

"Historical Enlightenment and its Relationship to Cognitive Flexibility among Middle School Students"

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"Historical Enlightenment and its Relationship to Cognitive Flexibility among Middle School Students"

التنوير التاريخي وعلاقته بالمرونة المعرفية لدى طلاب المرحلة الإعدادية

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Abstract

The Objectives of the Current Research Are Determined By Identifying:

- Historical enlightenment among fifth-grade literary students.
- Cognitive flexibility among fifth-grade literary students.
- Correlational relationship between historical enlightenment and cognitive flexibility among fifth-grade literary students.

In order to verify the objectives of the current research, the researcher built a test for historical enlightenment and the test consisted of (40) questions. By re-testing, the reliability coefficient reached (0.70) and the reliability coefficient in the analysis of variance was (0.70), and the researcher adopted the cognitive flexibility scale prepared by Al-Farmawi 1980 and legalized it in Al-Tikriti 2011, and the scale consisted of (38) items.

The two tools were applied to a sample of (400) students who were randomly selected from the fifth literary grade students. After collecting the information and processing it statistically, the researcher reached the following results:

From the results of the current research, the researcher concluded the following:

- The fifth grade literary students possess a good level of historical enlightenment.
- The literary fifth grade students have a good level of cognitive flexibility.
- There is a statistically significant relationship between historical enlightenment and cognitive flexibility in the research sample.

Based on the results of the current research, the researcher recommended a number of recommendations and suggestions.

Keywords: historical enlightenment, cognitive flexibility.

Chapter 1: Definition of Research

First , the research problem:

Education holds the biggest burden for the transfer of cultural heritage from one generation to another. It is the mirror of society and the link between generations. Teacher and student preparation programs need to be reviewed in terms of quantity and quality. Both should not stop at a certain level of educational and cultural knowledge. Most importantly, their understanding is not limited to the level of information comprehension of materials in general and history in particular. Therefore, students of social subjects must be highly educated and historical culture to study the joints of these sciences, their development and sequencing at various stages, as well as the means used in teaching these materials.

From the above, it is clear to us the extent of interest in the study of social materials in general and history, especially for their importance in our daily lives, as they achieve the goals that the rest of the sciences are unable to employ this knowledge in the present and the future.

Cognitive flexibility emphasizes avoiding the occurrence of simple understanding by strengthening the interrelationships between different parts of knowledge and concepts, and that the problems faced by students are multidimensional and have different features, so it seeks to help students to look at situations and problems from different angles and dimensions and to find solutions to these problems.

It is thus compatible with the number of students who face various teaching obstacles such as dealing with different needs and educational characteristics and finding solutions to their learning problems, and thus emphasizes the need to take into account the educational applications during the preparation of students to emphasize the building of knowledge at the advanced levels of learning and help him to apply effective teaching attitudes Cognitive flexibility is the basic component of the search for creative solutions to deal with the teaching situations facing him.

Hence, the problem of the current research arises with the following question:

(What does historical enlightenment have to do with cognitive flexibility in middle school students?)

Second: - Significance of research

The study of history contributes to the formation of an individual who is able to successfully deal with the situations and requirements of life to be able to acquire knowledge from its sources and not rely on the textbook only , and history is characterized by being linked to all social, economic and political fields throughout the ages, and the goal of the study of history is not only to identify information, facts and knowledge, but to develop the ability of students to monitor trends of development, change and movement of time in different societies (Al-Ghubari, 2011: 24) .

With the increase in knowledge, technological orientation and rapid development, basic skills such as reading and writing do not describe the individual as enlightened and do not qualify him to carry out all the activities required of him, such as those required of the teacher, teacher or student, but that what is described as enlightened is the one who has the minimum scientific expertise that increases the level of scientific awareness. Enlightenment has become a civilized requirement for every

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member of society to build an educated conscious generation, and since social materials are open-sighted materials and history is one of the fertile areas for the development of historical enlightenment, which is the minimum of knowledge, methods of thinking, trends and skills, and enables the individual to have a view that he interprets and makes a correct judgment, and thus facing the problems and issues in his way and finding solutions to community issues.

The influential variables have increased in recent years that will affect students in adolescence. At this stage, they face severe changes and transformations that may include emotional, psychological and social aspects. Therefore, students at this stage must have the ability to adapt and deal positively and flexibly with these transformations, challenges and adversities. Psychology theories have emphasized the development of students and focus on strengths and the need to reduce their weaknesses to increase the positive adaptation to these pressures. Cognitive flexibility is one of the strengths that must be strengthened 65):2015 , (Samul.

Thus, the concept of cognitive flexibility must be taken into account to be the source of inspiration in the lives of students in adolescence. The majority of students in this stage are going through different pressures and challenges.

Several studies have been conducted on the concept of cognitive flexibility, including a study (6 :2006, Hjemdal) that indicated that students with cognitive flexibility have the ability to face the stressful life.

As for the study (672: 2010 , Girtler et al.), it examined the relationship between cognitive flexibility and depression in a sample of adolescents, and that the sample had an average level of cognitive flexibility, as well as indicating a negative correlation between cognitive flexibility and depression, and that the level of cognitive flexibility in females is higher than in males .

The researcher believes that the concepts of historical enlightenment and cognitive flexibility are important concepts for building the personality and culture of the learner in adolescence to face life situations and its orientation towards knowledge .

These two concepts are also modern concepts in teaching methods for a positive and effective relationship in the fields of academic and practical life, as they carry the importance and social, educational and human status to influence the same learner, his colleagues and his community.

Based on the above, the importance of the research is reflected in the following:

- Revealing the historical enlightenment of middle school students.
- Recognize the relationship between historical enlightenment and cognitive flexibility.
- It investigates the level of historical literacy and cognitive flexibility to provide educational literature for researchers in psychology subjects and teaching methods.

Third: Research Objectives: The research aims to identify:

- The historical enlightenment of literary fifth grade students
- Cognitive flexibility among literary fifth grade students

- The correlation between historical enlightenment and cognitive flexibility among fifth grade literary students.

Fourth: Research delimitation: The current research is limited to literary fifth grade students in middle and high schools in the center of Qadisiyah Governorate for the academic year (2021-2022).

Fifth: Terminology Definitions :

1) Historical Enlightenment: identified by :

- (2003, Tony): It is a range of key abilities and concepts required to develop a comprehensive understanding of history .
 - The researcher defined it as procedural: the ability of the history teacher to develop the dimensions of historical enlightenment (cognitive, affective, and skill) continuously to reach the maximum levels of historical enlightenment.
- 2) Cognitive flexibility: Defined by:**
- (Gunduz, 2013:2079): The ability to deal with new difficult situations and the ability to produce new options and effective ideas.
 - The researcher defines it as the degree that the student receives when responding to the items of the cognitive flexibility scale prepared by the researcher.

Chapter II

Aspects of theory and previous studies

The first Part : Theoretical aspects:

First: Historical Enlightenment

Historical Enlightenment

Enlightenment is considered to be the lowest limit of knowledge , or is an understanding of the life that man lives in various details. A person needs to enlighten permanently according to the time and place he lives. The teacher and teacher must be enlightened in his specialty, as well as the engineer and the doctor

The term historical enlightenment first appeared by the American historian Gganon during the writing of the book (The issue of history in American learning) in 1989, in which he linked historical enlightenment to the curriculum, which is taught and not left independent of itself, and was known as an understanding of the major concepts of history and moral judgments in history and knowledge of the role of science to help understand what history is and the relationship between communication technology and history . (Kamal, 2016 :213)

Enlightenment works to prepare the individual scientifically, socially and psychologically in light of this rapid development to enable him to understand what is going on around him. The study of history activates thought and sharpens minds, and the study of history in depth works to accustom the

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individual to the virtues of learning about the cultures of peoples and the consolidation of citizenship in the individual, as well as the study of history works to be the student familiar with the world, which has become like a small village as they express .

The historical enlightenment of the teacher requires that they have competencies and abilities that make students love and want more to tell historical stories and form a positive impression of history and benefit from it in their daily lives. When they hear or read that an event or situation from a historian, they are not only handed over and be listened to, but they also have the skills of historical research and objective criticism of the event and the situation. As a result, they show the real and hidden reasons for moving the event .

Historical enlightenment helps students to seek sources of knowledge and fluid help in understanding historical events and their application in addressing the issues and problems facing them and makes students realize that the knowledge they learn is closely related to their lives and the outside world and is important in their working lives.

To understand historical enlightenment, the student must be aware that the nature of history as a science has its own terms such as the past or change, and that historical interpretation is conditional, and that the science of history is not just facts and terms separate from the rest of the sciences, and understanding history as a single story that repeats makes the past fixed and repeated, and as a result does not make the student aware of the nature of history. In order for the student to be enlightened, his ideas about history and his understanding of the past must not be lived in the past and society has undergone great technological and cognitive developments and cultural currents that led to the result of a great cultural schizophrenia among young people, as students have no knowledge of the simplest historical facts and the emergence of the so-called historical illiteracy (Lee, 2005:65)

Relationship between history and historical enlightenment

The science of history contributes to the building of nations. It plays an effective role in all aspects of life and effectively if it is well used to form the personalities of learners and their interaction with society to contribute to socialization and achieve the values of national belonging. History also works to create a generation to be useful members who are interested in the conscious participation of what society faces. It has a great role in consolidating moral values by studying the stories of great martyrs and patriots from his country .

(Noir, 2010: 81)

Benefits and significance of studying historical enlightenment:

- 1- Studying the past and comparing it to the present to expand students' experiences by shedding light on the present and seeking features of the future .
- 2- Using evidence and historical sources to allow students to directly contact the original texts and reach conclusions themselves and make judgments .
- 3- Developing historical research skills by critiquing events, analyzing behavior, and judging the value of information based on the source .
- 4- Interpret current events to help students enrich the history curriculum by linking the historical event to its roots .

- 5- Historical enlightenment makes students distinguish the reasons for interpretations of events by historians, whether it is for personal motives or real interpretations that differ from one historian to another depending on the evidence provided by each of them .

Dimensions of historical enlightenment: By extrapolating the literature relevant to the research, the dimensions of historical enlightenment can be determined as follows:

- 1- Grand concepts of history (collection of historical material and its chronological order, historical interpretation of events).
- 2- Historical Research Methodology.
- 3- Criticism and evaluation of historical sources and events.
- 4- Understand and employ films and documents .
- 5- Historical sympathy for the event .
- 6- The relationship of information and communication technology to history . (Kamal, 2016 :215)

Cognitive flexibility

Cognitive flexibility is necessary to apply knowledge in new situations and its inverse proportionality to the level of stress experienced by the individual. The greater the cognitive flexibility of the individual, the less tension he has and vice versa. It complements its importance in representing tasks and changing the level of attention of the individual and thus changes the way he thinks. It helps to be fully aware of the subject and to represent knowledge from all aspects. It facilitates the process of solving problems and is the focus of creative skills. Creativity does not depend only on generating ideas, but also on facing new problems and dealing with them in creative ways, as most problems occur without solutions to them. Therefore, cognitive skills, which are centered on cognitive flexibility, are an urgent necessity for this purpose .

He defined it (Lean, 2015: 51): It is the student's self-knowledge ability that helps to move from one state of knowledge to another with ease and helps him to adapt to diverse situations and face problems and situations in more than one way and idea , and the dimensions of cognitive flexibility are :

- 1- adaptive flexibility
- 2- Spontaneous Flexibility

Wegenland and Yonk believe that cognitive flexibility is the ability of an individual to successfully deal with the problem or situation. Individuals who have cognitive flexibility find that they continue despite the disturbances and adversities they face, while Wegenland and Yonk pointed out that cognitive flexibility is a trait that works to reduce the negative effects of stress and stimulate adaptation and harmony with life and avoid the negative effects of stress. The concept of flexibility has been used to indicate a personality trait and a dynamic developmental process as well as an innate trait that can be possessed by any individual to some extent. It can be enhanced depending on the circumstances of life and develops over time starting from childhood and not determined by a certain age based on good and close family relations. Some researchers believe that it is not affected by the nature of the education of the individual and is available to both sexes.

(Wagnild, 2009:140)

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The cognitive flexibility of individuals is determined by factors, the most important of which are :

- 1- Possession of previous experience.
- 2- The external relations of the individual with his surroundings and peers for the development of new knowledge.
- 3- The degree of tendency of individuals to new situations.
- 4- Self-motivation to reach solutions to situations and problems . (Elephant, 2015: 8)

The second Part : Previous studies

First: Studies on historical enlightenment

Study (Kamal 2016): The study was conducted in Egypt and aimed to find out (the effectiveness of educational blogs in the development of historical enlightenment among students in the first secondary grade) , the sample reached (60) students distributed in two experimental and control groups, the study used the semi-experimental approach, and its tools were (cognitive achievement test, historical enlightenment skills test, and the measure of awareness of the nature of historical enlightenment) The results were a function in favor of the experimental group in the post-test to apply the tests mentioned in the experiment as well. The results showed an effect and effectiveness of the use of blogs in the development of historical enlightenment among students of the experimental group.

Second: Studies on cognitive flexibility.

Study (Muhaisen, 2021): Conducted in Iraq and aimed to know (the impact of the effectiveness of cognitive flexibility in the teaching staff under e-learning), the sample reached (400) teachers and schools, the researcher prepared that his measure according to the Spyro theory 1988 and his tool consisted of 26 items distributed in two areas , the results of the researcher showed that the sample members have cognitive flexibility and lack of statistical significance depending on the gender variable.

Third Chapter:

Research Methodology and Procedures

This chapter includes a presentation of the research methodology and procedures in terms of identifying the research community and selecting a sample from that community, preparing tools characterized by validity , reliability and objectivity, and using appropriate statistical means to analyze and process the data of this research, as follows:

First: Research Methodology

The research relied on the descriptive and associative approach to reveal the correlation between historical enlightenment and cognitive flexibility in middle school students.

Second: The research community

The current research community consists of students of the fifth grade literary morning study for the academic year (2021-2022), and their number (617) students, distributed in (16) secondary and

preparatory schools for males, within the Directorate of Education of Diwaniyah Governorate, and the ages of these students ranges from (17-19) and they come from close social, economic and cultural environments.

Third: Research Sample

The current research sample included (400) students selected in a random, phased manner with equal distribution, as the schools were selected, their number, and the selection of a division of these schools, and the selection of students randomly from these divisions, so that the percentage of the research sample to the research community is (14,869%), which is about (15%).

Fourth: Research Tools

Since the current research aims to find out the relationship between historical enlightenment and cognitive flexibility in middle school students, this necessitated the availability of two appropriate tools to measure (historical enlightenment – cognitive flexibility).

First : Historical Enlightenment Test

The researcher intended to prepare a test for historical enlightenment because of the lack of a local test that suits the current research sample, in which the following steps were followed:

- 1) **Determine the concept to be measured:** In order for the researcher to be able to rely on the concept in the preparation of the test, the researcher has adopted Tony's point of view)) and adopted his definition of historical enlightenment, which states that (a range of abilities and key concepts required to develop a comprehensive understanding of history).
- 2) **Preparation of the test items in their initial form:** The researcher determined that the tests of their questions are rather short and medium difficulty, and their answers are clear and appropriate for the students of the fifth literary grade, taking into account the time allocated for the application of the test with the other scale. He then made amendments to the wording of some items and then presented them to a group of experts in the field of translation and asked them to express their opinion on the accuracy of the translation and propose the appropriate amendment, if any. The researcher relied on the percentage of agreement of experts (80%) or more in keeping, deleting or amending the questions, and accordingly all questions were preempted to obtain an agreement rate of 80% or more with the approval of ten experts or more.
- 3) **Test Evaluation:** The test is corrected by giving weights (0,1) by giving a score of one for the correct answer and zero for the wrong answer according to the solutions and answers given to each question in the test. The total score is calculated by collecting the correct answers, and therefore the highest score the respondent can obtain is (40) and the lowest score the respondent can obtain is (0) and the working mean of the test is (20).
- 4) **Preparation of the test correction key:** A key has been prepared to correct the test in which the correct answers and solutions to each of the questions included in the test have been included.
- 5) **Exploratory application:** The scientific enlightenment test was applied to a sample of (40) students in the fifth literary grade, and after conducting the exploratory study and reviewing the

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answers, it became clear that the test items and instructions were clear to the students, and it was found that the time taken to answer the test ranged between (40-45) minutes.

6) **Statistical analysis of historical enlightenment test items:** Statistical analysis includes:

A) **Item difficulty coefficient:** A difficulty coefficient was extracted for each question and Table (1) shows the values of the historical enlightenment test difficulty coefficients.

Table (1): Values of the Historical enlightenment Test Difficulty Coefficient

QUESTIONS	Order	Difficulty index	QUESTIONS	Order	Difficulty index	QUESTIONS	Order	Difficulty index	QUESTIONS	Order	Difficulty index
2	1	0,45	7	11	0,57	11	21	0,61	5	31	0,65
25	2	0,45	3	12	0,58	37	22	0,61	6	32	0,65
32	3	0,45	12	13	0,58	20	23	0,62	21	33	0,65
1	4	0,47	14	14	0,58	27	24	0,62	35	34	0,65
24	5	0,48	38	15	0,58	34	25	0,62	8	35	0,66
39	6	0,48	26	16	0,59	16	26	63	9	36	0,66
18	7	0,51	36	17	0,59	22	27	63	28	37	0,68
17	8	0,55	15	18	0,60	13	28	0,64	4	38	0,69
23	9	0,56	30	19	0,60	19	29	0,64	10	39	0,69
33	10	0,56	31	20	0,60	29	30	0,64	40	40	0,69

B)**Distinguishing items** : The discriminating power of each question was extracted, and Table (2) shows this.

Table (2): Discriminatory Strength of Historical Enlightenment Test Questions

QUESTIONS	Discriminatory power	QUESTIONS	Discriminatory power	QUESTIONS	Discriminatory power	QUESTIONS	Discriminatory power	QUESTIONS	Discriminatory power
1	0,15	9	0,44	17	0,43	25	0,41	33	0,54
2	0,23	10	0,40	18	0,44	26	0,43	34	0,52
3	0,25	11	0,46	19	0,41	27	0,44	35	0,56
4	0,46	12	0,41	20	0,44	28	0,40	36	0,48
5	0,49	13	0,46	21	0,40	29	0,46	37	0,65
6	0,40	14	0,46	22	0,26	30	0,47	38	63
7	0,44	15	0,40	23	0,46	31	0,49	39	0,64
8	0,43	16	0,45	24	0,16	32	0,24	40	0,40

B) Psychometric Characteristics of Historical Enlightenment Testing

A) **Test validity:** The researcher relied on two types of validity :

➤ **Face validity :** This type of validity was achieved in the current test and was referred to in the steps of building the test.

➤ **Construct validity :** The researchers used the binary correlation coefficient for the purpose of finding the correlation between the degree on the one question and the total degree of the test, and it was found that all items have statistically significant correlation coefficients except items (32,24,22,5,3,2,1) and that the table value of the correlation coefficient is equal to (0.098) at the significance level (0.05) and with a degree of freedom (398), and table (3) shows this .

Table (3): **Correlation coefficient values for historical enlightenment test**

QUESTIONS	Correlation coefficient	QUESTIONS	Correlation coefficient	QUESTIONS	Correlation coefficient	QUESTIONS	Correlation coefficient	QUESTIONS	Correlation coefficient
1	0,048	9	329	17	284	25	213	33	454
2	0,019	10	385	18	296	26	132	34	259
3	0,074	11	360	19	274	27	212	35	371
4	136	12	378	20	351	28	.451	36	319
5	0,080	13	329	21	479	29	313	37	224
6	226	14	222	22	0,087	30	249	38	217
7	303	15	260	23	351	31	306	39	301
8	445	16	289	24	0,021	32	0,041	40	414

C) **Test reliability :** The researcher relied on the method of analysis of variance, as this equation is designed to extract the internal consistency of the tests and by applying the equation, the reliability coefficient reached (0,70), which is a good reliability coefficient.

Second : Cognitive flexibility Scale

The researcher adopted that the measure of cognitive flexibility prepared by (Al-Faramawi, 1980) and codified by (Al-Tikriti, 2011), consisting of (38) positions distributed in four areas: (the desire to obtain information quickly, the desire to increase knowledge in a subject, welcoming risk in order to obtain knowledge, keenness on the manual processing of topics).

The adoption of a scale or test is from the point of view of benefiting from the studies and results previously reached by the adopted scale. The research heritage of a test or scale is a balance of scientific knowledge that must be developed and not neglected. After applying the scale, the answers were corrected according to the following: (giving two degrees in the case of the respondent choosing the answer that indicates high cognitive flexibility, one degree in the case of choosing the answer that indicates medium cognitive flexibility, and zero in the case of choosing the answer that

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indicates low cognitive flexibility). The researcher intended to conduct a statistical analysis of the scale's positions and extract its standard characteristics (psychometric) as follows:

- Statistical analysis of the scale items

➤ **Discriminatory power of Cognitive flexibility Scale Items**

The scale was applied to the research sample of (400) students for the purpose of detecting the distinct and unmarked items , and Table (4) shows the discriminatory strength of the items of the cognitive flexibility scale.

Table (4): Discriminatory Strength of Cognitive flexibility Scale Items

No.	Upper Group		Lower group		Calculated T-value
	Arithmetic Average	Standard Deviation	Arithmetic mean	Standard Deviation	
1	6262	5750	1,3241	0,8068	3,159
2	1,6574	0,5145	1,4167	0,6988	2,883
3	1,6574	4960	1,2222	0,7774	4,904
4	1,7037	5163	1,4259	6 998	3,319
5	1,6759	0,5439	1,5278	6479	1,820 *
6	1,6542	5512	1,4815	0,7035	2,003
7	1,6574	0,5985	1,2037	.8060	4,697
8	1,6019	0,6105	1 / 2,500	7504	3,780
9	1,5556	0.6315	1,4259	7261	1.400
10	1,5463	6468	1,3981	0,7847	1,514 *
11	1,4907	0,6903	1,4259	0,7878	643
12	1,5185	6625	1,3333	0,7854	1,873 *
13	1,5556	6461	1,3241	8297	2,288
14	1,5370	0,6894	1,3056	3025	2,274
15	1,5370	7160	1,2870	0,7978	2,424
16	1,7222	0,5266	1,3148	8163	4,359
17	1,5370	0.6617	1,2778	7952	2,604
18	1,5278	0.6898	1,3056	0,7789	2,220
19	1,5741	5,833	1 / 2,500	0,7749	3,472
20	1,5370	6328	1,3148	0,7691	1,319
21	1,6019	0,5791	1,4444	0.6744	1,840 *
22	1,6204	0,5915	1,2685	7312	3,888
23	1,5741	5,833	1,3148	0,7318	2,879
24	1,5648	6002	1,3981	0,7481	1,806 *
25	1,5926	0,5965	1,3426	7753	2,656
26	1,5370	0,6894	1,3796	7700-	1,583 *
27	1,6019	6689	1,3889	7213	2,250
28	1,6296	6052)	1,2593	8131	3,797
29	1,5926	6562	1,3241	7952	2,707
30	1,4444	0,7016	1,3611	0,7789	.826

31	1,4352	0,7270	1,2963	0,7885	1,346 *
32	1,5463	6468	1,2963	0,7392	2,644
33	1,6852	0,5743	1,3889	7341	3,304
34	1,7130	0,5645	1,4352	6596	3,325
35	1,7870	0,4939	1:5,000	6628	3,609
36	1,7222	4703	1,3981	0.6828	4,062
37	1,6667	4929	1,2593	7282%	4,815
38	1,4907	5880!	1,2870	0,6978	2,320

- **Internal consistency (relationship of item score to the overall score of the scale):** Extracting the correlation between the score of each item and the overall score of the scale using the Pearson correlation coefficient, and table (5) shows this .

Table (5): Correlation coefficients between the score of each item and the overall score of the scale

No.	Correlation coefficient	No.	Correlation coefficient	No.	Correlation coefficient	No.	Correlation coefficient	No.	Correlation coefficient
1	225	9	.138	17	150	25	109	33	0,164
2	125	10	0,093	18	153	26	136	34	161
3	220.	11	0,079	19	232	27	104	35	155
4	169	12	0,094	20	232	28	.099	36	218
5	090	13	137	21	160+	29	162	37	197
6	126	14	.099	22	107	30	0,091	38	274
7	258	15	0,123	23	175	31	0,040		
8	205	16	0,243	24	133	32	131		

- **Psychometric Characteristics of Cognitive flexibility Scale**

➤ **Scale Validity**

❖ **Face validity :** The researcher relied on the percentage of agreement of experts (80%) or more in keeping, deleting or modifying the questions, and accordingly all questions were retained because they obtained an agreement percentage of 80% or more.

❖ **Construct validity:** The researcher intended to extract the method of analyzing the items in the two extremist groups and the method of linking the degree of the item to the overall degree of the scale that was referred to in the statistical analysis process.

- **Scale Reliability:** The Pearson correlation coefficient between the two applications was calculated with a reliability coefficient of (0.80), which is a good reliability coefficient, indicating that the scale has a stable reliability over time.

Fifth: Statistical means: The researcher relied on the statistical portfolio (spss) to analyze the data.

Chapter Four

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Presentation and interpretation of results

This chapter deals with the presentation and interpretation of the results in light of the objectives presented by the current research and discusses them with the results of previous studies, and includes the researcher's conclusions based on the research results, as well as the recommendations recommended by them, and the proposals proposed by them in the light of the results as follows:

First: Presenting and discussing the results

The first goal: For the purpose of achieving the first goal, which aims to identify the level of historical enlightenment among students in the fifth literary grade, the arithmetic mean of the students' grades was extracted on the historical enlightenment test, reaching (20,3050) with a standard deviation of (5,8001). When calculating the significance of the difference between the mean of the sample grades on the historical enlightenment test and the theoretical mean of the test, which amounted to (16,5) scores, using the T-test of one sample, it was found that the difference between the two means was statistically significant in favor of the arithmetic mean achieved for the grades of the members of the research sample, that is, there are statistically significant differences between the achieved mean and the theoretical mean, and that the difference between them is real and is not caused by the factors of chance, and Table (6) shows that .

Table (6): T-test of one sample to identify the historical level of enlightenment

No of Sample	Arithmetic Average	Standard deviation	Centera l Tendency	T value		Degr e of freedo m	Signifi cance
				Calculated	tabular		
400	20,3050	5,8001	16.5	13,120	1,96	399	Signifi cant

This means that the current research sample of literary fifth graders possesses a good level of historical enlightenment.

The second goal: In order to achieve the second goal, which aims to identify the level of cognitive flexibility among fifth grade literary students, the arithmetic mean of students' scores on the cognitive flexibility scale was extracted at (41,4250) with a standard deviation of (3,9061). When calculating the significance of the difference between the average scores of the sample on the cognitive flexibility scale and the central tendency of the scale, which reached (28) using the T-test of one sample, it was found that the difference between the two means was statistically significant in favor of the arithmetic mean achieved for the scores of the members of the research sample, as in Table (7).

Table (7): T-test of one sample to identify the level of cognitive flexibility

No	Arithmetic	Standard	Central	T value	Degree	Signifi
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of Sample	Average	Deviation	tendency	Calculated	tabular	e of freedom	cance
400	41,4250	3,9061	28	17,537	1,96	399	significance

This means that the current research sample of literary fifth grade students have a good level of cognitive flexibility, which indicates that the family performs an important and influential role in making the student interested in study or science, as several factors, including the achievement level of the father and mother and the culture of the parents have an impact, the higher the achievement of the father and mother and their culture is reflected on their children.

The third goal: (The relationship between historical enlightenment and cognitive flexibility in fifth grade literary students) To know the relationship between historical enlightenment and cognitive flexibility, the researcher used the Pearson correlation coefficient to know the nature of the relationship between the research variables and found that it is equal to (0,213) degrees , while the tabular value reached (0,098). This indicates that there is a correlation between the two variables, and this is due to the fact that information, experience and the cognitive storage that the student possesses increase familiarity with the situation or the problem and thus can solve the situation or question. This means that the cognitive flexibility of the material is strong or that he wishes to understand the material or the approach, as well as the scientific and technological development we live in today has an effective impact on the availability of great opportunities to obtain information and stimulate cognitive flexibility and historical enlightenment through the computer and information transmission networks.

Second: Conclusions: From the findings of the current research, the researcher concluded that the following:

- Literary fifth graders have a good level of historical enlightenment.
- Literary fifth graders have a good level of cognitive flexibility.
- There is a statistically significant relationship between historical enlightenment and cognitive flexibility in the research sample.

Third: Recommendations: In light of the results and their discussion, the researcher reached a number of recommendations:

- The family has a great impact and basis in the development of thinking in the child because the stage of childhood is the basis for other stages. Whenever the family exposes the child to a certain situation and asks him to find a solution, it leads to the development of thinking as well as work to develop his question. This helps him to grow his thinking and thus he can solve the problem he is exposed to.
- Preparing some programs, activities and courses to develop historical enlightenment among fifth grade literary students.

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- The school is complementary to the work of the family, especially the teaching staff, it must develop in its students thinking and not give them solutions directly, but make them the ones who come up with the required answer.
- It is necessary to work on the development of cognitive flexibility in the student in the school, as teachers must work on the suspense of the subject to the student and encourage them to study and this is certainly the first signs in childhood, that is, the family must develop in its child cognitive flexibility and learning .

Fourth: Proposals: In continuation of the current research, the researcher suggests that the following:

- Conducting a study aimed at developing historical enlightenment among middle school students.
- Conducting a study to reveal the relationship of historical enlightenment to other patterns of thinking.
- Conducting a study to detect the factors affecting historical enlightenment among middle school students.
- Conducting a similar study to compare middle school and university students.
- Conducting a study on cognitive flexibility and its relationship to other thinking methods.
- Conducting a study to detect the factors affecting cognitive flexibility in middle school students.

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