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Facultad Experimental de Ciencias
Departamento de Ciencias Humanas
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Fast-slow thinking and its relationship to cognitive failure At university students

Wassan Nasser Mohammed

Univversity Of Baghdad / College Of Education Ibn Al-Haytham

Abstract

The current research aims to identify the fast-slow thinking style prevalent among university students. It also aims at identifying the level of cognitive failure of university students. Finally, it aims to identify the relationship between the slow and slow thinking and the cognitive failure of university students. The research was determined by the students of the University of Baghdad / morning study of males and females in the scientific and humanitarian disciplines for the academic year (2016-2017). In order to achieve the objectives of the research, the researcher chose a sample of the students of the university and consisted of (400) students from the University of Baghdad and were selected in random way multi-stage. The statistical methods adopted the Pearson correlation coefficient, the test for one sample. The research found results that indicate a relationship between cognitive failure and rapid thinking. Finally, in light of the results of the research, a number of recommendations and proposals were developed.

Pensamiento rápido-lento y su relación con el fallo cognitivo. En estudiantes universitarios

Resumen
Primero: objetivos de investigación
La investigación actual tiene como objetivo identificar el estilo de pensamiento rápido-lento que prevalece entre los estudiantes universitarios. También tiene como objetivo identificar el nivel de falla cognitiva de los estudiantes universitarios. Finalmente, tiene como objetivo identificar la relación entre el pensamiento lento y lento y el fracaso cognitivo de los estudiantes universitarios. La investigación fue determinada por los estudiantes de la Universidad de Bagdad / estudio matutino de hombres y mujeres en las disciplinas científicas y humanitarias para el año académico (2016-2017). Para lograr los objetivos de la investigación, el investigador eligió una muestra de los estudiantes de la universidad y consistió en (400) estudiantes de la Universidad de Bagdad y fueron seleccionados de manera aleatoria en varias etapas. Los métodos estadísticos adoptaron el coeficiente de correlación de Pearson, la prueba para una muestra. La investigación encontró resultados que indican una relación entre el fallo cognitivo y el pensamiento rápido Finalmente, a la luz de los resultados de la investigación, se desarrollaron una serie de recomendaciones y propuestas.

The first topic
Research problem and importance:

Thinking helps man to deal with the things that surround him in his environment and to address the situations he faces without doing any apparent action. Thinking is a behavior that uses symbols and symbolic thoughts of things and events that are not present, that is, that can be remembered, conceived and imagined. (Understanding, understanding, decision making - planning, solving problems, judging things, feeling happy and enjoying, imagining, indulging in daydreaming (Mustafa, 2008, 9).

Thinking is one of the fundamental goals of education that is constantly aimed at developing it among learners. The fact that thinking helps to cope with the problems of society and its challenges, especially those that result from rapid developments and changes (Ali and Mashhadani, 2014, 169).

Studies of thinking and cognitive processes have become important, and reflection studies have assumed a special place, especially with the begin-

ning of the second half of the 20th century. These studies have produced a new trend in psychology called cognitive science. (Abu Hatab, 1972, 1) .

Data and facts indicate that we graduate students who have the ability to recall and remember information and lack the ability to use information to come up with options, alternatives, or informed decisions (Razuki and Suha, 2013, 4)

Students face daily difficulties in their daily situations, which create problems that prevent them from reaching certain goals or objectives. The quality of these problems varies in terms of their degree of difficulty. They are simple and complex, and vary in nature to include psychological, social, academic and other aspects. , 2011, 225). The researchers noted that students experienced many cognitive failures in their daily lives, such as forgetting names, failing to observe road signs, differences with people, dispersion, and unintentionally wasting objects. Scientists called these failures and errors cognitive failures, . It may be due to thinking and type, whether it is fast or slow, as the type of thinking affects the results.

Therefore, the problem of current research stems from knowledge of the relationship of cognitive failure, which indicated the study (Badri 2015) to the high level of university students thinking fast slow university students to find statistical indicators on this relationship as well as the importance of research that stems from the importance of thinking It has become a necessity imposed by us the growing needs and as a goal of education, the current research helps to provide a theoretical and statistical explanation of the relationship of two variables important students, thinking and cognitive failure, as we strive to make the university student of cognitive competence.

Research goals:

The current research aims to:

1- To identify the fast-slow thinking style prevalent among university students.

2 - Identify the level of cognitive failure of university students.

3 - to know the relationship between the rapid thinking slow and cognitive failure of university students.

Search limits:

The research is determined by the students of the University of Baghdad / morning study of males and females in scientific and humanitarian disciplines for the academic year (2016-2017).

Terminology Search:

1. Fast-slow thinking:

Danial Kahnman (2011), "are two systems that represent poles of thinking. The first pole represents the rush of thought. The second pole represents the contemplation of the mind, both of which have characteristics that distinguishes it from the second, although each object is located on opposite poles." Kahnman, 2011).

The researcher adopted this definition as a theoretical definition because it adopted the scale based on this definition and its derivative theory.

The procedural definition is the degree to which the respondent obtains from his response to the fast-slow thinking scale used in this research.

Cognitive Failures:

Broadbent (1982) defines it as: "The failure of the individual to deal with the information he faces, whether in the process of perceiving it, remembering the experience associated with it, or in the process of employing it to perform a task"

(Broadbent et al, 1982: 114)

The researcher adopts the definition of Broadbent and his colleagues (Broadbent, 1982) for cognitive failures.

Procedural Definition: The degree to which the respondent obtains a procedure from the measure of cognitive failures used in the current research.

The second topic

Theoretical framework

1. Fast-slow thinking:

The view (Daniel Kanman) in the subject of rapid thinking - slow that there are two systems of thinking as follows:

The system (1) occurs quickly, intuitively, immediately, and without thinking, and can spontaneously understand the feelings of others from their voices or their simulations. System 2 is slow and takes time to analyze, interpret, Busy to live and walk things, the second self is careful remember and record points and make choices.

The system (1) spontaneously uses comparisons and metaphors to draw up a quick draft of the events map. System 2 is able to conclude that the command is supposed to be given to the system 2 carefully and rationally but also lazy and easily tired instead of the system (1) The source of biases to people is jumping them to the results intuitively based on directions, and this method is easy but it is not adequate to address the problems facing people, which calls for the intervention of the system (2), which represents now, but Daniel Kanman gave the title of the system (1) His view is because the system and (2) are lazy and easily believe in intuitive judgments (1), and does not examine the provisions of the system (1)

of the provisions and ascertain whether they are logical, and laziness is a justification for that, the system (1) in most cases performs its work well, it recognizes the signals of danger, But his passion for simplifying things and his speed in issuing verdicts sign in mistakes. He is weak in matters related to calculations and figures, which leads to the jump to the wrong conclusions, any errors in the thinking of people who are accustomed to defects in the work of the thinking system, which is influenced by factors not Have a relationship with the subject matter, not the cause of these errors is an external manipulation of the process of thinking, fall under The effect of irrational factors (such as the effect of halo) or (the effect of framing) and thus change depending on the frame surrounded by the system (2) is responsible for the things of the accounts. Daniel Kanman received the Nobel Prize in Economics in (2002)), In which he linked psychology with economics. He proved that the economic behavior of the people is not based on achieving the maximum benefit, and the decision-making process takes place in two stages of review and evaluation. People first decide the outcomes they find compatible, set points of reference, The lower the loss and the greater the profit according to the traditional perceptions of Economists, but on the basis of the potential loss and profit value, ie not on the basis of the final income earned, but people reside on the basis of their approach to this loss and benefit, and concludes Daniel the face of view that human rational might prefer to be hated to be loved, and that seems superiority consistent. Reasonableness is logical, whether it is reasonable or not. (Daniel, 2011, p: 38-44)

2 - cognitive failures:

Causes of cognitive failures:

One of the reasons that lead the individual to cognitive failure:

• Failure to encode: This is because the information sometimes does not symbolize well. Or because the information is neglected by the individual.

• Decadence: The decay theory explains the failure of memories to decay, in the sense that they weaken and degrade over time, and lose the relevant connections between the neurons. If human neurons are the same, memories fade over time. Researchers in psychiatry have not only referred to specific genes that promote stronger connections between neurons but also to other genes that inhibit such associations, leading to cognitive failures or hindering memory from retrieving information Al-Khairi, 2012, 175).

• Interference: interference is a disruption of the ability to retrieve information in part because of other information,

• Disability: Since memory is associative and coding requires the connec-

tion between mental representations and recovery when needed requires completion of the model, the provision of a recovery code reinvigorates the relevant representation. Failure can be caused by mental disability (Sternberg, 2003: 215).

Model of the refinery (Broadband, 1952-1962):

This model is based on a fundamental premise that human attention to stimuli and information through sensory channels is selective and selective, and that a human filter filters away or omits stimuli or information that is not noticed or irrelevant (Margaret, 1994, 48).

Broadband's attention is the result of the limited energy of the information processing system and suggests that the idea of the candidate acting as a barrier in the processing of information is that attention is paid to each other and the other is similar to that of the filter model (Y) (Stefan, 1999,73).

The third topic

Search procedures

This section includes the procedures of this research, including the identification of the research community, the selection of a representative sample, the drafting of the paragraphs of the scale and the preparation of its instructions, the statistical analysis of the paragraphs and the statistical methods used in the research.

First: The research community and its design:

The research society included students of the first four grades in the faculties of Baghdad University for the academic year (2016-2017) primary morning study of both sexes and scientific and humanities and took a sample of this society to be representative of this community. The sample consisted of (400) students in grades The four first faculties of the University of Baghdad were selected according to the random multi-stage method. Four colleges were selected randomly from the faculties of Baghdad University, two colleges in the scientific specialization, namely the Faculty of Engineering and the College of Education for Pure Sciences / Ibn Al-Haytham. Rushd , And the Faculty of Arts. (8) sections, from each of the selected departments chosen by the researcher, a group of students from each of the four grades, according to the size of students and students according to the scientific and humanities, and the table (1) Explains the size of the research sample distributed by sex and specialization.

Table (1)

Sample of the research divided by specialization and gender

Total	female	male	Specialization
151	91	60	Humanitarian
249	132	117	science
400	223	177	total

2. Research Tools: the researcher used two tools:
(A) Slow, slow-thinking measure:
The researcher adopted the scale (Maha Majid Hassan) prepared in 2015 and the scale consists of (31) paragraph and each paragraph has two alternatives (A, B) and each alternative three grades of the answer vary in their representation, either for quick thinking or slow thinking (always, sometimes (Zero), so that the highest possible degree of the scale (93) and the lowest score (0) , With a weighted theoretical average (46.5).
B - the measure of cognitive failure:
The researcher adopted the measurement of cognitive failure prepared by Khamis Shayel Yabir Al-Badri in (2015). The scale consists of (24) paragraphs, thus the highest score is (120) and the lowest grade (24) and the average hypothesis 72 prepared by Broadbent and his group in Broadbent, Cooper, Fitzgerald & Parkes, 1982)
Al-Badri verified the veracity of the translation, then prepared the scale's instructions and included the general purpose of the translation as well as the method of answering it. The two versions were found to be identical, and the alternatives to response to the scale were (always, often, sometimes, little, never) in weights (5,4,3,2,1), respectively.
- Standards for measurements:
The researcher extracted the psychometric characteristics as follows:
First: Validate the two measures:
The researcher extracted the virtual honesty of the two measurements and relied on the analysis of the scales of the scale carried out by the experts (Appendix 1) to assess their validity as apparent in measuring the content or specificity to be measured (Ebel, 1972: 555) (Ansari, 2000, 96). The scales were 100% true if the researcher adopted a percentage criterion for acceptance of the paragraph, as the approval of 80% of the experts and more on the paragraph is a criterion for acceptance.
II / Stability of the two measures:

The stability of the two measures has been verified in the test-retest method.
This is one of the common methods used to calculate the stability of educational and psychological standards, which depend on re-application of the scale on the same sample and with a time difference (Strange, 1977, 651). Therefore, the researcher applied the two measures on a sample of (100) students, which was selected in the random phase method of the students of Baghdad University, randomly selected two kidneys, one human and the other scientific, and each of these kidneys randomly selected one department, and each of these sections was randomly selected The sample was composed of (50) male and female students, and the standard was reapplied on the same sample after about 15 days. The two applications were corrected for each individual and according to Pearson correlation coefficient between the two application grades. The stability coefficient (0.79) 0.82) for the slow-thinking scale The cognitive failure was stable (0.83).
Statistical Methods:
A number of statistical methods have been used in this research, either in its procedures or in the analysis of its results by means of the statistical package for social sciences (SPSS)
1 - the test of the two interrelated samples: used to identify the thinking (fast - slow) in the sample members.
2 - T - test for one sample: It was used to extract the level of cognitive failure of university students.
3 - Pearson correlation coefficient: used to extract the slow-thinking relationship slow cognitive failure.

The fourth topic
View and interpret results

This section includes a presentation and explanation of the findings of the current research. It also includes the findings of the research based on the results of the research, as well as the recommendations it recommends, and finally the proposals that it proposes as follows:
First: Search Results:
The first objective: To identify the fast-slow thinking style prevalent among university students:

In order to achieve the second objective of the research, the researcher used the T-test for two interrelated samples. The difference was statistically significant at (0.05) and (399). The calculated T value of the difference (24) is greater than the value T (1.96) This difference was in favor of slow

thinking and Table (2) illustrates the details.

Table (2)

T-value to indicate the difference between rapid thinking and slow thinking in university students

Level of significance	Free degree	T calculated value	standard deviation	SMA	Thinking style
0.05	399	24	13.01	14.223	fast
			15	43.001	slow

The results showed that university students tend to think more slowly than fast thinking. This can be explained by the fact that university students have reached a level of high-level thinking which has led them not to think quickly without looking at things and thinking clearly. All this may be due to the nature of the age and the abstract thinking that characterizes this stage and the responsibilities assigned to the university students inside and outside the family.

2 - Identify the level of cognitive failures in the university students:

The results of the study showed that the mean of students in the cognitive failure scale was 82,66, the standard deviation 15.15 and the mean average. 72). Using the T-test for one sample, the calculated T value of (0.298) And the degree of freedom (399) less than the value of the scale of (1.96), and this indicates that the sample of the study has cognitive failures, but it is not a statistical indication and table (3)

Table (3)

Computational and standard deviations and T values of cognitive failures

Level of significance	T value		The assumed average	standard deviation	SMA	Sample size
	table	calculate				
(0,05)	1,96	0,928	72	15,15	82,66	400

The results indicate that there are cognitive failures among the university students. The reason is that the students suffer from the conditions prevail-

ing in the country, which leads to a number of cognitive errors, forgetfulness, lack of attention and information overload.
The third objective: To identify the relationship between slow thinking and the cognitive failure of university students:

To achieve this, the multiple correlation coefficient was used. The results showed a positive relationship and a statistical function between rapid thinking and cognitive failure (0.77). The correlation between slow thinking and cognitive failure was (0.60). Thus making mistakes and failing to know the contrary to slow thinking that is characterized by deliberation.
Second: Conclusions:
1 - The university curricula may have had a role in the development of slow thinking as the results showed that the slow thinking of university students is better than quick thinking.
2 - The pattern of thinking an effect on memory and cognitive failure, as the pattern of thinking may determine the way information is stored and retrieved.
Third: Recommendations:
In the light of the findings of the researcher recommends the following:
1 - Encouraging teachers to develop teaching methods and make them based on the use of troy and not rush in the performance of school tasks.
2 - Benefit from the current research in the various educational and psychological fields.

Fourth: Proposals:
1 - Studies to know fast-slow thinking in variables such as moral intelligence or decision-making.
2 - Conduct a study to know the rapid thinking slow at the university professors who hold administrative positions.
3 - Conducting a comparative study in the fast-slow thinking among students of various stages of study.
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