

The level of critical thinking among middle school students in the Algerian school

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Abstract: The study aimed to find out the level of critical thinking skills among middle school students in Oued Souf, Algeria. And knowing the differences between males and females in having the five critical thinking skills. To achieve this, a measure of critical thinking skills was prepared, as its psychometric characteristics were confirmed, and the measure was distributed to a sample of (90) male and female middle school students studying at the Civil Harmony School in the Valley. - Algeria.-

The results of the study showed that the level of critical thinking skills among students is unacceptable.

Keywords: Critical thinking; middle school students; Algerian school

-Introduction

One of the most prominent features of this era is the tremendous development in quantity and quality, as it is considered the era of technology and the knowledge explosion in all fields of scientific and practical life, as recent developments affected the components of the educational process. particularly teaching strategies.

In view of the scientific progress and the knowledge explosion witnessed by the fields of knowledge in general, and scientific subjects in particular, it has become difficult for the learner to become acquainted with these subjects, until it became necessary for educational institutions to make exceptional efforts. And harnessing the possible means and methods, in order to prepare children for the future, to be able to solve their problems, so the attention of researchers and educators has turned to search for different new ways in which the teacher is a guide, guide, and helper for learners to understand knowledge and how to use it and employ it in their lives to improve their academic achievement and develop their thinking of various types and skills in All subjects, especially scientific subjects.

Accordingly, the educational process must take care of the learners' acquisition of the capabilities and skills of ways of thinking. The development of thought is an investment of the greatest wealth bestowed upon man by God Almighty, which is the mind. Hence, it is the development of the individual and the activation of his powers for the development and prosperity of society.

Where thinking has become a prominent feature of any society that seeks excellence and quality, especially in such an era when scientific progress depends on the thinking of minds that must be taken care of by reconsidering the selection of appropriate teaching strategies, which in turn contribute to the development of education. Learned thinking skills, especially critical thinking skills.

Developing critical thinking skills has become a major goal of education as a major tool for solving problems and overcoming future challenges. The interest of advanced industrial countries in this goal in their educational programs was one of the decisive factors that helped their scientific and technological progress.

Accordingly, in this study we try to find out the extent to which learners possess critical thinking skills through a field study applied to fourth year preparatory students.

Is the level of possessing these skills educationally acceptable or not?

-The problem:

The development of human resources is the right direction to achieve any progress in all fields, whether at the theoretical or applied level in the branches of knowledge in the sectors of life, and therefore the attention of countries is currently focused on developing intellectual mindsets that are capable of solving problems and innovating ways and mechanisms to invest state resources and the ability to face any crisis managing and making sound decisions. The way to do this was thinking and its development, and as a result the so-called “thinking industry” emerged, which centered on solving the thinking process and which transformed from

being an individual process into a multidisciplinary group thinking. Thinking has become a process through which goals and budgets are planned and set.

In the face of this reality, the importance of thinking skills and processes that remain valid and renewed in terms of their usefulness and uses in processing information of any kind emerges. Researcher Sternberg of Yale University, North Carolina points out this fact by saying: "Knowledge is important, of course, but it often becomes obsolete, while thinking skills remain ever new, because they enable us to acquire and infer knowledge regardless of the place, time, or types of knowledge that Thinking skills are used to deal with it" (Jarwan, 2007, 16).

Critical thinking is considered one of the most important types of thinking that has attracted the attention of specialists in the field of scientific education. Educational trends and contemporary curricula in many countries of the world have given great attention to critical thinking and set it as one of the educational goals that the educational process should end with. Hence, critical thinking was considered one of the most important life skills needed by students in life situations, teaching and learning situations, so it needs continuous development through teaching and learning situations, so the Delfa Group (critical thinking experts) believes that the concept of criticism means that the individual has an open mind It is flexible and has the ability to judge things, the ability to summarize, and the ability to analyze. Critical thinking includes many skills or components, the most important of which are: the skill of knowing assumptions, the skill of interpretation, the skill of evaluating discussions, the skill of conclusion, the skill of reasoning, and it is a process based on investigating accuracy in Observing and evaluating the facts related to the topics discussed, adhering to the framework of the correct relationship to which this reality belongs, drawing conclusions in a sound logical manner, taking into account the objectivity of the whole process and its distance from choice, and subjective factors such as being affected by emotional aspects or previous ideas. (Al-Sulaiti, 2006, 3)

Numerous studies have proven that critical thinking can be developed by teaching different subjects, and the possibility of training students to think critically, but not only by providing knowledge and information, but it is necessary to train students in comparison, summarizing, observation, classification, interpretation, criticism and hypothesis formulation. Collecting and organizing data and applying generalizations in solving problems. The curriculum should also be reinforced with situations that can develop students' thinking. (Darwish, Abu Mahdi, 2011, 488)

Several studies confirmed the necessity and possibility of developing critical thinking among learners, including the study of Maysa Hamdan and Balsam Abbas (2014), the study of Tawfiq Marei and Muhammad Nofal (2007), and the study of Ibrahim Sarhan (2000).

The results of these studies have proven that developing the learners' ability to think critically leads to a deeper understanding of the content of the knowledge they learn and transforms the process of acquiring knowledge from a passive process into a mental activity that leads to a better mastery of knowledge, linking its elements together, and leads to expanding the horizons of knowledge of the learners and pushing them into areas of knowledge. Knowledge. Contribute more widely to targeted quality learning.

Critical thinking skills constitute an important dimension in the lives of students in general, and middle school learners in particular, because critical thinking skills are of great importance in immunizing them against the rapid changes witnessed by the third millennium in various aspects of life. Students are exposed to different types of information that they receive or receive. From several sources, and at other times this information is characterized by contradiction, which requires students to practice a set of critical thinking skills represented in knowing assumptions, interpreting and evaluating discussions, and deduction and conclusion, which in their entirety constitute critical thinking skills. This research attempts to identify the level of critical thinking skills of the fourth intermediate grade students.

-Study questions:

- What is the average level of critical thinking skills for fourth year preparatory students?
- Are there statistically significant differences in the level of critical thinking skills among fourth year preparatory students due to the gender variable (males and females)?

-Hypotheses:

- The level of critical thinking skills among fourth year preparatory students is below the educationally acceptable level.
- There are no statistically significant differences in the level of critical thinking skills among fourth year preparatory students due to the gender variable (males and females).

-The importance of the study:

The importance of the current study stems from the fact that it is one of the few studies that attempted to investigate the levels of critical thinking skills among middle school students according to a modern test of critical thinking. This study also derives its importance in that it provides a test with psychometric characteristics on an important sample of the middle school students, which gives confidence in its use in the future for the purposes of scientific research. This research can also have a future research extension by anticipating the results that will result from this research, where appropriate programs can be developed with regard to the teaching-learning strategies that teachers follow, and other factors that can contribute to the development of critical thinking skills in the early stages. for education.

-Objectives of the study:

- Knowing the level of the middle school students' possession of the five critical thinking skills.
- Find out statistically significant differences in the level of critical thinking skills among fourth year preparatory students due to the gender variable (male and female).
- Trying to discover and identify the total skills formed for critical thinking.
- An attempt to discover the critical thinking skills most possessed by students.
- Field measurement of critical thinking skills for fourth year preparatory learners.

-The procedural concepts of the study:

-Critical thinking:

Mary Miller (1998), defined critical thinking as a reflection on organized processes regarding the effectiveness and achievement of the process of mental perception, application, analysis, the process of evaluating information to increase the growth of form or structure, experience, inference and inference, and communication. (Miller, 1998, 12)

As for the critical thinking of both Watson and Glasser (1964), it is a complex of attitudes and knowledge, and includes the ability to know the dimensions of the problem, and the skill in using previous trends and knowledge and applying them. (Ali, 2009, 32)

(Magdy Ibrahim, 2005) defines critical thinking as: a mental process that includes a set of thinking skills that can be used individually or collectively, without adhering to any specific order to verify the thing or subject, and evaluate it based on certain criteria, in order to issue a judgment on the value of thing, or come to a conclusion or generalize or make a decision. (Ibrahim, 2005, 370)

Huitt (1998) believes that critical thinking is an organized mental activity to evaluate points of view and tendencies and to make judgments that can guide beliefs and actions. (Huitt, 1998, 6)

The researcher defines it procedurally as the ability of the student to respond correctly to the situations and paragraphs of the test developed by the researcher. And as follows:

-Critical thinking skills:

Knowledge of assumptions: The total score obtained by the student on (12) items from the test tool related to recognizing the truth of something without searching for evidence, and identifying good assumptions that are presented in the framework of a discussion, as included in the test situation.

Interpretation: The total score obtained by the student on (12) items from the test tool related to the interpretation of the data and the extraction of sound generalizations and the results of the data contained in the test situation with a reasonable degree of certainty.

Evaluation of the discussions: The total score obtained by the student on (12) items from the test tool, related to distinguishing between strong and weak arguments related to the issue under discussion in the test situation.

elicitation: The total score obtained by the student on (12) items from the test tool related to the application of the rules of inference, and the judgment on whether the issue results from a premise or logical premises, as measured by the test.

Conclusion: The sum of the scores obtained by the student on (20) items from the test tool for determining the different degrees of right and wrong and reaching correct conclusions on the basis of the given data included in the test situation.

--Previous studies:

-The study of Maysa Hamdan and Balsam Abbas (2014): The study aimed to identify the level of critical thinking skills (knowledge of assumptions, interpretation, conclusion, elicitation, and evaluation of arguments) among fourth-grade students. . And the influence of gender and environment on this level. To achieve this, the descriptive analytical approach was used, and a measure of critical thinking skills was prepared, as its psychometric characteristics were confirmed, and it was distributed to a sample of (127) male

and female students from the fourth preparatory grade. . Latakia Governorate. The results showed that the research sample individuals have studied critical thinking skills at a weak level, and there are no statistically significant differences at the significance level (0.05) between the mean scores of males and females. He recommended teaching critical thinking skills. (Hamdan and Abbas, 2014, 303)

-The study of Saud bin Suleiman Al-Nabhani (2010): This study aimed to reveal the level of critical thinking skills among students of the College of Applied Sciences in Nizwa in the Sultanate of Oman, where the research sample is. He is. Its strength is (332) male and female students. To achieve the research objectives, the California Critical Thinking Skills Test (2000) model was used, after checking its psychometric properties. The results also showed that there are differences in the level of critical thinking skills according to the gender variable in favor of females, and the search results did not reveal any statistically significant differences due to the specialization variable. (Al-Nabhani, 2010, 111)

-The study of Asmaa Al-Jaafara and Omar Al-Kharabsheh (2007): It aimed to identify the degree of possession of the outstanding students in the Jubilee School in Jordan for critical thinking skills. The researchers used the California Critical Thinking Scale (conclusion - inference - stability - analysis - evaluation) and the results showed a clear decrease in the sample's scores in the total sum and for each skill. Separately on the applied scale, there are no statistically significant differences between the mean scores attributed to the gender variable and the grade level variable, while a statistically significant effect was found for the interaction of gender and class in reasoning and induction skills in favor of. Of the tenth grade females in the thinking skill and in favor of the tenth grade males in the reasoning skill. The study recommended the need to prepare programs to develop critical thinking among the outstanding students and to review the teaching methods used in schools. of the gifted (Al-Jaafarah and Kharabsheh, 2007, 112)

-1-7-4The study of Tawfiq Marei and Muhammad Nofal (2007): The research aimed to investigate the level of critical skills among students of the University College of Educational Sciences (UNRWA), as the research included (510) students. Female students. They represent the four academic levels. . To achieve the main objective of the research, the researchers used the California Critical Thinking Skills Test (2000) after checking its psychometric properties, which were considered suitable for scientific research purposes. The results of the research showed that the degree of the research sample's possession of critical thinking skills is below the educationally acceptable level, which was set at (80%). In favor of the first and second year students, the results also indicated a positive relationship between the average of the general secondary certificate and the level of critical thinking skills in the thinking skill. (Marei and Nawfal, 2007, 289)

1-7-5- Ibrahim Sarhan's study (2000): aimed at identifying the critical thinking skills of a sample of Palestinian university students and their relationship to problem solving, academic level, and gender. The sample consisted of (199) male and female students from Palestinian universities (Hebron, Bethlehem, Birzeit, and An-Najah), and the problem-solving scale and the California test were applied to measure critical thinking skills. The low level constituted (13.4%), while the medium level constituted (69.2%). The results also showed that there were no statistically significant differences in the gender variable in overall thinking skills and sub-critical thinking skills. (Sirhan, 2000)

-The study of Ezzo Afana (1998): It aimed to identify the level of critical thinking skills among students of the Faculty of Education at the Islamic University of Gaza, and to know the effect of each gender and specialization. And academic level. The study sample consisted of (271) male and female students. Where undergraduate students were randomly selected and postgraduate students, (special diploma) measured the critical thinking skills of the study sample by applying the test (Farouk Abdel Salam and Mamdouh Suleiman for critical thinking). The test included (150) items distributed over five dimensions of critical thinking: making assumptions, interpretation, and evaluation of arguments, elicitation and conclusion. The results of the study showed that the level of thinking skills among the study sample was (0.61), which is less than the level of competence accepted at this stage, which is at least equal to (0.81). There is also a positive relationship between the level of critical thinking skills and the cumulative averages of the students, and there are statistically significant differences due to the variable of the type of specialization (scientific and literary) in favor of students with a scientific specialization. While the study showed no difference in the level of critical thinking skills due to gender. (Afanah, 1998, 82)

-Commenting on previous studies:

Previous studies aimed to find out the level of critical thinking skills, and the study sample varied between middle and high school students. The current study also aims to find out the level of students' possession of these skills and to use middle school students as a sample for this study.

Previous studies used different tests of critical thinking, as the current study made use of these tests. The current study also benefited from the methodological side and the method of extracting, interpreting and discussing the results.

Method and tools:

-Study methodology: The researcher used the exploratory descriptive method, which is commensurate with the purposes of the study.

-Study population and sample: The study population consists of all fourth-year preparatory students who study in preparatory schools in El-Wadi city, El-Wadi state - Algeria - for the academic year 2018/2019.

Study sample: Students of the Civil Harmony Preparatory School in Al-Wadi City.

Table 1 shows the characteristics of the study sample

the sample	numberThe	percentage
Male	45	% 50
Female	45	% 50
Total	90	%100

Source: prepared by the researcher

-Study tool:

Critical thinking test:

Determining the objective of the test: This test aims to measure critical thinking skills (the skill of recognizing assumptions - the skill of interpretation - the skill of evaluating discussions or arguments - the skill of elicitation - the skill of conclusion) for fourth year preparatory students.

Determining the dimensions that the test measures: To determine the dimensions that the test measures, the researcher did the following:

Examine the literature on thinking to determine its skills, the concept of each skill, and the skills the test measures.

-Reviewing previous studies and research that prepared critical thinking tests or relying on previously standardized tests.

-Examination of some critical thinking tests, including: Farouk Abdel Salam and Mamdouh Suleiman's test (1982), Afana's attribution test (1998), and Muhammad Rashid Al Sharqi's test (2005)

The researcher relied on the phrases and paragraphs of the previous tests, and modified some of them according to the Algerian environment. After the modification, we obtained a test consisting of 20 sentences consisting of 68 items distributed according to Table No. (01). (Khemmad, 2018, 214)

Test Correction: The test consists of (20) multiple-choice sentences, each sentence has three alternatives, and some sentences have four alternatives, with one mark for each correct answer and zero for the wrong answer. Thus, the total score for the test ranged between (0-20) .

Table No. (01) shows the maximum score for the five skills that make up the test.

the hub	critical thinking skills	number of phrases	The number of paragraphs	grades
01	Knowledge of assumptions	04	12	12
02	Interpretation	04	12	12
03	Evaluation of the discussions	04	12	12
04	elicitation	04	12	12
05	Conclusion	04	20	20
Total		20	68	68

The following criteria were relied upon in evaluating students' scores on the critical thinking skills scale:

- If the percentage is less than (60%), this means that the degree of skill is weak.
- If the percentage is between (60%) and less than (75%), then this means that the skill has an average degree.
- If the percentage is between (75%) and less than (85%), then this means that the skill has obtained a good grade.
- If the percentage is between (85%) and less than (95%), then this means that the skill is very good.
- If the percentage is (95%) or more, then this means that the skill is of an excellent degree.

These criteria are derived from the study of Maysa Hamdan and Balsam Abbas (2014)

-Exploratory Study:

The exploratory study was conducted on January 24, 2019 at El-Wieam El-Madani Preparatory School, El-Wadi Municipality, El-Wadi State. A sample of 36 learners was selected. In order to apply the study tool to them and achieve the following objectives:

- Identify the difficulties and obstacles that may hinder the basic study.
- Determine when to examine critical thinking.

- Calculating the validity of the study tools and their reliability coefficient.

-The Psychometric Characteristics of the Critical Thinking Test:

-Validity of the test: There are several ways to verify the validity of the test, and the researcher relied in this study on:

A- Content Validity: The test form was presented in its initial form to a group of arbitrators from university professors with the aim of arbitration from the following aspects:

Clarity of instructions. The appropriateness of the proposed answers for each question. The extent to which the questions relate to what they are designed to measure. The extent to which the questions cover the test areas. Clarity of response method.

They all agreed to accept all test items, indicating high validity of the test.

B- Sincerity of internal consistency:

The validity of internal consistency is one of the most important methods for measuring the validity of the test, which is the Pearson correlation coefficient between the sum of the scores for each domain with the total score of the test. The aggregate test, to see how the five skills relate to the overall test score, and for the purpose of test validation, as shown in the following table:

Table 3: Correlation coefficients between the total score of the test and the total score of the five skills

skills	Know the assumptions	interpretation	Discussion on calendar	elicitation	conclusion
Total score	**0,44	**0,49	*0,33	** 0.46	0.37 *

**means a function at the 0.01 level

*means a function at the level of 0.05

It was shown from the previous table No. (03) that the correlation coefficients for the five domains of critical thinking skills have strong and statistically significant correlation coefficients at the level of 0.01 and 0.05, and this indicates that the test contains a high validity coefficient. . . .

-Reliability: The reliability coefficient was calculated in the critical thinking test by the mid-term method, where the test is divided into two halves, odd and even, and the correlation coefficient between the scores of individuals in both. The parts are calculated by applying the Pearson correlation coefficient (R). (Tyler, 1988, p.85) This enables us to obtain the reliability coefficient for half of the test, so the modified Spearman-Brown equation is applied, in order to obtain the reliability coefficient for the total test scores.

Table 4 shows the stability coefficient for test scores using the split method for the critical thinking test

the test	correlation coefficient	reliability
Critical thinking	0.67	0.80

Through the value of the reliability coefficient (0.80), we conclude that the test is characterized by a high degree of reliability.

-The statistical methods used:

Mean, standard deviation, percentage, t-test for two independent samples.

-The results and their discussion:

-Results related to the first question: What is the average level of critical thinking skills for fourth year students?

To answer this question, the arithmetic means and standard deviations of the study sample's response scores were extracted to test critical thinking skills. Table No. (5) shows this:

Table 5 shows the values of the means, standard deviations, and ranking of critical thinking skills for the study sample.

Skill name	number of vertebrae	Arithmetic mean	standard deviation	arrangement	percentage %	the level
Knowledge of assumptions	12	1.22	8.31	1	% 69	Intermediate level
Interpretation	12	1.58	6.72	3	% 56	Low level
Evaluation of the discussions	12	1.31	6.13	4	% 51	Low level
elicitation	12	1.50	7.60	2	% 63	Intermediate level
Conclusion	20	1.67	4.19	5	% 21	Low level
Total skills	68	2.87	32.95		% 44	Low level

Source: prepared by the researcher

It is noted from the table that the skill of recognizing assumptions ranked first with an arithmetic mean of (8.31) and a standard deviation of (1.22) at an average level. The explanation for this is that the skill of knowing assumptions dealt with the processes of generating arguments and assumptions, searching for evidence, and determining cause and effect, all of which are processes that individuals practice in life, in addition to being widely practiced, in schools.

Finally, the conclusion ranked fifth, with an arithmetic mean (4.19) and a standard deviation (1.67), with a weak level. This explains that the skill of deduction includes processes such as drawing logical conclusions from relationships, creating arguments or discussion with logical steps, examining evidence, and guessing alternatives, and all these processes are not easy for learners and are rarely practiced in life, and teachers are not expected to have the ability to conduct these Operations and train students on them.

The rest of the skills are graded: elicitation (second rank) at a medium level, interpretation (third rank) at a weak level, discussion evaluation (fourth rank) at a weak level. The difficulty comes from the mental processes involved in each skill. Deductive skill includes the indications and judgments that a person makes after referring to a situation or event. The skill of interpretation involves the processes of examining opinions, discovering and analyzing arguments. The skill of evaluating arguments involves evaluating claims and arguments. The difficulty also comes from the individual's poor practice of these processes in life, and the poor possession and use of these processes by teachers in classroom situations.

It is also noted from the table that the averages of critical thinking skills ranged between 4.19 and 8.31, with a standard deviation ranging between 1.22-1.67, all of which are below the educationally acceptable level.

This finding is consistent with the study of Maysa Hamdan and Balsam Abbas (2014), the study of Asmaa Al-Jaafrah and Omar Al-Kharabsheh (2007), the study of Saud bin Suleiman Al-Nabhani (2010), and the study of Al-Tawfiq. Mary and Muhammad Nofal (2007), and the study of Ezzo Afana (1998).

This result is attributed to the failure to design school curricula in a way that encourages critical thinking, and the failure of teachers to use critical thinking, not to mention the difficulty in acquiring and practicing critical thinking skills, in addition to the distraction factor. The lack of concentration that characterizes middle school students, and this is also due to their lack of experience, their lack of familiarity with this method of thinking or practice, and their inability to formulate logical hypotheses commensurate with the

situation, in addition to the lack of concentration. From the knowledge base, the lower level of drawing conclusions from the facts presented (inference or inference). Likewise, the weak role of society, its support and care for the learning process, especially life skills in general and critical thinking skills in particular, which reflects negatively on their abilities and skills.

-Results related to the second question, which reads: Are there statistically significant differences in the level of critical thinking skills among fourth-year students due to the gender variable (male and female)?

To answer this question, the arithmetic means and standard deviations of the scores of the research sample's responses to the critical thinking skills test were extracted.

Table No. (06) shows the arithmetic means and standard deviations:

Skill name	gender	the number	standard deviation	arrangement	value (v)	significance level
Knowledge of assumptions	males	45	8.30	1.21	1.18	nonsignificant at 0.05
	females	45	8.33	1.20		
Interpretation	males	45	6.84	1.80	1.04	nonsignificant at 0.05
	females	45	6.60	1.32		
Evaluation of the discussions	males	45	6.25	0.998	1.24	nonsignificant at 0.05
	females	45	6.00	1.344		
elicitation	males	45	7.40	1.53	1.08	nonsignificant at 0.05
	females	45	7.72	1.48		
Conclusion	males	45	4.05	1.76	1.11	nonsignificant at 0.05
	females	45	4.33	1.59		
Total skills	males	45	32.93	3.14	0.151	nonsignificant at 0.05
	females	45	33.00	2.60		

Source: prepared by the researcher

It is noted from the table that the arithmetic mean of the skill of recognizing assumptions ranked first with an arithmetic mean of (8.30) for males and (8.33) for females, while the skill of deductive thinking ranked second with an arithmetic mean. The arithmetic mean (7.40) for males and (7.72) for females in favor of males, followed by the skill of interpretation in the third place, with an arithmetic mean of (6.84) for males and (6.60) for females in favor of males. In the fourth place came the skill of evaluating discussions, with an arithmetic mean of (6.25) for males and (6.00) for females. As for the thinking skill, it came in the fifth and last rank, as the arithmetic mean for males was (4.05) and for females (4.33), in favor of females, while the total arithmetic mean for males was (32.93) and for females (33.00). In favor of females.

That is, females excel in recognizing assumptions, evaluating arguments, and reasoning, while males excel in deductive and interpretation skills. It is clear from the table that there are no statistically significant differences between the mean scores of males and females in critical thinking skills.

This result is consistent with the results of the study of Maysa Hamdan and Balsam Abbas (2014), the study of Asmaa Al-Jaafrah and Omar Al-Kharabsheh (2007), and the study of Saud bin Suleiman Al-Nabhani (2010). And the study of Ezzo Afana (1998), and disagreed with the study of Tawfiq Merhi and Muhammad Nofal (2007)

The absence of statistically significant differences between males and females can be explained by the fact that they study the same curricula and are in the same school environment. The same teachers teach them. This leads to obtaining similar scores for different critical thinking skills.

.Conclusion:

Contemporary educational trends and curricula in many countries of the world pay great attention to critical thinking and place it as one of the educational goals that the educational process must end with. Hence, critical thinking is one of the most important life skills that students need in life situations, teaching and learning situations. Therefore, it needs continuous development through teaching and learning situations, as the primary goal of teaching and learning critical thinking is to improve students' thinking skills, enabling them to achieve success in all aspects of their lives.

Therefore, the aim of this study was to find out the level of critical thinking skills possessed by the students. Based on the knowledge of this level, appropriate programs can be developed regarding the teaching and learning strategies that teachers follow, and other factors that can contribute to the development of critical thinking skills in the early stages of education.

This study concluded that the level of critical thinking skills possessed by fourth-year students is average below the educationally acceptable level, and there are no statistically significant differences between males and females in the degree of their possession of these skills.

Accordingly, and in light of the findings, the researcher proposes the following:

-Reconsidering the content of the school curricula so that it includes, in addition to scientific knowledge, the situations that require studying them in a scientific way of thinking and asking questions and scientific experiments in an open way that helps to employ their mental processes. in access to knowledge.

Paying attention, in the stages of education, to deduction skills, evaluation of discussions and interpretation in particular, and the rest of thinking skills in general.

-Research methods to change teachers' attitudes towards the use of modern strategies that take care of the learner and make him the center of the educational process.

- Conducting more studies looking at the levels of critical thinking skills among the age groups at the beginning of the educational ladder.

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