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The effect of exercises using the Ned Hamm structural model on the cognitive control of basketball for students

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ABSTRACT

The research aimed to build two measures of cognitive control of basketball for students of the fourth stage, College of Physical Education and Sports Sciences, University of Karbala, and the preparation of educational units using the Ned Hamm model in cognitive control of basketball for students.and to identify the impact of the Ned Hamm model on cognitive control of basketball for students.The researcher used the experimental approach and the design of the experimental and control groups equivalent to the pre- and post-tests to suit it with the problem and objectives of the research.represented the research community by students of the fourth stage in the College of Physical Education and Sports Sciences Karbala University for the academic year (2024-2025), which numbered (116) students distributed over (4) divisions, which are (A, B, C, D), and (6) students were excluded from all divisions due to their lack of commitment to attendance.The most important conclusions were reached, the work of the Ned Hamm model on developing cognitive control for fourth-stage students at the College of Physical Education and Sports Sciences - University of Karbala, because it gives students an opportunity to practice mental processes to a better degree than methods based on memorization and remembering

1- Definition of the research:

1-1 Research Introduction and Importance:

Education has become an inherent element for the development of societies, which in turn influences the elements of the educational process through learners obtaining appropriate responses in different educational situations using everything that is modern and useful to achieve educational goals, as it is necessary to build curricula that are characterized by modernity on solid foundations that take into account the large and comprehensive variables that work targeted in modern education, so many different teaching models have emerged in education that have taken an important place in the educational institution that In which the educational position is the ruler in determining the priority of using a model alone, in addition to the nature of the educational content and the characteristics and features of students and the extent of their needs, including the Ned Hamm model, which is characterized by being an integrated teaching model based on constructivist theory, as it derives its idea from the scientist Jean Piaget, who makes the learner the focus of the educational process and the investment of his abilities and previous knowledge in his subsequent learning through the process of linking ideas in an integrative synthetic framework that suits the requirements of the educational situation.

Cognitive control is the focus of the information processing process and plays an important role in the individual's ability to adapt to ever-changing environments, in addition to facilitating goal guidance and behaviors, including creativity, problem solving, multitasking and decision-making, and provides each of two types of cognitive control functions: active retention of task goals, control of decreasing responses, and this and that the individual is able to control his behaviors is that person who is flexible and able to adapt to different situations, and express himself. In the event of a change of attitudes, due to his great ability to adapt to different situations and is characterized by flexibility and multiplicity of responses according to new circumstances.

The importance of research lies in increasing students' ability to control knowledge, through the use of the most effective teaching method that increases positive interaction with the educational environment using the Ned Hamm model, as well as developing their abilities in employing knowledge for the applied side, thus obtaining high-level educational outcomes.

1.2 Research problem:

The problem of research lies in the poor access to high grades and advanced ranks of the results of academic achievement by performing the semester and final exams achieved by students for scientific excellence, knowledge, improving the level of academic performance, and seeking to keep pace with the development that occurs in the practical fields and its difficulty for students, the researcher decided to build a scale of cognitive control of basketball for students, as this scale contributes to solving a problem suffered by students in understanding and moving correctly within the court.

Therefore, the researcher decided to delve into this study by applying the Ned Hamm model in increasing cognitive control and trying to reach the level of students to a higher level than previous years.

1-3 Research Objectives:

Building two scales for cognitive control of basketball for students of the fourth stage, College of Physical Education and Sports Sciences - University of Karbala.

Preparing educational units using the Ned Hamm model in cognitive control of basketball for students.

Identify the impact of the Ned Hamm model on cognitive control of basketball for students.

1.4 Research hypotheses

There are statistically significant differences between the pre- and post-tests of the experimental research group in cognitive control of basketball for students of the fourth stage College of Physical Education and Sports Sciences _ University of Karbala

1.5 Research Areas:

1.5.1 Human field: Students of the fourth stage in the College of Physical Education and Sports Sciences - University of Karbala for the academic year (2024-2025).

1.5.2 Time Domain: from (27/11/2024) to (26/2/2025).

1.5.3 Spatial field: Basketball court at the College of Physical Education and Sports Sciences - University of Karbala.

Chapter Three

3- Research Methodology and Field Procedures:

3.1 Research Methodology:

The researcher used the experimental method and the design of the experimental and control groups equivalent to the pre- and post-tests to suit it with the problem and objectives of the research and table (2) shows the experimental design of the research.

Table (2)

Shows the experimental design of the research

audition	Dependent variable	Independent variable	audition	Totals
Post-Test	Cognitive control and basketball refereeing mechanism	Ned Hamm Model	Pre-test	Experimental
		The method used by the teacher		Adjuster

3.2 Research population and sample:

The research community was represented by students of the fourth stage in the College of Physical Education and Sports Sciences - University of Karbala for the

academic year (2024-2025), which numbered (116) students distributed over (4) divisions, which are (A, B, C, D), and (6) students were excluded from all divisions due to their lack of commitment to working hours.

The research samples consisted of the following:

1- The main research sample (experiment sample): (20) students were selected, which represents a percentage of (17.24%) of the research community, which is a good percentage to represent the community honestly and genuinely, and they were randomly selected in the style of (lottery), and the main research sample was distributed equally to two groups as follows:

(10) students representing the experimental group that will be taught using the Ned Hamm model, Division (B).

(10) students representing the control group that will be taught in the manner used by the teacher, Division (A), as shown in Table (3).

2- Sample building a cognitive control scale: (80) students were selected from the number of students from the research community who did not participate in the main research sample, which represents a percentage of (68.96%) to build the scale, as shown in Table (3).

3- Sample of the exploratory experiment: (10) students were selected from the research community randomly from Division (C), as shown in Table (3).

Table (3)

Shows the research population, its samples and their percentages

Excluded	Control group	Experimental Group	Sample Building Scale	Sample exploratory experiment	Total Number	People	t
6	**10**		**18**		**28**	**A**	**1**
		10	**18**		**28**	**B**	**2**
			20	**10**	**30**	**C**	**3**
			24		**30**	**D**	**4**
6	**10**	**10**	**80**	**10**	**116**	**Total Number**	
5.17%	**8.62%**	**8.62%**	**68.96%**	**8.62%**	**100%**	**Percentage**	

3.3 Means of collecting information, data, devices and tools used in research:

3.3.1 Means of collecting information and data:

- Arab and foreign scientific sources and references.
- Direct observation .
- Tests and measurement.

3.3.2 Devices and tools used in research:

Percentage	Disagreers	Approvers	Paragraphs	t
100%	zero	15	I find a great desire to be aware of all the cognitive aspects of the educational material for basketball refereeing, even if it is abundant	1
100%	zero	15	I pay attention to the role that the teacher has drawn for me in carrying out cognitive educational tasks according to prior planning in basketball	2
100%	zero	15	Creating educational problems in basketball by the teacher creates a competitive aspect of knowledge with myself to seek to solve them in a basketball lesson	3
80%	3	12	My passion for carrying out my educational tasks that I am assigned to by the basketball teacher is increasing.	4
93.33%	1	14	I feel positively motivated by the diversity of learning resources for refereeing in a basketball match	5
100%	zero	15	The subject teacher focuses on achieving effective learning within the appropriate context of refereeing performance in basketball.	6
80%	3	12	Identifying refereeing errors and the movement of referees is among the most important priorities for learning in a basketball game	7
80%	3	12	There are priorities for the educational tasks of refereeing performance and basketball mechanics that I seek to learn before others	8
100%	zero	15	The use of educational stimuli in various forms facilitates the process of responding to learning the mechanics and movement of basketball referees	9
100%	zero	15	Diversity in the presentation of the vocabulary and aspects of arbitration performance and its mechanism in different ways that help in increasing knowledge and its consequences	10
80%	3	12	The abundance of information and scientific material is not a reason for distracting thinking and controlling the priority of learning	11
86.66%	2	13	I like the diversity of learning resources and the desire to control the amount of information provided in the basketball lesson reinforces the desire to control the amount of information provided in the basketball lesson.	12
100%	zero	15	I find a strong desire to read when the scientific material is sequential	13
86.66%	2	13	Contribute to the planning process for the priority of using basketball refereeing signals in an educational match and how to use them	14
86.66%	2	13	I feel free and able to control the evaluation of my solution to the educational problem assigned to me by the teacher during an educational basketball game	15
86.66%	2	13	I have the ability to distinguish between the concept of refereeing errors and basketball violations according to previous knowledge and the mechanism of arbitration	16
100%	zero	15	I refer to my previous educational experiences in the diversity and use of different strategies to learn refereeing signals and the mechanism of movement on the basketball court	17
93.33%	1	14	My ability to make correct decisions based on my previous information when performing refereeing and its mechanics in basketball	18
100%	zero	15	I expect success quickly and positively when learning the refereeing mechanism for all his basketball vocabulary	19
100%	zero	15	I try my best to be a cognitively distinguished basketball referee	20
86.66%	2	13	I can distinguish between the duties of basketball referees according to their performance on the court.	21

93.33%	1	14	I have the ability to correct my educational performance based on my cognitive control of the amount of previous information given	22
100%	zero	15	I positively participate with my colleagues in the learning process when we encounter any common education problem	23
86.66%	2	13	Use positive phrases and interact with my fellow students to reach the required knowledge of the basketball lesson	24
80%	3	12	Cognitively control the amount of information about the personality of the basketball referee and apply it fully when refereeing	25
93.33%	1	14	I enjoy being assigned with my classmates to manage a basketball game in the lesson and with my own motivation	26
100%	zero	15	I use my previous experience to solve a problem that happened in an educational basketball game	27
93.33%	1	14	I can correct my performance quickly when I make a mistake	28
100%	zero	15	I have confidence in good performance and show my competence as a basketball referee	29
100%	zero	15	Have fun with my group and listen and interact with their ideas when learning to lead an educational basketball game	30

- Legal basketball court with its accessories
- Lenovo laptop.
- Dry pens number (20).
- Stopwatch.
- Camera.
- Medical scale.
- Tape measure.

3.4 Field research procedures:

The researcher built a cognitive control scale, and the procedure for building the scale included many steps that were followed in order to obtain a scale that meets the conditions of the scientific, and we include the following steps followed by the researcher in building the scale, which are:

3.4.1 Cognitive control scale:

After reviewing the researcher for several measures in cognitive control, and since this variable was not used in the field of physical education and sports sciences, he found it necessary to build a scale commensurate with the current research sample and the objectives of the current study, so after reviewing many studies and measures, including a study (Fouad et al., 2014), and then the researcher prepared a questionnaire for the cognitive control scale, and it was presented to a group of experts and specialists, numbering (15) experts in the field of (tests and measurement, teaching methods, and basketball).* To determine the validity of the

* See Appendix 2, p. 118.

paragraphs on the research sample, and the scale of (30) paragraphs, and after sorting the forms for that, the percentage law was used to indicate the validity of the paragraphs, and the researcher relied on (75%) (Benjamin Bloom et al., 1983, 294) as the lowest value to agree to accept the paragraph as all paragraphs were accepted, as no paragraph was excluded from the paragraphs of the scale with the modification of some paragraphs linguistically and scientifically, as shown in Table (4).

Table (4)
Shows the percentage of opinions of experts and specialists on the validity of the paragraphs of the cognitive control scale

3.4.1.1 Description of the scale and method of correction of the cognitive control scale:

Cognitive control of correction according to the quadruple response scale The scale consists of (30) items, noting that the answer alternatives for each paragraph of the scale are (4) alternatives, (strongly disagree, do not agree, agree, strongly agree) and these alternatives will be given degrees as shown in Table (5).

Table (5)
Shows the weight values of the paragraphs of the cognitive control scale for students

Grade	Alternatives	t
1	I strongly disagree	1
2	I don't agree	2
3	Agree	3
4	I strongly agree	4
Thus, the highest score of the scale is (120) degrees and the lowest score (30) among the paragraphs of the scale.		

3.4.1.3 Exploratory experiment of cognitive control scale:

The researcher applied the scale to an exploratory sample consisting of (10) students who were randomly selected and represent students of the fourth stage in the College of Physical Education and Sports Sciences _ University of Karbala, Division (C) from (Sunday) corresponding to (29/9/2024), at ten o'clock in the morning in the outdoor sports arena at the College of Physical Education and Sports Sciences _ University of Karbala, and the experiment was conducted to achieve several goals:

Identify the time it takes to answer the paragraphs of the scale.

If the first answer of a student takes (8) minutes and the last student (22) minutes with an average of (15) minutes.

The ability of the assistant team and its accuracy during the implementation of the procedures of the interactive thinking scale.

Identify the obstacles facing the researcher during the implementation of the measurement procedures.

3.4.1.3 Statistical analysis of the paragraphs of the cognitive control scale:

The good scale is the one that results in distinguishing between the two testers, as it achieves the natural curve (equinox), so the researcher, after the process of collecting and unloading the data, conducted the process of arranging the scores of the scale in ascending order from the lowest degree to the highest degree, as (27%) of the upper scores of the scale and (27%) of the lower scores were chosen in the scale, in order to show the ability of the chosen scale to distinguish between students (preparation sample) of (80) students, and (t was tested)) for independent samples between the two terminal groups of (22) students each, for the purpose of knowing the differences between the two groups, as shown in Table (6).

Table(6)

Shows the discriminating ability of the paragraphs of the cognitive control scale

Significance	Error rate	Value (T)	High Level		Low Level		Paragraph
			on	Going to	on	Going to	
Moral	0.00	5.216	0.910	3.187	0	1	1
Moral	0.00	3	0.24	3.937	0	1	2
Moral	0.00	3.467	0.793	2.687	0	1	3
Moral	0.02	2.406	0.727	2.437	0	1	4
Moral	0.02	2.406	0.727	1.437	0	1	5
Moral	0.00	7.904	0.727	3.437	0	1	6
Moral	0.01	2.522	0.892	1.562	0	1	7
Moral	0.04	2.150	0.813	1.437	0	1	8
Moral	0.00	2.905	0.946	1.687	0	1	9
Moral	0.02	2.449	0.816	1.500	0	1	10
Moral	0.04	2.087	0.718	1.375	0	1	11
Moral	0.00	4.472	0.894	2	0	1	12
Moral	0.01	2.522	0.892	1.562	0	1	13
Moral	0.00	3.313	0.981	1.812	0	1	14
Moral	0.04	1.379	0.543	1.187	0	1	15
Moral	0.00	4.140	0.996	3	0	1	16
Moral	0.00	3.149	0.873	1.687	0	1	17
Moral	0.00	3	1	1.750	0	1	18
Moral	0.00	3.313	0.981	1.812	0	1	19
Moral	0.00	3.223	0.930	1.750	0	1	20

Moral	0.00	2.825	0.885	1.625	0	1	21
Moral	0.00	3.656	0.957	2.875	0	1	22
Moral	0.00	9.487	0.632	3.500	0	1	23
Moral	0.00	3.223	0.930	1.750	0	1	24
Moral	0.00	2.449	0.816	1.500	0	1	25
Moral	0.00	3.758	0.997	2.937	0	1	26
Moral	0.00	3.758	0.997	1.937	0	1	27
Moral	0.00	2.825	0.885	1.625	0	1	28
Moral	0.00	5.084	0.885	3.125	0	1	29
Moral	0.00	4.038	0.928	1.937	0	1	30
Moral at the level of significance (0.05) and the degree of freedom (42)							

3.4.1.4 Internal consistency coefficient:

The researcher used the internal consistency coefficient to determine the homogeneity of the paragraphs in measuring the measured behavioral phenomenon, and to find this coefficient, the simple correlation coefficient (Pearson) was used between the degree of each paragraph and the total degree of the scale for the members of the preparation sample of (80) students, as shown in Table (7).

Table (7)

Shows the correlation coefficients between the score of each paragraph and the overall score of the cognitive control scale.

Significance	Error level	Simple correlation coefficient	Paragraph	Significance	Error level	Simple correlation coefficient	Paragraph
Moral	0.00	.573**0	16	Moral	0.00	.697**0	1
Moral	0.00	.585**0	17	Moral	0.00	.515**0	2
Moral	0.01	.535*0	18	Moral	0.01	.528*0	3
Moral	0.00	.553**0	19	Moral	0.00	.693*0	4
Moral	0.00	.478**0	20	Moral	0.00	.457**0	5
Moral	0.00	.570**0	21	Moral	0.00	.621**0	6
Moral	0.00	.571**0	22	Moral	0.00	.581**0	7
Moral	0.00	.593**0	23	Moral	0.00	.689**0	8
Moral	0.00	.570**0	24	Moral	0.00	.723**0	9
Moral	0.00	.698**0	25	Moral	0.00	.528**0	10
Moral	0.00	.710**0	26	Moral	0.00	.693**0	11
Moral	0.00	.656**0	27	Moral	0.00	.564**0	12
Moral	0.00	.654**0	28	Moral	0.00	.545**0	13
Moral	0.00	.604**0	29	Moral	0.00	.591**0	14
Moral	0.00	.738**0	30	Moral	0.00	.523**0	15
Moral at the level of significance (0.05) and the degree of freedom (79)							

3.4.1.5 Scientific foundations of the cognitive control scale:

3.4.1.5.1 Validity of the standard:

In order to verify the validity of the scale, the researcher used two types of honesty: -

Virtual honesty: This type of honesty was achieved when the scale was presented to a group of experts and specialists numbering (15) experts and specialists in the field of (teaching methods, basketball, tests and measurement), who confirmed that the scale is honest and measures the characteristic for which it was prepared, then the questionnaire forms were collected, the data was unloaded and statistical work was conducted, as shown in Table (4).

Structural or formative honesty: This type of honesty has been demonstrated during the extraction of the discriminating ability of the scale, as in Table (6).

3.4.1.5.2 Scale stability:

To extract the stability of the scale, the researcher used two methods: -

Half-segmentation method: When calculating the stability by half-segmentation method, it was a value of (0.681) and because this correlation refers to half the number of paragraphs, so the researcher deliberately found the total correlation coefficient by using the correction equation or the so-called prediction equation (for Spearman / Brun) (Ibrahim Ahmed Salama, 2000, 61), as the total correlation or correction coefficient became a value of (0.810), which indicates that all paragraphs of the scale have a high stability coefficient, which confirms that the scale enjoys a high degree of stability and reliability.

Method of coefficient (Alfakronbach): The alpha coefficient of the scientist Cronbach is interested in the extent of harmony of paragraphs and their internal cohesion in identifying the answers of the research sample.

When applying this coefficient to the construction sample of (80) students for the cognitive control scale, it was found that the stability coefficient is (0.831), which is a mechanical value of stability at the level of significance (0.05).

3Pre-tests :

The pre-tests were carried out on the research sample of the two groups (experimental and control) with the help of the assistant work team(**)The cognitive control test was conducted for the members of the research sample (experimental and control groups) on (Sunday) corresponding to (13/10/2024) at nine o'clock in the morning in the classrooms of the College of Physical Education and Sports Sciences _ University of Karbala, and a basketball arbitration mechanical test was conducted for the members of the research sample (experimental and control groups) on the same day at exactly ten to eleven in the morning on the basketball court at the College of Physical Education and Sports Sciences _ University of Karbala.

3.4.4.1 Equivalence of the two research groups:

See Appendix 3, p. 119.

The researcher conducted the equivalence of the two research groups (experimental and control) in the variables related to the research and before starting the implementation of educational units on the main research sample, and the researcher found the equivalence of the members of the two groups (experimental and control), through the absence of significant differences between the two groups in all tribal tests when using the test (T) for independent samples as shown in Table 11.

Table (11)
Shows the equivalence of research groups in the pre-test of the research variables

Significance	Sig	T value	Adjuster		Experimental		audition	t
			on	Going to	on	Going to		
Immoral	0.53	0.638	1.728	30.900	0.971	30.500	**Cognitive control**	1
Moral at the level of significance (0.05) and the degree of freedom (18)								

3.4.5 Preparation of educational units according to the model of Ned Hamm structural for the experimental group:

Preparatory section: (15 minutes) andincludes:

- ✓ Introduction: (5 minutes)
- ✓ Public and private warm-up: (10 minutes).

❖ Main section: (65 minutes)

Educational part: (30 minutes): This aspect includes three stages of the model:

First stage: orientation stage (10 minutes): The teacher at this stage guides students by displaying photos and videos

The second stage: (generating ideas) (10 minutes): The subject teacher will repeat some questions and answer all the questions or sort the answers mentioned by the students and correct and also give the correct information

The third stage: (rebuilding ideas) (10 minutes): The teacher will divide the students into small groups that include each group (3-5) students, after interpreting and presenting the contradictory ideas, and developing the new ideas that have been reached, the students take notes and conclusions reached with writing a detailed report on each activity that has been carried out, whether individual or collective, after which each group presents its correct ideas, The final ideas are then summarized and written down.

Applied part: (40 minutes): This aspect includes the other stages of the model, namely:

The fourth stage: (application of ideas) (30 minutes): the subject teacher selects two students and performs what has been explained in the educational part,

Concluding section: (10 minutes): Calming exercises (light jogging and ending the unit with a sports shout).

3 - 4-6 post-tests:

After completing the implementation of the educational units according to the Ned Hamm model on the experimental group, the researcher, with the help of the assistant work team, conducted the post-tests for the experimental and control groups of the variables under study on (Sunday) (15/12/2024), at ten o'clock in the morning and for both groups and on the basketball court of the College of Physical Education and Sports Sciences _ University of Karbala and with the same formula for the pre-test with different times and dates, and under the direct supervision of the researcher and the supervisor in order to measure the amount of progress of students in The experimental and control groups The researcher was keen to create the same conditions in which the pre-tests were conducted in terms of time, place, and the assistant team, for the purpose of obtaining accurate results.

3.6 Statistical methods:

The researcher used the ready-made statistical bag (IBM. SPSS. Ver20) to process data and get results.

Chapter Four

4- Presentation, analysis and discussion of results:

This chapter includes the presentation of the results of the tests that the research sample underwent (experimental and control groups) in the pre- and post-tests according to tables to know the differences and compare the results of statistical operations to reach the final results and discuss these results.

1-4Presentation and analysis of the results of the pre- and post-tests of the two research groups and their discussion:

1.4.1 Presentation and analysis of the differences between the results of the pre- and post-tests of the experimental group in the variables studied, analyzed and discussed:

Table (12)
The arithmetic means and standard deviations show the value of (T) for the pre-

Difference Type	Sig	T value	P H	P	Post-Test		Pre-test		Variables	t
					on	Going to	on	Going to		
Moral	0.00	44.025	1.60589	70.70000	4.825	101.200	0.971	30.500	Cognitive control	1
Significant if the value of (Sig) > 0.05 at a degree of freedom (9)										

1.2 Presentation, analysis and discussion of the results of the pre- and post-tests of the control group in the variables under research:

Table (13)
Shows the arithmetic media, standard deviations and the value of (T) for the pre- and post-test of the control group

Difference Type	Sig	T value	P H	P	Post-Test		Pre-test		V
					on	Going to	on	Going to	
Moral	**0.00**	**29.683**	**1.70131**	**50.50000**	**5.641**	**81.400**	**1.728**	**30.900**	C

1.3 Presentation, analysis and discussion of the results of the post-tests of the experimental and control groups:
Table (14)
Shows the arithmetic means, standard deviations, calculated value (T) and statistical significance of the post-tests for the experimental and control samples

Significance	Sig	T value	Adjuster		Experimental		Variables
			on	Going to	on	Going to	
Moral	0.00	8.434	5.641	81.400	4.825	101.200	**Cognitive control**

Through Table (14) it was found that there are significant differences between the results of the post-test of the experimental and control groups and in favor of the experimental group in the variables under research, as the Ned Hamm model used to teach the experimental group has invested clearly in the process of organizing thinking and searching for solutions and ideas significantly and contributed to achieving progress in post-tests as well as practice and repetition and the use of

various educational means contributed to the emergence of sound and sequential performance in this regard as this model contributed In achieving thinking in a more interactive way among the students of the experimental group, which was characterized by providing students with the opportunity to interact with each other and present their ideas freely, and in a scientific, thoughtful and conscious way for different educational situations, as the student at this stage of study needs to be provided with the opportunity to practice interactive intellectual situations and criticize them, and analyze them to reach ideas that can be implemented independently, which led to the development of a sense of confidence and a sense of responsibility through the enthusiasm that appeared on them during the application of the exercises for the two skills, and this What is consistent with what he pointed out and between (Mamouri, 2018, 53) that modern teaching models put learners in a good educational environment by encouraging them to face problems and work towards a solution in several ways, the most prominent of which is that it encourages learners to actively participate in each other with and provides them with immediate opportunities to address ideas and misconceptions, which increases their motivation to learn to a greater degree, and the researcher attributes the reason for the superiority of the experimental group in the post-test of cognitive control to the stages of the model that calls for Thinking about solutions and answers issued by students, and this is confirmed by (Ahmed Abdul Karim Amayreh, 2000, 48-49) that providing students with the opportunity to learn, express their opinion and reveal their abilities gives them an opportunity to develop themselves and increase their experiences in deepening the subject, idea or skill, and understanding the relationships between its parts.

Where the researcher believes that the reason for the superiority of the students of the experimental group over the students of the control group at this level, is that the prepared educational units were more positive than the educational units of the control group, so that they allowed the teacher to explain the material in more detail and accurately and link it to the information and previous experiences of the students, as well as his role in these units became the guide, guide and leader of the educational process, as well as the positive environment provided by these units to students through the stages of the model, where it made the lesson fun and more lively, as Both (Mahmoud Al-Rubaie and Saeed Amin, 2010, 303) "It is one of the means used in order to ensure the achievement of the best possible goals and objectives, which the educational process seeks to reach and continuously to help the learner to stabilize performance if it is moving in the right direction or modify it if it needs to be modified and this has a positive return in filtering, refining and pruning performance."

The educational units prepared according to the Ned Hamm model are more positive than the mechanism used by the subject teacher, due to the comprehensiveness of these units in terms of following the logical sequence in the presentation of topics and the activities and events that depend on it commensurate with the basketball material and the level of students' perception, and organizing

the content of that material and selecting the methods, teaching methods and means used by the teacher are what made the students of the experimental group more impulsive, harmonious and ready to receive information more than the students of the control group.

Chapter Five

5. Conclusions and recommendations:

5.1 Conclusions:

From the presentation, analysis and discussion of the results, the researcher reached the following conclusions:

The Ned Hamm model has a positive impact on the excellence and upgrading of the experimental group students in cognitive control of basketball.

The Ned Hamm model worked on developing cognitive control for fourth-stage students at the College of Physical Education and Sports Sciences - University of Karbala, because it gives students an opportunity to practice mental processes to a better degree than methods based on memorization and remembering.

5.2 Recommendations:

Based on the conclusions shown by the current study, the researcher recommended that:

The need to introduce the various means of visual presentation in the physical education lesson in order to see the parts of the movement in detail, as well as its importance in linking the sense of hearing with sight, which in turn leads to speeding up learning for students.

Emphasizing the importance of conducting a similar study using the Ned Hamm model on other sports and other samples because of its good features and characteristics useful in the educational process.

Ensure the establishment of courses for teachers to teach how to benefit from modern methods and strategies in the educational process.

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