THE IMPACT OF SURFACE AND DEEP EDUCATIONAL UNITS ON DEVELOPING FEMALE STUDENTS' COGNITIVE ACHIEVEMENT AND ACCURACY OF FLEURET

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ABSTRACT

The study aimed to prepare educational units according to my deep and superficial method in improving cognitive achievement. As for the population, it included third-year students in the College of Physical Education and Sports Sciences at Al-Muthanna University, who numbered (131). As for the study procedures, the researcher used the experimental method with a pre- and post-test, for its suitability. Nature of the research: The researcher distributed the deep and superficial scale to the control and experimental research groups (46 female students) after excluding (8) from the total number of the exploratory sample. After collecting the results and processing them statistically, the researcher concluded that those with the deep method in the experimental group were the best in the control group.

INTRODUCTION TO RESEARCH

Introduction to the research and its importance

One of the most prominent features of the current era is the tremendous development in quantity and quality and the scientific acceleration of human knowledge and its continuous renewal. It is the era of technology and information, and it is the era of the scientific and technical revolution, and the scientific explosion. The various sciences and their applications have become among the necessities of life, which requires preparing generations to keep pace with this progress. This requires changing our outlook towards science and towards teaching, so that we work to raise young people to be able to take responsibility and develop and advance their society.

Cognitive methods are means of thinking and analysis used by those in charge of the teaching process to facilitate the learner's task in understanding educational tasks. It is an interactive process between the teacher, the learner, and the subject. It relates to all aspects that facilitate the learning process, such as teaching methods and methods for stimulating learners' motivation and employing them in a way that takes into account the learners' inclinations, desires and aptitudes. This is based on choosing and using the means and capabilities available in the teaching process to achieve the desired goals.

RESEARCH PROBLEM

The researcher defined the current research problem with the following question:
Does the cognitive style (deep and superficial) have an impact on improving the cognitive achievement of female students?

OBJECTIVES OF THE RESEARCH

1- Preparing educational units according to my deep and superficial method in improving cognitive achievement and accuracy of shooting for third-year female students of the College of Physical Education and Sports Sciences for the year (2022-2023).

2- Identifying the effectiveness of educational units according to (my superficial and deep method) in improving cognitive achievement and accuracy of stabbing for female students in the third stage of the College of Physical Education and Sports Sciences for the year (2022-2023).

Hypothetical search

1- There is a positive effect of the educational units according to the deep and superficial method in improving the cognitive achievement and accuracy of aiming at stabs for female students.

2- There is a preference in influencing in favor of educational units according to the superficial and deep methods and in favor of the deep method in improving the cognitive achievement of female students in fencing.

areas of research

Human field:

Female students of the College of Physical Education and Sports Sciences/Al-Muthanna University – third stage.

Time frame:-

3/5/2023-until 5/21/2023

Spatial field:

Stadiums and classrooms at the College of Physical Education and Sports Sciences - Al-Muthanna University.

Search terms

Deep learning style:

It is a learning style that is based on internal motivation, understanding the true meaning of the learning material, and the ability to interpret, analyze, and summarize. People of this method are interested in the academic material, understanding it, assimilating it, and are aware of its professional importance.

The superficial style:

It is the style that distinguishes those who are able to remember some facts on a subject that are related to the questions on this subject. They rely in their studies on clear instructions, specific curricula, and the logical method in arriving at the facts in detail. The superficial learning style: It is the learning style that is based on... On the basis of external motivation and fear of failure, the owners of this method see that school learning is their path to other goals, the most important of which is obtaining a job, and their primary goal is to fulfill the requirements of the academic content by memorizing, remembering, and retrieving the academic content that they believe will come in the exam[1]

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1. Al-Dardir Abdel Moneim: Contemporary Studies in Cognitive Psychology, 1st edition, 1st edition, Alam Al-Kutub, Cairo, 2004, p. 161.

Research methodology and field procedures:
Research Methodology:
The experimental method was chosen because it suits the nature of the research problem, as "the experimental method is the most sufficient method in achieving reliable knowledge" [2]Relying on the experimental approach by designing (equal groups) with two experimental groups and two control groups with pre- and post-tests, which is compatible with the nature of the research problem and achieving the specific goals.

 The research community and its sample:
Steps for preparing a depth and surface scale:
The researcher reviewed many previous studies and through them, the researcher used the cognitive style scale (deep - superficial) prepared by (Maha Hadi Hussein Madloum) and translated into Arabic, as the scale consists of two dimensions, one of which is the deep style and the second is the superficial style, as it is a measure of the two learning styles (Deep - Superficial) consists of (22) items, including (11) items for the surface learning method and (11) for the deep learning method. The answer alternatives are: (always applies, sometimes applies, rarely applies, never applies), as the first alternative is given four marks. The second alternative is three grades, the third alternative is two grades, and the fourth alternative is one grade. Therefore, the highest grade for the superficial learning style is (44) and the lowest grade is (11), with a hypothetical mean of (27.5). As for the deep learning method, the highest score is (44) and the lowest score is also (11), with a hypothetical mean of (27.5).
The exploratory experience of the depth and surface scale:
 The researcher conducted the exploratory experiment on 3/5/2023 AD on (8) third-year female students in the College of Physical Education and Sports Sciences at Al-Muthanna University. He applied this experiment in a classroom in the College of Physical Education and Sports Sciences at Al-Muthanna University.
Main application for deep and superficial scale vertebrae
 The researcher, along with the assistant work team, began applying the scale to the research sample, which numbered (44) students distributed into two sections (A + B), each section having (22) female students from the third stage in the College of Physical Education and Sports Sciences at Al-Muthanna University. The experiment was applied in the classrooms. In the College of Physical Education and Sports Sciences at Al-Muthanna University on Wednesday 4/7/2023 AD, and after completing the application of the scale, the researcher collected the answer forms and reviewed them, as it was found that there were no wrong forms in terms of the absence of errors in the answer, such as (leaving some paragraphs without... Answer it or answer more than one answer. Then the researcher sorted the questionnaires and classified them according to the students' deep and superficial styles.

2. Wajih Mahjoub: Physical and Physiological Analysis of Sports Movements, Baghdad, Higher Education Press, 1990, p. 83.

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Field research procedures

Identify the skills studied

The researcher chose the skill that falls within the curriculum for the second semester specified from the fencing courses

- Stabbing skill.

1- Determine the cognitive achievement test

Achievement tests are among the most common assessment tools and methods used to evaluate learning outcomes. Therefore, they are widely used in determining the extent of achievement of educational, cognitive, emotional, and psychomotor goals, as through them the effectiveness of the educational method can be determined.

Pretests

The researcher conducted the pre-test on members of the sample (experimental and control) for cognitive achievement on Sunday, corresponding to March 5, 2023, and for the appeal test on Monday, corresponding to March 6, 2023, at exactly ten in the morning, to obtain data and record it in a special form in preparation for processing it statistically.

Main experience (implementation of educational units)

The researcher developed the educational units and included exercises prepared by the researcher, which included (8) educational units in a way that suits the topic and sample of the research, distributed over (8) weeks, with one educational unit per week. The following are the most important notes about the educational units that were applied to the experimental group:

First: The application of the educational units began according to the classification of my deep and superficial methods on the date of 3/12/2023, at the rate of an educational unit per week for the experimental group, and the period of application of the educational units for the experimental group ended on 5/16/2023, and it implemented the educational units prepared before (The teacher responsible for the subject) in fencing. The units of the control group coincided with the units of the experimental group in time, place, and number of units.

Second: The time taken for the educational units as a whole amounted to (90 minutes), distributed among the sections of the educational unit and my agencies:

1-The preparatory section: Its total time is (20 minutes).

2- The main section: its total time is (60 minutes).

3- The final section: its total time is (10 minutes).

Third :

 Posttests:

After completing the application of the educational units on members of the experimental group, the researcher conducted post-tests on Sunday, May 21, 2023, on all members of the research sample, to obtain data and record it in special forms in preparation for processing it statistically. The researcher took care to create the same conditions in which the tests were conducted. Tribalism in terms of time and place of the test and the sequence of taking the tests.

Statistical methods:
To process the research results, the researcher used the statistical package

Presentation, analysis and discussion of the results:
This chapter reviews the presentation, analysis and discussion of the research results. After the researcher completed collecting the data resulting from the tests used in the research, it was placed in tables, because it represents the ease of extracting scientific evidence, and because it is an appropriate explanatory tool for the research that enables the realization of the hypotheses and objectives of the research in light of the field procedures carried out by the researcher.
Results of the pre- and post-tests for the control and experimental groups

Table (1) Shapiro-Wilk test and the level of significance for the distribution of research groups' data

Deep Pattern Experimental		Surface Pattern Experimental		Deep Pattern Control		Surface Pattern Control		Test	Variables
Significance Level	Statistical Value	Significance Level	Statistical Value	Significance Level	Statistical Value	Significance Level	Statistical Value		
0.172	0.763	0.221	0.776	0.021	0.710	0.766	0.874	before	Cognitive Achievement
0.162	0.760	0.468	0.825	0.064	0.728	0.492	0.830	after	

The results of the table above show that the significance values resulting from the Shapiro-Wilk test for the results of the research sample in all variables were all greater than the value of the error percentage (0.05). This means that the values are subject to a moderate distribution, and thus the condition of using (t) to compare the means is fulfilled.
Displaying the values of the results of the pre- and post-tests for the sample of the two control groups
Presenting the results of the research variables for the control group (with a superficial type) and analyzing them:

Table (2) Arithmetic means, standard deviations, t value, and significance of the differences between the pre- and post-tests in the research variables for the control group with the surface type

Statistical significance	Significance level	Calculated (t)value	Posttests		Pretests		measuring unit	Variables
			a	s	a	s		
moral	0.000	7.823	1.285	13.450	1.375	10.25	degree	Cognitive Achievement

Table (2) Arithmetic means, standard deviations, t value, and significance of the differences between the pre- and post-tests in the research variables for the control group with the surface type

Statistical significance	Significance level	Calculated (t)value	Posttests		Pretests		measruing unit	Variables
			a	s	a	s		
moral	0.000	7.823	1.285	13.450	1.375	10.25	degree	Cognitive Achievement

The results of the table above show that the significance level values of the (t) test for the correlated samples test of surface-style cognitive achievement in stabbing with a knife, at a degree of freedom (4) were smaller than the error rate (0.05), and this means that there are significant differences between the results of the pre- and post-tests and in favor of Post-test results for the control group sample.

Displaying the results of the research variables for the control group (with the deep style) and analyzing them:

Table (3)

The arithmetic means, standard deviations, t value, and significance of the differences between the pre- and post-tests in the research variables for the deep-style control group

Statistical significance	Significance level	Calculated (t)value	Posttests		Pretests		measruing unit	Variables
			a	s	a	s		
moral	0.000	6.730	1.521	14.624	1.614	11.373	degree	Cognitive Achievement

The results of the table above show that the significance level values of the (t) test for the interconnected samples test of deep-style cognitive achievement by stabbing with a knife, at a degree of freedom ((4), were smaller than the error rate (0.05), and this means that there are significant differences between the results of the pre- and post-tests and in favor of the results Posttest for the control group sample.

Discuss the results of the two control groups

Through the results presented in Tables (2-3), it was shown that there were significant differences between the pre- and post-tests and in favor of the post-test for the two control research groups for those with a deep and superficial style. The results were significant for those with a deep style in the post-tests, and the researcher attributes these differences as a result of the group's commitment to the followed educational unit and its discipline. Through participation in the performance and its repetition, in addition to the influence of the usual method followed by the teaching staff, as the teaching staff has an effective impact on the learning and teaching process. Also, the great importance of the process of explanation and clarification by the subject professor and the number of repetitions of the educational unit that

was applied to the group in the prepared time was For the educational unit, as it had a significant impact on improving their level of performance because repetition increases experience and information, and also works as much as possible to overcome mistakes and work to correct them, as repeating a skill does not mean learning it if the appropriate feedback that enhances learning is not available, and this is what Qasim Lazam mentioned. (This condition is considered one of the most important conditions in motor skill, as correcting the movement or performing it repeatedly will create a kind of internal guidance that works to organize the work between the nervous system and the muscles, and this leads to the movement of this work in the motor memory, as the movement becomes correct. This guidance only comes through instructions and instructions for performance feedback that clarify the correct body position[3], and the researcher sees the learning process as a set of processes closely linked to practice and experience, which lead to a constant change in cognitive achievement, as both are essential elements in an individual's learning. This is what was confirmed by (Nahida Al-Dulaimi) that the learning process is a behavior that changes with experience and experience, and it is everything that is acquired in terms of knowledge, inclinations, abilities, and trends. and motor skills, whether intentional or unintentional[4].

Displaying the values of the results of the pre- and post-tests for the sample of the two experimental groups
Presentation and analysis of the results of the research variables for the experimental group (with a superficial type):

Table (4) Research variables for the experimental group with a surface style

Statistical significance	Significance level	Calculated (t)value	Posttests		Pretests		measruing unit	Variables
			a	s	a	s		
moral	0.000	12.84	1.183	17.834	1.421	12.672	degree	Cognitive Achievement
moral	0.000	7.575	0.815	6.583	1.188	4.212	degree	Accuracy of appeal

In light of the data extracted for the members of the research sample in all the research variables, the significance level of the value (t) for the correlated samples and for all variables was smaller than the error rate (0.05) at a degree of freedom (21), and this indicates the presence of significant differences for the experimental research sample with a superficial type. Between the pre- and post-tests and in favor of the post-test
Displaying and analyzing the results of the experimental group (deep style) variables:
Table (5)
It shows the arithmetic means, standard deviations, the value of (t), and the significance of the differences between the pre- and post-tests in the research variables for the experimental group with the deep style.

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[3]- Qasim Lazam Sabr: Topics in Motor Learning, 1st edition, Al-Muntazar Printing Office, Baghdad, 2000, p. 110.
[4]- Nahida Abd Zaid Al-Dulaimi: Fundamentals of Motor Learning, 1st edition, Dar Al-Manduha for Publishing and Distribution, Amman, 2015, p. 29.

Statistical significance	Significance level	Calculated (t)value	Posttests		Pretests		measruing unit	Variables
			a	s	a	s		
moral	0.000	16.602	1.113	19.264	1.484	12.573	degree	Cognitive Achievement

Discuss the results of the two experimental groups

Through the results presented in the two tables above, it was found that there were significant differences between the pre-test and the post-test and in favor of the post-test for the two experimental research groups. The researcher attributes the reason for this to the effectiveness of the educational units for those with the deep-surface style and employing them in the correct manner in improving achievement and teaching the accuracy of shooting with stabs, as they provided the optimal conditions for learning the skill. Also, one of the reasons for these differences in the variables investigated is due to the students' response to all learning requirements during the educational units, as it is one of the most important effective means of highlighting energies and achieving goals.

The researcher also attributes the differences in cognitive achievement to the principle of using questions and answers, explanation and presentation for each part of the skill, and the combination of theoretical and practical aspects during the educational units, which was able to raise the level of cognitive achievement for female students through the ability to develop and think, and this is what Talaat Hassan mentioned, "the degree of change in cognitive achievement." It depends on the nature of the situation in which the person obtains the information, its source, style, and degree of mastery[5].

4-3 Presentation and analysis of the results of the variables for the four research groups in the post-test:

Table (6)
The value of analysis of variance (ANOVA) for the values of the research variables in the post-test between the four groups

Statistical significance	Significance level	Calculated (F) value	Media square	Degree of freedom	Sum of squares	Source of variance	Variables
moral	0.000	45.465	105.208	3	315.624	Between groups	Cognitive achievement
			2.314	40	92.572	Within groups	
				43	408.196	the total	

The results of Table (14) show that the significance ratio values for the F values calculated for the analysis of variance test were smaller than the error ratio (0.05) for all variables. This indicates the presence of significant differences between the four groups. To know the direction of the difference in favor of which group, the researcher intended to use a lower value. Significant difference (L.S.D) between the four groups.

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[5] Talaat Hassan Abdel Rahim: Contemporary Social Psychology, 2nd edition, Cairo, Dar Al-Thaqafa for Printing and Publishing, 1981, p. 112.

Table (7) (L.S.D) test for comparisons in cognitive achievement between the four groups for the post-test

Groups

Statistical significance	Significance level	Standard error	Media difference	Arithmetic circles		Groups	
moral	0.000	0.6572	-3.617	18.417	14.800	Deep style officer	Surface style controller
moral	0.000	0.7055	-4.311	19.111	14.800	Experimental surface pattern	Surface style controller
moral	0.000	0.6459	-8.277	23.077	14.800	Deep pattern experimentation	Surface style controller
Not moral	0.311	0.6772	-0.694	19.111	18.417	Experimental surface pattern	Deep style officer
moral	0.000	0.6148	-4.66	23.077	18.417	Deep pattern experimentation	Deep style officer
moral	0.000	0.6659	-3.966	23.077	19.111	Deep pattern experimentation	Experimental surface pattern

Discuss the results of the four groups in the post-tests

By analyzing the results of the tables of the four groups, it was revealed that there were significant differences between the pre- and post-tests, in favor of the post-test, for all skills, and for all groups. The researcher attributes the result of the differences that appeared in the results of the post-tests to the effectiveness of the educational units in the researcher's use of explanation and presentation on the sample of the experimental group, as the prepared educational units helped By the researcher in the speed of conveying information, assimilating the skill, and providing the factor of sufficient comprehension and suspense It was a new and distinctive method, and the researcher attributes this to several methods of applying exercises that were prepared in a scientific manner and were applied in the main part of the educational unit that aimed to learn skills in a more interesting way, away from boredom.

CONCLUSIONS

In light of what resulted from the results of the current research and within the limits of his sample (third-year female students in the College of Physical Education and Sports Sciences at Al-Muthanna University), the researcher concluded the following:

1 - There is a clear difference in the results that appeared in the research for the deep method in the post-tests.

2- This difference was achieved through the clear commitment of those with this style to the educational units through participation in the performance and its repetition.

Recommendations and proposals

First: Recommendations:

It is necessary to pay attention to cognitive methods, including the superficial and deep methods, when developing educational units for the purpose of developing educational environments for students.

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2. Talaat Hassan Abdel Rahim: Contemporary Social Psychology, 2nd edition, Cairo, Dar Al-Thaqafa for Printing and Publishing, 1981.
3. Qasim Lazam Sabr: Topics in Motor Learning, 1st edition, Al-Muntazar Printing Office, Baghdad, 2000.
4. Nahida Abd Zaid Al-Dulaimi: Fundamentals of Motor Learning, 1st edition, Dar Al-Mandiyah for Publishing and Distribution, Amman, 2015.
5. Wajih Mahjoub: Physical and physiological analysis of sports movements, Baghdad, Higher Education Press, 1990.