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## **The effect of the (K.W.L) strategy on interactive thinking and learning the skills of dribbling, passing and receiving of handball for female students**

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### **Abstract**

The importance of the research is evident by using the (K.W.L) strategy, as the researcher believes that it is more developed and influential in improving the interactive thinking of female students and the extent of its impact on the educational process for learning some handball skills. The research aims to identify the effect of the (K.W.L) strategy on interactive thinking and learning the skills of dribbling, passing and receiving of handball for female students, as well as identifying the significant differences between the two research groups (control and experimental) in the results of the post tests. The research community consisted of students of the second stage in the College of Physical Education and Sports Sciences / University of Kerbala for the academic year 2021-2022, totaling 42 students divided into two divisions (A-B). (B) As an experimental group, as the researcher conducted her field experiment on a sample of (30) female students, with (15) female students from each division. Among the most important conclusions reached by the researcher, the teaching method followed and the strategy used for the experimental group had a positive impact on interactive thinking and learning the skills of tapping, handling and handball for female students. The (K.W.L) strategy also showed its superiority over the method used in interactive thinking and learning the skills of tapping, handling and handball for female students in relation to the results of the post-tests. And the most important recommendations were the necessity of applying the (K.W.L) strategy for teaching other sports. And the necessity of using the (K.W.L) strategy on other physical, mental and skill variables that the researcher did not address in her study.

**Keywords:** Psychiatric disorders, suicide, suicide attempt

### **1. Introduction**

Our world today is witnessing serious attempts to comprehensively develop all stages of education so that its focus is clearly the learner, in addition to being exposed to different and diverse educational situations in which the learner interacts fully and balanced to deepen the impact of the educational process instead of listening and receiving, and the world is living in the recent period a great scientific revolution It has a great impact on all aspects of life, and education has become required to search for more advanced educational strategies and models to meet many challenges. The (K.W.L) strategy is of great importance in teaching by stimulating the mental abilities of students, as it promotes questioning, discussion and interaction during the lesson, as it trains them to set goals for the topic from its steps (what do I know about the topic - what do I want to know about the topic - what have I learned from the topic). Through these steps, it works to provide a comprehensive, meaningful and subjective understanding by the student herself of the subject and makes the student the focus of the teaching process, the seeker of knowledge and the valuator of his information. It emphasizes self-learning and self-reliance. While preserving the role of the teacher as a guide and guide for the educational process. (Ali Radhi Abdul Hussein, Mohammad Jasim Mohammad, & Samer Youssef Mtaab. 2021) <sup>[6]</sup> It helps learners to solve problems and control their thinking and encourages them to search, investigate and question to find solutions by exploiting their mental abilities to think about the problem, which develops their various skills, especially the interactive thinking skills of the learners, especially in making decisions and thinking about solving problems. This is achieved through the stages of strategy. It is known that the activity of handball is one of the group games that consists of a large number of skills that the teacher is required to teach and deliver to the learners well in order to raise their skill performance, and this is through the use of the appropriate and appropriate method that is consistent or consistent with the nature and tendencies of the learners.

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Through the foregoing, the importance of the research using the (K.W.L) strategy becomes clear, as the researcher believes that it is more developed and influential in improving the interactive thinking of female students and the extent of its impact on the educational process to learn some handball skills.

### 1.1 Research problem

Through the researcher's experience as a handball teacher in the College of Physical Education and Sports Sciences / University of Karbala and his briefing on the reality of teaching in our educational institutions, I noticed that the methods used in the teaching process do not reach the level of ambition through teachers' use of one method, which depends on one source, which is the teacher. The one who explains on his part, followed by a presentation of the model without any actual participation by the educated individual in the educational situation, and this does not fit what the educational process calls for. I also noticed the lack of full attention to the aspects of learning, whether from the cognitive, emotional or emotional aspects, as well as the lack of using modern strategies for learning. One of the most important strategies is the (K.W.L) strategy, which is one of the effective teaching strategies in which the student is the focus of the educational process, and it helps to activate the students' previous knowledge and make it a starting point to link it with new information in order to renew the meaning of learning and increase the student's self-confidence and her ability to plan, monitor and carry out her work on her own, and that using this strategy will contribute to the development and development of mental abilities, which is one of the main goals in education, which he prompted the researcher to apply this strategy to know its impact on interactive thinking and to learn the skills of dribbling, passing and receiving handball.

### 1.2 Research objectives

- Identify the effect of the K.W.L strategy on interactive thinking and learning the skills of dribbling, passing and receiving handball for female students.
- Identify the significant differences between the two research groups (control and experimental) in the results of the post-tests.

### 1.3 Research hypothesis

- There are significant statistically significant differences between the pre and post measurements of the control and experimental groups in interactive thinking and learning the skills of dribbling, passing and receiving of handball for female students and in favor of the post measurement.
- There are significant statistically significant differences in the results of the post-measurement of the two experimental and control groups in interactive thinking and learning the skills of dribbling, passing and

receiving of handball for female students and in favor of the experimental group.

## 1.4 Research fields

### The human field

Students of the second stage in the College of Physical Education and Sports Sciences / University of Kerbala for the academic year (2021-2022).

### Time field

From 20/10/2021 to 2/1/2022.

### Spatial field

The closed hall in the College of Physical Education and Sports Sciences / Kerbala University.

## 1.5 Define the terms

### 1.5.1. Teaching strategy (K.W.L)

A metacognitive strategy that includes the student's ability to determine what he knows about a topic, what he wants to know, and what he has learned. (Bahloul, Ibrahim Ahmed, 2004, p.73) [1]

## 2. Research methodology and field procedures

### 2.1. Research Methodology

The nature of the problem is the basis through which the research method is chosen, so the researcher used the experimental method with two equal groups (control and experimental) due to its relevance to the nature and objectives of this study.

### 2.2. Community and sample research

The research community consisted of students of the second stage in the College of Physical Education and Sports Sciences / University of Karbala for the academic year 2021-2022. The number is (42) students divided into two divisions (A-B) and in a random way by lottery method, Division A was chosen as a control group and a division (B) As an experimental group as the researcher conducted her field experiment on a sample of (30) female students and by (15) female students from each division, and the sample percentage from the original population was equal to (71.42), and (10) female students were chosen to represent the pilot experiment sample. Table (1) it shows the research community and its samples:

### 2.3. The homogeneity of the sample and the equivalence of the two research groups

#### 2.3.1. Sample homogeneity

The researcher used the coefficient of variation law to measure the homogeneity in the variables (height, weight) among the sample members, as shown in Table (1).

**Table 1:** shows the mean, standard deviation, and coefficient of variation in the study variables.

Variables	Unit of measure	Mean	Std. deviation	Variation coefficient value
Length	Cm	155.27	3.62	4.06
Mass	Kg	48.11	4.71	14.12

\* All values of the coefficient of variation were less than 30%, which indicates the homogeneity of the sample in the above variables.

**2.3.2. Equivalence of the two research groups:** For the purpose of determining the starting point, the researcher found parity between the two groups using the (t) test for

independent samples in the study variables, and Table (2) shows this.

**Table 2:** shows the equivalence of the two research groups in the research variables.

Variables	Control group		Experimental group		T value		Sig type
	Mean	Std. deviation	Mean	Std. deviation	Calculated	Tabular	
Interactive thinking	34.22	1.77	33.30	2.18	1.31	2.02	Non sig
Dribbling	8.33	2.11	7.91	1.86	0.55	2.02	Non sig
Passing and receiving	4.55	2.43	7.9	5.08	0.02	2.02	Non sig

The tabular value (t) at the degree of freedom (28) and the level of significance (0.05) is (2.02) By noting the calculated (t) values for the research variables, we find that they are less than the tabular (t) value of (2, 02) at the degree of freedom (28) and the level of significance (0.05), which indicates that there are no significant differences and this means that the two groups are equivalent in the variables search.

## 2.4 Means of data collection, information, devices and tools

### 2.4.1 Means of collecting data and information

- Arab and foreign sources.
- Observation.
- Tests and measurement.

### 2.4.2 Tools and equipment used in the research

Measuring tape - medical scale-chalk-whistle-bork - two (2) manual stopwatches - scientific calculator. (8) Handballs - A legal field for handball.

## 2.5 determine the research variables under study

### 2.5.1 Define the interactive thinking scale

After the researcher reviewed several measures of interactive thinking, he found the need to prepare a scale that fits with the current research sample and the objectives of the current study, so after reviewing many studies and measures, the interactive thinking scale was chosen for the researcher (Louay Hamad Khudair, 2020), which is composed of (30) paragraphs, and a component An answer alternative (always, sometimes, never), so that the highest score for the scale is (90) degrees and the lowest score is (30) shows the scale items.

### 2.5.2 Determining the skill tests

(Al-Khattat, Dia & Muhammad, Nofal, 2001, p. 53) <sup>[2]</sup>

#### 2.5.2.1 testing of the dribbling in a straight line (15 m)

**The objective of the test:** - To measure the chock in a straight line for a distance of 15 m.

#### Tools

Legal Handball No. (2), stopwatch, whistle, handball court.

#### Performance specifications

The tester stands on the 6m line (the starting line) and an assistant stands on the 9m line with a handball placed along his arm. When the start signal is given, the tester runs to pick up the ball from the assistant's hand and pats until it crosses the finish line, which is 15m away from the 9m line. Where one attempt is given to each laboratory and the retest is taken into account when any legal error in the tab.

#### Register

Time is calculated to the nearest (0.1 sec) from the start moment until the laboratory crosses the finish line.

### 3.5.2.1 passing and receiving test

#### The objective of the test

To measure compatibility, scrolling speed and accuracy on two walls.

#### Tools

Legal handball No. (2), two perpendicular walls drawn on which are two circles with a diameter (75 cm) and a height of 165 cm from the ground, a circle with a diameter of (2 m) drawn on the ground and its center (3 m) from the two walls as in Figure (25), stopwatch, whistle.

#### Performance specifications

The laboratory stands at a distance of (3 m) from the two walls within the circle drawn on the ground. The laboratory passes the ball to the two walls. And within the two circles drawn on the walls in succession and the continuation of scrolling as many as possible in the specified time (30 seconds).

#### Register

The laboratory records the number of times of handling and receiving the ball from within the specified circle.

## 2.6 Experimental Experiment

After completing the required procedures, and to identify the factors and obstacles that the researcher may encounter when carrying out the main experiment, and in order to obtain correct and accurate results in accordance with the scientific methods used, the researcher conducted the exploratory experiment on Tuesday (26/10/2021), on a sample composed of From (10) students who were not from the research sample and from the community of origin, and the researcher aimed from this exploratory experiment to the following:

- Identifying the difficulties that the researcher faces during the main experiment.
- Knowing the time allotted for conducting the tests.
- Ensure the scientific bases of the tests used.

## 2.7 Field Research Procedures

### 2.7.1 Pre-tests

The pre tests were conducted on Tuesday, 2/11/2021 in the closed hall in the College of Physical Education and Sports Sciences / Karbala University for the variables under study.

### 2.7.2 The general framework for implementing the strategy (K.W.L)

After the researcher prepared the educational lectures using the (K.W.L) strategy, these educational exercises were developed to learn the two skills under study, the main experiment was started as of (Thursday) corresponding to (4/11/2021) on the students of the experimental group and withheld from the control group that continues to teach normal, taking into account the following:

- The application of the educational units continued for a period of (3) weeks, with two lectures per week.

- The total number of educational units is (6) units.
- The lectures were on Tuesday and Thursday of every week.
- The K.W.L strategy is applied during the main section of the lesson.
- The time for one unit is (90 d) and the time for applying the strategy (K.W.L) is (30 d).
- The total time for applying the (K.W.L) strategy in (6) lessons is (540) minutes.
- Dividing the students into small groups randomly so that each group does not exceed (3) students as a maximum, with the roles distributed to them (leader - registrar) and the group changes periodically every class.
- Choose the topic to be taught and define it, then write it with a colored pen in a clear handwriting with a brief summary about it.
- The teacher presents an organized worksheet (K.W.L) for each group and handed over to the leader of each group, and it consists of two pages (the first page contains the group number, date, the name of the group leader and the lesson title, and the second page consists of points to summarize the topic).
- The educational section a general discussion among the students and bringing all the information they have on the subject by stimulating their minds with a question from the teacher and discussing what they know within the group with the leader's organization and follow-up to the discussion process within the field (K).
- The leader of each group presents the previous information that was brought up through discussion with the members of his group and is mentioned orally by the group leader in front of the class.
- The applied section /// The second column (W) includes an actual application of some exercises prepared by the researcher, which serve to learn the skills in question,,

with a focus on the work of the groups.

- Studying the subject in depth, stage (L), with the teacher presenting the required and adapted activity for the topic of this lesson, giving them feedback on each exercise that will be actually applied at this stage, as well as giving them a booklet prepared by the researcher, which included the basic skills examined and some articles of the law, with The teacher emphasizes that the groups pay attention to the answers to the questions he put when addressing them during the explanation.
- The teacher with groups of students compares what they have actually learned with what they want to learn and what they know in the third field (L) with the second field (W), and make appropriate adjustments to the previous information they had before the new learning, and thus the process becomes the stage of evaluation.

**2.7.3 Post tests**

The post tests were conducted on Thursday 25/11/2021 and under the same conditions as the pretests.

**2.8. Statistical means**

1. Arithmetic mean
2. Standard deviation
3. Coefficient of Variation
4. Simple Correlation Coefficient (Pearson)
5. T for conjugated samples
6. T for independent samples

**3. Presentation, analysis and discussion of the results**

**3.1 Presenting and analyzing the results of the pre and post tests for the control group in interactive thinking and learning the skills of dribbling, passing and receiving for female students**

**Table 3:** shows the significance of the differences between the pre and posttests of the control group in interactive thinking and learning the skills of dribbling, passing and receiving for female students

Variables	Pre-test		Post-test		T value		Sig type
	Mean	Std. deviation	Mean	Std. deviation	Calculated	tabular	
Interactive thinking	34.22	1.77	67.11	2.05	52.4	2.14	Sig
Dribbling	8.33	2.11	5.45	0.96	5.33	2.14	Sig
Passing and receiving	4.55	2.43	9.85	4.41	4.20	2.14	Sig

\* Tabular value (t) at the level of significance (0.05) and the degree of freedom (14) is (2.14)

Table (3) shows the means, standard deviations, and the (t) value calculated between the pre and posttest in the tests under study for the control group, the results showed that all the differences for the tests are significant and in favor of the post-test because the calculated (t) value is greater than the tabular (t) value of (2.14) and with a degree of freedom (14) and below the level of significance (0.05), and this

indicates a significant difference in favor of the post-test in All variables are under investigation.

**4-2 Presentation and analysis of the results of the pre and post tests for the experimental group in interactive thinking and learning the skills of dribbling, passing and receiving for female students**

**Table 4:** shows the significance of the differences between the pre and posttests of the experimental group in interactive thinking and learning the skills of dribbling, passing and receiving for female students

Variables	Pre-test		Post-test		T value		Sig type
	Mean	Std. deviation	Mean	Std. deviation	Calculated	tabular	
Interactive thinking	33.30	2.18	82.44	2.72	55.6	2.14	Sig
Dribbling	7.91	1.86	4.33	0.72	7.44	2.14	Sig
Passing and receiving	7.90	5.08	19.56	5.00	8.04	2.14	Sig

\* Tabular value (t) at the level of significance (0.05) and the degree of freedom (14) is (2.14)



Table (4) shows the arithmetic means, standard deviations, and (t) value calculated between the two tests, the pre and posttest in the tests under study for the experimental group, the results showed that all the differences for the tests are significant and in favor of the post-test because the calculated (t) value is greater than the tabular (t) value of (2.14) and with a degree of freedom (14) and below the level of significance (0.05), and this indicates a significant difference in favor of the post-test in All variables are under investigation.

**3.3 Discussing the results of the pre and post tests for the control and experimental groups in the research variables**

Through the results shown in Tables (3, 4), we find that there is a clear and tangible development for the members of the two groups in the post-tests, and this is consistent with what was stated in the first hypothesis of the study, and the researcher attributes the reason for this to the safety of the educational curriculum of the two groups, and it contains selected exercises in a scientific manner and with repetitions. Valid, consistent and consistent with the level and ability of the sample members, and based on correct practice. And the reasons for the development of the members of the experimental group are due to the effectiveness of using the (K.W.L.) strategy in terms of planning and implementing educational units, in addition to the new educational situations that the students were exposed to, which are characterized by the clarity of the goal and what they are required to achieve, were not recognized in the regular educational units, which led to a clear improvement in their performance, as he mentions (Qelada, 1989) “to the clarity and identification of goals in the light of certain behaviors or performance levels, they are meaningful and effective. (Qalada, Fouad Suleiman, 1989, p. 177) [3]. Also, allowing the student to take sufficient time to learn according to her own capabilities and abilities and in a way of presenting the educational material, whether in written text that enables him to use more than one sense in the learning process, has contributed in an influential way to

the diversity of sources of knowledge and the increase in opportunities for good learning, and this improvement in the skill performance and accuracy of the skills investigated came As a result of moving away from the norm in teaching by using the (K.W.L) strategy, which has the role of making students the focus of the educational process, and their performance is organized and arranged according to the steps of the strategy, in addition to the use of various exercises, and continuous guidance by the teacher to perform these exercises, which helped reduce the errors that students might make in their performance of the exercises during the educational unit. Also, teaching the experimental group with this strategy made the female students the main focus around which the educational process revolves, as well as active participants in it. And that their application of exercises in the three phases of the strategy was an encouraging factor in increasing the students' motivation towards performance and freedom.

In the practical application of the activities, which made them feel independent, which leads to enhancing self-confidence and improving their view of themselves. This is consistent with what was confirmed by (Al-Mousawi, Abdullah Hassan, 2005: 119): “Caring for the learner and making him the focus of the educational process and the center of activity, respecting his opinions and abilities, and inundating him with kindness, acceptance and encouragement is a basic factor that helps in learning.

The researcher also attributes the development of the control group in the variables under study to the method used by the subject teacher, which depends on the verbal explanation of the motor skill, followed by the performance of the model, which adds to the students an initial perception of how to apply the skills. And then feedback from the teacher, and all this would raise the level of students and their progress in the skill side.

**3.4 Presentation and analysis of the results of the post-tests for the control and experimental groups in interactive thinking and learning the skills of dribbling, passing and receiving for female students**

**Table 5:** shows the significance of the differences between the post-tests of the control and experimental groups in interactive thinking and learning the skills of dribbling, passing and receiving for female students

Variables	Control		Experimental		T value		Sig type
	Mean	Std. deviation	Mean	Std. deviation	Calculated	tabular	
Interactive thinking	67.11	2.05	82.44	2.72	16.55	2.04	Sig
Dribbling	5.45	0.96	4.33	0.72	7.43	2.04	Sig
Passing and receiving	9.85	4.41	19.56	5.00	9.36	2.04	Sig

\*Table value (t) at the level of significance (0.05) and degree of freedom (28) is (2.04)

Table (5) shows the means, standard deviations, and the calculated (t) value between the post-test in the tests under consideration for the control and experimental groups, the results showed that all the differences for the tests are significant and in favor of the experimental group because the calculated (t) value is greater than the tabular (t) value of (2.04), with a degree of freedom (28) and below the level of significance (0.05), and this indicates a significant difference in favor of the experimental group in All variables are under investigation.

**4. Discussing the results**

Through the results shown in Table (5), we find that the value of (t) calculated for all the tests under study is greater

than its tabular value, which indicates the significant differences between the post tests of the two groups and in favor of the experimental group. The researcher attributes the reason for the superiority of the experimental group to the use of strategic steps (K.W.L), as it included various teaching methods such as cooperative learning, brainstorming, discussion and dialogue. It helped to use different mental abilities and train students in the etiquette of dialogue, discussion, participation in performance (practical application), respect for the other opinion and working within organized cooperative groups. It made each student keen to support each other and make the educational process full of creativity and fun, as well as diversity in the use of educational aids and activities such as summaries

And the exercises prepared by the researcher led to a clear development in the skill performance and accuracy of the skills investigated and the process of linking in the development of performance between mental abilities and basic skills in handball. Attention has been paid to the interactive thinking process within the educational units, as it is one of the types of thinking that must be taken care of and encourage learners to practice, as it reduces haste and routine thinking and enables them to gain insight into matters and work in a deliberate and approved manner to achieve specific purposes. Provided by the teacher and linking them with the previous information and finding solutions within the vocabulary of the prepared educational curriculum. (Razuqi & others, 2013, p. 41) <sup>[4]</sup> The (K.W.L) strategy activates previous knowledge as a basis for new learning and arouses curiosity to think during the lesson, as the (K.W.L) strategy helped students self-evaluate themselves by balancing what they learned with what they knew, to know the level of success that has been achieved and the modification of some false beliefs and ideas that he had before the new learning, which increased their ability to think positively. (Attia, Ibrahim Ahmed & Saleh, Ahmed Mohamed, 2008, p. 87) <sup>[5]</sup> In the traditional method, the teacher presents the information, explains and presents the skills through the model and then repeats the skill on the part of the student, but without a positive or signal for the student to participate in presenting the skill. What he heard and put the student in the position of the recipient, in contrast to the method of teaching this strategy.

## 5. Conclusions and recommendations

### 5.1 Conclusions

1. The teaching method followed and the strategy used for the experimental group had a positive effect on interactive thinking and learning the skills of tabbing, handling and handball for female students.
2. The K.W.L strategy showed its superiority over the method used in interactive thinking and learning the skills of tapping, handling and handball for female students in relation to the results of the post-tests.

### 5.2 Recommendations

1. The necessity of applying the K.W.L strategy for teaching other sports.
2. The necessity of holding training courses to train physical education teachers on how to use modern teaching strategies in cooperation between the faculties of physical education and sports sciences and the directorates of education.
3. The necessity of using the (K.W.L) strategy on other physical, mental and skill variables that the researcher did not address in her study.

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