

The Effect Of The Cox And Macialas Model On Developing Critical Thinking Among Fifth-Grade (Literary Division) Students In Arabic Language Subject

Raid Younis Ali Al Naimi¹, Dr. Saif Ismail Ibrahim Al-Taie²

¹Lecturer in Nineveh Education Directorate.

² Assistant Professor University of Mosul, College of Education for Human Sciences.,
dr.saif488@uomosul.edu.iq

Abstract

The research aims to identify the impact of the Cox and Macialas models in developing critical thinking among fifth-graders in Arabic.

To achieve the goal of the research, the researcher developed two null hypotheses, which are as follows:

- 1- There is no statistically significant difference between the average grades of the students of the experimental group who studied according to the Cox and Macialas model and the average grades of the students of the control group who studied according to the usual method in the post-test of critical thinking.
- 2- There is no statistically significant difference between the average difference in the pre and post-tests of the experimental group studied according to the Cox and Macialas models and the control group studied in the usual way of developing critical thinking.

The research sample was selected from the research community and consisted of fifth graders (literary division) in the city of Mosul from the academic year (2021-2022). The sample consisted of (61) students divided into two groups: experimental and officer. The sample was divided into 31 students for the experimental group who studied according to the Cox and Macialas model and (30) students for the control group who studied in the usual way.

The researcher used the experimental approach and conducted the process of balance between the members of the two research groups in a number of variables that included: chronological age calculated in months, grade of Arabic language subject for the previous year, academic achievement for the previous year (general average), IQ, and critical thinking test.

To achieve the goal of research, critical thinking testing was used as a research tool, and the test was valid and reliable. After preparing the teaching plans and the two tools, the experiment was applied in the first course of the academic year (2021-2022) on Thursday 11/11/2021, and it continued for a full course and ended on Tuesday (1/1 /2022). Critical thinking post-test was also applied on Wednesday (19/1/ 2022) on the two research groups. After statistically analysing the collected data, the researcher came up with a number of conclusions, recommendations and suggestions, including:

- 1- There is a statistically significant difference between the two groups in the achievement and in favor of the experimental group who studied according to the Cox and Macialas model with the highest arithmetic mean.

2. The educational models in general and the (Cox and Macialas) model in particular are highly effective in developing critical thinking and increasing the level of achievement of fifth-grade (literary division) students compared to the usual method. This is ascribed to critical thinking being an intellectual process and an integrated system with its foundations and principles.

Accordingly, the researcher recommends and suggests the following:

3-Teachers and instructors should pay attention to the development of thinking of all kinds for students in general and critical thinking in particular, as it is a mental activity that helps transfer the impact of learning into application and daily life.

Keywords: Effect, Model, Cox and Macialas, Development, Critical Thinking.

1. Research Problem:

The problem of teaching literature remains unresolved, and the teaching of literature still falls short of its tasks, we need today the diversity of teaching and the use of modern teaching models and teaching methods and methods of teaching, and in a way that reflects on educational outcomes. Traditional education was based on the preservation of information for the purpose of demonstrating it, as the weak application of modern teaching strategies, methods and models of education might allow the teacher to teach science, knowledge, facts and principles that needed some kind of good and sober preparation for the educational process.

The need to employ modern teaching strategies and models based on the development of students' basic thinking skills and literary texts, as well as to increase their achievement and understanding of literary texts, explain, analyze and summarize them. This has led to poor thinking among the learner due to the use of traditional methods, as balancing this huge amount of knowledge that is sweeping the world with the way it communicates to the learner in a soft manner requires a fundamental change in teaching methods that will develop the higher levels of thinking of the learner, including critical thinking:

What impact has the Cox and Macialas model had on the development of critical thinking among fifth-graders in Arabic language subject?

1.1 The importance of research

Today, the world is witnessing a rapid movement of development and progress in various fields of science, and this progress is accompanied by a tremendous and unnaturally accelerating cognitive achievement, and the individual has an urgent need to work hard to adapt to it, participate in life in a positive way and be able to adapt to the requirements of this age.

The (Cox and Macialas) model is one of the educational models that tend to emphasize the thinking about the nature of social life, and the trends and values it includes related to the individual and collective lives of students. (Al-Khawaldeh, 1993, p. 359). One of the most prominent of these models is the Cox and Macialas model, where the importance of this model is highlighted by enhancing students' enthusiasm for learning and giving them the opportunity to participate and learn from each other and providing immediate opportunities to address learning experiences and help students to improve their level of thinking and understanding of concepts (Al-Massoudi, 2017, p. 53).

The importance of critical thinking is that it helps to prepare a good citizen who can live with society. On the other hand, the ability to think critically helps learners think freely, and contributes to their departure from the constraints of ignorance and chaos, through evidence that confirms the extent of resentment of dictators or revolves around how to resist authoritarian

societies in order to improve the overall situation. The development of critical student thinking contributes to giving them a set of intellectual abilities that they can keep for a long time rather than losing them quickly, so that students can keep up with events and live with changes effectively. (Ibrahim, 2010, p. 320).

The importance of the research is reflected in the following:

1-Diversity in the use of strategies, methods and teaching models during the educational process where there is no strategy, method, or model like me in teaching, and that the model (Cox and Macialas) of modern educational models that can be applied and used in Arabic for the stages of study as structural teaching models.

2- The importance of critical thinking, as it develops students' ability to evaluate evidence and make decisions, and expands their ability to solve problems.

1.2 The purpose of the research

-The effect of the Cox and Macialas model on developing critical thinking for fifth grader (literary division) students in Arabic language subject.

1.3 Research hypotheses

1- There is no statistically significant difference between the average scores of the experimental group students who study according to the Cox and Macialas model and the average scores of the control group students who study according to the usual method in the critical thinking post-test.

2-There is no statistically significant difference between the average difference between the pre and post tests for the experimental group who studied according to the Cox and Macialas model and the control group that studied according to the usual method in developing critical thinking.

1.4 Limitations of the Research

1: Time limits: the first course of the academic year (2021-2022 AD).

2: Spatial limits: Secondary and middle schools affiliated to the General Directorate of Education in Nineveh Governorate (city center), morning study.

3: Human limits: fifth-grade (literary division) students in the city center of Mosul.

1.5 Defining the terms

1) The effect:

Al-Mousawi (2014) defined it as "It is the result that we obtain by comparing two tests after a certain period of time." (Al-Mousawi, 2014, p. 12)

Wolfolk (2015) defined is as "It is the amount of change that the teaching method makes, and it is the effect of learning a previous subject on learning a new subject." (Wolfolk, 2015, p. 719).

2) Cox and Macialas Model:

Mahmoud (2006) defined it as "Putting the learner in an exciting and suspicious educational situation for a specific phenomenon by using questions related to the problematic situation. The learner is motivated to use specific steps to solve the problem in a scientific way and through mental processes such as understanding, principles, ideas and decision-making." (Mahmoud, 2006, p. 118).

Marei and Al-Heela (2011) defined it as "A model that emphasizes the investigation that directs the discussion to generating hypotheses and collecting information not in the collective framework, but rather in the individual framework and within the framework of the nature of social life and its problems." (Marei and Al-Heela, 2011, p. 196).

1.5.1 Procedural definition of the Cox and Macialas model:

It is a set of procedural steps practiced by the researcher during the teaching process. These are controlling and directing the learning process, learning literature and texts, presenting them and treating them by following the steps of the Cox and Macialas

model in order that the fifth grade (literary division) students make an achievement in the Arabic language subject and develop their critical thinking.

3) Development:

Shehata and Al-Najjar (2008) defined it as raising the level of students' performance in different educational situations to keep pace with the changes and innovations taking place in them. (Shehata and Al-Najjar, 2008, p. 157).

Al-Ajmi (2010) defined it as “Developing and improving the student’s educational, social and psychological level in order to achieve the full growth of the student by unleashing the latent energies and employing them in order to be a useful and productive member capable of facing challenges and dealing with the changes of the times.” (Al-Ajmi, 2010, p. 217).

4) Critical thinking:

Ishtiwa (2011) defined it as “the ability to assess the truth and then reach decisions in light of evaluating information, examining available opinions and taking into account different points of view.” (Ishtiwa, 2011, p. 10).

Al-Khazaleh (2011) defined it “a complex concept that includes several directives that push the learner to accept and respect his/her own viewpoints.” (Al-Khazaleh, 2011, p. 261).

1.5.2 Definition of critical thinking:

This is the score difference in the pre- and post- test that the student obtains in his performance of the critical thinking test, which includes testing the individual's previous information in the light of the evidence that supports it. It includes five abilities: conclusions, assumptions, deduction, interpretation, and evaluation of arguments.

2. Theoretical background and previous studies:

2.1 Cox and Macialas Model:

Benjamin Cox and Baron Macialas are the main theorists of this model, and it was designed to focus on solving societal problems through academic inquiry and logical reasoning (Zaytoun, 2003, p. 245). This model is based on an investigation into the nature of social life, thinking about its problems, studying them, and proposing solutions to them. Therefore, the Cox and Macialas model came to emphasize the meanings and connotations that are attached to social life and the value and social pillars it requires to maintain society and its continuity. (Al-Khawaldeh, 1993, p. 359).

The objective of the investigation as a thinking process is to put the learner in an exciting and suspicious educational situation in a particular phenomenon by using questions related to the problem situation. The purpose here is to give the learner a motivation to adopt specific steps to solve the problem in a scientific manner and style. This includes mental processes such as understanding, principles, ideas and decision-making. Thinking means searching for meaning that requires the individual to perform certain mental operations. (Mahmoud, 2006, p. 118).

a) The Steps of the (Cox and Macialas) model:

The Cox and Macialas model came to emphasize the investigation that directs the discussion to generating hypotheses and collecting information. However, this is not in the collective framework, but rather in the individual framework and within the framework of the nature of social life and its problems. The steps of the model can be identified as follows:

- 1- The first step: presenting and clarifying a confusing situation.
- 2- The second step: formulating hypotheses to help in solving issues.
- 3- The third step: clarifying the definitions contained in the hypotheses.
- 4- The fourth step: examining or investigating hypotheses.
- 5- The fifth step: Drawing inference by collecting facts and evidence that support the hypothesis.
- 6- The sixth step: generalization. (Marei & Al-Heela, 2009, p. 196).

b) The procedural steps of the (Cox and Macialas) model:

The procedural steps for teaching the (Cox and Macialas) model can be determined according to the following:

- i. **Orientation procedure:** in this procedure, the teacher presents a confusing situation or issue, then works with the students to define it and raise a set of examples around it in order to feel and understand it in the social context.
- ii. **The hypothesis formulation procedure:** In this procedure, the teacher helps students to make logical assumptions to solve this issue, in which he/she identifies the premises, proposals, policies and proposed solutions, and their relationship to the elements of the situation or the problem presented for solution.
- iii. **Providing definitions:** In this procedure, the teacher tries to help students define terms, to form a common language to improve communication and understanding between students to solve the problem.
- iv. **Performing investigation and examination:** the teacher here helps students to examine hypotheses in terms of their logic, and the information collected about them, and to formulate concepts and facts after examining and testing them.
- v. **Inference procedure:** In this procedure, the teacher helps students to collect facts and evidence related to hypotheses and their conditions, and their related properties.
- vi. **Making generalizations:** In this procedure, the teacher helps the students to form generalizations and facts related to the problem solving project or the situation, in preparation for testing these generalizations by applying them in social reality. (Al-Khawaldeh, 1993, pp. 361-362).

2.2 Critical thinking:

The human mind is the most beautiful blessing of God (Glory be to Him) to man, and the function of the mind is to think. Many verses of the Holy Qur'an have urged thinking and leaving a wide scope for thinking about worldly matters in order to find solutions to life's problems. Thinking is the basis of civilization and cities and revealing the facts of the world of existence. (Al-Kubaisi, 2009, p. 9), (Saadeh, 2015, p. 77).

Thinking is a reflection of the relationships and links between phenomena or events in human consciousness, and these phenomena are not independent and isolated from each other. Rather, they are linked in a meaningful interwoven fabric. However, when a person thinks about those phenomena or events, it reflects the essence of these phenomena or events. Thinking is a symbolic activity that includes dealing with symbols and the ability to use them, and that the word thinking can be used for many meanings that may require a little direct attention or effort to the conscious, intentional act. (Al-Khaffaf, 2011, p. 237).

Critical thinking skills:

Critical thinking is one of the requirements for the ability to think creatively, as the researcher who seeks creativity employs it to compare the solutions that he reaches in order to choose the most suitable and most appropriate for the nature of the problem at hand. (Saeed, 2008, p. 245).

2.3 Critical Thinking Criteria:

- 1- **Clarity:** Critical thinking skills must be characterized by a high degree of clarity and comprehension.
- 2- **Validity:** statements used by the individual must be characterized by a high degree of validity and reliability through evidence, evidence and supporting figures.
- 3- **Accuracy:** this means that the subject is given its due treatment and effort, and expressed with a high degree of accuracy and specificity.
- 4- **Connectivity:** The elements of the problem or situation should be characterized by a high degree of

clarity of interdependence between the elements.

- 5- **Depth:** - That is: the intellectual treatment fits with the complexities of the problem and the complexity of the subject.
- 6- **Breadth:** All aspects of the problem or situation must be taken comprehensively and broadly.
- 7- **Logic:** Critical thinking must be logical by organizing and interconnecting ideas in a way that leads to clear and specific meanings. (Al-Hallaq & Tuaima, 2007, pp. 49-50).

2.4 Previous studies

- A previous study related to the Cox and Macialas model:

I - A study by Al-Ali (2020)

The study aimed to identify the ((model effect of Stepans, Cox and Macialas) on the achievement of fifth-grade (literary division) students in the subject of geography and the development of their natural intelligence)).

Study sample: The study sample consisted of (81) students, chosen by the researcher intentionally from the study community, distributed into three groups, with (27) students in each group. The researcher controlled the same using a number of variables: chronological age in months, intelligence test, and achievement Parents' academic grades, students' grades in geography for the fourth grade (Literary division) for the first and second course of the academic year (2017-2018), and the general average for students' grades for the fourth grade for the first and second course for the academic year (2017-2018). The first tool was an achievement test, and the second tool was a test of natural intelligence. The researcher used the following statistical methods in his study: (one-way analysis of variance, Scheffe test, difficulty equation for achievement test, discriminatory power equation for achievement test and natural intelligence test, equation for the effectiveness of wrong alternatives, alpha-Cronbach equation, and

chi square. The Statistical analysis showed the following results:

There is a statistically significant difference at the level of significance (0.05) between the average scores of the students in the first experimental group who studied using the Stepans model, the second experimental group who studied using the (Cox and Macialas) model, and the students in the control group who study using the usual method of study achievement and in favour of the two experimental groups (Al-Ali, 2020).

A previous study related to critical thinking:

I - A study by Kadhim (2008).

The study aimed to identify the effect of using the selective and Fryer models on the acquisition of Islamic concepts and the development of their critical thinking among fourth-grade female students in Islamic education. The sample consisted of (82) fourth-grade students at Cairo Secondary School for Girls affiliated to the General Directorate of Education in Baghdad / Al-Rusafa First. They were equally divided into three groups, two of them were taken as experimental. The first included (26) female students who studied the material using the selection model, and the second experimental group included (28) female students who studied the material using the Fryer model. The third group was taken as a control group that included (28) female students who studied the material in the usual way.

To achieve the goal of the research, the researcher prepared two tools, the first being the concept acquisition test, which consisted of (60) answer-specific objective and essay items. The second critical thinking test included five areas (induction, assumptions, deduction, interpretation and evaluation of arguments), and it consisted of (75) items. The researcher applied it before starting the experiment. After implementing the teaching of the specific subject, she re-applied the same test, then collected the data and processed it statistically. By applying the one-way

analysis of variance test, the following results were obtained:

There is a statistically significant difference between the average scores of the first experimental group that studied according to (selection model) and the scores of the control group, who studied in the usual way. These differences were in the test of acquiring Islamic concepts and critical thinking, in favor of the first experimental. (Kadhim, 2008).

As for the current research, a test will be prepared: Critical thinking

The following can be benefited from the previous studies:

- 1- The problem of the current research and finding the appropriate solutions.
- 2- Enhancing the importance of the current research in the field of education.
- 3- The researcher's knowledge of preparing the teaching plans for the research.
- 4- The statistical means deemed appropriate for the research.

3. Research Methodology and Procedures:

3.1 Research Methodology:

The current research aims to identify (the effect of the Cox and Macialas model on the achievement of fifth-grade (literary division) students in Arabic language subject and the development of their critical thinking). In this study, the researcher has followed the experimental approach to achieve the goal of research. The experimental method is one of the most efficient and successful approaches to test the validity of the assumptions and determine the relationships between variables, in which the parameters of the scientific way of thinking are clearly evident. It includes a system that combines evidence in a way that allows the testing of assumptions and control of various factors that can affect the topics to be studied. (Ibrahim, 2000, p. 109).

3.2: Experimental Design:

The researcher adopted the experimental design with two equal groups, with a pre-test and a post-test, as it fits with the conditions of the current research, which depends on two groups. One of them is experimental and is taught according to the Cox and Macialas model, and the second is a control group, which is taught according to the traditional method.

3.3: The research community:

The research community was determined as all students of the fifth grade (Literary division) in the middle and secondary morning schools in the city of Mosul, the left side for the academic year (2021_2022). The community totalled (1001) students in the middle and secondary schools for the left side in the city of Mosul, which consisted of (56) schools. This was under the permission of a letter of facilitating the task issued by the General Directorate of Nineveh Education No. (11/11/935) issued on (10/31/2021).

3.4: The research sample:

The researcher intentionally chose (Nile Preparatory School for Boys), from the fifth grade (Literary division) students, and it is one of the schools affiliated to the General Directorate of Nineveh Education to apply the experiment. After the researcher determined the school in which the experiment will be applied, the researcher randomly chose section (B) to represent the experimental group that will be studied according to the Cox and Macialas model, and section (C) to represent the control group that will be taught in the usual way in the Nile School for Boys.

It should be noted that the number of students in the two research groups amounted to (67) students, with (35) students in the experimental group and (32) students in the control group. The researcher excluded (4) students from the experimental group, and two students from the control group for practical reasons.

3.5: Equivalence of the two research groups:

One of the conditions for the success of the experimental research that the members of the two research groups are equivalent.

Table (1): The results of the t-test for the members of the two research groups for all the variables

Groups	Sample volume	Calculated t value	standard deviation	SMA	Variable type	T-Tabular Value	Statistical function
Experimental	31	0.364	14.586	214.35	Chronological age	1.99	Not statistically significant at the significance level (0.05) and the degree of freedom (59).
Control	30		13,682	213.03			
Experimental	31	0.782	10.47	60.29	Arabic		
Control	30		8.6	58.36			
Experimental	31	0.446	32.19	37.41	intelligence quotient		
Control	30		33.36	41.16			
Experimental	31	0.677	9.485	62.87	General Average		
Control	30		8.172	61.33			
Experimental	31	0.005	10,308	52.54	Critical thinking		
Control	30		9.54	52.53			

It is clear from the table above that all calculated T values are smaller than the T-table values at the indication level (0.05) and the degree of freedom (59), which means that there is no statistically difference between the average groups in all variables, so that the two groups are equal in all variables.

3.6 Research tool:

3.6.1 Critical thinking test:

The process of measuring critical thinking requires the existence of a tool, and this tool is the test. Therefore, the researcher combed the literature and previous studies in this field, and found a test in critical thinking prepared by one of the researchers (Khazraji, 2004), and relied on it. This test was deemed a good test from the point of view of the researcher with the research community in which the test was applied is similar to that of the current research community (preparatory stage). It was confirmed as valid and reliable test in 2011) by one of the researchers (Al-Jubouri, 2013, pp. 120). The test is designed in the light of the Watson-Glaser test, for critical thinking, which consists of five sub-tests, namely (Assessment of inferences,

Recognition of assumptions, Deduction, Interpretation, and Evaluation). These are designed to measure different abilities related to the overall concept of critical thinking, and each test consists of five positions, and each position has three items, allocated one mark per item of the test, so the upper score (90) and the minimum score is (zero).

- Validity of the test (critical thinking test)

Since the validity of the test is an indication of the possibility of inferring its grades and making decisions accurately, it has been validated. The researcher determined the availability of this feature in the critical thinking test and as follows:

- Face validity

That is why the researcher presented the test items to a group of experts in Arabic language, educational and psychological sciences to express their opinions and observations regarding its validity and the soundness of its formulation. In light of it, the wording of some items and alternatives was amended. It obtained the approval of

the experts with an agreement rate of more than 80%, the test was considered valid.

- Critical thinking test instructions:

- A- Read the instructions for each of the five test positions, as well as the illustration of the test method.
- B- Do not put any reference on the papers of this test, and the answer shall be on the attached answer sheet, and if you wish to change your answer, you should only erase the previous answer completely.
- C- Do not turn this page before you are asked to do so.

3.6.2 The exploratory application of the critical thinking test:

The researcher applied the test to a sample consisting of (110) students of the fifth grade (Literary division) in Al-Majd preparatory school for boys. The purpose of this is to identify the status of the instructions and the time of answer and reveal the weaknesses in it in terms of drafting and ease of absorption and possibilities of answering without confusion. The sample was divided into three sections who were tested on Wednesday corresponding (3/11 / 2021). It was found through the application that the instructions were clear and then through it the expiry time of the first student's answer was recorded by (20) minutes, and the end time of the answer of the last student with (42) minutes. Thus, the duration of the answer is (31) minutes.

3.6.3 Statistical analysis of the critical thinking test items

After correcting the responses of the exploratory sample of (110) students outside the main research sample, the researcher arranged their scores in descending order and divided them into two distinct categories: upper and lower, with a total of (30) students in each category in order to calculate the level of discrimination of the items and the effectiveness of their erroneous alternatives and as follows:

3.6.4 Discriminative force of items

The researcher extracted the discriminative force of the test items, and adopted a ratio of (0.20) or more as a criterion for accepting the discriminative force of the test items, and all of them were located between (0.27 - 0.63). See Appendix (9-10). The most measured and evaluating literature indicated that the degree of discrimination was acceptable from (0.20) onwards.

3.6.5 Test Reliability

The researcher used the split-half method of the test items into two groups: the odd and even numbered groups. Pearson's correlation coefficient was then calculated in the test reliability calculation. This was (0.82). It was then corrected by the Spearman Brown equation at 0.90, which is a good percentage, so the test is ready for application as finalized with a total of 75 test items.

3.6.6 Application of the research tool:

After executing and completing the experiment on Tuesday (1/18/2022), the critical thinking test was applied on Wednesday (19/1/2022) on the members of the experimental and control groups at the same time.

3.6.7 Statistical tools:

The researcher used the program (SPSS) in the application of statistical equations, as well as the following statistical means in analyzing the results:

1) T-test for two independent samples.

It was used in conducting the equivalence processes between the two groups (experimental and control) and the final scores of the critical thinking test.

2) Pearson's correlation coefficient.

It was used in the internal consistency to find the stability of the critical thinking test.

3) Item discriminative equation:

It was used to extract the discriminative coefficients for the critical thinking test items.

4) Equation of the effectiveness of alternatives (camouflaging):

It was used to find the effectiveness of alternatives to the critical thinking test items.

5) Alpha-Cronbach equation

It was used to extract stability by the second method of the critical thinking tool.

6) The Spearman-Brown equation

It was used to correct the correlation coefficient between the two halves of the critical thinking test.

4. Presentation and interpretation of results:

4.1 The results related to the first null hypothesis

It states: "There is no statistically significant difference between the average scores of the students of the experimental group who are taught according to the Cox and Macialas model and the average scores of the students of the control group who studied according to the usual method in the critical thinking post-test.

To verify this hypothesis, the data of the critical thinking post-test were processed for the two research groups and treated statistically using the t-test (SPSS) for two independent samples. The results were as included in Table 2 below:

Table (2): The results of the t-test for the critical thinking post-test scores between the two research groups

The group	(t-test) calculated	Degree of freedom	Standard deviation	Sma	The number	T Tabular
Experimental	1.563	59	11,045	60.74	31	1.99
Control			9.002	56.7	30	

By noting Table (2) above, we find that the calculated t-value of (1.563) is smaller than the tabulated t-value (1.99) at the significance level (0.05) and the degree of freedom (59). Thus, the second main null hypothesis is accepted and the alternative hypothesis is rejected. This means that there is no statistically significant difference between the two groups in the critical thinking test between the experimental group who studied according to the Cox and Macialas model and the experimental group.

The researcher attributes this result to the fact that:

- 1- Adopting the Cox and Macialas model when teaching literature and texts increased students' participation in the educational process, and gave them the freedom to express their opinions without hesitation or fear. This corresponds to the opinion that we let the student speak in a reasonable sense of freedom, and encourage him/her to send, to inspire him/her confidence and

ability. If he/she succeeds once or feels successful he/she returns to speak again and again. The more the situation repeats, the better.

- 2- The practice of the Cox and Macialas model in the class has opened up wider areas for the stabilization of correct language habits, and their successful use in normal vital situations. This corroborates the literature of teaching methods in that the use of modern methods of teaching participates in the consolidation of information in the minds of students and increases their desire to seek knowledge.

4.2 The results related to the second null hypothesis

It states: "There is no statistically significant difference between the average scores of the students of the experimental group who are taught according to Cox and Macialas model and the average scores of the students of the control group who studied according to the usual method in developing critical thinking.

To verify this hypothesis, critical thinking test data for pre and post research groups were processed, (development) and statistically treated using the t-test SPSS. The results were as included in Table (3) below:

Table (3): The results of the T-test for the degrees of developing critical thinking between the two research groups

The group	(t-test) calculated	Degree of freedom	Standard deviation	Sma	The number	T Tabular
Experimental	1.563	59	5.491	8.19	31	1.99
Control			3.263	4.2		
			5.491	8.19	30	

From Table (3) above, the calculated T value of (3,438) is greater than the tabular T value (1.99) at the indication level (0.05) and the degree of freedom (59). Thus, the third null hypothesis is rejected and its alternative hypothesis is accepted. This means that there is a statistically significant difference between the two groups in the development of critical thinking and in favor of the experimental group with the highest arithmetic average studied according to the Cox and Macialas model.

The researcher attributes this result to the fact that

1. The effectiveness of the steps of the Cox and Macialas model in developing critical thinking because of its advantages and benefits as it generates

excitement and follow-up and draws attention. It gives students autonomy at work and increases their self-confidence and sense of responsibility and this is due to self-reliance in understanding and the ability to think, measure and conclude.

2. The method of the Cox and Macialas model helped students to accept the subject as a whole and continue to actively push the lesson to an end. Freedom is a measure of the student's connection to life and includes training in independence, satisfaction of his/her personal inclinations and acquisition of important mental habits such as: span of attention, accuracy of observation, analysis, inference and research, verification of mature opinions and

correct ideas. The student is able to distinguish between basic information and marginality, so he/she is able to make decisions and judgments that suit him/her, which led to developing critical thinking.

5. Conclusions

1-The educational models in general, and the (Cox and Macialas) model in particular, are highly effective in developing critical thinking among fifth-grade students (literary division) compared to the usual method, since critical thinking is an intellectual process and an integrated system with its foundations and principles.

2-The use of the (Cox and Macialas) model in the teaching process helped to increase the students' desire for the literature and texts through the observations collected by the researcher in the study sample.

5.1 Recommendations:

1. The use of the (Cox and Macialas) model in teaching literature and texts in the fifth grade (literary division) by the Ministry of Education. This is because it is commensurate with the content of the scientific material included in the curriculum decided by the Ministry of Education.
2. Teachers should pay attention to the development of thinking of all kinds for students in general and critical thinking in particular, as it is a mental activity that helps transfer the impact of learning into application and daily life.

5.2 Suggestions:

1. The effect of the (Cox and Macialas) model on the development of complex thinking among undergraduate students in the Arabic language subject.
2. The effect of the Cox and Macialas model and the Adelson model on the acquisition of grammatical concepts by second-grade intermediary students and the development of their logical thinking.

References

1. Al-Ajmi, M. H. (2010). Modern trends in leadership and human development (2nd Ed.). Irbid: Dar Al-Maysara for Publishing and Distribution.
2. Al-Ali, S. M. (2020). The Effect of Typical Steps and (Cox and Macialas) on Fifth Grade Literary Students' Achievement in Geography and the Development of their Natural Intelligence. (Unpublished Master's Thesis), College of Education, Tikrit University.
3. Al-Hallaq, A. S. & Tuaima, R. A. (2007). Language And Critical Thinking (1st Ed.). Amman: Dar Al Sayeda for Publishing and Distribution.
4. Al-Jubouri, I. J. & Al-Sultani, H. H. (2013). Curricula and methods of teaching Arabic (1st Ed.). Amman: Dar Radwan for Publishing and Distribution.
5. Al-Khawaldeh, M. M. (1993). General Teaching Methods (1st Ed.). Yemen: Textbook Printing Press.
6. Al-Khazraji, T. A. (2004). The impact of the type of questions and their levels in achievement and the development of critical thinking in the subject of literature and texts in middle school students (unpublished Doctoral thesis) Faculty of Education Ibn Rushd, University of Baghdad.
7. Al-Kubaisi, A. H. (2009). Modern technologies and their uses in learning, teaching and serving the Qur'an. Amman: Arab Society Library for Publishing and Distribution.
8. Al-Khaffaf, A. (2011). Multiple Intelligence (1st Ed.). Amman: Dar Al-Mahraj for Publishing and Distribution.
9. Al-Khazaleh, M. S. (2011). Effective Teaching Methods (1st Ed.). Amman; Dar Safaa for Publishing and Distribution.
10. Al-Massoudi, M. H. (2017). Modern Models in Curriculum, Teaching and Evaluation. Babylon: Library of the

- College of Education, University of Babylon.
11. Al-Mousawi, M. T. (2014). The effect of two strategies of cooperative learning on the scientific and theoretical performance of students in the Department of Physics (unpublished master's thesis). College of Education, University of Baghdad, Iraq.
 12. Kadhim, R. A. (2009). The effect of teaching by motivating classroom activities on the acquisition of literature and texts for fifth-grade literary students. (unpublished master's thesis), College of Education (Ibn Rushd), University of Baghdad.
 13. Ibrahim, M. A. (2000). The foundations of scientific research for the preparation of university theses (1st Ed.). Amman: Al-Warraq for Publishing and Distribution.
 14. Ibrahim, F. K. (2010). Introduction to general teaching methods. Mosul: Ibn Al-Atheer House for Printing and Publishing.
 15. Ishtiwa, F. F. (2011). Curricula and Methods of Teaching Islamic Education, (1st Ed.). Amman: Dar Safaa for Publishing and Distribution.
 16. Mahmoud, S. (2006). Thinking Without Borders: A Contemporary Educational Vision in Teaching and Learning Thinking (1st Ed.). Cairo: World of Books.
 17. Marei, T. A. & Al-Heela, A. M. (2009). General teaching methods (4th Ed). Amman: Dar Al Masirah for Publishing, Distribution and Printing.
 18. Marei, T. A. & Al-Heela, A. M. (2011). General teaching methods (5th Ed). Amman: Dar Al Masirah for Publishing, Distribution and Printing.
 19. Saadeh, G. A. (2015). Teaching Thinking Skills (1st Ed.). Amman: Al-Shorouk Publishing and distribution.
 20. Saeed, S. J. (2008). Educational Psychology (1st Ed.). Amman: Jadara for International Book for Publishing and Distribution.
 21. Shehata, Z. & Al-Najjar, H. (2008). The reference in educational and psychological research curricula (1st Ed.). Cairo: Al-Dar Al-Arabiya Book Library.
 22. Wolfolk, A. (2015). Educational Psychology, translated by Salah Al-Din Mahmoud Allam (1st Ed.). Amman: Dar Al-Fikr Publishers and Distributors.
 23. Zaytoun, H. H. (2003). Teaching Strategies A contemporary vision of learning and teaching methods (1st Ed.). Cairo: Dar Alam Al-Kutub.