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The Impact Of An Educational Approach Based On The KUD Strategy On Visual-Spatial Intelligence And Free-Throw Shooting Skills In Basketball For Students.

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Abstract
The impact of an educational approach based on the KUD strategy on visual-spatial intelligence and free-throw shooting skills in basketball for students By following the basketball lessons and their interest in this game, the researchers noticed fluctuations in the level of skill performance of the students, specifically offensive skills ،Also, most of the lessons proceeded at a single pace. The burden is on the teacher alone, without relying on modern teaching strategies and relying on direct methods, which makes the student a passive recipient who carries out what is required of him in the lesson. The researchers aim to teach the skill of shooting from the free-throw line. The research also seeks to identify the effect of the educational approach based on the KUD strategy on visual-spatial intelligence. ،The research community was determined as first-year students in the College of Physical Education and Sports Sciences at Al Ain University for the academic year 2024-2025, numbering (164) male and female students. The primary experimental sample was selected randomly, consisting of (30) male and female students from sections (B, and C) of the College of Physical Education and Sports Sciences at Al Ain University, first stage. Then they were divided into two groups, a control group and an experimental group, with (15) students in each group. The control group used the teacher's approach, while the experimental group used an educational approach based on the (kud) strategy. This was adopted by the researchers, as it had a significant impact on improving the level of skill performance in basketball shooting skills among the members of the experimental group.
Keywords: *(According to the KUD strategy - visual-spatial intelligence-free throw) 1446 AH / 2025 AD*

1.Introduction

The use of more effective educational strategies, methods, and techniques is an important matter that must be emphasized by those in charge of the educational process, depending on the teacher, his personality, and the time allocated to implement the educational curriculum. Most likely, a successful strategy leads to the intended goal in the shortest time and with the least effort exerted by the teacher and the learner. It arouses the learner's interest and inclinations and motivates him to perform well, work positively engage in self-activity ،and actively participate in the educational unit. It encourages thinking. The KUD strategy is a learning strategy based on constructivist theory. It emphasizes the connections between what the learner is learning, their ideas, previous experiences, and their mental skills in understanding and organizing those connections. It believes that learning is effective if the learner feels it has meaning. The KUD strategy has emerged, which stimulates interaction between the teacher and the learner through organized and sequential stages in a logical manner, and is an important means of thinking and teaching in the twenty-first century. ،This strategy represents the teacher's response to the needs of all learners and provides the same learning opportunities through planning the educational material to meet the needs of all learners to acquire scientific concepts, process ideas and information, and help them improve motivation, as learners differ in terms of their abilities and speed of learning. In addition to stimulating the learner's interaction and motivation to receive information, it also directs them and stimulates their intelligence towards receiving knowledge and information related to the type of activity required to be learned, One of the types of intelligence that a learner needs to understand and

solve visual problems, form an accurate image, and mentally change it is visual-spatial intelligence, or what is known as "picture intelligence." People with this intelligence are distinguished by their good memory, which stores faces and places, and the ability to use space in all its forms, including visualizing spaces, the skill of perceiving direction, and attention to detail, which is what the learner needs in the game of basketball. This is due to its fast pace and continuous maneuvers during the application of its various skills and the employment of these maneuvers during the process of attack and defense. Perhaps one of the most important offensive skills is the skill of shooting from the free throw line The research aimed to identify the effect of the (KUD) strategy on visual-spatial intelligence and learning basketball shooting skills for students As for the research problem, it is through following up the two researchers on most of the educational units related to the game of basketball in the faculties of physical education and sports sciences. As many teachers rely on direct methods in presenting educational content, perhaps the dominant method in these units is the (command) method, which makes the student a mere recipient of orders issued by the teacher, without delving into modern strategies and methods, as it is known that educational curricula based on constructive teaching strategies make the learner an effective and vital element in the lesson and its proceedings, as he has a major role and is the focus of the educational process, which may be more effective in learning and acquiring motor skills, especially the skill of shooting from the free throw line.

2.1Research methodology: The researchers used the experimental method with two equivalent groups (control and experimental) to suit the nature of the research problem .

2.2 Research community and sample : The research community was represented by the first-year students at Al Ain University for the academic year 2024-2025, numbering (164) students. The research sample was randomly selected by lottery, with (30) students from two sections (B, and C). After that, they were divided into two groups, a control and an experimental group, with (15) students for each group. The control group used the teacher's method, while the experimental group used an educational method according to the (kud) strategy**.**

2.2.1 homogeneity : The researchers performed homogeneity in the variables (age, mass, and height), and they used the coefficient of variation to perform homogeneity, as shown in Table (1).

Table (1) shows the homogeneity of the research sample individuals in
(age, height , and mass)

significance	coefficient of variation	Standard deviation s	arithmetic mean $\bar{x}$	Unit of measurement	Statistical processing Variables
homogeneous	10.565	2.261	21.4	year	the age
homogeneous	3.995	6.965	174.333	cm	Height
homogeneous	10.419	7.391	70.933	kg	Mass

***All values of the coefficient of variation were less than (30), which indicates the homogeneity of the sample individuals**

2.2 Equivalence of the two research groups: To ensure a single starting line between the individuals of the two groups, the researchers used the (t) law for independent samples to extract equivalence between the two groups

Table (2) shows the equivalence of the two groups (control and experimental) in the research variables

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Significance	value (sig)	value (t)	experimental group		control group		Unit of measure	Statistical processing	N
			s	$\bar{x}$	s	$\bar{x}$			

								Variables	
Non-moral	0.826	0.222	0.845	1	0.798	1.066	Degree	**Shooting from the free throw line**	1
Non-moral	0.964	0.047	4.047	47.666	3.99	47.733	Degree	**visual-spatial intelligence**	2

2-3 Methods, devices ,and tools used in the research:

Arabic and foreign sources and references.- Personal interviews.– Questionnaire.- Note - .Legal basketballs, number (15)Hand calculator (1) -laptop hp. - duct tape (2). electronic timers - Metal measuring tape, length (5) m.-One (1) Sony camera. _ Medical scale (1) - whistle - Paper and pen

2.4 Tests used in the research

First: Free throw shooting test in basketball.(166:4):

Second: Visual-spatial intelligence scale(211 :2)

2.6 exploratory experiment: The researchers conducted a survey experiment on Wednesday and Thursday, 11-12/12/2024, on a sample of (10) students from the research community. The researchers and the subject teacher supervised this experiment. The aim of the survey experiment was as follows:

Identify the work obstacles that may hinder the field experiment.- Ensure the validity of the tools used in the test. – Knowing the time allocated for tests - Organizing an introductory educational unit for the members of the experimental group according to the (KUD) strategy.

2.7Field research procedures:

2.7.1 Pre-tests: The pre-tests were conducted on Monday, December 23, 2024, in the presence of the support team, in one of the classrooms and the basketball court at Al Ain University.

2.7.2 Educational curriculum:

The researchers prepared a special educational curriculum using the (kud) strategy to develop visual-spatial intelligence and learn the skill of shooting from a free throw. The application of the two curricula for both groups took (3) weeks, with (6) educational units for the period from 12/29/2024 to 1/16/2025. The work of the two groups was as follows:

The control group: This group used its educational curriculum according to the method of the subject teacher, with two educational units per week, where the number of educational units reached (6) educational units, and the educational units for this group were conducted according to the weekly schedule set by the college. Experimental Group: This group applied an educational curriculum according to the (kud) strategy by the subject teacher, under the supervision of the researchers, at a rate of two educational units per week, where the number of educational units reached (6) educational units, and the educational units for this group were conducted according to the weekly schedule set by the college. The duration of the educational unit was (90) minutes, divided as follows:

1.Preparatory Section (20) minute.

2.Main Section (65) minute:

-Educational activity (20) minutes: It includes strategic stages where the experimental group was divided into small groups, each group containing (5) individuals, with the individuals of those groups being replaced from one educational unit to another and a distinctive number being given to each group. This section included the following::

-First: The educational (theoretical) part, represented by the first and second stages of the strategy stages, and its time (15 minutes) in each unit, and based on the gradation of the units related to the shooting skill, and these two stages included:

-1-(k) "know" means to know. At this stage, the teacher presents to the student the rules, facts, skills, principles, and ideas for the skill, by asking some questions such as what is the importance of the skill of shooting a basketball or how does the shooting skill differ from other basketball skills, as a first assessment to know the information that the students have about the given skill. Then the teacher presents the

concept of the given skill in basketball to the students with a presentation of the performance by him, and a video clip about the skill the time for this step is (5) minutes.

2-(U) means understand. In this stage, the teacher distributes activities to each group of the cooperative group to reveal the extent of the student's understanding of the concept of the given skill. The activities are as follows:

First group: The teacher presents a picture of the skill and asks the students in the group to explain the reason for using the given skill.

2 - Second group: The teacher presents a picture of the skill and asks the students in the group to write a comment on the given picture.

Third group: The teacher asks the students to write a simple summary of the given skill. The time for this step is (10) minutes.

The practical part includes the third step of the strategy and visual intelligence steps, and its time is (45 minutes) in one unit, as follows:

3-(D) "do" means application. In this step, students implement what they have learned, by applying skill exercises for the shooting skill, while giving them feedback on technical and skill performance during the performance to allow students to think, experiment, and organize their ideas while emphasizing the correct and legal performance of the skill so that the teacher can see what new experiences the students have reached and the student's performance is without restriction to see the mechanism of cooperation and understanding between them to implement the exercises, and with the teacher's follow-up and giving them feedback to work and perform the skill in its correct form if required, and the time for this step is (35) minutes, while the time for visual intelligence is (10) minutes

Final section: (10) minutes. In this section, instructions are given, a summary of the skill, and some exercises to relax or calm down, and they are given homework to prepare for the next lesson. Then, they collect the tools, return them to their place, and leave.

2.8 Statistical methods: The researchers used the SPSS statistical package to extract and process the results.

3 Presentation and discussion of results:

3-1 Display pre- and post-test results:

Table (3) shows the arithmetic means, standard deviations, calculated (t) value, and significance level in the research variables for the control group.

Significance	value (sig)	value (t)	Post-test		Pre-test		Unit of measure	Statistical processing / Variables	N
			s	$\bar{x}$	s	$\bar{x}$			
moral	0.000	8.456	1.264	4.8	0.798	1.066	Degree	Shooting from the free throw line	1
moral	0.000	10.662	5.054	55.533	3.99	47.733	Degree	visual-spatial intelligence	2

***Table (4) shows the arithmetic means, standard deviations, calculated (t) value and significance level in the research variables for the experimental group.**

Significance level	value (sig)	value (t)	Post-test		Pre-test		Unit of measurement	Statistical processing / Variables	N
			s	$\bar{x}$	s	$\bar{x}$			
moral	0.000	12.458	1.162	5.933	0.845	1	Degree	Shooting from the	1

								free throw line	
moral	0.000	10.635	5606	64	4.047	47.666	Degree	visual-spatial intelligence	2

*** Significant at p < 0.05 and at (14) degrees of freedom.**

3-2 Discussion of the results of the pre-and post-tests for the control and experimental groups for the research variables.

Through the results presented in Table (3,4) regarding the results of the pre-and post-tests for the control and experimental groups (for the free throw shooting skill and the visual-spatial intelligence scale), it became clear that there were statistically significant differences between the pre-and post-tests in favor of the post-tests according to what was stated in the first hypothesis of the research. The researchers attribute this difference to several reasons, the most important of which are: - The soundness of the educational curriculum for both groups (experimental and control), specifically the main section, and its inclusion of scientifically selected exercises with correct, consistent repetitions that are in harmony with the level and ability of the sample members and based on correct practice. Training and practice of a specific skill within the motor task leads to increased experience and development in muscular and physical ability. Therefore, practice is the most important variable in the process of learning complex and even simple skills. (56:4) - In addition to the above, the two curricula included selected exercises that were consistent with the age and capabilities of the students, as the experimental group applied the curriculum prepared by the researchers according to the (kud) strategy, while the control group applied the curriculum prepared by the subject teacher. Both groups achieved a noticeable development in the level of visual-spatial intelligence and the skillful performance of the free-throw shooting skill, but the control group achieved an acceptable educational level with development rates that were not at the level of development of the experimental group. The reason for this is that all lesson decisions are issued by the teacher and students must obey these decisions without discussion, which may lead to the teacher not knowing the students' capabilities, where to start working with them, and not taking into account the individual differences between them and thus the lack of a spirit of cooperation and enthusiasm among students when performing the skills, unlike the experimental group, as the strategy followed by the researchers gives an important role to the student in participating in the lesson axis through discussion, dialogue and participation after asking questions to the students and presenting the skill through explanatory posters for the skill studied. This helps the student understand the skill and how to apply it, which has helped to obtain better results. This indicates the positive reflection of the strategy used by the researchers, and thus these significant differences between the pre-and post-tests appeared clearly.

3-3 Displaying the results of the post-tests for the control and experimental groups.

Table (5) shows the values of the arithmetic mean and standard deviations for the two post-tests, the calculated (t) value, and the significance level.

Significance level	value (sig)	value (t)	experimental group		control group		Unit of measurement	Statistica processing Variables	N
			S	$\bar{x}$	S	$\bar{x}$			
moral	0.016	2.555	1.162	5.933	1.264	4.8	Degree	Shooting from the free throw line	1
moral	0.000	4.344	5606	64	5.054	55.533	Degree	visual-spatial intelligence	2

***Significant at ≤ 0.05 and less than (28) degrees of freedom.**

3-4 Discussion of post-test results:

From Table (5), significant differences appeared between the experimental and control groups in the post-tests in (free throw shooting and visual-spatial intelligence) in favor of the experimental group. The researchers attribute this to the use of the (kud) strategy and the modernity of this strategy and the multiple stages, cognitive questions, and various exercises it contains, which contributed to increasing information about the skill of free throw shooting and contributed to arousing the interest of learners and their understanding of the material, increasing their attention and intelligence, attracting their attention and stimulating their motivation by presenting the material according to the kud strategy, which leads to a fundamental improvement in students' achievement, intelligence, retention of information and consolidation of it in their minds better than using the traditional method. It also makes students the focus of the educational process and the teacher a guide, advisor, and preparer of the educational atmosphere. This strategy emphasizes the characteristics of learners and their previous experiences. The basic point of this strategy is the teachers' expectations towards learners in terms of their attitudes, abilities, and potential and striving to increase them. This strategy provides an educational environment suitable for all learners because it takes into account the individual differences between them. In terms of experiences, capabilities, and differences in social and cultural level, i.e. using different methods to deliver educational content to him (23:5) ‹As for the method followed in teaching, we often notice that the teacher is the focus of the educational process and that most of the stages of the lesson are through the orders issued by him, and that the students must respond to the orders issued by the teacher without allowing the students to participate in the lesson, in addition to not giving them the freedom to think and choose the educational situations that suit them, and thus do not contribute directly to creating real learning. This is what Muhammad Abd al-Rahman confirmed: "The results of research have shown that the traditional method prevailing in our schools does not contribute to creating real learning, and there have been repeated calls to research and develop new teaching methods and approaches that make the learner the focus of the educational process and involve him in his learning in an effective way, and always put him in a position where he is forced to make an effort and think about what he is learning through reading, speaking, deep thinking and the self-ability to organize what he is learning." (65:3)

CONCLUSIONS

The curriculum prepared by the researchers using the Kud strategy for the experimental group, as well as the curriculum prepared by the teacher according to the followed method for the control group, had a positive role in developing visual-spatial intelligence and the skill of shooting from the free throw for both groups.The Kud strategy, which was adopted by the researchers, had a significant impact on improving the visual-spatial intelligence and free-throw shooting skills of the experimental group.

Recommendations- :

The necessity of emphasizing the use of the Kud strategy for its positive role in improving the level of thinking to solve motor tasks, which is one of the basic requirements in the game of basketball..

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