educated groups' pre-test and post-tests of service skill for Jigsaw and Traditional group N= (12)

Groups	Unit of Measurement	Pre-Test		Post-Test		T	Sig
		M	SD	M	SD		
Jigsaw	Degree	6.19	1.09	31.56	3.47	14.51	0.000
Traditional	Degree	6.08	1.07	23.09	4.19	12.74	0.000

The results showed in Table (3) that all the values of (T) calculated for the tow educational methods (Jigsaw and Traditional) for the service skill were (14.51- 12.74) (respectively), and all these values are greater than the values of (T) tabular (2.17) meaning that there are statistically significant differences at the level of significance 0.05 between the pre-test and post-test and in favor of the post-test.

Table 5: Showing the mean averages, standard deviations, and value (T) for the educated groups' pre-test and post-tests of reception skill for Jigsaw and Traditional group N= (12).

Groups	Unit of Measurement	Pre-Test		Post-Test		T	Sig
		M	SD	M	SD		
Jigsaw	Degree	7.15	0.81	32.34	3.25	24.16	0.000
Traditional	Degree	7.64	0.98	22.40	2.77	19.37	0.000

The results showed in Table (3) that all the values of (T) calculated for the tow educational methods (Jigsaw and Traditional) for the service skill were (24.16- 19.37) (respectively), and all these values are greater than the values of (T) tabular (2.17) meaning that there are statistically significant differences at the level of significance 0.05 between the pre-test and post-test and in favor of the post-test.

Discussing

The results of the skill tests for measuring service and reception skills in the tests for the two control and experimental groups, pre-test and post-test, and the emergence of significant differences between them and in favor of the post tests are shown in Tables 4-5, and the

researchers attribute these differences to these differences. The significance between the pre and post tests of the control and experimental groups is relatively simple due to the quality of the skill exercises used by the subject teacher, which also included exercises to develop the service and reception sides of volleyball. As the control group is also made up of fifth-stage students, the teacher seeks to develop it in all areas of preparation for skill learning, training, and development through a specific training curriculum, so the subject and his exercises had the most prominent role in the development of his group, and this is confirmed by Saad Mohsen Ismail (1996), who states, " The performance of the training experts, no matter how different the sources of their scientific and practical culture are, inevitably leads to the development of achievement for their players if it is built on a scientific basis in organizing the training and development process, programming it, using the appropriate load and grading, observing the individual differences of the players, as well as using the optimal repetitions and appropriate rest periods for performance. In addition, the consistency, regularity, and reaction of the students to the educational unit exercises throughout the weekly cycles, which corresponded with the research methods, contributed to the development of the skill performance of the control group, according to Ozkan and Umdu Topsakal (2021), in the stage of learning development where "the trainers and teachers emphasise the repetition of the performance of the basic skills of each game until its implementation is automatic and a reflection on its development" (Button et al., 2020). The researchers also believe that the development of results for the skill tests of the experimental group resulted from the optimal number of repetitions of exercises in the Jigsaw learning style, which significantly contributed to the development of service and reception skills in terms of the retrieval of individual skills and the ability to integrate them into a framework under the conditions of the playing environment. The researchers see In general, kinesthetic learning represents a change in the learner's motor behavior for a specific skill as a result of repeated performance and practice, and it is an abstract and imperceptible process because kinesthetic learning represents the internal changes of the learner as a result of the stimuli of specialized educational exercises above learning, which can be deviated from through the manifestations of movement and the learning output that can be measured. This is confirmed by Jensen, Marstrand, and Nielsen (2005) that motor learning cannot be measured directly, as the amount of learning is measured by the skill performance success rate, and since learning takes place in the central nervous system, learning motor skill is learned by storing a motor programmer that is trimmed through repetitions and feedback.

Conclusions

1. Significant differences appeared statistically significant between the pre-test and post-tests in the two methods, which indicates an effect of different degrees in learning the skills of transmission and reception.
2. The exercises in a Jigsaw learning style have a positive effect on developing service and reception skills in the experimental research sample.
3. The development in the service and reception skills of the students of the fifth stage by the teacher through the clear difference in the results of the post-tests of the experimental group confirms the effectiveness of the independent variable for experimental and control group.

Recommendations:

1. The necessity of employing the Jigsaw method in secondary schools to accommodate the ages of students, where students need to conduct competition and have fun with improved learning, as well as to satisfy this age group's desire to compete and achieve victory.
2. Adopting the principle of Jigsaw exercises for acquiring motor skills for all sports, and volleyball in particular, because they are effective and efficient.
3. As these exercises have a significant impact on successful learning, they should be coded using the Jigsaw method in proportion to the sample's gender, biological age, and training age.

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