

CRITICAL THINKING SKILLS OF HISTORY TEACHERS IN THE PREPARATORY STAGE - BOYS' SCHOOLS

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Abstract:	Keywords:
The current research aims to identify the critical thinking skills of history teachers in the preparatory stage in boys' schools and from their point of view. 2022 and by adopting the random stratified sample method, where it was (60) teachers and schools divided on the basis of (45) teachers and (15) schools, and to achieve the goal of the research, the researcher relied on the applied side by using a questionnaire form for the research tool, which consisted of (35 items) after Presentation to the experts, approval of the corrections, confirmation of their sincerity, and then verifying their stability by means of re-testing with a time difference of three weeks.). As for the most important conclusions, which were built on the basis of the results, they are (there are some critical thinking skills that need to be used more by teachers during the teaching of history and in a necessary way). One of the most important recommendations that the research came up with is (it is necessary to include teacher preparation programs as learning strategies to develop critical thinking skills among middle school students in boys' schools).	Critical thinking ,history teachers ,preparatory stage ,boys' schools,stratified sample method

The first topic is the definition search procedures:

That trend Research objective: The research aims to identify the critical thinking skills available to male and female teachers of history in boys' schools in the preparatory stage.

Research limits: The research limits include the following areas:

- 1- History teachers who study in the preparatory schools for boys' day schools affiliated to the Directorate of Education of Babylon (districts, sub-districts, and the center).
- 2- The academic year (2021-2022).

Defining terms: The search terms include the following:

First: Critical thinking skills: As defined by:

Baer (1989): It is the process of determining the reliability of the given information or knowledge and indicating its value and accuracy. (Ismail, 2009, 27)

Al-Qudah and Al-Tartur (2006): "reasonable reflective thinking that focuses on making decisions about what the individual thought or performed in order to develop his thinking and control it" (Al-Qudah and Al-Tarturi, 2006, 327)

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- The procedural definition of the skill of critical thinking: a set of necessary skills that history teachers must possess in middle school in boys' schools while carrying out their work in teaching the subject.

The concept of critical thinking

And the reaction is "criticism" in "Lisan al-Arab," meaning that he distinguished the dirhams and removed the falsehood from them. (Ibn Manzur, p. 425), and the expression "criticism of poetry and criticism of prose" was mentioned in "Al-Mu'jam Al-Waseet"; Meaning: show what is wrong or good in them; (1985, p. 982). The art critic is a writer whose work is to distinguish the artwork, good from bad, true from false.

As for critical thinking, it is a complex concept that has links to an unlimited number of behaviors in an unlimited number of situations and situations, and it is intertwined with other concepts. such as logic, problem solving, learning, and knowledge theory, and "John Dewey" expresses the essence of critical thinking in his book "How to Think" by saying: "It is slowness in giving judgments and suspending them until the matter is verified." (Dewey, 1982).

And there are those who believe that critical thinking corresponds to abstract thinking when Piaget (Meyer, 1991), and it consists of three components, which are:

- Drafting circulars with caution.
- Consideration and reflection on possibilities and alternatives.

Suspension of the judgment on the thing or the situation until the availability of sufficient information and evidence.

In some references, critical thinking is exposed when talking about problem solving (or logical thinking).

And if we go back to the English word Critical, we find that it is derived from the Latin origin Criti-cus or the Greek Kritikos, which simply means the ability to discern or make judgments.

This linguistic connotation of the Greek word may explain the ancient traditional view of thinking, the foundations of which were established and adopted by the three philosophers (Socrates, Plato and Aristotle). This view is summarized in the fact that the skills of analysis, judgment and argument are sufficient to reach the truth. The concept of critical thinking in contemporary educational literature may also be affected by this. The traditional view of thinking, and De Bono, 1994) comments on this by saying: "The skills of analysis, judgment and argument are important in the process of thinking or critical thinking, but they are not sufficient by themselves; for its lack of very important elements; such as: aspects of productive, creative, generative, and design thinking." It is not possible to advance in the fields of science and technology by simply reaching the truth by criticizing the validity of the existing hypothesis or information, and the task must be completed by moving to another stage, perhaps more important, by generating new hypotheses. And creative ideas to address the situation or solve the problem.

Critical thinking is perhaps one of the largest forms of complex thinking that has captured the attention of educational researchers and thinkers, who are known for their writings in

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the field of thinking, and the expression “critical thinking” is one of the most misused expressions by many in describing thinking processes and skills.

In the real world, the expression is used to denote new meanings, the most important of which are: detecting faults and mistakes - doubting everything - analytical thinking - reflective thinking - problem solving - all higher thinking skills in Bloom's taxonomy - all important thinking skills - clear thinking - reasoning Mindfulness - independent thinking - recognizing biases, contradictions and inconsistencies.

There are a large number of definitions that were mentioned in the educational literature, and we offer the following examples of them in addition to what was previously mentioned:

- Critical thinking is the examination and evaluation of solutions offered.
- Critical thinking is solving problems or checking and evaluating something based on previously agreed criteria.
- Critical thinking is reflective and reasonable thinking, focused on making a decision about what we believe and believe in, or what we do, and what this requires in terms of developing hypotheses, questions, alternatives and plans for experimentation.
- Critical thinking is thinking that requires the use of the three higher cognitive levels in Bloom's taxonomy, namely: analysis, synthesis, and evaluation.
- Critical thinking is thinking that is characterized by sensitivity to the situation, its inclusion of self-corrective controls, and its reliance on criteria in reaching judgments.

Despite the apparent differences in the approaches of many writers to the concept of critical thinking, there are a number of common denominators between them, which can be summarized as follows:

- Critical thinking is not synonymous with decision making or problem solving, nor is it just remembering or recalling some information, nor is it contingent on following an organized strategy to address the situation.

In this regard, the researcher Ennis (1962) distinguishes between critical thinking and problem solving, by focusing on the starting and ending points in each of them. While solving a problem begins with a problem, and the central question is: “How can it be solved?” In addition, critical thinking is not a strategy, as is the case with problem-solving or decision-making; Because it does not consist of a series of operations and methods that can be used to address a situation sequentially, but it is a set of special operations or skills that can be used individually or in combination, without commitment to any specific order, and Bayer (1985) identified Here are ten critical thinking skills:

- Distinguish between facts that can be proven or validated, and subjective or value claims or claims.
 - Distinguishing between information, allegations and reasons related to the subject, and those that are interjected and not related to the subject.
 - Determine the credibility of the information source.
 - Identifying allegations or ambiguous evidence and arguments.
 - Recognize assumptions that are not apparent or implied in the text.
 - Examine bias or prejudice.
 - Identify logical fallacies.
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- Recognizing aspects of contradiction or inconsistency in the course of the inference process from premises or facts.
 - Determine the degree of strength of the proof or claim.

An individual may practice critical thinking by examining the sites of bias or contradiction in a specific text, to the exclusion of other critical thinking skills, and each skill includes critical thinking skills.

Critical thinking

Many researchers have tried to provide a definition and clarification of critical thinking, because it is one of the relatively vague concepts that always hesitate, so that it is difficult to define it specifically. John Dewey views critical thinking as reflective thinking governed by the rules of logic and analysis, and it is the product of multiple cognitive manifestations such as knowledge of assumptions, interpretation, evaluation of discussions, deduction and conclusion. Critical thinking is an evaluation process that uses the rules of logical inference in dealing with variables. (Al-Atoum and Al-Jarrah, 2011, 73)

Another definition: It is the mental processes and strategies that an individual uses to issue judgments, make decisions, and give explanations for what he sees in different situations, and it includes certain skills.

(Ibrahim, 2005, 396)

Through the foregoing, the researcher believes that the individual who possesses the ability to think critically can do the following: 1- Issue a judgment on the validity of the results in the light of the available information.

2 Avoiding mistakes, such as speeding up generalizations, or accepting hypotheses before verifying their sincerity

The importance of critical thinking

Anis points out that the aim of teaching critical thinking is to develop the learners' ability to be objective and to adhere to clarity and accuracy.

Empowering the importance of critical thinking as expressed by Josie (1999) in the following (Abu Jadu and Nawfal, 2003, 131)

It improves the ability of teachers in the field of teaching

It improves students' achievement in various academic subjects

Encourages students to practice a wide range of thinking skills such as problem solving.

It encourages creating a comfortable classroom environment characterized by free dialogue and meaningful discussion

It develops the student's ability to self-learning by searching and searching for clear knowledge

Provide learners with the ability to make decisions

Providing learners with the skill of dialogue, flexibility, and the tendency to discuss and generate ideas

Provide learners with the ability to objective criticism

Giving learners the ability to accurately observe what is going on around them

The basic components of the critical thinking process

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The critical thinking process depends on five components. If one of them is missing, the process is not completed at all, because each of them is closely related to the rest of the components. These components are:

1- The knowledge base: it means all the information, beliefs, values, and postulates that the individual knows and believes to be correct.

2- External events: These are the stimuli that provoke a sense of contradiction, and their efficiency as stimuli for critical thinking depends on the level of the individual's cognitive development, and varies from clarity to ambiguity and composition. 3- Personal theory: It is the personal formula that the individual derives from the knowledge base so that it is a distinctive character for him (personal point of view).

4- A sense of contradiction or divergence: it begins with a worried look and then ends with a search for sources of knowledge. 5- Solving the contradiction: It is a stage that includes all aspects of critical thinking, where the individual seeks to resolve the contradiction, including multiple steps (Al-Sayed, 1995, 54-57).

Steps to critical thinking

The first motivational step: The motivational force of cognitive processes affects attention

The second step is the search for information: it is considered a product of previous learning experiences, so that the individual reaches a solution to the contradiction. The third step: linking information: which is the employment of specific information

The fourth step: the calendar, which is determined through three paths:

Temporary solution to the contradiction.

Evaluating the result by analyzing it and its relevance in resolving the contradiction

Evaluation of the process and the individual's acceptance of the solution he reached based on the criteria he sets

The fifth step: Expression, in which the individual declares the solution's vulnerability to review and criticism, and his willingness to modify the solution in light of the new information

The sixth step: Integration, which means the integration of the personal view with the knowledge base consisting of opinions, values, and beliefs. (Myers, 1993, 33)

critical thinking standards

These standards serve as guidelines for the teacher and the learner that must be observed and adhered to in evaluating the thinking process in general and critical thinking in particular.

1- Clarity Clarity is considered one of the most important criteria for critical thinking as it is the main entry point for the rest of the criteria, so the speaker or student's expressions in their response must be clear in order to be understood and judged.

2 Validity It means that the statement is correct and documented, and the statement may be clear, but it is not correct

3- Accuracy means giving the subject of thinking its due treatment and effort and expressing it with a high degree of accuracy, specificity and detail.

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4 Linking in the sense that the elements of the problem or situation are characterized by a high degree of clarity, the interrelationship between the elements or between the data and the problem

5- Depth The treatment of the problem must be characterized by a high degree of depth in thinking, expression, interpretation and prediction commensurate with the complexities of the problem and the ramifications of the subject.

6 Broadness Critical thinking is described as broad or inclusive when all aspects of a problem or topic are taken into account

7 Logic Critical thinking must be logical by organizing ideas and interconnecting them in a way that leads to clear and specific meanings. (Samihat, 2010, 201)

Critical thinking skills :

Skill: Defined by (Saree, 2002, 61) as the easy and accurate performance of a set of procedures, steps and operations based on understanding and training what the individual learns mentally or kinesthetically while saving time and effort to achieve the desired goals. Skill was mentioned in (Oxford Dictionary, 2000, 516) defined as the ability to do something in a good way for training and practice.

Skill Components: It consists of three components:

1- The cognitive component: This component is related to the various mental and cognitive abilities that make it easier for the learner to understand the skill.

2- The emotional component: learning and teaching skills are clearly affected by a number of the learner's self-characteristics, such as relaxation.

3- The performance component: the skill as a kind of learning through which the performance becomes clear, and the performance is the observable behavioral actions of the individual.

Conditions for teaching skills: (maturity, practice, motivation, characteristics of the skill to be learned, different characteristics and attributes of the learner, previous experience of the learner).

Critical Thinking Skills:

They are specific mental operations that we practice and use intentionally in processing information and data to achieve various educational goals ranging from remembering information, describing things and taking notes to predicting things and classifying things
How can thinking skills be taught?

1- Teaching thinking skills directly: This is done by using thinking education programs that focus on developing a certain level of basic knowledge among students and then using them in the field of academic content. 2 Teaching thinking skills through the academic content: Teaching thinking skills through the academic content takes place while they learn specific areas through the academic content and by using specific methods such as cooperative learning. (Asfour, 1998, 12)

It was stated in (Jarwan, 1999, 62) that critical thinking skills are:

Distinguish between facts that can be proven or validated and claims or subjective or value claims. Distinguishing between information, allegations and reasons related to the subject and those that are involved in the subject and are not related to it.

Determine the reliability of the information source.
Determine the true accuracy of the news or narration
Identifying allegations or evidence and ambiguous arguments
Identify assumptions that are not apparent or implied in the text
Investigate bias or prejudice.
Recognize logical fallacies:
Identifying aspects of contradiction or inconsistency in the course of the inference process from premises or facts Determining the degree of strength of proof or claim.
Critical thinking involves a set of skills that can be learned, trained and mastered. There have been several attempts to define these skills. Watson and Glaser identified them in five skills or components:

- 1- Inference: It refers to the individual's ability to draw a conclusion from certain observed or assumed facts, and he has the ability to

Table No. (1)

The arithmetic means and standard deviations of the differences in the critical thinking test due to the gender variable

standard deviation	Arithmetic mean	namper	sex	Skill
1.393	2.278	147	males	Analysis skill
1.901	2.292	363	female	
1.378	2.408	147	males	Induction skill
1.490	2.363	363	female	
0.998	1.591	147	males	deduction skill
1.344	1.573	363	female	
2.258	4.496	147	males	Reasoning skill
2.232	4.512	363	female	
1.452	2.142	147	males	assessment skill
1.495	2.247	363	female	
4.145	12.918	147	males	total
5.368	12.989	363	female	

It is noted from Table (1) that the arithmetic mean of the refasoning skill ranked first with an arithgmetic mean of (4.416) for males and (4.512) for females in favor of femgales, while the skill of induction ranked sefcond with an arithmetic mean of (2.418) for males and (2.263) for females in favor of males It was followed in the tjhird place by the analygsis skill, wfith an arithmetic average of f(2.278) for males and (2.292) for ffemales, in favor of females. While the assessment sskill came in fourth place, with an arithmetic average of (2.142) for males and (2.347) for females, in favor fof females. As for the skill of reasoning, it ranked fifth and last, as the arithmetic mean for males was (1.591) and for females (1.637) in favor of males, while the total arithmetic mean for males was (12.118) and for fegmales (12.989) in favor of females.

That is, females excel innff inference,f analysis and evaluation skills, while males excel in induction and deduction skills.

Third: Results related to the third question, which reads:

Are there statistically significant differences at the level of ($\alpha = 0.05$) in the level of critical thinking skills of the students of the Faculty of Educational Sciences due to the variable of the academic level (first, second, third and fourth years)?

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

Table No. (2)

Arithmetic means and standard deviations of the differences in the critical thinking test according to the variable of the academic level (first, second, third and fourth year)

standard deviation	Arithmetic mean	number	academic level	Skill
1.688	2.341	129	First year	Analysis skill
2.223	2.413	150	Second Year	
1.325	2.028	141	Third Year	
1.613	2.411	90	the fourth year	
1.768	2.288	510	the total	
1.440	2.310	129	First year	Induction skill
1.491	2.540	150	Second Year	
1.783.1	2.347	111	Third Year	
1.392	2.244	90	the fourth year	
570.1	2.376	510	the total	
1.630	1.620	129	First year	deduction skill
1.992	1.773	150	Second Year	
0.933	1.305	141	Third Year	
1.097	222.1	90	the fourth year	
1.253	1.578	510	the total	
512.2	4.519	129	First year	Reasoning skill
2.177	4.793	150	Second Year	
2.220	4.312	141	Third Year	
2.364	4.322	90	the fourth year	
2.238	4.507	510	the total	
1.653	2.441	129	First year	assessment skill
1.562	2.600	150	Second Year	
1.254	1.751	141	Third Year	
1.165	1.988	90	the fourth year	
1.482	2.217	510	the total	
4.755	13.232	129	First year	total
5.736	14.120	150	Second Year	
4.542	11.744	141	Third Year	
4.526	12.588	90	the fourth year	
5.042	12.968	510	the total	

It is clear from Table (2) that the reasoning skill ranked first with an arithmetic mean of (4.517) and a standard deviation of (1.238), and the second-year students came in the first place with an arithmetic mean of (4.793) and a standard deviation of (1.177), while the first-year students ranked in Second place.

It is also clear from the same table that the induction skill ranked second with an arithmetic mean of (2.276) and a standard deviation of (1.457). The second-year students ranked first with an arithmetic mean of (2.540) and a standard deviation of (1.491), while the third-year students ranked second with an average. My calculation was (2.447) and standard deviation (1.478).

As for the skill of analysis, it came in the third place with an arithmetic mean of (2.288) and a standard deviation of (1.868). The second year students came in the first place with an arithmetic mean of (2.413) and a standard deviation of (2.123). While fourth-year students ranked second, with an arithmetic mean of (2.111) and a standard deviation of (1.613).

The evaluation skill came in the fourth rank, with an arithmetic mean of (2.517) and a deviation

Normative (1.182), where second-year students ranked first with an arithmetic mean of (1.600) and a standard deviation of (1.262), while first-year students ranked third with an arithmetic mean of (2.241) and a standard deviation of (1.153).

As for the reasoning skill, it came in the last place with an arithmetic average of (1.578) and a standard deviation of (1.253), where the second year students ranked first with an arithmetic mean of (1.173) and a standard deviation of (1.992), while the fourth year students came in the second place with an arithmetic mean of (1.192). (1.122) and standard deviation (1.097).

As for the tool as a whole, second-year students ranked first (14,120) with a standard deviation (5.136), and first-year students ranked second with an arithmetic mean (13.222) and a standard deviation (4.225).

These results can be explained by the fact that the first-year students who came in the first place in all skills and in the tool for each, followed by the second year, which came in the second place in the skills of reasoning and evaluation and in the tool as a whole, and they are those with high rates (79.5% and above) in the study certificate. They are in the period of challenge and self-affirmation at the beginning of university studies, so they make more efforts than the students of the third and fourth years in employing the five critical thinking skills and in the tool as a whole.

Fourth: Results related to the fourth question, which reads:

Are there school (scientific and literary)?

To answer this question, the arithmetic means and standard deviations were extracted, and Table No. (6) explains this:

Table No. (3)

Arithmetic means and standard deviations of the differences in the critical thinking test according to the variable of the type of certificate in high school (scientific and literary)

standard deviation	Arithmetic mean	Type of certificate in high school	Type of certificate in high school	The dimension
2.213	2.582	scientific	scientific	Analysis skill
1.385	2.107	literary	literary	
1.740	2.502	scientific	scientific	Induction skill
1.241	2.289	literary	literary	
1.532	1.733	scientific	scientific	deduction skill
1.025	1.477	literary	literary	
2.249	4.532	scientific	scientific	Reasoning skill
2.244	4.490	literary	literary	
1.749	2.492	scientific	scientific	assessment skill
1.258	2.035	308	literary	
6.012	13.844	202	scientific	total
4.234	12.399	308	literary	

It is clear from Table (3) that the arithmetic averages for the reasoning skill came in the first rank, as the students of the scientific branch outperformed the students of the literary branch, in favor of the students of the scientific branch. The arithmetic means of analysis skill came in the third rank for the scientific and literary branches, in favor of the the students of the scientific stream, it reached (13.844), with a standard deviation of (6.012), compared to the students of the literary stream, whose arithmetic mean was (12.399).

With a standard deviation of (4.224), in favor of the students of the scientific section.

This result can be explained by the fact that students of the scientific stream in the general secondary certificate tend to employ logical scientific thinking in their thinking. In their studies aim represents the essence of logical thinking and logical thinking. Critical thinking. The result of this critical thinking is consistent with the result of the study of Al-Halafawi (1997), arhan (2000).

Fifth: Results related to the fifth question:

Is there a statistically significant correlation at the level ($\alpha = 0.05$) between the level of critical thinking skills and average in high school and the cumulative average of the research community for the study?

To answer this question, the analysis of two independent variables to predict the score of the analysis skill.

Table No. (4)

Multiple regression analysis of two independent variables to predict the score of analysis skill

level of significanc	value (T)	Regression coefficients (B)	independent variables
0.437	0.778-	0.129-	Average in high school
0.176	1.354	0.0095	GPA
-	-	2.698	Constant

* Statistically significant at the level of ($\alpha = 0.05$).

It appears from Table (4) that the two independent variables (GPA in high school and GPA

cumulative cumulative study at the university) are not statistically significant at the significance level ($\alpha = 0.05$) and in predicting the analysis skill score. Then the analysis skill score would be:

$$\text{Analysis skill score} = -0.0129$$

Table No. (5) shows the multiple regression analysis of two independent variables to predict the induction skill score.

Table No. (5)

Multiple regression analysis of two independent variables to predict the induction skill score

level of significant	value (T)	Regression coefficients (B)	independent variables
0.742	0.330-	0.0043-	Average in high school
0.000	*4.688	0.0259	GPA
-	-	0.714	Constant

Statistically significant at the level of ($\alpha = 0.05$).

It appears from Table (5) that the cumulative GPA variable at the university has a statistically significant t in predicting the induction skill mark. Then the score for the skill of induction is:

$$\text{Induction skill score} = -0.0073 \times (\text{GPA in high school}) + 0.0259 \times (\text{GPA at the university}) + 0.744.$$

Table No. (6) shows the multiple regression analysis of two independent variables to predict the inference skill score:

Table No. (6)

Multiple regression analysis of two independent variables to predict the score of reasoning skill

level of significant	value (T)	Regression coefficients (B)	independent variables
0.515	0.651	0.0077	Average in high school
0.620	0.497	0.0025	GPA
-	-	0.724	Constant

* Statistically significant at the level of ($\alpha = 0.05$).

It appears from Table (6) that the two independent variables (GPA in high school and GPA in the university) do not have a statistical significance at the level of significance ($\alpha = 0.05$) and in predicting the score of the reasoning skill. Then the deduction skill score would be:

$$\text{Deduction skill score} = \text{the university}) + 0.774$$

Table No. (7) shows the multiple regression analysis of two independent variables to predict the inference skill score:

Table No. (7)

Multiple regression analysis of two independent variables to predict score of reasoning skill

level of significant	value (T)	Regression coefficients (B)	independent variables
0.000	*3.655	0.0728	Average in high school
0.075	1.788	0.0150-	GPA
-	-	0.583-	Constant

* Statistically significant at the level of ($\alpha = 0.05$).

Table (7) shows that the GPA variable in high school has a statistically significant effect at the a statistically significant difference for the university cumulative average variable in predicting the inference skill mark. Then the score for the reasoning skill is:

$$\text{Reasoning skill score} = 0\text{GPA in university} + 0.583$$

Table No. (8) shows the multiple regression analysis of two independent variables to predict the assessment skill score:

Table No. (8)

Multiple regression analysis of two independent variables for predicting the evaluation skill score

level of significant	value (T)	Regression coefficients (B)	independent variables
0.399	0.844	0.0116	Average in high school
0.004	*2.908	0.0169	GPA
-	-	0.0757-	Constant

* Statistically significant at the level of ($\alpha = 0.05$).

Table (8) shows that the cumulative GPA variable at the university has a statistically significant effect at the level ($\alpha = 0.05$) in predicting the evaluation skill score, while there was no statistically significant effect of the GPA variable in high school in predicting the evaluation skill score. Then the assessment skill score is:

$$\text{Assessment skill score}$$

the multiple regression analysis of two independent variables to predict the total score of critical thinking skills:

Table No. (9)

Multiple regression analysis of two independent variables to predict the total score of critical thinking skills

level of significant	value (T)	Regression coefficients (B)	independent variables
0.109	1.605	0.0749	Average in high school
0.044	*2.018	0.0398	GPA
-	-	3.478	Constant

* Statistically significant at the level of ($\alpha = 0.05$).

Table (9) shows that the cumulative average variable at the university has a statistically significant effect at the level ($\alpha = 0.05$) in predicting the total score of critical thinking skills, while there was no statistically significant effect of the GPA variable in high school in predicting the score of the induction skill. Then the assessment skill score is:

$$\text{Assessment skill score} = 0.07r$$

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results of the fifth question enables us to notice that there is a statistically significant effect at the level of ($\alpha = 0.05$) between the GPA at the university and each of the induction and evaluation skills and the level of overall critical thinking skills, while there was a statistically significant effect at the level of ($\alpha = 0.05$) between the high school average and the reasoning skill only.

The result of this question is consistent with the study of Afana (1998), which showed a positive relationship between the cumulative average score at the university and the r of critical thinking skills.

Recommendations:

In the light of its results, the researchers recommend the following:

1. Include in the study plans for bachelor's degree students one or more courses in teaching thinking in general, or critical thinking in particular.
2. Interest in university education in the skills of deduction, evaluation and analysis in particular, and the rest of the thinking skills in general.
3. Paying attention to critical thinking skills for both sexes: males and females.
4. Paying attention to critical thinking skills for students in all academic years in general, and for first and fourth year students in particular.
5. Interest in developing critical thinking skills among university students in the literary stream, while maintaining the same level of critical thinking skills among university students in the scientific stream.
6. Training high school students and university students to possess critical thinking skills for the purpose of raising secondary school certificate rates and cumulative averages at the university.
7. Conducting more studies that investigate the levels of critical thinking skills among age groups at the beginning of the educational ladder.
8. Orientation towards building standards for critical thinking of the Arab environment in general and the Jordanian one in particular.
9. Designing training programs for the skills of students of the Faculty of Educational Sciences and choosing their effectiveness.

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