Original Article

Fast- slow thinking among students of the Department of History at the University of Diyala

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Abstract

This research aims to identify the following:

1- The level of fast thinking among students in Department of History at College of Education for Humanities at University of Diyala according to variable of gender (male-female).

2- The level of slow thinking among students in Department of History at College of Education for Humanities at University of Diyala according to variable of gender (male-female).

The research sample consisted of (250 male and female) students in Department of History in College of Education for Humanities at for undergraduate morning studies at University of Diyala divided according to variable of gender about (125 male) students and (125 female) students chosen by random class method with equal distribution

In order to achieve the aims of the research, the researcher adopted the scale 0f (Fast thinking- Slow thinking) prepared by (Al-Tememe, 2015) relying on (Kahneman, 2011). The scale consisted of (31) itemsformulated in the form of verbal situations followed each item an alternative to answer (a-b) measuring the alternative (a) fats thinking and measures the alternative (b) slow thinking and the answer to each alternative is according to gradients are (always, sometimes, rarely, never) and the weights of these alternatives (0,1,2,3). According to the Likert quadrilateral scale, the researcher analyzed the items of the scale statistically and extracted the discriminatory strength of them as well as extracting the psychometric characteristics of the scale from honesty (apparent honesty and constructive honesty) and stability in two ways (retesting and alpha-Cronbach).

The researcher reached to the following results:

1- The students at Department of History at college of Education for Humanities at University of Diyala in general have high level of fast thinking.

2- The students at Department of History at college of Education for Humanities at University of Diyala in general have low level of slow thinking.

According to the results the study, it reached to several conclusions:

1. The adoption of stereotypical thinking by university students based on ready-made ideas and temporary solutions without diving into logical analyses made them possess a high level of fast thinking.

2. The nature of the curriculum in humanities disciplines, including history, which requires rapid cognitive processes in making judgments away from analysis and interpretation, has made its students possess a low level of slow thinking.

Based on the results and conclusions reached by the researcher, her recommendations and suggestions.

Keywords: Fast – Slow thinking, Diyala University.

INTRODUCTION

Research problem

If we look a little at the educational process and the stereotyping it witnesses in terms of objectives and content, we find that it has produced a mentally confused generation at all levels, as we find that despite all the strenuous efforts and capabilities that

have been prepared for the development of this process, it has remained insufficient to provide the learner with inputs that stimulate his mind and motivate him His thinking in order to harness it to respond to these changes correctly, whether the response is quick or subject to deliberation, reflection and analysis, which negatively affected thinking in general and fast-slow thinking in particular, because the mind's work using cognitive processes is unplanned in our curricula (Ali, 2018: 22)

In view of the foregoing, the interest in thinking was not a primary goal of educational institutions, starting with the kindergarten stage, the primary school, the middle and preparatory stage, and the university. Interest in teaching and developing thinking for them to be able to deal with the requirements of contemporary life (Nazzal, 2018: 9-10).

We must point out that the weakness of university students in Iraq in possessing higher-order thinking skills is due to several reasons, perhaps the most important of which are the shortcomings in teaching methods and educational programs and the weak cognitive experiences that students receive in their lives in general (Al-Tammie, 2015: 122).

The study (Suleiman, 2020) indicated that there is a weakness in the ability of fast-slow thinking for university students. The study also demonstrated the predominance of the phenomenon of deaf memorization of academic vocabulary over understanding and comprehension of these vocabularies, which led to a low scientific level for them (Suleiman, 2020: 5).

Therefore, the current study came to answer the following question:

- Do students of the History Department at the College of Education for Human Sciences at Diyala University have fast-slow thinking?

Research importance

The progress of nations is linked to what they possess of culture, knowledge, and educated human capabilities, capable of creativity, competition, and achieving the best in all fields. Through the numbers of qualified manpower and able to engage in the future (Majid and Muhammad, 2008: 147).

In order to keep pace with the scientific and technological progress and development in various fields of life, it has become necessary to change the educational and educational institutions in order to achieve advanced scientific outputs and the numbers of staff capable of successfully adapting to the rapid changes imposed on society (Al-Rubaie et al.: 2013, 3).

In view of the foregoing, thinking and training in it is a necessary means of society to develop the capabilities of individuals in order to be able to keep pace with what is contemporary progress and development, as some believe that individuals are born with the ability to think and only need training in order to develop their thinking, as a number of researchers indicated Among them, Scullery indicated that the state may be rich in its resources, but it is poor in its knowledge economy, so it must pay attention to teaching thinking and memorizing facts in its educational systems (Al-Ayasra, 2011: 25-26)

Based on the foregoing, thinking is one of the main goals that the university seeks to achieve among learners, because it helps in facing problems and challenges as a result of the rapid developments and changes that affect all aspects of contemporary life. It is concerned with teaching students how to think by training them on sound thinking methods in order to employ this huge amount of information that they acquire during the learning process (Al-Amiri, 2008: 15-16).

Based on the foregoing, thinking is important in not only the fields of education and work, but also in the family, society, and friendship and building shared personal beliefs and values (Jabber, 2007: 21).

Hence, a tremendous interest in thinking patterns has emerged on the basis that this work develops educational practices in life, which leads to the search for new educational basics and curricula that provoke more productive thinking, as the thinking process is a valuable means to raise and develop the educational level, and it is the direct entrance to the development of the educational process. Students' creative abilities, as it enables them to think logically and trains them to solve problems in order to increase their productivity (Howidi, 2016: 374-375)

Based on that, thinking has a role in developing the student's personality in an integrated manner, as it contributes to the formation of the student's cognitive structure and helps to update it, which makes him master effective thinking methods and avoids making mistakes in thinking, because the actually successful student is able to employ his mental operations faster And better, he is capable of creativity, analysis, innovation and other higher mental operations due to the discussion and dialogue situations he is exposed to, which opens his thinking to multiple outlets for the problematic situation (Atiya, 2015: 50).

And to sum up, fast-slow thinking is important for the student's life, as it helps him direct his life, avoids dangers, and enables him to control and manage matters in his favour. The high-end mental process comes on top of psychological processes such as perception and sensation, as well as mental processes such as remembering, evaluation, discrimination, inference, analysis and comparison. It plays a key role in solving mathematical problems and the proof that represents the main pillar in scientific thinking (Mustafa, 2008: 9-11).

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

1 - The importance of fast-slow thinking for university students, as it facilitates mental activity, solves the problems they face and makes critical decisions about them.

2 - The importance of university students as a vital, flowing energy that has the ability to shape the future.

Research aims

The current research aims to identify

1- The level of quick thinking among students of the History Department at the College of Education for Human Sciences at the University of Diyala according to the gender variable (males - females).

2- The level of slow thinking among students of the History Department at the College of Education for Human Sciences at the University of Diyala according to the gender variable (males - females).

Search limits

1- Spatial boundaries: History Department, College of Education for Human Sciences, Diyala University.

2- Human Borders: Students of the History Department at the College of Education for Human Sciences, University of Diyala, and morning preliminary study for the academic year 2021-2022.

3- Time limits: the academic year (2021-2022).

Define terms

Thinking fast - slow

He was known by:

Kahneman

Two systems of mind the first system operates automatically and quickly, with little or no effort and without a sense of voluntary control and generates impressions and feelings that arise without suffering, which are the main sources of manifest beliefs and the multiple intended choices of the second system. While the second system is devoted to paying attention to the strenuous mental activities that require it, including complex arithmetic operations and the operations of the second system are often related to the subjective experience of the individual, choice and focus. And what does it do? (Kahneman, 2011:20-12).

The researcher has adopted Kahnman's definition (2011) because it has adopted the fast-slow thinking scale that was built by (Al-Tammie, 2015), which adopted in its construction the theoretical framework of Kahneman's theory.

Procedural definition

It is the total score obtained by students of the History Department at the College of Education for Human Sciences at the University of Diyala through their answers to the paragraphs of the fast-slow thinking test adopted for this purpose and which the researcher will apply to them.

Diyala University

Known as: Anbaki

A medium-sized university with a design capacity of (12,000) male and female students. It is considered the most important specialized scientific and cultural center within Diyala Governorate. It seeks to achieve distinction between its local and Arab counterparts to reflect the Arab-Islamic identity in thought and practice with openness to other nationalities and works to build a real partnership with community institutions. All (Al-Anbaki, 2017: 46).

Procedural definition

It is one of the academic institutions affiliated to the Ministry of Higher Education and Scientific Research in Iraq, which is located in the city of Baqubah, the center of Diyala Governorate, in the central region of Iraq, northeast of the capital, Baghdad. Its graduates have a bachelor's degree in scientific and humanities, and it includes eight faculties in scientific disciplines and six faculties in humanities

Theoretical framework and previous studies

The first axis: the theoretical framework

Thinking fast – slow

Fast-slow thinking is one of the important types of thinking, as its practice makes the individual able to make decisions, starting with simple and repetitive decisions such as drinking coffee and watching a particular channel, ending with strategic decisions related to family life, career or large projects, as we humans rely most of the time on intuition. We have the ability to think more deeply and seriously about some things and practices of life (Chatfield, 2018:10).

It should be noted here that modern cognitive science has identified two dynamic systems to interact with fast and slow mental processes, which are not essential to human thinking. The two systems together constitute an integrated system that enables us to respond effectively to changing circumstances (Anderson &Kjeld, 2013:4).

As for what was presented, the scientist Kahneman (2011) referred to the designation of fast-slow thinking as (system (1) and system (2)), as he distinguished between two types (systems) of mental processing: intuition or rapid, low-effort thinking, and slow, high-effort thinking. To be able to visualize them instead of using abstract concepts and thus easy to understand and comprehend, Kahneman described how the human mind works and pointed out the mistakes that individuals make in their lives while thinking, and many errors are attributed to the design of their cognitive mechanism, which constitutes the core of cognitive processes (House, 2016:104).

Based on this, Kahneman emphasized that system (1) is quick thinking, in which the individual is characterized by making instant, automatic decisions without awareness or effort. With rationality and logic, they need time to study and analyze, and this does not mean that slow thinking is better than fast thinking, but the problem lies in using the wrong type of parking. Quickly to avoid the car, as the decision-making process, which is supposed to be a rational thinking activity, depends to a large extent on our feelings and emotions, as our cognitive functions are greatly affected by those emotions and feelings, and this does not mean that they are the ones who think for us or make our decisions, they are not an alternative to thinking But it has a strong influence on those decisions (Adee, 2013, 32)

In addition, fast thinking represents a mental and cognitive activity that works automatically and quickly with little effort in the absence of voluntary control over its work. The learner uses the mental processes and activities that he exercises in different situations, so he constantly generates suggestions such as impressions, intuitive thoughts, feelings and intentions automatically for slow thinking. slow to solve, honing slow thinking abilities to perform the task (Bailes& Wayne2014:487).

The importance of thinking fast - slow

The importance of fast-slow thinking can be summarized as follows:

1 - A mental activity in the brain, which God Almighty has honored man with above all other creatures, to meditate, contemplate and see everything that happens around him in order to reach knowledge and invent solutions to the problematic situation.

2- Organizing random thinking that represents a group of ideas or practices that are not based on reasonable justification.

3- It facilitates and simplifies the mental activity that is characterized by the internal perception of events and things.

4- The learner gains the ability to perform work easily and easily and raise the level of mastery.

5- The ability to produce new ideas to solve problems, characterized by originality and ingenuity.

6- It helps the learner to make the most of his time in achieving his goals and creating a balance between desires and duties.

Mechanisms of fast-slow thinking

There are several mechanisms for fast-slow thinking, the most important of which are the following:

1- The association mechanism: the term association (connection) means the association of ideas or their interconnection, in other words the association of a particular concept with several related concepts through activation that is within the association mechanism, when one of the concepts is activated, this leads to the activation of other related concepts then The relationship between concepts becomes stronger and spreads within the knowledge base of the individual faster and becomes more automatic, and the increase in the strength of coherence, spontaneity and speed is the result of the accumulation of individual experiences, for example adding new concepts and restructuring previous information in memory as a result of experiences (Otgaar&etal, 2018:4) .

2- The mechanism of perceptual ease: a process within the brain that occurs when all things are going well, so there is no need to direct attention or sharpen effort, and these matters are evaluated through the system (1) quick thinking, and this mechanism is complementary to the mechanism of association, thoughts Available in the individual's environment and which were soon provoked are the closest to appearing, as the system (1), according to this mechanism, tends to summon the most available ideas within his environment and present them as a solution to the problem or situation (Rinaldi, 2020:10)

3 -Mechanism for setting self-standards

Subjective norms are formed through the individual's awareness of the pressures exerted by the people around him and who

are important to him, in determining his acceptable behavior, so social pressures generate subjective norms that govern behavior (Shenoy, 2020:2, 3).

Human behavior is affected by a set of rules, values, beliefs and tendencies that push him to perform in a way that makes him prefer a certain course over another (Al-Hajj, 2008:40)

4- Mechanism of jumping to results

Humans cannot perceive everything around them and cannot store all thoughts and images in their minds. It is known that our thinking, perception, and even our memory are subject to a number of cognitive errors (cognitive biases), and one of these cognitive biases is jumping to results (jumb to aconclusion) and this mechanism indicates To the way of thinking in which individuals reach relatively quick decisions and reach results with little data (Buck etal, 2012:45).

5- Sentencing mechanism

Everywhere in life, people encounter situations that require tolerable intuitional judgments (for example, how likely is this person to be trustworthy?) and often these judgments are based on judgments, whether for better or for worse, as we find that System (1) quick thinking triggers Several questions and constantly different aspects of the situation, he constantly monitors what is going on outside and inside the mind and generates assessments for various aspects with little or no effort and assessments take an important role in issuing intuitive judgments, and System (1) is characterized by being highly skilled in one form of Thinking, it causally links events even if there is no real connection between them in some cases, and it is not good at dealing with statistical facts (Krynski& Joshua, 2007: 430).

Quick Thinking Characteristics

Quick thinking has several characteristics, the most important of which are the following:

1 - Explains the actual picture that forms in the mind about different situations according to what they seem to him, they may be rational or irrational, and they may rely on evidence or unreliable sayings.

2- Quick thinking overcomes the obstacles facing the individual and preventing him from reaching the goal he seeks to achieve with the first solution he comes to.

3- Quick thinking is a cognitive mental process that represents a selective activity.

4- He connects many things with one thread and looks at the world around him in general.

5- Fast thinking is unable to control the behavior of the individual, which leads to him making mistakes as a result of his biases

Slow thinking characteristics

Slow thinking has characteristics that can be summarized as follows:

1 - Slow thinking deals with checking, activity, and observing behavior, using ideas and symbols that represent things and events.

2- It is motivated by logic and awareness to choose the best available alternatives to solve a specific problem after studying the expected results in each alternative.

3- Tends to be cautious and suspicious when exposed to a stimulus that is received by the senses.

4- Transforms impressions, feelings and inclinations into beliefs, actions, attitudes and intentions.

5- Controls and monitors the ideas suggested by quick thinking by suppressing and modifying some of them.

Comparison between fast thinking and slow thinking

Fast and slow thinking have common factors, the most important of which are the following:

1 - Fast thinking and slow thinking share a readiness for attention and mental control over it.

2- Fast thinking and slow thinking are active when we are awake.

3 - The two systems participate in giving responses and solutions to the questions raised, each according to the mechanism by which it works.

4- The two mental systems tend to control stimuli involuntarily through fast thinking and voluntarily through slow thinking.

The second axis: previous studies

Studies dealing with (fast-slow thinking)

The researcher was keen that the previous studies be directly related to the current study, and the researcher will present them

in the form of a table to balance between them and the current study, as follows:

Table (1) Balance between previous studies and current studies

sequence	researcher name and search title	country and year	Purpose of the study	Educational level and sample size	Study tools	Statistical means	Reselt
1	Tamimi Building and applying the fast-slow thinking scale among university students.	Iraq 2015	Building and applying the thinking scale (fast - slow) according to Kahneman's expectation theory, 1979 To identify the level of fast-slow thinking among university students and the level of fast-slow thinking according to the variables of gender and specialization.	Undergraduate 400 students A student.	The fast-slow thinking scale consists of (31) items	Pearson's correlation coefficient, second test for two correlated samples, second analysis of variance, and Cronbach's alpha equation.	University students enjoy fast-slow thinking to varying degrees, as there is a statistically significant difference between males and females in fast thinking in favor of females, and there is a difference between scientific and humanitarian specialization in favor of humanitarian specialization, and there is a statistically significant difference between males and females in slow thinking and in favor of males. A difference between scientific and humanitarian specialization and in favor of scientific specialization.
2	Sulaiman Fast-slow thinking and its relationship to preventive and circular thinking among students of the University of Mosul.	Iraq 2020	Measuring the level of both fast-slow thinking, preventive thinking and circular thinking among the students of the University of Mosul and building the fast-slow thinking test according to Kahneman's expectation theory, 1979, and identifying the significance of the differences between fast-slow thinking according to the variables of gender and specialization.	Undergraduate 1000 students	The rapid-slow thinking test consisting of (51) items and the preventive thinking test consisting of (40) items and circular thinking test It consists of (42) paragraphs .	Pearson's correlation coefficient, t-test for two independent samples, internal consistency method for paragraphs, extraction of test stability by retest method, Facronbach equation and Kewder-Richardson equation.	The level of quick thinking among the sample members in general is high, that is, they have a low level of slow thinking. And there is a statistically significant difference in quick thinking between males and females in favor of females, and between scientific and human specialization in slow thinking and in favor of scientific specialization.

Research Methodology and Procedures

First: the research method

The researcher adopted the descriptive research method because it is appropriate to the nature and objectives of the current research, as it is one of the most important and most widely used approaches in scientific studies and scientific research methods. , and the interpretation of all the circumstances surrounding it, and this is the beginning of reaching the study results related to the research and crystallizing the solutions that are represented in the recommendations and proposals marketed by the researcher to end the controversy contained in the body of the research (Aziz and Abdel Hassan, 2019: 74).

Secondly: the research community

The current research community consists of the students of the History Department at the College of Education for Human Sciences at the University of Diyala, the government's morning preliminary studies for the academic year (2021-2022), and their number is (612) male and female students, (248) male students, representing (41%) of the research community. And (364) female students, representing (59%) of the research community.

Third: the research sample

And since the current research community is divided according to gender variables (males - females) and grade (first, second, third, fourth), the research sample was chosen by the stratified random method of equal distribution, and its size was (250) students from the Department of History, College of Education for Science Humanities at the University of Diyala, as the numbers of students were obtained from the Department of History in the College of Education for Human Sciences at Diyala University according to the research cooperation book issued by the Deanship of the College of Basic Education and referred to in the first chapter, and the research sample constitutes (41%) of the research community distributed equally among According to the gender variable, (125) male and (125) female students, and according to the grade, (64) male and female students for the first grade, (62) male and female students for the second grade, (62) male and female students for the third grade, and (62) male and female students for the fourth grade

Fourth: the search tool

Slow-fast thinking scale

Since one of the objectives of the current research is to identify the level of fast-slow thinking among students of the History Department at the College of Education for Human Sciences at the University of Diyala, this requires the availability of a tool that measures this variable, and after reviewing the literature and previous studies that dealt with fast-slow thinking, the researcher decided Adopting the Fast-Slow Thinking Scale, which was built before (Al-Tammie, 2015).

Scale description

(Al-Tammie, 2015) scale of fast-slow thinking consists of (31) items, and these items are derived from the characteristics of fast-slow thinking, which amount to (33) characteristics according to Kahneman's theory (Kahneman, 2011), (noting that the researcher did not find these characteristics in building steps The scale is in Al-Tammie's study, and the paragraphs are formulated in the form of verbal situations, each of which represents a situation the student is going through, followed by two alternatives to the answer (A, B). For each of these two alternatives, it is according to gradations that differ in the strength of its representation, whether it is for fast thinking or for slow thinking, and according to the Likert scale, which is (always, sometimes, rarely, never) and when correcting, scores are given (0,1,2,3) on The chosen alternative is given a score of (1), and the alternative that was not selected is given a score of (zero), and the lower the difference, the less the differentiation, and the greater the difference, the greater the differentiation between fast-slow thinking. Therefore, the high degree indicates the type of thinking, and the total degree of the scale was (93) degrees the degrees of the scale indicated between (31-93) degrees, with a hypothetical average of (46.5) degrees, and the researcher will present the statistical indicators of the scale.

Scale instructions numbers

The scale instructions are formulated as follows:

A - Instructions for answering

The researcher formulated the instructions for answering the paragraphs of the fast-slow thinking scale in a clear manner, as follows:

1- Not mentioning the name while mentioning some general information (grade - gender).

2- The form is intended for scientific research purposes and the answer is confidential and only the researcher can see it.

3- The necessity of answering accurately and honestly the paragraphs of the scale amounting to (31) items.

4- Not to leave a paragraph unanswered, knowing that the total score of the scale is (93) degrees.

5- There is no right or wrong answer, but the student chooses the answer that represents him.

6- Determine the time allotted for the answer.

B - Correction Instructions

The scale consists of two contradictory characteristics (bipolar), so each characteristic is corrected separately and independently of the other (ie the scale is treated as two contradictory scales). Slow thinking, and when correcting the scale, a score is given (1) for the first alternative and a score (zero) for the second alternative, and each alternative corresponds to four degrees of answer (always - sometimes - rarely - never) and weights (3-2-1-0) are assigned according to the graduated quadruple Likert scale when debugging

Exploratory experiment (experiment with clarity of instructions)

In order to verify the nature of the tasks required of the students and to note their reactions, and the time spent in answering all the items of the scale, the researcher applied the scale to a sample of (50) male and female students, consisting of (25) male and (25) female students who were chosen by means of equal stratified random drawing from the students of the Department History, College of Education for Human Sciences, University of Diyala, at exactly nine o'clock on Sunday morning, 27/3/2022. After completing the answers of all the students, the researcher found that the paragraphs of the scale, its alternatives, and its instructions were clear to all members of the sample

Statistical analysis of the scale items

The statistical analysis process helps the researcher to determine the ease or difficulty of each paragraph and its ability to distinguish between the students' responses to the characteristic or phenomenon to be measured, as it reveals the very weak or undistinguished items (Al-Ajili et al., 2001: 67). The extent to which the paragraph is able to distinguish between those with higher levels and lower levels of individuals in relation to the trait measured by the paragraph (Shaw, 1967: 450), meaning that this paragraph has the ability to distinguish between respondents with high scores and respondents with low scores in the concept measured by this paragraph If the paragraph does not distinguish between these two groups, it is useless and should be deleted from the final form of the scale. (Al-Zoba'i and others, 1982: 79) and in order to calculate the discriminatory power of the paragraphs of the scale and for both directions (fast thinking) and (slow thinking), the researcher worked on applying the scale to a sample of (250) male and female students, with (125) male and (125) female students They were chosen by the stratified random method with an equal distribution from the students of the History Department in the College of Education for Human Sciences at the University of Diyala, equally distributed according to the gender variable (males - females) and the academic grade (first - second - third - fourth) starting from Tuesday 29/3 /2022 until Sunday 3/4/2022 The researcher worked on extracting the discriminatory power of the paragraphs of the fast-slow thinking test as follows

1- The method of the two extreme samples (peripheral comparison)

- The researcher worked to determine the number of individuals classified under each of the two types of thinking, by adopting the total score obtained by the student by selecting one of the two answer alternatives as a criterion for his classification within one of the two types of thinking (fast - slow).

-Then the degrees of the sample members and each of the two thinking styles were arranged in descending order, and the two extreme groups were determined according to the total degree (higher and lower) and at a rate of (27%) of the total number. The members of the lower group represent slow-thinking students, as the adoption of a percentage (27%) of the upper and lower group provides us with two groups with the maximum possible size and differentiation. (Al-Zoba'i et al., 1982: 80),

-The T-test was applied to two independent samples equal in number to test the significance of the differences between the scores of the upper group and the degrees of the lower group. You get a computed T value higher than the tabular good and distinct paragraphs.

2 - Correlation of the paragraph's score with the total score of the scale (internal consistency)

The Pearson correlation coefficient was used to calculate the correlation between the degree of each paragraph of the scale (and for each of the two types of thinking) and the total score of the scale. Statistically at the level of significance (0.05) and the degree of freedom (248), the critical value of the correlation coefficient was (0.124).

1- Indicators of the validity of the scale

A - Superficial honesty

The apparent validity is calculated by the researcher's presentation of the scale's paragraphs before applying it to a group of experts and specialists who are characterized by experience and knowledge that enable them to judge the validity of the

scale's paragraphs in measuring the characteristic or attribute to be measured. Most of them or by (80%) or more of them (Al-Kutaisi, 2010:265) This type of honesty of the fast-slow thinking scale was achieved after the researcher presented its paragraphs to a group of experts and specialists in the methods of teaching history, measurement, evaluation and general psychology. 30) experts and specialists Annex (3) to express their opinions and observations on its validity, and after receiving their answers, the scale obtained their agreement with all (100%).

b - Construction honesty

Construction honesty is the most representative type of honesty for the concept of honesty, and it is called honesty (the concept) sometimes, or the validity of the hypothetical formation, because it indicates the extent to which the scale measures a certain concept or hypothetical formation through experimental verification of the extent to which the experimental results match the theoretical assumptions adopted by the researcher. The results with the assumptions, this indicates the validity of the construction of the scale (Ibrahim, 1999: 26).

2- Scale stability

The researcher verified the stability of the scale in two ways:

A - Retest method (sleep or steady)

The researcher applied the fast-slow thinking scale to a sample of (50) students from the History Department of the morning study at the College of Education for Human Sciences at Diyala University at exactly nine o'clock in the morning on Thursday, 7/4/2022 *, and it was re-applied again on The same sample after (14) days after the first application, on Thursday, 21/4/2022, and after correcting the answers, the correlation coefficient was found between the students' scores in the first application and their scores in the second application using the Pearson correlation coefficient. The stability coefficient of the fast thinking scale was (0.83), while its value was (0.80) for the slow thinking scale, which are acceptable values. That test (Idris, 2010: 63).

b - Elfa-Cronbach method (internal consistency)

In order to extract the stability coefficient in this way, the researcher relied on a number of forms, which numbered (50) forms, which is the same as the stability sample by re-testing. The value of the stability coefficient is acceptable when it is equal to or greater than (0.70) (Ahmed, 2000: 128). Therefore, it is clear from the stability coefficient that the scale is internally consistent and that the scale enjoys high stability, and thus the scale is ready for the application of Annex (4)

Statistical means:

The researcher used the following statistical methods with the help of the Statistical Portfolio for Social Sciences (SPSS).

T-test for two independent samples: to calculate the discriminatory power of the scale items as well as to identify the significance of the statistical differences in the final results.

- Pearson's correlation coefficient: to extract the relationship of the paragraph's degree to the total score of the scale and to extract the reliability coefficient by the re-test method.

- Cronbach's alpha equation: to verify the stability of the scale by the method of internal consistency.

One-sample T-test: to identify fast-slow thinking among the sample members.

Presentation of the results and their interpretation

- The first goal:

Identifying the level of quick thinking among students of the History Department at the College of Education for Human Sciences at the University of Diyala according to the gender variable (males - females).

To verify this goal, the Fast-Slow Thinking Scale was applied to a sample of 121 male and female students from the History Department at the College of Education for Human Sciences at the University of Diyala. The arithmetic mean and standard deviation were calculated using the T-Test. For one sample, to extract the significance of the differences between the arithmetic mean and the hypothetical mean of the scale, and the results came as shown in Table (1).

Table (1) The results of the T-test for one sample to know the level of rapid thinking among students of the history department

Statistical significance	Statistical significance	Statistical significance	Statistical significance	Statistical significance	Statistical significance		Statistical significance	Statistical significance
					calculated	tabular		
the sample as a whole	121	62,024	7,721	47	22,116	1,960	0,05	A function in favor of the sample mean
male	67	62,209	7,834		16,412	1,960	0,05	A function in favor of the sample mean
female	54	61,796	7,646		14,700	1,960	0,05	A function in favor of the sample mean

From Table (1), it is clear that the students of the History Department at the College of Education for Human Sciences at the University of Diyala have a high level of quick thinking in general, when comparing the arithmetic average of (62,024) degrees with the hypothetical average and with a standard deviation of (7,721) of (47) degrees. There is a statistically significant difference between the two averages in favor of the arithmetic mean, and in order to find out the significance of the statistical differences, the T-test equation was used for one sample. At a degree of freedom of (120) degrees and at a level of significance (0.05)

The researcher attributes that university students have quick thinking to the fact that most students tend to the information stored soon and the most widely circulated, especially with e learning, which requires quick response to questions. System (1) impressions that often turn into beliefs and represent a source of motives that shape our choices and actions. Individuals rely on a specific number of inferential methods that transform the complex tasks (situations and events) they face into simpler tasks (Kahneman, 2011:83), as they tend to Most individuals in general, and students in particular, tend to the easy and fast ways of thinking (perceptual ease), which is at the core of the work of the system (1), while they avoid (cognitive pressure) and the complex interpretations that are the work of the system (2) which is slow thinking, because the nature of human thinking He tends to prefer using System (1) in thinking to make it easier for him to perceive information and facts that are given to him in an enjoyable and easy way (Kahneman, 2015: 92), and this result agrees with the results of the study (Suleiman, 2020).

The results in Table (24) also showed that there is a difference in quick thinking according to the gender variable

(males - females) and in favor of males compared to females, and the researcher attributed this to the nature of the responsibilities that fall on males, as well as the social upbringing that gives males a wide role in assuming tasks and responsibilities, which makes them feel a high level of self-confidence and a large area of independence, and thus makes them More rapid decision-making, as well as their involvement in the labor market, and this in turn develops intuitive judgment and enhances their quick thinking and is part of the judgment mechanism for fast-slow thinking. This result does not agree with any of the previous studies.

The second goal:

The level of slow thinking among students of the History Department at the College of Education for Human Sciences at the University of Diyala was known according to the gender variable (males - females).

To verify this goal, the slow-fast thinking scale was applied to a sample of 129 male and female students from the History Department at the College of Education for Human Sciences at the University of Diyala, then according to the arithmetic mean and standard deviation, and using the T-Test for one sample. , the significance of the differences between the arithmetic mean and the hypothetical mean of the scale was extracted, and the results came as shown in Table (2).

Table (2) The results of the T-test for one sample to know the level of slow thinking among students of the history department

Statistical significance	Statistical significance	Statistical significance	Statistical significance	Statistical significance	Statistical significance		Statistical significance	Statistical significance
					calculated	tabular		
the sample as a whole	129	40,015	9,144	74	8,054	1,960	0,05	A function in favor of the sample mean
male	58	38,155	10,776		5,897	1,960	0,05	A function in favor of the sample mean
female	71	41,535	7,289		5,739	1,960	0,05	A function in favor of the sample mean

From Table (2), it is clear that the students of the Department of History have a low level of slow thinking in general, when comparing the arithmetic mean of (40,015) degrees with the hypothetical average of (47) degrees and with a standard deviation of (9,144) degrees, and by calculating the T-value, it became clear that there is a difference Between the two averages is statistically significant in favor of the hypothetical average, and to find out the significance of the statistical differences, the t-value equation was used, as the calculated value reached (8,054) degrees, which is greater than the tabular t-value of (1,960) degrees at the degree of freedom (128) degrees at the level of significance (0.05) .

The researcher believes that the students of the History Department at the College of Education for Human Sciences at the University of Diyala have a low level of slow thinking due to the nature of the curricula in the humanities disciplines that require rapid memorization of the subject matter and quick responses, which is one of the characteristics of quick thinking, unlike curricula in scientific disciplines that require Understanding, accuracy and deliberation, as dealing with statistical processes, understanding facts and acquiring information through experience are characteristics of slow thinking. This result is consistent with Kahneman's (expectation) theory of fast-slow thinking, as system (2) (slow thinking) works slowly and requires effort and analysis, including complex arithmetic operations, and its operations are linked to focus and subjective experience (Daniel, 2011: 35-36).

The results also showed that there are differences in slow thinking according to the gender variable (males - females) and in favor of females compared to males. Patience and the second in carrying out their responsibilities, as Mustafa (2008) believes that thinking is affected by the surrounding environment and that the practice of analytical and careful thinking and conscious decision-making is affected by the social context (Mustafa, 2008: 9-11) and this result does not agree with any of the previous studies.

Conclusions, recommendations, and suggestions

First: the conclusions

According to the results of the research, the researcher reached a set of conclusions, the most important of which are:

1. The university students' adoption of stereotypical thinking based on ready-made ideas and temporary solutions without delving into logical analyzes made them possess a high level of quick thinking.

2. The nature of the curricula in humanitarian disciplines, including history, which require quick cognitive processes in making judgments away from analysis and interpretation, made its students have a low level of slow thinking.

Second: Recommendations

According to the researcher's findings, she recommends the following:

1- Curriculum makers in the Ministries of Education and Higher Education and Scientific Research are interested in designing curricula, restructuring and organizing them in a way that leads to the development of fast-slow thinking among students.

2- An appeal to the Ministry of Higher Education and Scientific Research to establish research centers concerned with teaching thinking and developing its various skills, similar to the ((De Bono)) center for teaching thinking.

Third: Suggestions

To complement the relevant aspects of this research, the researcher suggests conducting future research similar to the current research dealing with:

1- The same variables on samples other than the university students segment, such as faculty members in universities, teachers and teachers.

2- It reveals the relationship between fast-slow thinking and some variables such as (e-learning, quality of decision-making, cognitive dissonance, level of ambition, desire to le

arn, motivation for mastery).

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