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Careful Thinking and Its Relationship to Academic Achievement among History Department Students at the College of Basic Education, University of Diyala

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Abstract - **The primary purpose of this research is to measure the level of empathy and academic achievement among history majors at the University of Diyala's College of Basic Education in order to draw any conclusions about the relationship between the two. The researchers employed a correlational descriptive technique to achieve their study aims. At the University of Diyala, the research was conducted during the first morning study (first academic course) of the 2024–2025 academic year and included 150 male and female students from the History Department in the College of Basic Education. The 227-person research population was stratified randomly according to gender using an equal distribution method. A total of 150 pupils were chosen, including 75 men and 75 women. In order to achieve the goals of the study, researchers developed a test for caring thinking based on Lipman's paradigm (Lipman, 2003). The fifty-five questions in the test mostly dealt with five areas: effective thinking, emotional intelligence, evaluative thinking, normative thinking, and emotional intelligence. For each category, there were 10 items based on the five-point Likert scale; five items were positive and five were negative. Each question had five possible answers: (very) so, (slightly) so, (not, lkjlollat all so), (very little so), and (not at all so). A good object would have a weight of (5, 4, 3, 2, 1) while a negative item would have a weight of (1, 2, 3, 4, 5). Researchers used statistical analysis to find out how discriminating the test items were. We also managed to get our hands on the test's psychometric properties, such as its face validity, component validity, and concept validity. Also, the reliability coefficient (as determined by Cronbach's alpha) was 0.87. The results of this research were obtained by analysing and interpreting data using SPSS, which stands for Statistical Package for the Social Sciences.**
Keywords: **Careful Thinking, Academic Achievement, Students**

I. INTRODUCTION

Caring thinking is a contemporary educational concept that has gained increasing attention in the fields of psychology and pedagogy due to its impact on the emotional and cognitive development of students. It plays a direct role in enhancing their ability to make sound decisions and build balanced human relationships. Caring thinking is defined as a mental process that goes beyond superficial understanding of situations to emotional analysis and ethical judgment, allowing the individual to make informed decisions based on emotional awareness and cognitive reasoning.

University students today face various academic and behavioral challenges that require more than memorization and rote learning. Previous studies have shown that weak higher-order thinking skills, including critical, creative, and caring thinking, are among the main obstacles to academic achievement in Iraqi universities, especially in the humanities such as the Department of History. This weakness negatively affects students' ability to deeply understand content, think analytically, and engage meaningfully in academic and social life.

Based on this context, the current study aims to explore the relationship between the level of caring thinking and the level of academic achievement among students of the History Department at the College of Basic Education, University of Diyala Sen & Malhotra, (2025); Maher et al., (2015); (Kareem 2022). The study uses scientifically designed measurement tools based on Lipman's model of caring thinking (2003). The significance of this research lies in its focus on a neglected cognitive and emotional dimension in university education, proposing development paths for educational programs that can enhance students' mental and emotional awareness and improve their academic performance Malhotra & Iyer, (2024); Karimizadeh & Abolghasemi, (2014).

Research Problem

Students' decision-making is impacted by conflicting mental processes, one of which is careful thought. Finding workable answers to both theoretical and practical issues is at the heart of this kind of thinking (Al-Zuhairy, & Haidar Abdul Karim Mohsen, 2017). The teaching-learning circumstances they face will be affected by their inability to effectively handle these challenges. Regardless, research on deliberate thinking is still lacking, and many of our educational curriculum and pedagogical approaches fail to include it. The problems that students are now experiencing have their origins in a lack of compassion, as we will see if we investigate more. Students' dependence on quick and shallow thought processes is insufficient for making good judgements or developing healthy relationships in light of the complicated problems

they encounter on a daily basis. To enable children grow into autonomous individuals with cognitive capacity, a shift towards an emotional-based mode of thinking is now required (Al-Yahya, 2020). While we're on the subject of critical thinking, it's important to note that college students often struggle academically due to a lack of training in higher-order thinking skills, such as critical thinking. Both Ulucinar & Ari, (2019) and Abdul Zahra, (2021) found this to be true. It is worth noting that Iraqi colleges are producing a new generation that is not only academically underachieving but also prone to narrow and stereotyped thinking (Hamid and Muhammad, 2019). Students' poor critical thinking skills, lack of analytical reasoning and inference abilities, and reliance on rote memorisation of academic terms are all symptoms of their low academic accomplishment (Al-Hashemi & Ali Rabie, 2018). Research Importance Because of their influence in moulding students' identities via the mobilisation of mental skills, cognitive processes, particularly thinking, have garnered much study from scientists and philosophers. The idea behind this is to make the most efficient use of educational institutions' financial and human resources, to conduct practical research to solve problems, and to provide expert advice in a variety of areas by using scientific principles (Mukhitdinova et al., 2025; Rapeta 2025). The goal is to have a competent workforce that can face the future head-on by using constructive, optimistic ways of thinking (Massenet al., 2019).

Sharp argues that this is because students' personalities are shaped by their ability to infer, investigate, and enquire about the world around them. They also develop an appreciation for the interconnectedness of ideas and an unwillingness to participate in the prevalent negative behaviours (Sharp, 2004). Given the above, it is reasonable to assume that caring thoughts are one of the cornerstones around which a student's character is constructed (Daoud & Tamara Naji, 2025). It entails judging without bias, helping students favourably adjust, and teaching them higher ideals (Lipman, 2003). As a relatively new concept, "caring thinking" requires much investigation, investigation time, and effort, according to Sharp. Reason being, unlike critical and creative thinking, the idea of "caring thinking" is rather obscure. Consequently, Sharp broadened the scope of caring thinking to include concerns related to cognitive maturation, decision-making capacity, and problem-solving abilities (Sharp, 2004). Ultimately, we hope that by focussing on students' actions and thoughts, caring thinking will demonstrate its significance. Because it is a fresh way of thinking that incorporates students' cognitive growth as seen in their actions, it really helps them via collaborative learning. This helps to structure their thought processes so that they are consistent with the values and norms of their communities (Dombaycia, 2011). Academic performance is, without a question, the most important factor in determining a student's academic standing. This is because it plays a crucial role in improving their ability to take in new information, modify it to fit their needs, and use it to solve issues by drawing on what they already know. As a result, it helps them grow intellectually and personally. Moreover, academic success plays a key role in societal development, helping to meet developmental demands in different parts of life (Rodriguez, 2006).

The importance of the current research is evident in the following:

1. Caring thinking is important since it helps with brain processes like problem-solving and decision-making.
2. Academic success is important because it allows pupils to reach their learning objectives.
3. The History Department's Valuable Contribution to Civic Education and the Maintenance of National Identity.

Research Objectives

The current research aims to identify:

1. The University of Diyala's College of Basic Education history majors' capacity for compassionate thought.

Second, the average GPA of History majors at Diyala University's College of Basic Education.

Three, the relationship between students' caring thoughts and their academic performance in the History Department at the University of Diyala's College of Basic Education.

The gender variable at the University of Diyala's College of Basic Education affects the link between caring thinking and academic accomplishment differently for male and female students in the history department (Maassen et al., 2019).

Research Limits

1. Geographical constraints: Diyala University's College of Basic Education's History Department.
2. Human Boundaries: Preliminary morning study for the academic year (2024–2025) for students of the History Department at the University of Diyala University College of Basic Education.
3. The time frame: the school year (2024–2025).
4. The Caring Thinking Test and Scientific Boundaries.

Definition of Terms

1. Caring Thinking (defined by Lipman)

- A mental activity through which an individual seeks to understand and analyze situations and utilize emotional experience in making judgments and responding to situations (Lipman, 2003).

- Theoretical Definition: The researchers adopted Lipman's definition (2003) as a theoretical definition because they relied on the theoretical framework of Lipman's model in constructing their research instrument (the Caring Thinking Test).

2. Academic Achievement:

As defined by:

- Asbury and Robert: The extent to which students comprehend the information and knowledge they have learned in a specific subject, measured by the score students receive on a set of achievement tests (Asbury et al., 2017).

3. History Department

As defined by Al-Anbaki:

- One of the departments of the College of Basic Education at the University of Diyala, which focuses on the study of history to understand the past and present, foresee the future, and combine tradition and modernity by conscious graduate students who believe in the historical significance of the homeland, and by faculty members in the department, with the goal of achieving excellence at the local and regional levels and elevating Iraq, a country with ancient civilizations, to an advanced level among countries (Al-Anbaki & Qahtan Hamid Kazim, 2017).

Theoretical Framework and Previous Studies

Caring Thinking

Concern for others and their well-being was a central tenet of emerging ethical philosophies, which in turn paved the way for the rise of caring thought. It has its origins in the work of philosophers and other intellectuals who advanced this idea throughout the course of philosophical history. Nell Noddings (1984) introduced the concepts of caring thinking and caring ethics in her book "Caring: An Ethical Approach to Education." It grew increasingly famous in the mid-twentieth century and attracted the attention of many psychologists. Consistent with the times, she argued that schools should include caring thinking into their curricula in order to foster more empathetic and understanding communities (Atwan et al., 2019). One of the primary goals of education at the turn of the twentieth century was to instill in pupils the proper ways of thinking. Accurate knowledge and the ability to think critically were the goals of education. There were a number of models that tried to instruct pupils in right reasoning; however, Matthew Lipman's model was the most well-known (2003). When it comes to Lipman, an early advocate for the idea of educating pupils to think critically, put forth three distinct ways of thinking in the 1960s. He stressed the need of schools taking the lead in instilling analytical, creative, and compassionate thought in their students (Dombaycia, 2011). As a result, thinking compassionately is a key component of students' decision-making process. It enables individuals to concentrate on greater ideals while considering and caring about the problems that other people worry about. Consequently, in order for students to act in a way that strengthens their connections with others, caring thinking is crucial (Heidegger, 2005). Empathetic, appreciative, active-effective, emotive, and normative thinking are the five domains of caring thought that Lipman outlined in his 2003 book Thinking in Education.

Traits of Emotionally Intelligent Thought

The researchers will summarize some of the characteristics of caring thinking as follows:

1. Its ability to connect intellectual processes to values allows for profound thought. Life on Earth, when reasoning devolves into mindless computation.
2. Emotion is the conceptual framework that it uses. Care, in the view of caring thinking, is the foundation of all relationships as it denotes respect and admiration. In addition to encouraging analytical and value-based thinking, it piques pupils' intellectual interest.
3. Intrinsic values are emphasised, and outmoded cognitive notions are rejected. As opposed to being just extractive, it sees education and creativity as processes that may alter.
4. It makes sure that academic pursuits stay related to ethical and emotional aspects, making them more human. It stands for a compass that helps one find equilibrium and think with purpose.
5. Students like it because it gives them a chance to practise critical thinking skills including asking questions, finding answers, and drawing broad conclusions (Lipman, 2003).

The Role of Caring Thinking in Education

Lipman believes that caring thinking is an essential trait in students, and that developing this type of thinking helps them:

1. Develop better decision-making abilities: Students who use caring thinking are better able to base their choices on evidence rather than their feelings or subjective views.
2. Improving problem-solving abilities: Helps pupils examine and comprehend issues from every angle.
3. Improving self-awareness: Assists learners in gaining a deeper comprehension of who they are and what they're good at, which in turn aids in their individual growth.
4. Encouraging lifelong learning: It helps boost interest in learning and knowledge acquisition, and it plays a role in honing teaching abilities.

Fifthly, it encourages autonomy by teaching students to think for themselves and make rational judgements (Ulucinar & Ari, 2019).

Academic Achievement

One of the main goals of education is for students to succeed academically. One of its aims is to help students and society at large achieve this. Achieving academic success is important to the student since it determines how well they do in school, whether they graduate, and if they find personal fulfilment (Abdel Raouf et al., 2017), Academic accomplishment is a sign of the educational system's improved flow and production rates, which is good for society. Perhaps the most telling sign of how well that system is working is how well students do in school (Al-Fakhri & Salem Abdullah, 2018).

Objectives of Academic Achievement

Academic achievement has several objectives, including the following:

1. One, it's a yardstick by which to measure a student's progress from one grade to the next.
2. It may be used to determine the student's different types of intelligence and talents.
3. Third, it uses the student's existing knowledge to advise them on which area of concentration to pursue after graduation.
4. It shows the educational objectives met, whether they are long-term or short-term (Omar et al., 2010).
5. The learner exhibits typical, commendable conduct in the classroom (Al-Barak, 2022).

Characteristics of Academic Achievement

Academic achievement includes several characteristics, the most important of which are:

1. The information, facts, and knowledge contained in all academic courses are the main emphasis.
2. It uses group assessments, methodologies, and criteria to make evaluations, which is based on a collective approach.
3. A student's grade is based on their subject-specific knowledge and understanding.
4. A student's academic level is measured through tests administered during the specified study period (Al-Ghazali, & Ahmed Salim, 2019).

Previous Studies

Table I summarizes key previous research relevant to the current study. Each study is cited with its year and location, including objective, sample, tools, methods, and key findings.

TABLE I SUMMARY OF PREVIOUS STUDIES RELATED TO CARING THINKING AND ACADEMIC ACHIEVEMENT

No.	Researcher Name and Study Title	Country and Year	Study Objective	Educational Stage and Sample Size	Study Tools	Statistical Methods	Study Results
1	Zaki, (Zaki & Zahraa Muhammad, 2023) *Caring Thinking and Its Relationship with Emotion Processing among University Students*	Iraq, 2023	To determine the level of caring thinking among university students based on gender and specialization	University level, 400 male and female students	Caring Thinking Test consisting of 38 items	Pearson correlation coefficient, paired t-test, one-sample t-test, Z-test, Chi-square test	University students possess caring thinking. No statistically significant differences were found based on gender and specialization in the sample.
2	Al-Khazraji, (Al-Khazraji & Wissam Ibrahim, 2022). *Intellectual Competence and Mental Openness and Their Relationship with Academic Achievement among History Department Students at the University of Diyala*	Iraq, 2022	To identify the level of academic achievement among university students based on gender and academic year	University level, 250 male and female students	The researcher did not prepare a tool to measure academic achievement	Independent samples t-test, one-sample t-test, Pearson correlation coefficient, Z-test, multiple regression analysis	History department students generally show a high level of academic achievement.

II. RESEARCH METHODOLOGY AND PROCEDURES

The research methodology is presented in this chapter in depth, including the measures used to identify the study community and sample, the research instruments and statistical techniques used to analyse the data, and the procedures followed to adopt and create them.

Initial Steps: Research Techniques

One scientific methodology is the descriptive method, which seeks to identify common practices, gather accurate scientific descriptions of the phenomena under study, describe and interpret the current situation, and identify the opinions and beliefs of individuals and groups. The descriptive technique is characterised by its simplicity and ease of application, which leads many scholars to believe that it is one of the most popular and commonly used approaches to solve educational difficulties. Since the descriptive (correlational) research approach accomplishes the goals of the two researchers' study, they decided to employ it. According to Al-Yasiri, its main goal is to investigate the interconnections between present and previous occurrences, with a particular emphasis on the latter that are either directly or indirectly affected by the former (Al-Yasiri & Muhammad Jassim, 2024). Next: The Scientific Community:

When a researcher studies and shares the findings with a specific group of people, they are referring to this as the research community. Al-Zuhairi & Haider Abdul Karim Mohsen, (2017) states that the research's goals and character dictate the community. The current research community is made up of 227 undergraduate students from the History Department at the College of Basic Education at the University of Diyala. Of these, 101 are male and constitute 44.49 percent of the community; 126 are female and make up 55.5 percent. This breakdown is for the academic year (2024–2025). Table II shows this.

TABLE II RESEARCH COMMUNITY DISTRIBUTED BY ACADEMIC GRADE AND GENDER

No.	Grade Level	Number of Males	Number of Females	Total	Percentage
1	First	32	29	61	27%
2	Second	39	43	82	36%
3	Third	10	18	28	12%
4	Fourth	20	36	56	25%
5	Total	101	126	227	100%

Third: The Research Sample

A "research sample" is a selection of a population taken at random from that larger group based on established criteria with the goal of producing findings that are both statistically valid and typical of the community at large. According to Deoud, 2025, it is the collection of subsets obtained from the whole population. Because of the existing gap in the research community, a stratified random selection procedure was used to guarantee that the study sample was fairly distributed across gender and grade levels. There were 150 male and female students in the History Department at the University of Diyala's College of Basic Education. The student body statistics were retrieved from the College of Basic Education, University of Diyala's Head of the History Department, in accordance with the research partnership letter mentioned in Chapter One, Appendix (1). An equal number of male and female students (75 in total) and students from each grade (50 in first grade, 20 in third, and 30 in fourth) make up the research sample, which accounts for 66.08% of the research community. You may see the outcomes in Table III.

TABLE III RESEARCH SAMPLE DISTRIBUTED BY GRADE AND GENDER

No.	Grade Level	Number of Males	Number of Females	Total	Percentage
1	First	25	25	50	33%
2	Second	25	25	50	33%
3	Third	10	10	20	14%
4	Fourth	15	15	30	20%
5	Total	75	75	150	100%

Fourth: Research Tool:

Developing a means to assess students' capacity for empathy is crucial to the success of the present study. The researchers first came across Zaki's study (2023) after searching and reading prior literature on caring thinking; nevertheless, this study did not align with the present research's aims or sample. In light of this, the researchers in this study developed a caring thinking test based on Lipman's (2003) approach. The steps to build and implement the research tool are laid out in the following manner:

Test of Caring Thinking

A test that fits in with the research community's character and nature is required to accomplish some of the goals of the present study. Because of this, a caring thinking test was created by the researchers.:

1. The idea of caring thinking is innovative. This idea is still in its infancy; Lipman brought it up for the first time in 2003 (2003).
2. The present study does not have a caring thinking test that is appropriate for its methods, aims, or sample.

The researchers followed the following procedures in constructing the test:

1. Defining the Theoretical Foundations of the Test:

Measurement literature emphasizes the need to define theoretical foundations or basic principles for the procedures for constructing educational and psychological scales and tests, as they help determine the appropriate procedures for constructing tests and measures (Al-Fatlawi & Ali Shaker 2010). Therefore, the researchers relied on the following foundations and concepts in constructing the caring thinking test.

A- Defining Lipman's Caring Thinking Model (Lipman, 2003).

After reviewing the educational literature, the researchers chose Lipman's caring thinking model as their theoretical framework for constructing the caring thinking test for the following reasons:

1. The present study variable is explained by this model, which represents a recent trend in educational psychology.
2. It helps with the regulation of learning environments and provide a broad framework for makers of educational materials.
3. This model is a trend in university-level thinking and cognition.
4. To describe caring thinking and build the caring thinking exam, the researchers used Lipman's model, a theoretical framework of caring thinking.

B- Defining the Concept of Caring Thinking:

Lipman defined the concept of caring thinking as a mental activity through which an individual seeks to understand and analyze situations and utilize emotional experience in making judgments and responding to situations. The researchers relied on Lipman's definition to formulate the items of the caring thinking test because they relied on the theoretical framework of Lipman's model.

2. Review of Previous Studies:

After reviewing the literature and previous studies, such as the study by Zaki & Zahraa Muhammad (2023), the researchers did not find a scale that was compatible with the sample used in their research. Therefore, they decided to construct the caring thinking test to suit the current research sample according to Lipman's model.

3. Defining the Domains of the Caring Thinking Test:

The domains of the Caring Thinking Test were defined according to the Lipman model, as follows:

Domain 1: Empathic Thinking: This refers to the conscious understanding of others' feelings, thoughts, and emotions as if we were experiencing them.

Domain 2: Appreciative Thinking: This refers to a method by which an individual expresses concern and respect for the values, customs, and traditions of others.

Domain 3: Effective Thinking: This is a mental activity in which skills and ideas are translated into actual events.

Domain 4: Emotional Thinking: This is a mental activity based on affection, feelings, emotions, and sensations when making judgments and interacting with others.

The fifth domain: Normative thinking: This refers to the individual's awareness of how actions occur and their conceptualization of different standards for behavior (Lipman, 2003: 264).

Drafting the Test Items:

After defining the concept of caring thinking and its domains, and defining each domain, the researchers began drafting items that represent those domains to test caring thinking in its initial form, relying on Lipman's model as mentioned above. After reviewing previous related studies, they relied on constructing their research tool on caring thinking, taking into account the following:

1. The paragraph should express a single idea and be open to only one interpretation.
2. The paragraph should be in the first-person, with clear, understandable language.
3. The paragraph should not begin with a negative to avoid confusion and complexity in answering.
4. The paragraph content should be clear, explicit, and appropriate to the level of the sample members (Mikhail & Amtanius Nayef, 2016).

The test items were created with a total of fifty things; twenty-five of these items were orientated in a positive direction, and twenty-five in a negative direction. These items were evenly dispersed throughout the five test regions, with 10 items each area, five of which were positive and five negative. There are five possible responses that the researchers came up with: applies to a very tiny extent, applies to a medium degree, applies to a big extent, applying to a very small amount. They used a five-point Likert scale to determine the response options; for positive things, they gave out scores of 5, 4, 3, 2, 1, and for negative items, the inverse was true (5, 4, 3, 2, 1). Making Test Guidelines

Essential and significant directions that lead and guide responders to conduct the test and grasp its nature are test or scale instructions. Having well-designed questions is meaningless if the test takers can't find the answers and gauge how long it will take to do the tasks (Hassan, & Muhannad Yahya, 2019). It is critical to draft precisely phrased directions for the exam to ensure accurate findings. Scientists were eager to come up with the following guidelines for the exam:

Suggestions for Improvement:

Very lot, slightly, not at all, and very little were the five potential responses that the researchers developed for the test questions based on the previously specified criteria. Items with positive values have weights of (1, 2, 3, 4, 5), whereas those with negative values have weights of (5, 4, 3, 2, 1), accordingly. Fifty items make up the test; 25 are positive and 25 are negative. Each question has five possible answers that the respondent may choose from. Each student's final score in the History Department will be determined by adding up the scores on the exam's theoretically-oriented questions. A minimum of 50 points and a maximum of 250 points are available to any student majoring in history. Checking the Test Items' Reliability (Analysing the Items' Reasoning):

After determining the test domains and creating the first version of the fifty questions, researchers presented the test to a panel of thirty experts in educational and psychological sciences to ensure its validity. Specifically, we wanted the

researchers' opinions on how well the test items measured what we wanted them to, how accurately they represented our field, and how accurately they evaluated our sample. They wanted to uncover irrelevant concepts and inadequate vocabulary in addition to the test's primary objective. According to Al-Badrani & Fatima Muhammad Saleh, (2019), after the test results were in, there was complete consensus over the items' applicability to their respective fields. The results of the exploratory experiment, which has well-defined parameters, are considered heavily by the arbitrators and specialists. Objectives include reading the paragraphs and instructions, understanding the alternatives better, identifying difficulties, and calculating the expected response time. In order to construct and evaluate psychological and educational assessments, they are fundamental (Mikhail & Amtanius Nayef, 2016). The research community for this project was recruited from the Department of History at Al-Mustansiriya University, which is part of the College of Basic Education. Fifty undergraduates, equally distributed between male and female students, making up 13.12% of the study population, were administered the exam. At exactly 10:30 a.m. on Sunday, January 26, 2025, the sample was split in half along gender lines, with 25 male students and 25 female students included. Scientists recorded each student's observations, answers to each question, and the amount of time it took them to do the assignment. The examination was given in the stipulated fifteen minutes, and neither the items nor the instructions were misunderstood.

Two hundred and fifty male and female students from the History Department at the College of Basic Education at Al-Mustansiriya University served as the subjects of the Critical Thinking Test's statistical indicators. The purpose of this was to determine the degree to which the sample's score distribution resembled the normal distribution. This, in turn, indicates the generalisability of the findings and the sample's ability to reflect the population. On Sundays and Tuesdays between February 9, 2025, and February 11, 2025, you might submit your application.

To construct a reliable test, it is essential to do a statistical analysis of the questions. This process also includes determining the item's discriminating power and its difficulty level. Statistical analysis of test items aims to improve the test by retaining valid items and deleting invalid ones. The purpose of this, according to Al-Hasnawi, (2019), is to determine the level of difficulty and the students' performance on each item. The two researchers used the data shown in Table IV, which demonstrates that the sample consisted of 250 students (including both male and female members), to derive statistical findings. About two-thirds of the academic world falls into this category. A stratified random technique was used to choose students from the History Department at Al-Mustansiriya University's College of Basic Education from Sunday, February 9, 2025, to Tuesday, February 11, 2025. This method guarantees an equal distribution based on the gender variable.

TABLE IV STATISTICAL ANALYSIS SAMPLE

No.	Grade Level	Number of Males	Number of Females	Total	Percentage
1	First	28	27	55	22%
2	Second	33	34	67	27%
3	Third	32	31	63	25%
4	Fourth	30	35	65	26%
5	Total	123	127	250	100%

The Following Explains how to Calculate it:

1- Discriminatory Power of Test Items:

The discriminatory power of an item is its capacity to classify test takers into two groups, one higher and one lower, according to the attribute being tested. A good test is one that can differentiate between students based on the trait it was meant to measure, keeping the ones that discriminate between them while showing that the variations in test scores are really caused by the actual differences in the examinees' levels of discrimination. Using the item discrimination equation, we can get the discrimination coefficient, which may range from 30% to 73%, for each test item. According to Al-Hasnawi (2019), a test is deemed excellent if and only if its discriminating power is at least 30%. The following is how the discriminating power was retrieved from the test after it was given to a sample of 250 male and female students:

Part A: The two-extreme-groups-method (compared side by side). The test items' discriminatory power was extracted by correcting the answer sheets. After that, the scores of all the sample members were sorted from highest to lowest, in decreasing order.

The two extreme groups, comprising 27% of each group, were identified based on their overall score. When determining the items' discriminating potential, Kelly recommends using a sample size of 27% for each of the two extremes (Ghanem, 2004). Overall, there were 136 pupils, 68 of whom were male and 48 of whom were female, divided evenly between the upper and lower groups.

The researchers determined the significance of the differences between the two groups' average scores on each test item using a t-test for two independent samples. The t-value represents the item's discriminating power. The fact that each item was statistically significant made them stand out. Reason being, at a significance level of 0.05, its computed t-value of 1.96 surpasses the tabular t-value of 1.96 with 134 degrees of freedom. Part B, the internal consistency of the exam and its relevance to individual items' scores:

This is a reference to the degree to which the overall test result (internal consistency) correlates with the scores on individual items. This is one of the ways to find out whether the scale is consistent with itself. For an item to be considered high-quality, its association with other test items and the degree to which it consistently measures the same feature should go beyond the entire test score (Younis & Muhammad

Abd al-Salam, 2008). To find out how each test item's score related to the overall test score, the researchers used Pearson's correlation coefficient. In order to conduct statistical analysis on the results of this study, researchers sent out questionnaires to a sample of 250 students, half male and half female. There was a statistically significant relationship between each item and the overall test score at the 0.050 level. Their correlation coefficients with the overall score were higher than the tabular value of 0.126 at a significance level of 0.05 and with 248 degrees of freedom. C-How the item's score relates to the domain score to which it belongs:

Each item's score was correlated with the overall score of its respective domain using a correlation coefficient. Each item in the test is valid for its intended purpose because all of the computed correlation coefficients between the item score and the domain score are statistically significant when compared to the table value of correlation coefficients, which is (0.126) at a significance level of (0.050) and a degree of freedom of (248).

The internal correlation matrix, which shows the relationship between the overall score and each domain score: With a significance level of 0.05 and a degree of freedom of 248, when compared to the critical value of the correlation coefficient of 0.126, internal correlations were discovered between the score of each domain and the total test score utilising Pearson's correlation coefficient to determine the correlation between the five domains of the Careful Thinking Test.

The Test's Psychometric Characteristics:

Validity and reliability are two of the most important standard characteristics that experts in educational and psychological measuring stress while building tests. According to Omar et al. (2010), these two features are crucial for educational and psychological assessments to be reliable. Other essential psychometric attributes include the following:

First: Test Validity:

Validity is an important characteristic of educational and psychological tests and measures. A test is valid if it actually measures what it was designed to measure. Furthermore, a valid test is often a stable test (Abdul Raouf and Issa, 2017). The researchers verified the validity of the test as follows:

1- Apparent (Surface) Validity:

The researchers verified the apparent validity of the caring thinking scale by defining caring thinking, identifying its domains, and preparing items according to each domain. The test was then presented to specialized experts with experience in the fields of educational and psychological sciences. Based on their opinions, they judged the suitability of the test for its intended purpose. The caring thinking test was characterized by apparent validity.

2- Construct Validity:

The researchers verified the construct validity of the Careful Thinking Test using the following indicators:

A- Distinction by identifying differences between the two extreme groups:

B- Correlation of each item's score with the overall test score (internal consistency):

C- Relationship of the item's score with the score of the domain to which it belongs:

D- Correlation of each domain's score with the overall scale score (internal correlation matrix):

3- Factorial Validity:

The factorial validity of the test was verified using exploratory factor analysis to identify the factorial structure of the Careful Thinking Test and determine the factors comprising the test. This procedure is one of the indicators of construct validity (Al-Sharif & Abdel Fattah Abdel Majeed, 2015).

The conditions for using factor analysis were verified using the principal components method and the Kaiser criterion on a sample consisting of (250) male and female students. Second: Test Reliability

The Researchers Relied on the Cronbach's Alpha Method to Calculate Reliability, as follows:

Analysis of Variance Using the Cronbach's Alpha Equation (Internal Consistency):

Since it depends on the student's consistency in performance from paragraph to paragraph, this approach is among the most crucial for determining dependability. It is a measure of how well the test items are consistent with one another and with the overall test (Shaalan, & Ithar Montaser 2019). Researchers used a statistical analysis sample of 250 questionnaires to determine the Critical Thinking Test's reliability using this way. Researchers may have faith in the test's results since its reliability coefficient attained an acceptable level of 0.88. - Critical Thinking Test, Final Version:

Fifty questions make up the Critical Thinking Test in its final form, with twenty-five positive and twenty-five negative answers. Each item on the test had five possible answers: "applies to me to a very great extent," "applies to me to a great extent," "applies to me to a moderate extent," "applies to me to a small extent," and "applies to me to a very small extent." The positive items had weights of 1, 2, 3, 4, and 5, respectively. Weights of (5, 4, 3, 2, 1) apply to the positive items and weights of (0, 1) to the negative ones. Thus, the hypothetical mean score for the exam is 150, the lowest possible score is 50, and the maximum score that a responder may get is 250. Academic Performance:

With the help of the History Department's administrative office, researchers from the University of Diyala's College of Basic Education were able to collect students' grade reports. Using the grade records, they were able to gather the kids' performance for the first semester of the 2024–2025 school year, as well as for the first, second, third, and fourth grades. The scholars paid a visit to the History Department's main office. For the sample of 150 students, which included 75 males and 75 females, the average student grades were calculated.

Finally, Putting the Research Tool to Use: One hundred fifty undergraduates from the University of Diyala's History Department's College of Basic Education took the Critical Thinking Test as their main study sample. In order to use the tool with the students, the researchers went to the History Department. On Thursday, February 27, 2025, first-year students were given the tool in person by the department head and faculty members. Fourth-year students, who are now in the application period, were given the tool online. On March 2, 2025, the instrument was administered to students in their second and third years of college. Methods based on statistical calculations performed using SPSS as the fifth component.

III. RESULTS PRESENTATION AND ANALYSIS

Following is a presentation of the outcomes obtained in light of the specified goals, followed by an analysis and discussion of those outcomes in light of the theoretical framework and prior research:

First and foremost, we want to find out how the history majors at the University of Diyala's College of Basic Education believe about caring for one another.

Researchers achieved this goal by giving a 50-item caring thinking exam to 150 students, split evenly between males and females. Based on the data collected, the average test score for this group was (173,170) points, with a standard deviation of (22,335) points. Researchers used a one-sample t-test to find out whether the discrepancy between the mathematical mean and the hypothetical mean of 150 points was statistically significant. With 149 degrees of freedom, the computed t-value of 12,702 was more than the tabular t-value of 1.96, indicating a statistically significant difference at a significance level of 0.05. According to Table V this indicates that the study sample is very considerate.

TABLE V ARITHMETIC MEAN, STANDARD DEVIATION, AND T-VALUE FOR THE CARING THINKING TEST

Variable	N	Mean	Standard Deviation	Hypothetical Mean	t-value (Calculated)	t-value (Tabulated)	Significance (0.05)
Caring Thinking	150	173.170	22.335	150	12.702	1.96	Significant

Undergraduates' goal-oriented observation of their environment, anticipation of their future university experiences, and deliberate decision-making to strike a balance between their prior knowledge, the cognitive abilities they gain at university, and their ambitions are all factors contributing to this outcome. In addition, they find a middle ground between the emotional (considering other people's emotions) and the cognitive (using logic and reasoning to solve problems creatively) aspects of problem-solving. This reading agrees with what is said about caring thinking theory.

The second goal is to find out how well students in the history department at the University of Diyala's College of Basic Education did in their classes.

In order to do this, the researchers contacted the department chair to get the students' first-semester grades. The pupils' academic performance had an average score of 70,187 points and a standard deviation of 7,426 points, according to the statistical analysis of the scores. A single-sample t-test was used by the researchers to ascertain the significance of the discrepancy between the mathematical mean and the hypothetical mean of fifty points. At the 0.05 level of significance, the difference was determined to be statistically significant since the computed t-value was 33,312 and it was higher than the tabular t-value of 1.96 with 149 degrees of freedom. According to Table VI, this indicates that the study sample has a decent degree of academic attainment.

TABLE VI ARITHMETIC MEAN, STANDARD DEVIATION, AND T-VALUE OF ACADEMIC ACHIEVEMENT

Variable	N	Mean	Standard Deviation	Hypothetical Mean	t-value (Calculated)	t-value (Tabulated)	Significance (0.05)
Academic Achievement	150	70.187	7.426	50	33.312	1.96	Significant

Students in the study group had caring thoughts, which helped them achieve an overall average that was higher than the academic achievement standard and very excellent, which led to this outcome. This proves that the students are serious about succeeding in their chosen fields of study and preparing for a career in the future. The researchers believe that students who think compassionately are more adaptable in addressing challenges and more organised in their approach to academic work, which leads to this outcome.

Thirdly, we want to see how well students in the History Department at the University of Diyala's College of Basic Education do academically when they demonstrate compassionate thoughts.

Researchers used Pearson's correlation coefficient to confirm this aim after calculating students' caring thinking test scores and first-semester averages, which reflect academic performance. Table VII displays the findings.

TABLE VII THE RELATIONSHIP BETWEEN CARING THINKING AND ACADEMIC ACHIEVEMENT

N	Correlation Coefficient between Caring Thinking and Academic Achievement	t-value (Calculated)	t-value (Tabulated)	Significance (0.05)
150	0.621	9.857	1.96	Significant

A correlation coefficient of 0.621 was found between caring thoughts and academic success, as seen in the table. Researchers used a t-test to ascertain if the correlation coefficient was statistically significant in order to ascertain the relationship's importance. At a significance level of 0.05 and with 148 degrees of freedom, the computed t-value reached 9.857, which is higher than the tabular value of 1.96. Academic performance is a major issue for pupils, but the researchers found that by embracing a caring mindset, they were able to overcome it. The first aim is satisfied by this outcome.

Objective 4: We want to determine if there are gender disparities in the association between caring thinking and academic accomplishment among male and female students in the History Department at the College of Basic Education, University of Diyala.

The researchers used a χ-test to ascertain the significance of the variations in the correlation coefficients between the sample scores in order to ascertain if there were significant differences in the link between caring thinking and academic accomplishment based on the gender variable. Table VIII displays the findings.

TABLE VIII DIFFERENCES IN THE RELATIONSHIP BETWEEN CARING THINKING AND ACADEMIC ACHIEVEMENT

Gender	N	Correlation Coefficient	Fisher's Z Value	Z-value (Calculated)	Z-value (Tabulated)	Significance (0.05)
Male	75	0.642	0.758	0.245	1.96	Not Significant
Female	75	0.614	0.717			

The table shows that there are no differences in the relationship between caring thinking and academic achievement based on the gender variable, as the calculated z-value of (0.245) was smaller than the tabulated z-value of (1.96). The researchers believe that students at this stage are at an equal level of caring thinking, as there are no differences in thinking between them based on the gender variable (males - females).

IV. CONCLUSION

First: Conclusions

The researchers reached a set of conclusions, the most important of which are:

1. Undergraduate students have the ability to deduce and analyze, which led to an increase in their caring thinking.
2. History Department students were able to leverage caring thinking to raise their academic achievement, indicating a strong correlation between caring thinking and academic achievement.
3. The variance in academic achievement scores is due to the greater contribution of caring thinking to academic achievement than motivational perseverance.
4. Caring thinking is one of the most important factors that greatly influence students' academic achievement.

Second: Recommendations:

Based on the results of the current study, the researchers recommend the following:

Curriculum developers should pay attention to the topic of caring thinking and include it in undergraduate curricula.

The Ministry of Higher Education and Scientific Research should emphasize to universities the need to develop the educational process and utilize modern technologies that develop thinking in general and caring thinking in particular among university students.

Encouraging continuing education centers at universities to hold workshops and training courses to enhance caring thinking skills among university students, thus improving their academic achievement.

Universities should encourage their students to hold educational meetings and seminars and encourage them to study and read outside the classroom, which will enhance their academic achievement.

Third: Suggestions:

To complement the aspects related to this research, the researchers propose conducting future research similar to the current research, addressing:

The variable of caring thinking on samples other than students, such as teachers and educators.

The relationship of caring thinking to academic achievement among middle and secondary school students.

Understanding the relationship of caring thinking with certain variables, such as academic performance and persuasive intelligence.

REFERENCES

[1] Abdel Raouf, & Tariq and Issa, Ihab (2017). Measures and Tests: Design, Preparation, and Organization, Arab Group for Publishing and Distribution, *Cairo, Egypt.*

[2] Abdul Zahra & Ali Hamoud (2021). Careful Thinking and Mental Imagination According to the Six Major Factors among University Teachers, Unpublished PhD Thesis, University of Babylon, Iraq.

[3] Al-Anbaki, & Qahtan Hamid Kazim (2017). The Scientific Encyclopedia of Diyala University, Vol. 1, Central Press at Diyala University, *Diyala, Iraq.*

[4] Al-Badrani, & Fatima Muhammad Saleh (2019). Epistemology: Theories in Developing Understanding and Cognitive Beliefs, Ghaidaa Publishing and Distribution House, *Amman, Jordan.*

[5] Al-Barrak, & Majd Mumtaz (2022). Academic Achievement and the Reasons for Its Decline, 1st ed., Al-Sadiq Printing and Publishing Foundation, *Babylon, Iraq.*

[6] Al-Fakhri, & Salem Abdullah (2018). Academic Achievement, Academic Book Center for Publishing and Printing, Amman, Jordan.

[7] Al-Fatlawi, & Ali Shaker (2010). The Psychology of Time, Al-Manahel Publishing and Distribution, *Amman, Jordan.*

[8] Al-Ghazali, & Ahmed Salim (2019). Academic Achievement, Safaa Publishing and Distribution House, *Amman, Jordan.*

[9] Al-Hashemi, & Ali Rabie (2018). The Effect of Teaching Using Guided Imagination and Analogical Thinking Strategy on Environmental Studies Achievement, Dar Ghaidaa Publishing and Distribution, *Amman, Jordan.*

[10] Al-Hasnawi, Hakim Musa (2019): The Effectiveness of Modern Teaching Methods in Developing Scientific Attitudes, Ibn Al-Nafis Publishing and Distribution, *Amman, Jordan*.

[11] Al-Khazraji & Wissam Ibrahim (2022). Intellectual Competence and Open-Mindedness and Their Relationship to Academic Achievement among History Department Students at the University of Diyala, Unpublished Master's Thesis, College of Education for Humanities, University of Diyala, Iraq.

[12] Al-Sharif, & Abdel Fattah Abdel Majeed (2015). Educational Guidance and Mental Measurement: The Path to Educational Reform, Anglo-Egyptian Library, Cairo, Egypt.

[13] Al-Yahya & Abdul Aziz (2020). The Role of the Environment in Promoting Reflective Thinking among Students, *Tunisia.*

[14] Al-Yasiri, & Muhammad Jassim (2024). Educational Research: Methods and Designs, Dar Al-Manhajiya for Publishing and Distribution, *Amman, Jordan.*

[15] Al-Zuhairi, & Haider Abdul Karim Mohsen (2017). Educational Research Methods, De Bono Center for Publishing and Distribution, *Amman, Jordan.*

[16] Asbury, Catherine & Warbert Blumen (translated by Diaa Warrad) (2017). Genes and Education: The Influence of Genes on Education and Academic Achievement, Hindawi Foundation for Education and Culture, Cairo, *Egypt.*

[17] Atwan., Asaad Hussein., Abu Shaaban., & Shaimaa Sobhi (2019). Educational Measurement and Evaluation, Dar Al-Kotob Al-Ilmiyah for Publishing and Distribution, *Beirut, Lebanon.*

[18] Daoud, & Tamara Naji (2025). Introduction to Scientific Research Methods and Approaches, Dar Al-Yazurdi Publishing and Distribution, *Amman, Jordan.*

[19] Dombaycıa, Mehmet Ali., Metin Demirb, Sinem Tarhanc., & Hasan Bacanlıd, (2011). Quadruple Thinking: Caring Thinking. *Procedia Social and Behavioral Sciences Journal.*

[20] Ghunaim, Muhammad Abdul Salam (2004). Principles of Psychological and Educational Measurement and Evaluation, Dar Al-Nashr, *Cairo, Egypt.*

[21] Hassan, & Muhannad Yahya (2019). The Electronic Blended Learning Strategy, Ghaidaa Publishing and Distribution House, *Amman, Jordan.*

[22] Heidegger, & Martin, (2005). Being and Time. Translated by John Macquarrie and Edward Robinson. *Harper &. Row, Harper San Francisco,* P.371.

[23] Kareem, A. J. (2022). The Impact of Electronic Accounting in Developing the Quality of Accounting Education at Iraqi Universities. *International Academic Journal of Social Sciences, 9*(2), 213–225. https://doi.org/10.9756/IAJSS/V9I2/IAJSS0930

[24] Karimizadeh, N., & Abolghasemi, M. (2014). The Islamic and Religious Education in Malaysian Schools: From Past Up to Now. *International Academic Journal of Innovative Research, 1*(2), 14–24.

[25] Lipman, M. (2003). Thinking in Education. *New York: Cambridge University Press.*

[26] Maassen, P., Andreadakis, Z., Gulbrandsen, M., & Stensaker, B. (2019). Growing focus on the universities' third mission: The changing place of universities in society worldwide. *The Place of Universities in Society; Körber-Stiftung: Hamburg, Germany*.

[27] Maher, A., Eslami, Z., & Ali-Mohammadzadeh, K. (2015). Effect of Hand Hygiene Education on Knowledge, Attitude and Practice of NICU and Pediatric Staff in Zanjan Hospitals. *International Academic Journal of Organizational Behavior and Human Resource Management, 2*(1), 67–75.

[28] Malhotra, R., & Iyer, A. (2024). Developing an Effective Training System for Interventional Pulmonology Education through Digital Learning. *Global Journal of Medical Terminology Research and Informatics, 1*(1), 1-8.

[29] Mikhail, & Amtanius Nayef (2016). Constructing and Standardizing Psychological and Educational Tests and Measures, Dar Al-A'sar Al-Ilmi Publishing and Distribution, *Amman, Jordan.*

[30] Mukhitdinova, B., Abdullaev, R., Odilova, G., Turniyazova, S., Ne'matova, Y., Turdikulov, S., Makhkamova, N., & Sapaev, I. (2025). Wireless Mobile Network with Transfer Learning Algorithm for Multilingual Education and Historical Research. *Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications, 16*(1), 599-608. https://doi.org/10.58346/JOWUA.2025.I1.035

[31] Omar & Mahmoud, et al. (2010): Psychological and Educational Measurement, Dar Al-Masirah for Publishing and Distribution, *Amman, Jordan.*

[32] Rapeta, S. J. (2025). Exploring the Effects of Teacher Mobility on Learners' Rights to Basic Education. *International Online Journal of Education and Teaching, 12*(4), 58-70.

[33] Rodriguez, H. (2006). *What Do I Want? How Do I Get It?: A Complete Guide to Effective Thinking and Mind Power*. Hugo Rodriguez.

[34] Sen, V., & Malhotra, N. (2025). A Critical Analysis of the Education for Sustainable Development. *International Journal of SDG's Prospects and Breakthroughs, 3*(1), 22-27.

[35] Shaalan, & Ithar Montaser (2019). Cognitive Control, Competition, and Personal Competencies, Al-Manahil Publishing and Distribution, *Amman, Jordan.*

[36] Sharp, A. M. (2004). The Other Dimension of Caring Thinking. *Cand CT, 12*(1), 9-15.

[37] Ulucinar, U. & Ari, A. (2019). He Development of Caring Thinking Skills Inventory Based on Problem Scenarios: A Study of Validation and Reliability.

[38] Younis, & Muhammad Abd al-Salam (2008). Psychological Measurement, Al-Hamed for Publishing and Distribution, Amman, Jordan.

[39] Zaki, & Zahraa Muhammad (2023). Caring Thinking and Its Relationship to Emotional Processing among University Students, Master's Thesis, College of Education for Girls, Department of Educational and Psychological Sciences, University of Kufa, Najaf, Iraq.