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Effect of Using KUD Strategy to Learn Overhand Serve and Serve Receive in Volleyball For Students

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Abstract

Objectives. This study aims to investigate the effectiveness of the KUD (Know, Understand, Do) strategy in improving students' learning of basic volleyball skills, specifically the overhand serve and serve receive. The research also seeks to enhance students' understanding and practical application of these skills in a systematic and organized manner, contributing to the overall improvement of their performance in physical education lessons.

Materials and Methods. The researcher employed an experimental method on second-stage students from Al-Kut University College, Department of Physical Education and Sports Sciences. The study population consisted of 60 students, from which a sample of 40 students (66% of the total population) was deliberately selected. The sample was divided into two equal groups of 20 students each—an experimental group and a control group. Both groups were confirmed to be homogeneous and equivalent at the beginning of the experiment. The experimental group was taught using the KUD strategy, while the control group followed the traditional method.

Results. The study results revealed that the experimental group, which was exposed to the KUD strategy, demonstrated significant improvement in both overhand serve and serve receive skills compared to the control group. This indicates that the integration of theoretical understanding with practical application, as facilitated by the KUD strategy, enhances the accuracy and efficiency of learning volleyball skills.

Conclusion. The KUD strategy proved effective in developing volleyball skills among students, particularly in the overhand serve and serve receive. Based on these findings, the researcher recommends the application of the KUD strategy across various team sports and skill levels. Additionally, sufficient time should be allocated for training, ensuring a balance between theoretical instruction and practical exercises to improve overall motor performance and facilitate skill acquisition.

Keywords: KUD Strategy, Motor Learning, Serve Skills, Volleyball.

Introduction

Physical education and sports are essential educational areas that contribute to the physical, mental and social development of the individual. Physical education curricula aim to enhance students' motor skills and balance the physical and psychological aspects, which helps in improving their physical fitness and promoting their overall health (Mahmoud, 2017). With the advancement of science in the field of physical education, there is a need to use modern teaching strategies that contribute to enhancing the effectiveness of sports education and developing students' skills better.

In this context, modern learning strategies emerge that integrate theoretical knowledge and practical application, the most important of which is the "KUD" strategy (What I Know, What I Understand, What I Do). This strategy is one of the most prominent methods that aims to improve the learning of motor skills by linking what the student knows (What I Know) with what he understands (What I Understand) and then applying it practically (What I Do) (Qasem, 2020). This strategy is effectively used in many educational fields to enhance students' deep understanding and motivate them to apply concepts and principles concretely and realistically.

However, many students have difficulty mastering these skills due to the absence of structured and effective education, and traditional methods of teaching may not contribute sufficiently to the development of a deep understanding of these skills (Nasser, 2018).

Therefore the importance of using advanced learning strategies such "KUD" strategy, which aims to improve students' performance in transceiver skills by enhancing their understanding of theoretical skills and linking them to practical application.

In the field of physical education, volleyball transceiver skills are essential skills that students must master to succeed in this sport. The serve is the first point where the ball is exchanged between the two teams, and it is a crucial skill that directly affects the course of the match. While receiving is an essential defensive skill that requires quick interaction and high concentration from players, the ball sent is received and converted into a suitable position to direct the attack (Abdulrahman, 2015). Mastering these two skills is key to building a team's performance and winning games. Therefore the importance of research in highlighting one of the modern strategies that are greatly concerned with understanding and interpreting the educational content so that the learner can answer these concepts through the knowledge gained and applied in practice.

The problem of research is embodied in the lack of effectiveness of traditional learning methods to develop serve skills in volleyball among students of physical education. It is noted that many students have difficulty in absorbing these skills at the level of applied performance during the learning process, and this may be due to the lack of sufficient focus on the actual interaction between theoretical knowledge and practical application during the education process.

From the foregoing, the researcher sees the need to study the effectiveness of the KUD strategy in teaching the transceiver skills in volleyball to students, and to identify how it affects the development of these skills effectively helps improve sports performance in the curricula of physical education subjects, since this strategy and the real learning opportunities it provides for the learner through what distinguishes it by linking what the student knows about the skill (What I Know) and what he understands (What I Understand) and how to apply it in Practice (What I Do). Applying this strategy systematically may contribute to improving the level of students' performance in transceiver skills, which contributes to raising

the efficiency of sports learning and contributes to achieving positive results in sports performance at the team level.

The research aims to prepare exercises according to the KUD strategy in learning the skills of sending and receiving the transmitter in volleyball for the research sample, and to know the impact of the KUD strategy in learning the skills of sending and receiving volleyball transmitter among the research sample.

The researcher assumes there are significant differences between results of test (pre-post) for experimental and control research groups in learning the skills of sending and receiving volleyball transmitter among research sample, as well as there are statistically significant differences in results of post-test between the experimental and control research groups in learning the skills of sending and receiving volleyball transmitter.

Materials and Methods

Study participant

The research population was purposefully selected from second-year students at Al-Kut University College, Department of Physical Education and Sports Sciences, comprising a total of 60 students from the morning study program. These students were considered homogeneous in terms of age and maturity levels. From this population, a sample of 40 students was randomly chosen to represent 66% of the total population. The selected participants were then equally divided into two groups: an experimental group and a control group, each consisting of 20 students. Homogeneity and equivalence between the two groups were ensured through statistical analysis before the intervention began. Table 1 shows the results of the equivalence tests between both groups in the variables of the overhand serve and serve receive skills, confirming the absence of significant differences and the validity of the sample distribution for the study.

Study Organization

The study adopted an experimental approach using a two-group design (experimental and control) with pre- and post-tests to address the research problem. The educational program was implemented over six weeks, between February 1, 2024, and March 14, 2024. The KUD strategy was applied exclusively to the experimental group during the main part of their volleyball lessons. The strategy involved three sequential stages:

1. Knowledge Stage – introducing the theoretical concepts and fundamentals of the overhand serve and serve receive skills.
2. Understanding Stage – deepening students' theoretical understanding, supported by practical demonstrations to clarify the performance of each skill.
3. Practice Stage – engaging students in continuous and structured practice, correcting errors, and integrating both theoretical and practical aspects of the skills.

Before the intervention, an exploratory study was conducted on January 25, 2024, to ensure the validity and appropriateness of the tests, the suitability of the exercises to the participants'

skill level, and to prepare the assisting team for the testing process. Pre-tests were carried out on January 28, 2024, on the outdoor playgrounds of Al-Kut University College. Post-tests were conducted on March 17, 2024, using the same tools, locations, and procedures as the pre-tests, ensuring consistency and reliability in the data collection process.

Statistical Analysis

The data collected from the pre- and post-tests were processed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics were used to determine the mean and standard deviation for both groups. Additionally, the (t) test for independent samples was applied to assess the equivalence of the two groups in the pre-test phase. The same test was used to evaluate the differences between the two groups in the post-test phase to determine the effectiveness of the KUD strategy on improving the overhand serve and serve receive skills in volleyball. The significance level was set appropriately to confirm the reliability of the statistical findings.

Results

Table 2. Shows The Values Of Differences In The Arithmetic Means Before And After And The Calculated And Tabular Values Of (T) For The Control Group In The Tests Used

Tests	Pre-test		Post-test		Calculated value	(t) Sig. value	Sig. level
	Mean	Std	Mean	Std			
serve to a bitch divided into (4) zones	14.525	0.568	21.121	3.550	7.495	0.000	Sig.
Serve receive	19.411	0.669	31.11	4.381	11.62	0.000	Sig.

Table 3. Shows The Values Of The Differences In The Arithmetic Means Before And After And The Calculated And Tabular Values Of The Experimental Group In The Tests Used

Tests	Pre-test		Post-test		Calculated value	(t) Sig. value	Sig. level
	Mean	Std	Mean	Std			
Serve to a bitch divided into (4) zones	14.624	0.564	29.11	4.349	11.681	0.000	Sig.
Serve receive	19.542	0.896	50.12	5.557	14.395	0.000	Sig.

Table 4. Shows The Values Of Mean And Standard Deviation And Calculated And Tabular (T) Values Between The Experimental And Control Groups In The Tests Used

Tests	Control group		Experimental Group		Calculated value	(t) Sig. level
	Mean	St.d	Mean	St.d		
serve to a bitch divided into (4) zones	29.11	4.349	21.121	3.550	5.958	Sig.
Serve receive	50.12	5.557	31.11	4.381	8.925	Sig.

Discussion

Through the presentation and analysis of the results of the post-tests for the tests of the transmission and reception of transmission, it was found that there are significant differences between the two research groups and in favor of the experimental group, and the researcher attributes this development came as a result of the use of a modern strategy, which is the KUD strategy, in which special exercises were used according to the basic steps of this strategy, where these exercises led to the remarkable development and clear understanding of the joints and parts of the skills, which through practice, repetition and emphasis on the theoretical and practical aspects, positive results were reached. For the benefit of the experimental group, where he explained (Piaget, 1972) that the use of strategies according to the frameworks organized for learning skills helps to understand, absorb and develop all skills accurately and efficiently. (Piaget, 1972, 45)

On the one hand, the researcher believes that this strategy gives the learner a real opportunity in the process of orderly building the concept to be learned and thus contributes to enriching the educational and motor program stored in the tears, which makes the education process organized and easy and thus enables him to face the problems he encounters during the learning process, and this is what he pointed out (Hussein Al-Janabi and Salah Al-Saadi: 2023) The KUD strategy contributes to creating a purposeful educational position for the learner, as it is about a way that the learner learns full knowledge by building knowledge And rediscover it and not receive it through memorization and indoctrination, as well as that knowledge comes through negotiation and cooperation with educated individuals, and this is one of the advantages of learning. (Hussain Janabi and Salah Al-Saadi: 2023: 94)

The researcher also attributes to the result of the correct repetitions accompanying the interactive explanation and the integration between the theoretical and applied side led to the remarkable development of the experimental group, where he believes (Zhou et al, 2017) that

interactive educational strategies such as the KUD strategy lead to improving performance in team sports and that the use of organized strategies has a positive impact on improving the level of students' performance in various team sports. (Zhou et , 2017 ,130)

Where the arrangement of exercises according to the strategy and their distribution according to the specified time has an impact on obtaining positive results in the dimensional results and for the benefit of the experimental group, and this is what the results showed in the above tables.

Conclusion

The KUD strategy has been effective in improving students' volleyball transmission and receiving skills, suggesting that combining theoretical understanding with practical application helps in accurately learning mathematical skills. The experimental group that used the strategy to learn transceiver skills achieved the greatest improvement compared to the control group.

Recommendations

It is recommended to apply the KUD strategy across a variety of sports skills, particularly in team games, as it has been shown to effectively enhance motor performance and facilitate the acquisition of new skills. This strategy integrates theoretical understanding with practical application, allowing athletes to grasp both the concepts and the execution of skills more efficiently. Additionally, there is an emphasis on implementing the KUD strategy for different age groups. This requires customizing training programs to ensure they provide adequate practice time and a balanced integration of theoretical knowledge with practical exercises. Such an approach can contribute to improving all aspects of sports skills, fostering comprehensive development in athletes regardless of their age or experience level.

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