

Comparación de estrategias cognitivas y metacognitivas en el logro académico de estudiantes urbanos y rurales de Eghlid

Comparison of cognitive and metacognitive strategies in the academic achievement of urban and rural students of Eghlid

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RESUMEN.

Esta investigación estudia las estrategias cognitivas y metacognitivas con éxito académico en estudiantes de zonas urbanas y rurales, género y lugar de residencia que no han sido el resultado de un resultado definido obtenido en investigaciones anteriores. La presente investigación es de tipo correlaciona y aplicada. El objetivo de este estudio es mejorar el nivel de aprendizaje. La población objetivo de los estudiantes de secundaria, en la ciudad de Eghlid, es de 269 personas. Se selección una muestra de 241 personas y fue investigada al azar. El número de muestras se especifica de acuerdo con la tabla de Morgan. Se utilizaron la correlación de Pearson y la prueba (T) para dos grupos independientes. El resultado obtenido indica que las estrategias cognitivas y metacognitivas en el logro académico, el género y la ubicación también son efectivas en estas estrategias, de modo que las estudiantes femeninas son más numerosas que los estudiantes y que los estudiantes urbanos utilizan ambas formas de estrategia más que las estudiantes rurales.

PALABRAS CLAVE.

Conocimiento cognitivo, Eghlid, Conocimiento metacognitivo, Sociedad estadística Muestreo.

ABSTRACT.

This research studies the cognitive and metacognitive strategies with academic success in urban and rural students; gender and place of residence that has not been the result of a definite result on their role in previous research have been gained. The present research is a correlation type and is an applied research. The aim of this study is to improve the level of learning. The target population of the high school students in Eghlid city is 269 people. A sample of 241 people was randomly selected and researched. The number of samples is specified according to the Morgan table. Pearson correlation and (T) test were used for two independent groups. The obtained result indicates that cognitive and metacognitive



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strategies in academic achievement, gender, and location are also effective in these strategies, so that female students are more than boys and student's Urban uses both types of strategy more than rural students.

KEY WORDS.

Cognitive Knowledge, Eghlid, Metacognitive Knowledge, Statistical Society, Sampling.

1. Introduction.

The most important goal in teaching is to help raise the level of learning in students. "Evaluation on the reaction level measures how those who take part in the program react to it." Learning a specific task is not clear. Because the activity we do on the path to life is often the experience of the Randy era. Humans learn various life-related issues in schools, such as literature, arts, mathematics and religious and informal science in the community, such as how to deal with others and tackle issues. In addition, we learn different emotions. "Providing a complete list of what human beings have emphasized throughout their lives to learn two types of strategies, namely, cognitive strategy and topology. In recent years, there has been an enormous advancement in the development of psychology towards the discovery of this strategy, the way to learn and study" (Seif, 2000).

"In recent years, there has been a variety of research on the cognitive and cognitive effects and attempts have been made to educate teachers about the importance and impact of each of the information strategies, so that learning is more appropriately possible." (1949) constructed a corn in the concept of knowing (knowing about knowing) in a pilot experiment conducted by the mission. The metacognition has been introduced as follows:

"A person's awareness of his cognitive activities or processes.

- Methods used by the individual to regulate their cognitive processes" (1978)

In other words, the corresponding one consists of methods for controlling and controlling learning. "Therefore, metacognitive strategic training in teaching academic progress is more effective than cognitive-strategic training" (Brown, 1978).

2. Problem statement.

For years, psychologists have been trying to answer these questions why some students are more successful than others in terms of academic achievement? What makes these differences? To answer these questions, it is necessary to look at the factors that are thought to explain the educational situation.

In the meantime, the key to explaining and predicting success and success is not just the use of cognitive strategies. Many students use a cognitive strategy to learn a lot of lessons, while other students, with a greater emphasis on metacognitive strategies, have achieved a high degree of academic achievement, "and how much do we know who is with Using cognitive strategies has achieved a moderate percentage of academic achievement, but they have achieved many successes in their lives by taking metacognitive strategies into consideration" (Seif, 2000).

"Research has shown that, in most cases, there is a difference in capability that is called metacognitive strategy, which includes planning, control, monitoring and regulation, and



these skills can be taught to learn more children in higher education "(Dumbo, 1994). A number of researchers believe that the interest in meta-cognitive strategies is partly responsible for the belief that cognitive strategy is the only key to academic achievement. "What matters here is the contradictory statements of supporters and critics of meta-cognitive strategies in the domain of the ability of this concept to predict academic achievement" (Mayer and Salve, 1999).

3. Necessity and importance of research.

Since a large population of our country is formed by students and there are educational problems and the use of diverse teaching strategies in teaching, it seems necessary to investigate the impact of the methodology Different strategies and strategies are used to improve quality and education. Therefore, due to the research carried out abroad about metacognitive factors as an important factor in the academic achievement of students, this factor is necessary Deeply examined. On the other hand, given the existence of methods for teaching metacognitive strategies to teachers and students, these strategies need to be emphasized in the field of education and training. Metacognitive knowledge means that one knows how to do things, how to solve problems, how to learn and preserve, how to understand or, most importantly, how to monitor these activities. And guide. Therefore, considering the points mentioned above, it seems to be effective both in the theoretical and practical terms of the subject.

4. Research objectives.

General Purpose: In this research, we try to find out which meta-cognitive strategies and cognitive strategies are better for the academic achievement of students in the city of Eghlid and which criteria are better for academic achievement.

4.1. Minor research objectives.

- Comparison of urban students with rural students in using strategies.
- Compared with male student's female students using the type of strategy.

5. The definition of the learning strategies.

"Learning strategies are a purposeful and voluntary movement that a person attempts to increase the outcome of his desired learning." (Flavel, 1988, Translator, 1998) or "Every activity that learners take when learning in order to increase their learning levels." (Mayer, Translator Farahani, 1997).

6. Cognitive Strategies.

The cognitive strategies have been considered from different perspectives. The park is referred to two classes of cognitive strategies:



- "Strategies that have a strong effectiveness.
- Strategies that have a poor effect. "(1995).

Strategies whose effectiveness is high are summaries, notes, keyword techniques, clues, methodologies, and advanced organizers. Strategies that have low effectiveness include line drawing strategies and conceptual maps.

Strategies are operations that go beyond processes that are the normal outcome of an activity. So page layout or looking at a text as a study strategy does not meet the requirements. Most of the goal-specific strategies are specific. For example, memorization strategies include the repetition of the material being learned, the grouping of organizing content into clusters that are consistent due to semantic relationships, and the establishment of the relationship between the individual elements and, consequently, the increased ability to learn is.

7. Metacognitive strategies.

The following is an example of Garnz (1990, quoted by Seif, 2001) to illustrate the distinction between cognitive strategies and meta-cognitive strategies: Suppose that the student is to take part in the course exam in the near future. To prepare for this exam, read out a lesson previously read over the course and make notes on important points of the book to review the exam at night. Reading textbook content, taking notes of two types They are a cognitive strategy because the student through them learns and learns the history of history. Now, if the student, after reading and taking notes, tries to evaluate his learning by answering the final questions of the book's chapters, this specific assessment is a metacognitive strategy. If the result of this assessment shows that the student did not complete the full readiness exam, he will use the same cognitive strategy or other cognitive strategies until finally obtaining the necessary information about the book.

Metacognition is any kind of knowledge or cognitive activity whose objective is to control every aspect of cognitive action and its adjustment. This category is referred to as metacognition, the main meaning of which is "knowledge of knowledge". It is believed that metacognitive skills play an important role in a variety of activities, including verbalization, verbal encouragement, writing, language learning, attention, problem-solving, social recognition, and various forms of self-learning and control" (Favel, 1988, Translator Maher, 1998).

8. Sex differences in the use of the strategy.

Research shows that girls may be of the same age in primary school boys in the use of more efficient learning and study strategies of the show itself (Presley et al., 1987).

Cocas and Waters (1986) have shown that there are gender constant differences. Evidence suggests that in girls, learning strategies are faster than boys. The reason for this difference is not obvious, but it may be related to cognitive-maturation, progress in school, or other factors. "Since a limited number of memory and learning researches regularly deal with gender differences, studies that report gender differences must be interpreted with caution." (Rafts, Mary, N. Laila, L. Duff, L. 1993, Kharazi, translation, 1996).



9. Research Methodology.

This research is a correlation research and its organization is based on the post-test design. The research problem is of a kind of correlation that the researcher acquired by using a group of subjects at least about two variables, without any of them manipulating or controlling. Such studies can be used for this purpose to determine whether the variables being investigated are interconnected, and if the relationship is discovered, this is a positive or negative relationship and the intensity and power of what size. Correlation studies can be inherently descriptive or inferential, and each of the statistical characteristics derived from them provides a numerical index that indicates the power of the relationship between measured variables from certain sets of data. "The important point is that the purpose of collecting information in solidarity research is never to investigate a causal relationship." (Homan, 1994).

The research data were collected in the field by referring to the subjects and selecting the sample from the statistical population. Information about the theoretical framework and its theoretical issues was also carried out by referring to the scientific resources and the library method.

9.1. Statistical Society.

The statistical population of this study was all female and female students of state and secondary schools of the city (towns and villages) of Eghlid who studied in the academic year of 93-92. (In this period, a prelude is not a statistical society.) The number of students is 1,500.

9.2. . Sample size.

In this study, the sample size is determined according to the Morgan table, which is 269 people.

9.3. . Method of sampling.

Among the statistical population, 269 people were randomly selected using multistage cluster sampling. The sampling method was that at first four schools were selected randomly from among the high schools of the city (towns and villages), Eghlid, and two schools from Eghlid, one for girls and one for boys, and two from Eghlid, one for boys and two for girls were chosen. Then, a questionnaire was distributed randomly among the students from the first, second and third bases. It should be noted that the implementation of the learning strategies questionnaire was conducted in a classroom manner.

9.4. . Measurement tool.

The instrument for measuring this research is a learning strategy questionnaire. A Learning Strategy Questionnaire by Karami (2002), which measures cognitive and metacognitive strategies. The questionnaire consists of 86 materials, 49 of which relate to cognitive strategies and 37 other materials related to metacognitive strategies. The method of responding to the materials is continually from zero to nine. Cognitive strategies are divided into three subsets of repetition or review, semantic extension, and organization, and



metacognitive strategies divided into two sets of knowledge and control, knowledge and process control. Each of the cognitive strategic sub-divisions is divided into special simple assignments and special complex assignments. The subset of meta-cognitive strategies is divided into three categories: planning, control, and evaluation and order, which forms the set of these 10 strategy strategies for learning. The method of scoring the questionnaire is that questions about its strategies are scattered among the materials. To score the strategies that are answered, the number of options for each aggregation and division strategy is numbered, and given that the response is from zero to 99, we divide the resulting number by 100 and by 9 to the score of that strategy. To be achieved. The following table lists the questions related to each of the strategies.

9.4.1. Reliability.

The reliability of this questionnaire was obtained through the review method and the alpha coefficient. The stability of the learning strategy questionnaire was obtained three weeks (21) days and 63 students from the third-grade high school students (32 girls and 30 boys). The correlation coefficient between scores The first and second implementation indicates a high stability for all strategies and sub-strategies. Subordinate strategies (between 0.85 and 0.91 maximum and the total revalidation was 98.0); (Karami, 2002).

9.5. . 1.Credit

To assess the validity of the questionnaire, a tool was provided to 30 faculty members and Ph.D. students who were involved with psychosocial education and learning, and their views on questions related to their subject area were asked. Out of 26 questionnaires, all professors approved 86 questions, which led to some corrective suggestions for some of the questions that these proposals applied to final questionnaires (same).

The researcher, considering the theoretical foundations of the research, considered the beginning of a precise definition of the scope of the measured behavior and then determined whether the questionnaire would measure the target area. Between the questions covered by each internal consistency domain, the calculated alpha coefficient for subfields was between 0.69 and 0.88, each of which was at a high level, indicating that the questions asked were designed to measure the desired area. (Same).

It should be noted that besides the 86 questions raised in the questionnaire, the learning strategies of the items related to the personal characteristics including age, gender, grade, the field of study, location and average score are also included in the top of the questionnaire before the questions are started by the researcher.

9.6. . Data analysis method.

Descriptive and inferential statistical methods have been used to analyze the data of this research. Descriptive statistics are used to calculate descriptive indexes such as mean, standard deviation. The Pearson correlation method was used to examine the relationship between variables. In the inferential statistics to test the role of gender and location moderator (city and village), (T) test was used for two independent groups.





10. Descriptive statistics of research data.

Demographic characteristics of the sample:

The statistical sample of the study consisted of 269 students of the first, second and third year of the humanities, experimental and math's of high school from 4 schools, 2 males, and 2 girls' schools and the village of Eghlid.

From this sample, 269 people finally, after the implementation of the questionnaire, 241 questionnaires were available for statistical analysis and other incomplete questionnaires were eliminated. It should be noted that the main cause of the drop in the subjects from 269 to 241 students was the lack of knowledge of students in the actual response Complete the questionnaire.

Table 1. Frequency percent of students based on gender and location.

<i>Location</i>		<i>Genus</i>		
		<i>girl</i>	<i>boy</i>	<i>Total</i>
City	The frequency of	49	51	100
	%	33.20	16.21	49.41
Village	The frequency of	74	67	141
	%	70.30	80.27	50.58
Total	The frequency of	123	118	241
	%	03.51	97.48	100

According to the table above, the total number of samples is 241, of which 100 are urban 49.40%. Of this group 49 people are 20.33% female and 51 are 21.16% boys. Also, according to the table above, 141 people are rural. Of this group, 74 people are 70.30% girls and 67 people are 80.27 boys.

Table 2. Frequency and percentage of students based on field of study and class.

<i>Class</i>		<i>First</i>	<i>II.</i>	<i>III</i>	<i>Total</i>
<i>Field of study</i>					
Math	The frequency of	-	55	8.	63
	%	-	40.24	90.2	31.25
Experimental	The frequency of	-	39	26	65
	%	-	65.27	78.10	43.38
Humanities	The frequency of	-	13.	89	102
	%	-	39.5	92.36	31.42
No strings	The frequency of	11	-	-	11.
	%	The case and	-	-	The case and
Total	The frequency of	11	107	123	239
	%	The case and	29.44	6.51	100





According to the data presented in Table 2, the total number of samples is 241 persons, 100%, including 63 students, 25.31% in mathematics, of which 8 are 2.90% of the third year and 40.24% are the second year. . Of the total sample, 65 students are 38.33% in the experimental field, of which 26 are 10.78% of the third year, and 39 are 27.25% of the second year, as well as the total sample 102 42.31% of people study in human sciences, 89 of them are 36.29% of the third year and 13 of them are 3.39% of the second year, the other students of 11 are 56. 4% are the first year and still have not selected the field.

Table 3. Mean and standard deviation of cognitive and meta-cognitive strategy based on location.

Strategy	Location	Average	SD
Cognitive strategy	City	19.287	97.57
	Village	36.263	59.57
Meta cognitive strategy	City	54.155	95.30
	Village	60.143	06.30
Total	City	11.442	78.86
	Village	97.405	35.87

Based on the above table, the average score of urban cognitive strategies was 19.287 and the average score of cognitive strategies in rural students was 36.263. Also, based on the above table, the mean metacognitive strategies of students in urban areas is 54.155 and the mean metacognitive strategies of rural students is 60.143.

Table 4. Mean and standard deviation of age and average.

Statistical indicators	Average	SD
Variable		
The age of	16.26	1.38
Mean	15.91	2.4

According to the above table, the mean age of all students is 16.26 and the standard deviation is 1.38 and the mean of the mean is 15.91 and the standard deviation is 4.2.

11. Test hypotheses and research questions.

In this section, the descriptive data that was previously provided for it is intended to test the research hypotheses. This is done by analyzing descriptive data with the help of statistical and inferential methods. The purpose of this research is to confirm or reject the research hypotheses and determine the degree of interference of the factor variable in the criterion variables.





This research consists of two hypotheses and one question. It is based on the comparison of the two groups in terms of the mean of one dependent variable. The dependent variable is compared to academic achievement.

In statistical tests, the rejection of zero assumption (or confirmation of research hypothesis) means that there is a significant difference between the two groups. Since the hypotheses of this study have been proposed as a significant one-way difference with one domain, the confirmation of the hypotheses of this research, in addition to the necessity of rejecting the null hypothesis (a significant difference), requires the average of the comparative variables to be superior to those in the predicted hypothesis.

11.1. Hypothesis testing.

11.1.1. Test the first hypothesis.

The first hypothesis of the research: Students who use cognitive strategies and metacognitive strategies in combination, compare with other students who use cognitive strategies and metacognitive strategies together, with the average of the others Students are compared.

For this purpose, the test (T) has been used for two independent groups.

Table 5. T test for two independent groups.

The index	Group	The frequency of	Average	SD	Degrees of freedom	T	A significant level of
Variable	Combined	103	16.56	2.4	276	.521	P<0.000
	Non-coupled	138	15.23	2.5			

According to the results of Table 5 below, the comparison of the average students' means of cognitive strategies and meta-cognitive strategies combined with the mean of the average of other students, which is 21.5, shows a significant difference. Between these two groups of students. According to the above, the first hypothesis of the research is accepted.

11.1.2. Test the second hypothesis.

The second hypothesis of the research: There is a significant positive relationship between cognitive strategies and metacognitive strategies. To test this hypothesis, the score of cognitive strategies is compared with the metacognitive strategies obtained from the questionnaire.

For this purpose, Pearson correlation test was used.





Table 6. Pearson correlation test.

<i>The index Variable</i>	<i>The frequency of</i>	<i>Correlation coefficient</i>	<i>There was no significant</i>
The strategy of cognitive ...	241	0.96	P<0.000
Cognitive strategy	241		

The result of the Pearson correlation test in the table above shows that the correlation coefficient between metacognitive strategies and cognitive strategies is 96.0, which indicates a strong and positive relationship between metacognitive and cognitive strategies. In this way, the second hypothesis is also confirmed.

11.1.3. Research questions test.

Research question: Is there any significant difference between cognitive strategy and meta-cognitive strategy among urban and rural students?

For this test, this question compares the average scores of cognitive strategies and metacognitive strategies of urban and rural students.

For this purpose, the T test was used for two independent groups.

Table 7. T test for two independent groups.

<i>The index Learning strategy</i>	<i>Location</i>	<i>The frequency of</i>	<i>Average</i>	<i>The standard deviation</i>	<i>Degrees of freedom</i>	<i>T</i>	<i>A significant level of</i>
The strategy of cognitive ...	City	138	287.19	57.19	276	55.3	P<0.000
	Village	103	262.37	57.77			
Cognitive strategy	City	138	155.54	30.48	276	28.3	P<0.001
	Village	103	143.60	29.98			

According to the results of the above table (T) obtained from the comparison of the average score of cognitive strategies of urban students with the average score of cognitive strategies of rural students is 55.3 and the (T) obtained from the comparison of the mean score of the strategy Metacognitive metrics of urban students and the average score of metacognitive strategies of rural students is 28.3. Both results obtained from test (T) for two independent groups indicate a significant difference between the average score of urban students and rural students in cognitive strategies and metacognitive strategies. This result indicates the difference between the two groups (urban students and rural students) in using the type of learning strategies.



12. Conclusion.

In this research, the main effect of this study was that students who use cognitive strategies and meta-cognitive strategies in combination with other knowledge Students have more academic achievement.

According to the results of the test (T), for the two independent groups, those using metacognitive strategies combined with cognition had more academic achievement than other students.

The teaching of learning skills or cognitive and metacognitive strategies was improved in improving the quality of reading and comprehension. As a result, students were right to read and understand the correct answers.

There was a significant positive correlation between metacognitive strategies and cognitive strategies.

According to the Pearson correlation test, there was a significant positive significant correlation between metacognitive strategies and cognitive strategies in this research.

Students take maximum use of cognitive and metacognitive skills, and both strategies have a very close relationship with academic achievement.

Both cognitive and meta-cognitive learning strategies play a very important role in education and learning, and neglect from each one will reduce the quality of education and learning. Also, the results of this study were that in urban and rural areas of Eghlid city There is a significant difference between boys and girls in using learning strategies in favor of girls and the city.

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