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RESEARCH ARTICLE

The Effect of using Teaching Plans According to the Van Hiele Method in Learning the Dribbling Skill in Basketball for Students

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Abstract
The study aimed to prepare teaching plans according to the Van Hiele method in learning the basketball dribbling skill, and to identify its effectiveness for intermediate school students. The researchers used an experimental approach in the style of two equal groups. The researchers defined their research population as students from Al-Intisar Intermediate School for the academic year (2023-2024), who numbered (564) students. The study sample was deliberately determined to be represented by second-year students, whose number was (90) students, and their percentage was (15.95%). from the research community, and the research sample (45) students, representing (50%) of the total second-year students, was selected in an intentional manner. They were divided into two experimental and control groups, represented by (20) students each, and (5) students were selected for the exploratory experiment. The researchers prepared teaching plans for eight weeks on Monday, 16/10/2023, and the last lesson was on December 4, 2023. As for the control group, the teacher used his usual method, after which a pre-test was conducted for the sample, then the teaching plans were implemented on Sample on Monday 16/10/2023, and the last lesson was on 25/12/2023. As for the control group, the teacher used his usual research method. The researchers concluded, with the results of the research, that using the Van Hiele method is effective in learning the skill of dribbling in basketball.

Keywords
Van Hiele Method - Dribbling - Basketball

INTRODUCTION

The rapid development that has been achieved in sports levels, for all games, was not the result of coincidence and randomness, but rather came as a result of sound planning based on scientific and technical foundations in developing educational and training curricula according to the requirements of the age stage of the students and paying attention to the integration of their preparation in all skill, physical and psychological aspects (Abu Sheikha, 1998), "Scholars have classified teaching methods and learning methods into many forms, based on criteria, the most important of which are the teacher's effort, the learner's effort, and the nature of the material to be learned. We know that the role of the teacher is the focus of the educational process, and he is the foundation and controller of the system and the sender of information and its application, through the traditional learning method." It is the teacher using multiple methods without focusing on one type (Arab and Kazem, 2009), which is why we find that he does not achieve satisfactory results as if focusing on one type of educational method. However, in light of modern technological development, the matter has become different, as the learner is viewed as a developing individual with his various physiological, cognitive, motor, and social aspects.

Among the modern methods of learning are mastery and cooperative learning" (Melhem , 2001) , and that educational sciences have taken By keeping pace with the development taking place in all sciences, including the science of teaching methods, as it is a science concerned with

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improving the academic level of students, as different teaching methods are used to achieve educational goals in educational institutions (Radhi and Obaid 2020). It can be said that teaching leads to developing minds and employing them for the sake of knowledge, thought, and skill performance, and in order to seek to develop sciences. Physical education must rely on modern methods, and one of these methods is the Van Hiele method, as it is one of the methods that helps the student to learn effectively, and to monitor and regulate his performance by using his levels of thinking in a gradual manner according to the educational stages, and then works to accelerate the learning process. It has been known Van Hiele's method is "an educational/learning design that assumes that the process of moving from one level of thinking to the next is the result of purposeful and organized directions through discovery, competition, and integration" (Latif, 2021).

Goal clarity simply means the extent to which students understand the goals and feel that they are clear. Clarity, certainty, acceptance, and commitment to the goal are all essentially related to effectiveness and satisfaction in general and indicate the level of Variation in actually desired performance" (Mansour, 2023) .It is nothing but an attempt to find an opportunity to advance to the opposing team's basket, and this happens when the player reaches the opposing team's basket with the ball legally, avoiding the mistake of walking with the ball. Accordingly, low dribbling is the player's movement with the ball inside the court, being the effective offensive means of transfer.

Moving on the field during play is usually used to advance the ball and when there is no room to use handling to move. It is defined as the process of pushing the ball to the ground with one hand and in a specific direction and bouncing it from the ground to one of the hands as well (Shaker, Tuama, & Radhi, 2022). From here came the importance of research in conducting experimental research, to find out the extent to which the effectiveness of the Van Hiele method in learning some low-level dribbling skills. It is one of the studies that dealt with this method in the field of physical education and sports sciences with the aim of stimulating students' thinking and helping them in acquiring, storing and retrieving information, and then developing the educational process and skill performance "The player must be accustomed to not looking at the ball, but rather his gaze is distributed to his teammates and opponents. As for the unused arm, it should be raised at shoulder level, as if the player is looking at his watch, in order to protect the ball from the opponents' movements (Bremer et al., 2019). Learning to dribble begins from standing, then from walking, and then from running, and this must be ensured. To dribble the ball to a distance slightly in front of the side of the body, and this distance must be compatible with the speed of the player in running. The greater his speed, the greater the distance of the bounce forward." (Jassim , 2023).

The research objective is to preparing teaching plans to identify the effectiveness of the Van Hiele method in learning the low basketball dribbling skill for the research sample.

MATERIALS AND METHODS

Research Methodology:

The researchers used an experimental approach using equal groups, as shown in Table 1.

Table 1. shows the experimental design

Groups	1	2	3	4	5
	Pre-test	Independent variable	Post-test		
Experimental	Low dribbling skill	Van Hiele method	Low dribbling skill	The difference between the pre and post tests	The difference between the two groups in the posttest
Control		Method used			

Participants

Community and sample research

"The goals that the researcher sets for his research and the procedures that he uses are what determine the nature of the population or sample that he chooses" (Khuraibet, 1988). The researchers defined the research population as students from Al-Intisar Intermediate School

(2023-2024), who numbered (564) students for all grades. The researchers deliberately chose the sample, represented by second-year students, who numbered (90) students and their percentage was (15.95%). The research sample was determined. (45) students, representing (50%) of the second-year students, in an intentional manner. The sample was divided into an experimental group and a control group, consisting of (20) students for each group and (5) students for the exploratory experiment. "The sample refers to a distinct and selected subset of the study population. It is distinctive in that it has the same characteristics as the population, and selected in that it is selected from the study population according to specific procedures and methods." (Al-Batsh and Abu Zeina, 2007).

This article's necessary ethics committee permissions were obtained with University of Baghdad Social Sciences for Woman Ethics Committee Commission Date: 23.1.2024 Issue/Decision No: 2024/1. Participant provided informed consent, with the volunteer form covering research details, risks, benefits, confidentiality, and participant rights. The research strictly adhered to the ethical principles of the Declaration of Helsinki, prioritizing participant's rights and well-being in design, procedures, and confidentiality measures.

Homogeneity and equality of the research sample

The researchers collected data on homogeneity and parity from the research sample by returning to school records about their ages by month and also measuring height and weight. After analyzing the data, it was confirmed that the sample was homogeneous, and Table 2 shows this.

Table 2. Shows the statistical parameters of the variables of height - weight - age

Variables	X	SD	Median	Skewness (±3)
Length – cm	148,12	6,85	147	0,490
Weight - kg	59,20	7,73	58	0,465
Age - year	12,23	1,19	13	0,579

Arithmetic means (X), Standard Deviations (SD)

From Table 2 it was shown that the values of the skewness coefficient were all limited to (±1). The researchers conducted the pre-test equivalence of the sample for the two research groups, the control and experimental groups, for the low dribbling skill, as in the table below.

Table 3. Shows the equivalence of the skill test used

Groups		Measuring Unit	X	SD	T value Calculated	Error percentage
Low dribbling	Experimental	(time/second)	24,794	1,775	0,715	0,295
	Control		24,413	2,142		

Arithmetic means (X), Standard Deviations (SD)

The tabular t value is (2.01), the degree of freedom is (38), and the percentage error is (0.05). From Table 3, it was found that the significance of the differences is not significant. This indicates that the two groups are equivalent in the level of performance of the low skill of dribbling in basketball.

Test is under investigation

The test was determined by one of the researchers because they are experienced and specialized in testing and measuring basketball.

Test is under investigation

Low dribbling test **(**Abdel Dayem , and Hassanein , 1984**)**

Objective of the test: to measure the performance of dribbling between signs.

Tools

A basketball, a stopwatch, chairs or signs placed as shown in the adjacent figure, noting that a line is drawn for the start and end at a distance of (1.5) m from the second chair, and the distance between the signs is (2.4) m.

Performance specifications

The tester stands behind the starting line with the ball, and when he hears the start signal, he

runs the zakzaki between the signs while constantly dribbling with the ball, provided that the work is performed back and forth until he crosses the starting line, where the time in which he covers the specified distance is calculated according to the previous performance method from the moment the order is issued. By starting until the laboratory crosses the starting line after going and coming back.

Conditions

The tester may use either hand during the interview. The ball must be touched during the dribble in a legal manner. The laboratory is allowed to perform two attempts, provided that the best of them is counted.

Registration

The time during which the tester performs the required work is calculated from the moment of the start signal until he crosses the starting line after performing the test, and the time is calculated for him in the two attempts, provided that the lesser time (1/100 of a second) is calculated for him.

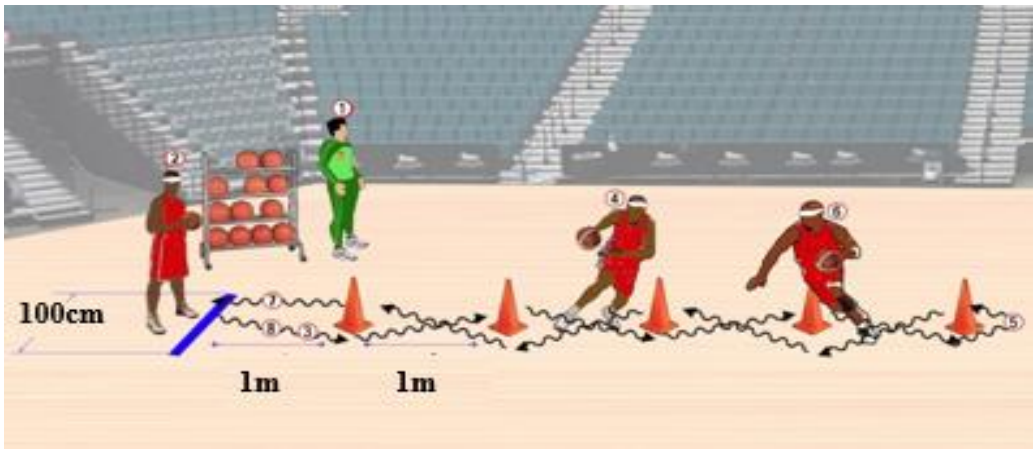

Figure 1. Low dribbling test

Field research procedures:-

Exploratory experience

"The exploratory experiment is considered a preliminary experimental study carried out by the researcher before he carries out his research, with the aim of choosing research methods and tools, and for the purpose of determining the level of devices used and selecting them, and knowing the negative aspects that the work will face. It is a practical way to reveal the obstacles that the researcher may face while carrying out the main experiment, and it is considered advance preparation for the requirements of the experiment." In terms of time, cost, auxiliary personnel, devices, tools, etc." (Shaalan, Aboode, & Radhi, 2022).

Therefore, the two researchers conducted the exploratory experiment on a survey sample, which consisted of five students from the research community, on Thursday (12/10/2023) at exactly nine o'clock in the morning on the basketball court in Al-Intisar Intermediate School, by applying the specific test for the low dribbling skill. To learn about the suitability of the test for a sample, the validity of the tools, and learn how to apply the tests, their sequence, the method of recording, and the length of time to apply each test.

Scientific foundations of the skill under research (validity, stability, and objectivity)

The researchers extracted apparent validity by presenting the test to some arbitrators who approved the test. "One of the components of validity is the test's ability to distinguish between different abilities" (Hashem, Al Edhary, Radhi, & Hmeid, 2022). After completing the exploratory experiment, the researchers processed the data statistically, By using the simple correlation coefficient (Pearson) to test low dribbling in basketball, it was shown that all skills have a high degree of stability, as shown in Table (4).

Table 4. shows the reliability coefficient for the skill tests

Test	Reliability coefficient	Type sig
Low dribbling	0,89	sig

Pre-tests of the research sample

Pre-tests for the research sample were conducted for the experimental and control groups on Sunday, 15/10/2023, in Al-Intisar intermediate School.

Preparing teaching plans

The researchers prepared teaching plans for eight lessons according to the Van Hiele method, which included exercises related to the skill and divided the plan into the introduction, the main educational and applied part, and then the conclusion.

Main experience

The implementation of the first lesson to teach the skill specified for the lesson plan, as shown in Appendix (1), a sample lesson plan for the experimental group, was conducted on Monday, 16/10/2023, and the last lesson was on 4/12/2023. As for teaching the control group, the teacher used his method. The follower.

Post-tests

The researchers conducted the post-tests after completing the application of the educational units to the experimental group, amounting to (8) educational units, on Wednesday (12/27/2023) in the Al-Intisar intermediate School playground, taking into account all the conditions, conditions and procedures under which the pre-tests were conducted.

Statistical Analysis

A statistical program was used in the statistical analysis of the data obtained. Arithmetic mean, standard deviation, frequency, minimum and maximum values were used in statistical representations of the data. In the normality testing of the data, kurtosis and skewness values of ±1.5 were taken into consideration. Independent Samples T-test were used in the analysis of normally distributed data.

RESULTS

Presentation of the results of the differences between the pre-test and post-test for the two experimental groups

Table 5. shows the values of the arithmetic means for the two experimental groups for the skill test

Skill	Groups	Pre-test		Post-test		Difference of the arithmetic means	Differences of standard deviations	Standard error	T value	Level sig	Type sig
		X	SD	X	SD						
Low Dribbling	Experimental	24,794	1,775	20,594	1,889	4,200	2,734	0,449	8,414	0,000	sig
	Control	24,431	2,142	22,474	1,834	1,984	2,365	0,432	4,592	0,000	sig

Arithmetic means (X), Standard Deviations (SD)

The tabular (t) value is (2.09) with an error rate of (0.05) and a degree of freedom (19). It is evident from Table 5, as we note the values of the arithmetic means, the standard deviations, and the value of (t) calculated between the pre- and post-tests for the experimental group, as well as the values of the differences for the arithmetic means and the standard deviations for the pre- and post-tests for the low dribbling skill in basketball, as the value of the arithmetic mean for the low dribbling skill for the pre-test reached (24,794) and the standard deviation (1,775). The arithmetic mean value for the low dribbling skill for the post-test was (20,594) and the standard deviation was (1,889), while the calculated (t) value was (8,414). Since the calculated (t) values are greater than the tabulated ones at the significance level at (0.05), which indicates that there are significant differences between the pre- and post-tests and in favor of the post-test for the experimental group for low dribbling skill.

Through Table 5, we note the values of the arithmetic means, the standard deviations, and the value of (t) calculated between the pre- and post-tests for the control group, as well as the values of the differences for the arithmetic means and the standard deviations for the pre- and post-tests of the low basketball dribbling skill, as the value of the arithmetic mean for the pre-test reached (24,431). The standard deviation was (2,142), and the mean value for the post-test was (22,447) and the standard deviation was (1,834), while the calculated (t) value was (4,594), and since the calculated (t) values are greater than the tabulated ones at the significance level of (0.05), which indicates the presence of differences Significant between the pre and post tests and in favor of the post test.

Presenting the results of the post-tests for the experimental and control groups

Table 6. Shows the values of the arithmetic means for the experimental and control groups

Variables	Groups	Mean	Standard deviation	T value	Level sig	Type sig
Low dribbling	Experimental	20,954	1,889	3,672	0,001	sig
	Control	22,447	1,837			

Degree of freedom (38) and tabulation (2.00) with an error rate of (0.05). From Table 6 we note the values of the arithmetic means, the standard deviations, the calculated (t) value, and the error percentage for the post-test for the experimental and control groups for the low dribbling skill in basketball, where the arithmetic mean value for the low dribbling skill in the post-test for the experimental group reached (20,594) and a standard deviation of (1,889). For the control group, the arithmetic mean reached (22.447) with a standard deviation of (1.834), and the calculated (t) value reached (3.672), while the standard error percentage reached (0.01). Since the value of the standard error percentage is smaller than the significance level at (0.05), This indicates that there are significant differences in the post-test between the experimental and control groups, in favor of the experimental group.

DISCUSSION

After presenting the results for the research sample in Tables 5-6, the researchers concluded that there are differences in all the results of the low dribbling skill test for both groups, and the researchers attribute the reasons for the differences and results to the effectiveness of the Van Hiele method for learning the low dribbling skill in basketball, and to the Van Hiele method. Hiele is instrumental in learning dribbling skills "Because the steps of the Van Hiele method allow the learner to create a meaningful understanding by linking previous knowledge and integrating it with what has been learned, as these steps begin by presenting a real problem that students face and then work on analyzing it and finding appropriate solutions to it through the knowledge and skills that are acquired" (Fouad, 2008). "Learning cannot occur except through practice, and there cannot be learning unless it occurs repeatedly with a change, even if this change is simple, and through practice and reinforced repetition there is a gradual improvement in the performance of the skill, and training is the only way to discover mistakes then correct it." (Arab and Kazem, 2009).

The researchers attribute that the reason for the development of the performance of the control group, which learned the skill according to the method used by the teacher, is that the learning process in basketball requires continuous feedback throughout the learning period, so repeating the skill with the teacher's organized observations and directing him to perform correctly, especially in the stages Initial learning, since the students are beginners, that is, they did not have previous experience in the skills under research. In the early stages of the learning process, the focus was on direct feedback after each performance. As the research sample's performance level advanced, the feedback was reduced, which helped in the transition. Between the stages of learning in a smooth manner, and developing the kinetic program stored in the kinetic memory of the skill, as, "Feedback increases performance improvement in the early stages of learning because learning takes the initial image of the skill, develops an appropriate kinetic program for the response and implements it, and then compares the result with the established program." (Khayoun, 2002). "The bottom line is that the role of the student is to repeat and practice, that is, the teacher gives the ideas and topics complete and ready for the students, and they do not have to explain and analyze, but rather apply and practice to master the skill to be learned. This is what confirms"when the learner faces a problem or situation, learning occurs" (Zaitoun, 2007).

Through the above presentation, analysis and discussion of the results, the researchers reached the following conclusions. The results of the arithmetic means of the experimental group in the pre- and post-tests proved that there are differences

in favor of the post-tests , the method used by the teacher helped in learning the skill of dribbling among members of the control group , the Van Hiele method is effective in learning the low skill of dribbling in basketball under study for the benefit of the sample of individuals in the experimental group and the Van Hiele method lessons had a positive impact on learning low-level dribbling, better than the method adopted in school. Based on the above-mentioned conclusions reached by the researchers, the following is recommended: Using the Van Hiele method to learn other skills and the technical stages of other sporting events, as this method is modern , and conduct other similar studies using the Van Hiele method on samples of different genders, such as female students.

The Ethics Committee

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Conflict of Interest

The authors declare no conflict of interest. In addition, no financial support was received.

Author Contributions

Planned by the authors: Study Design: OTS and YMW, Data Collection: OTS and YMW, Statistical Analysis: OTS and YMW, Data Interpretation: OTS and YMW, Manuscript Preparation: OTS and YMW, Literature Search: OTS and YMW .All authors have read and agreed to the published version of the manuscript.

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Appendix (1)

Physical education lesson plan for intermediate school The first educational unit Time: 45 minutes Week: first Number of students: 20 students	Educational objectives 1. Accustoming them to control and order Educational objectives (skills) 2. Identify the low skill of dribbling 3. Performing the low dribbling skill.

ction	Exercise	Time	Behavioral goals	Physical activity and skill	Organization	Tools	calendar
Preparatory 8 min	introduction	3 min	- The student must be psychologically prepared and have a positive mood to start the lesson. - The student begins the lesson with activity.	Bringing balls, preparing the necessary supplies for the educational unit, students standing in one row, taking attendance, starting the educational unit with a sports salute	xxxxxxxxxxxxxx X	Whistle	Confirm the system
	Warm up	5 min	- The student must reach the warm-up stage for functional devices. - The student should carry out the exercise according to the instructions.	- Regular walking, light jogging with arms rotated forward and backward, light jogging, normal walking. - (Standing, lateral bending) pressing the arms to the side and extending them (4) reps. - (Long sitting, hugging) arms high, bending the torso forward and holding (5) reps - (Standing with your waist down) Jumping by alternating feet front and back (2) several times	xxxxxxxxxxx xxxxxxxxxxx x x x X x xxxxxxxxxxxx	Basketball court-	Emphasizing organized running, keeping distances between students, and correcting performance with the whistle.
Main 35 min	Educational 10 min		- The student should link previous experience with offensive basketball skills to new information - For the student to know how to perform the low skill of dribbling. - The student should observe the motor performance model for the low dribbling skill.	- Reviewing what the student has learned about offensive skills in basketball, answering students' inquiries, and giving feedback to the students. - Provide a definition of the low skill of dribbling. - A general idea of the low dribbling skill, an explanation of the conditions that must be met when performing low dribbling, and an explanation and presentation of the skill. - Explaining and presenting exercises for handling and receiving skills.	X X X X X X X X X X X X X X X X X X X X X X X	Basketballs (8) Signs(4)	
	Applied 25 min		- The student performs the low-level dribbling skill correctly. - The student should observe the motor performance of the low dribbling skill. - The teacher corrects errors by following up on students during practice.	The teacher divides the students into four groups and asks them to perform the exercises according to their sequence, under the supervision and follow-up of the researcher: Exercise(1) Exercise(2) Exercise(3) Ensure understanding of skill performance. The students apply the skill of handling and receiving, and the teacher corrects the errors and emphasizes the participation of all students in applying the skill and performing the exercises respectively (1 ,2 ,3)		Basket balls (8) Signs (4)	- Emphasis on the participation of all students. - Give sufficient time to apply the exercises included in the lesson. - Follow-up by the teacher to correct errors. - Observing students and urging them to perform and apply exercises
	Final 7 min		-A mini game (and low dribbling)				Emphasis on adherence to the rules of the game