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The Relationship Of The Ability To Solve Problems To Cognitive Failures Of University Students

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Abstract:

Solving the problem is a cognitive mental activity directed, but rather, this activity is organized according to organized and purposeful methods designed, and in this type of thinking there is an organization and representation of previous experiences and elements of attitudes that the individual is exposed to including in order to achieve the goal of overcoming obstacles and solving problems (Mahmoud, 2001: 318), the study (Odeh, 1996) showed that there are no differences in solving the problem among students by type, and that there are no differences according to academic specialization and that university students have skills to solve problems, and a study (Justice, 2013) showed that there are significant differences Statistically in my approach to problem solving (orientation towards the problem, and control exactly Personal) in favor of females, and the existence of differences in methods of problem solving (directed towards problem solving, creative problem solving, confidence in problem solving and reluctance, and feet) in favor of human specialization. Some classify problem solving within cognitive modification methods and includes developing problem-solving skills through developing appropriate general strategies to deal with problems and finding solutions in the field of facing them, and problem solving in the literature of psychotherapy is described as cognitive behavior, because it tries to develop general methods of dealing with problems instead From focusing on a specific cognitive process, it is believed that following one method of the situation leads the individual to his failure to solve the problem in an organized manner (Al-Khatib, 2003: 349), that the occurrence of individuals in many cognitive failures occurs in their daily lives such as forgetting names and failure to notice signs The Road Difference with people and distraction and things were inadvertently lost, and scientists called these errors and errors (Cognitive Failures), and a study (Daniliel & Jessica, 2010) showed that attention gaps reflected the occurrence of cognitive failure and also found that attention gaps were positively linked to the occurrence of cognitive failures, and reached Shipman & Shipman (2012)

study indicates a weak relationship between cognitive dissonance and cognitive failures and working memory with a correlation between working memory disorders and cognitive failures. The researcher felt the problem of research through their experience of education, personal experience and daily observations about the existence of many study problems and knowledge failures, especially among university students who are essential pillars of society.

La Relación De La Capacidad De Resolver Problemas Con Fallas Cognitivas De Estudiantes Universitarios

Resumen:

Resolver el problema es una actividad mental cognitiva dirigida, sino que esta actividad se organiza de acuerdo con métodos organizados y con un propósito diseñado, y en este tipo de pensamiento hay una organización y representación de experiencias previas y elementos de actitudes a las que el individuo está expuesto incluso para lograr el objetivo de superar obstáculos y resolver problemas (Mahmoud, 2001: 318), el estudio (Odeh, 1996) mostró que no hay diferencias en la resolución del problema entre los estudiantes por tipo, y que no hay diferencias según a la especialización académica y que los estudiantes universitarios tienen habilidades para resolver problemas, y un estudio (Justice, 2013) mostró que existen diferencias significativas estadísticamente en mi enfoque para la resolución de problemas (orientación hacia el problema y control exactamente personal) a favor de las mujeres, y la existencia de diferencias en los métodos de resolución de problemas (dirigido a la resolución de problemas, resolución creativa de problemas, confianza i n resolución de problemas y renuencia, y pies) a favor de la especialización humana. Algunos clasifican la resolución de problemas dentro de los métodos de modificación cognitiva e incluyen el desarrollo de habilidades de resolución de problemas mediante el desarrollo de estrategias generales apropiadas para tratar los problemas y encontrar soluciones en el campo de enfrentarlos, y la resolución de problemas en la literatura de psicoterapia se describe como comportamiento cognitivo, porque en su lugar, trata de desarrollar métodos generales para tratar los problemas. Al centrarse en un proceso cognitivo específico, se cree que seguir un método de la situación lleva al individuo a su incapacidad para resolver el problema de manera organizada (Al-Khatib, 2003: 349), que la ocurrencia de individuos en muchas fallas cognitivas ocurre

en su vida cotidiana, como olvidar nombres y no notar signos La diferencia en el camino con las personas y la distracción y las cosas se perdieron inadvertidamente, y los científicos llamaron a estos errores y fallas (Fallas cognitivas), y un estudio (Daniliel y Jessica, 2010) mostró que las brechas de atención reflejaban la ocurrencia de falla cognitiva y también descubrió que las brechas de atención estaban positivamente relacionadas con la ocurrencia de fallas cognitivas, y el estudio de Shipman & Shipman (2012) indica una relación débil entre la disonancia cognitiva y las fallas cognitivas y la memoria de trabajo con una correlación entre los trastornos de la memoria de trabajo y cognitiva fallas El investigador sintió el problema de la investigación a través de su experiencia educativa, experiencia personal y observaciones diarias sobre la existencia de muchos problemas de estudio y fallas de conocimiento, especialmente entre estudiantes universitarios que son pilares esenciales de la sociedad.

Introduction:

The current research addressed this issue scientifically in an attempt to answer the following questions

1. Do university students have the ability to solve problems?
2. Are there knowledge failures of university students?
3. Is there a relationship between problem solving and cognitive failures?

Second: The importance of research:

The ability to solve a problem is an individual matter that belongs to one person without the other or a group without the other and it exists in all situations and includes goals that cannot be achieved due to the presence of an obstacle that prevents this and solving the problem requires overcoming the obstacle, i.e. discovering the means and principles that help us to solve it

(Abdel Hadi, 2004: 147), problem solving is one of the activities that distinguishes man from other creatures, and it means finding a way to overcome a difficulty, or achieve an unattainable goal, as reflection on the human nature of mental activities in different areas of life appears This life is a series of problems of varying difficulty, the individual seeks to overcome and overcome them in the hope of achieving adaptation, reaching the desired goals, and solving the problem is the obstacle in a situation and transforms between the

individual and reaching his goal and the behavior that the individual takes towards removing this obstacle or overcoming To solve the problem and the individual rushes to reach it It faces an obstacle that prevents it from reaching it, and the problem is often on this goal and its continuation and must be overcome (Al-Zghoul, 2004: 267). From the viewpoint (Piaget), problem solving is an expected and logical outcome for learning concepts and principles and learning consecutive and successive processes that depend on the necessary stock of Knowledge and skills that are prerequisite to learn what is more complicated and difficult (Ghanem, 2004: 204), and the ability process to solve problems is the most complicated and important form of human behavior, because the problem is a difficult position or obstacle that stands in front of the individual in achieving a specific goal, and raises a state of non The learner's knowledge balance, and therefore the learner Science seeks with its knowledge to confront this situation or obstacle and overcome it to reach a state of balance (Abdul Salam, 2002: 11), and many scholars and educators have conducted studies on the ability to solve problems that learning through problem solving leads to better results in Students from the results that lead to it by traditional methods (Al-Aboudi 2008: 12), Studies that dealt with the ability to solve problems have reached different results, as a study (Hamdi, 1997) found that there are significant differences between the two groups in the total degree of the problem-solving scale and in each of the sub-degrees in the University of Jordan sample and the University of Bahrain sample and the total sample There were significant negative correlations ranging from (-0,34, - 0,54) between the degree of depression on the one hand and problem solving variables on the other hand, and the gradual multiple regression analysis showed that the general trend variables and decision-making together explained a substantial percentage of the variance from Depression was 29% in the University of Jordan sample and 27% in the Jam sample In Bahrain, the study (Khazraji, 2003) reached university students who were characterized by the need for knowledge, and male students from university students outperformed females in requesting the need for knowledge, and the study found a correlation between the

need for knowledge and problem-solving (generating ideas) for university students. And, the study (Al-Adl and Abdel-Wahab, 2013) reached results, including a logical relationship between the ability to solve problems and skills beyond knowledge where each of them follows the mental organization in the personality, and the presence of statistically significant differences in the case of the relationship between the ability to solve problems on the one hand, and measures Awareness, review and evaluation of the skill. The ordinary t and the presence of the effect of the student type on the students' scores in all types of measures, except for evaluation and review, and the presence of statistically significant differences between males and females in the scale of the ability to solve problems and planning for the benefit of males, and a study (Captain, 2008) found that the level of problem solving for students The university is low, and there are differences in solving the problem according to the gender variable and in favor of females and academic specialization in favor of the scientific, and a study (Samurai, 2009) concluded that the third stage students have the ability to solve problems by scientific methods, and that university students have the ability to solve their problems equally and with specialists (Scientific and humanitarian), and that university students have the ability to solve problems compared to male students, and there are differences in two levels (the level of reasoning and the level of solutions generation) between the scientific and human specializations in problem solving and there are differences in the gender variable, as there are differences between male and female in the generation Solutions for the benefit of females, and there is a relationship between multiple intelligence and problem solving among university students, and the study (Alwan, 2009) showed that there are statistically significant differences for all correlation coefficients between the two metrics for processing information and the ability to solve problems, and there are fundamental differences in the areas of ability to solve Hclat depending on the variable type and the presence of significant differences in the mental field college degrees in favor of females, and the existence of differences essential in the emotional field in favor of males and in the social sphere college degrees in favor of females and there

are differences significant in the areas of ability to solve problems according to the variable school level.

Cognitive researchers see that a person has a system that searches for information and organizes it, that is, he does not waste his time in the information previously collected, since he is often exposed to boredom and instability when exposed to fixed cognitive information, but that the stability of information constitutes a cognitive obstacle, as the obstacles Cognitive impairment arises from two sources: brain damage, and the failure of the environment surrounding the individual to provide the appropriate conditions for developing cognitive systems (Saleh 1982: 25). He found (Yamanaka, 2003) through his analysis of the notes of a group of students on cognitive failure and revealed the existence of three types of cognitive failure Represented by failure in the level of attention and p High memory and dealing with information, and cognitive failure occurs when the mind is occupied in reference to the role of distraction and lack of focus in cognitive failure, as well as a relationship between the types of cognitive failure and depressed mood of the individual (Yamanaka, 2003: 160) (Broadbent) believes that cognitive failure occurs when the applied system fails to mediate between the cognitive system and the memory system, and that failure is due to many reasons, some related to the individual and others related to the information (Broadbent, 1982: 120).

(1992) (Elliot and Grene) mentioned in their study that there are multiple types of difficulties in the field of short-term memory and long-term memory, and in the tasks of recall and recognition, cases of cognitive failures correlate, especially among people with depressed mood. (Al-Khailani, 2008) study showed that the research sample does not suffer from cognitive failures and there are no statistically significant differences according to the type variable, and showed the existence of the relationship between social pain and trauma memory and cognitive failures among university students.

The study (Al-Rikabi, 2010) indicated that university students are characterized by different levels of cognitive failure and the levels of cognitive failure were as follows, high by 16.32% for the number of (70) individuals from the research sample and low by 16,55%

the number (71) individuals / average With a percentage of 67,31% for (288) individuals, and there is no significant correlation between cognitive failure and personality style of the research sample (Al-Naimi, 2007), and (Norwood, 1987) believes that individuals 'retrieval of information largely depends on the way information is handled during their learning So, the deeper the level of information processing, the greater the retrieval of information (Norwood, 1987: 405-406). Based on the above, it is possible to The importance of current research as follows:

1- The study of these variables records a new scientific addition in enriching the psychological heritage with information on the concepts of (solving problems and cognitive failures) and revealing the correlation between these concepts and differences according to some of the variables covered by the current research on university students.

2- The study of these variables records a new scientific addition to the Arab library in general and the Iraqi library in particular in the fields of psychological knowledge

Third: Research Objectives: The current research aims to identify:

1- Solving problems for university students.

2- Differences in solving problems for university students according to gender (male, female), and specialization (scientific, humanitarian).

3- Cognitive failures of university students.

4- Differences in cognitive failures, according to gender (male, female), and specialization (scientific, humanistic).

5- The strength and direction of the relationship between problem solving and cognitive failures.

Fourth: Research Limits:

The current research is determined by: Al-Mustansiriya University students / College of Basic Education for the first morning study, from both sexes (males and females) for the academic year (2017-2018)

Fifth: Defining the terms:

• The ability to solve problems: The researcher adopted a definition (Heppner, 1982) of the ability to solve problems: a set of operations

performed by the individual using the information he had previously learned and the skills he acquired in overcoming a situation in a new and unfamiliar way in controlling it, reaching To solve it. (Miqdadi and Abu Zaitoun, 2010: 528)

Procedural definition: The total score obtained by the student when he responds to the paragraphs of the scale adopted in the current research.

• Cognitive failures: The researcher adopted a definition (Broadbent, 1982) of cognitive failures: the individual's failure to deal with the information facing him, whether it is in the process of perceiving it, or in remembering the experience associated with it, or in the process of using it to perform a task. Broadbent et al, 1982: 114))

Procedural definition: The total score obtained by the student when he responds to the paragraphs of the scale of knowledge failures adopted in the current research.

Theoretical background:

First: The ability to solve problems:

The ability to solve problems is a method that puts learners in a real situation in which they work their minds in order to reach a state of knowledge equilibrium. On his continued mental activity and his maintenance until he reaches the goal, which is the solution or relief from tension (Katame, 2007: 445). Strnberg (1993) believes that individuals who possess the ability to solve problems have strong cognitive structures that contribute to a new and effective representation of the problem and that the difference between individuals in solving the problem depends on the individual adopting one of the two methods, either the deep method or the superficial method, and he proposed to solve problems with a title (The thinking circle), and it is based on the fact that the correct thinking to solve problems is not linear thinking, but it is a circular thinking whose links continue during the solution of the problem and after its solution in two directions, because reaching a solution to the problem may lead to the beginning of a new problem or several problems (Strnberg, 1993: 56) (Hayes, 1991) believes that the individual is trying to solve a problem, as he imagines goals on his mind that are in agreement with the general goals and relations of the external problem presented to

him and these goals and external relations presented to him represent an internal representation of the problem and in some cases the individual represents an external representation of some parts of the problem from Through drawings, mental images, or writing symbols that sometimes help him solve the problem, internal representation is not enough alone to solve the problem (Al-Amri, 2012: 30). In his model, Heppner (1978) put forward five steps to solve problems that underlie the current research:

1- General Orientation: This step is one of the most important steps in the problem-solving course, as students need to know the information that stands before them to understand the lesson or issue that they are trying to understand or understand. The general trend is in the individual's ability to deal with the problems of daily life positively, and attention in this component is focused on improving the problem or situation or determining the path that moves from the current reality to the desired future.

2- Knowing to solve the problem: It is knowing the individual exactly what is required, and in particular what the individual wants in order to reach him exactly through his solution to the problem. It may not be as easy as some might think, due to the intertwining elements of the problem on one side and the presence of other elements unrelated to it on the other side.

The definition of the problem means working to define the problem and formulate it in a procedural way that determines exactly what is the obstacle that prevents the process of understanding, and that the process of defining and defining the problem helps students to deal with it and then being able to develop appropriate strategies to deal with it and the teacher can contribute to the definition of the problem and identify it through Asking sound questions to them, on the other hand, the defined and specific problem is not only important for the student, but also for the teacher (Nofal and Abu Awwad, 2011: 317).

3- Generating ideas: In this step, the effective individual has the flexibility and does not freeze his thinking at specific alternatives. He can also be free from the emotional charge and feelings of frustration, and thinks about the largest possible number of alternatives without being evaluated in this step, and uses the method of intellec-

tual storming. (Abu Hashem 2004: 35)

4- Decision-making: In this step, the effective individual balances the alternatives based on the positive or negative results that may result in the near and long term on the susceptibility and desirability of the alternative for the individual, and the decision is taken in light of this budget and establishes a plan of action. The implementation of the decision-making process is the fruit of this process, since the decision has no value if it has not been implemented, and the lack of implementation makes the time that was devoted to the great effort long, which invested and wasted effort in vain. (Abdul Rahim, 2010: 144)

5- Assessment of problem solving: It is the individual's ability to conduct a progressive evaluation of the solution that he began implementing in order to continue it or stop it and start with another alternative. After completing the problem solving, it is necessary to evaluate this solution since some of the assessments happen directly, and some of them are in stages Slightly late, most advanced solutions occur at this point.

In this step, the results are verified, and the individual chooses the action plan to see how successful it has been in achieving the goals and deciding on them (Nofal and Abu Awwad, 2011: 323)

Second: cognitive failures:

Cognitive failures occur as a result of external and internal factors that affect the performance of the individual and cause its occurrence in errors, and external factors may come from stimuli in the environment surrounding the individual and internal factors may come from the individual himself such as shock, beating on the head or infectious diseases, which contribute to cognitive failures, and the individual is affected By other factors such as physiological factors such as stress, insomnia and mental disorders, which are an influencing factor in cognitive failures, however, these cases and disorders are not the result of cognitive failures. Mediation in the occurrence of errors and accidents may affect the individual himself and others (houstn , 1997: 142)

Causes of cognitive failures:

(Ebenkhaus, 1985) indicated that the individual retrieves new

events better than the more distant events, and cognitive failures occur before learning and the individual loses over time other information less and less than memory and the individual loses information over time and comes as a presentation of the most important reasons that lead the individual to cognitive failures she:

1- Coding failure: The reason for the failure of the individual to retrieve information from memory is that the information sometimes does not symbolize well, or because the information is neglected by the individual, and the failure of coding results if the individual does not process the information well enough to start coherence and causes coding failure and loss of information .

2- Interference: It is the disabling of the ability to retrieve information, even partially, due to the presence of other information. There are two types of interference that can affect the retrieval of information, which are dimensional and tribal interference.

3- Disability: Since the associative memory and coding necessitates the formation of correlations between mental representations and recovery at the time of need necessitating the completion of the model, the provision of a recovery code reactivates the relevant representation, and can cause failure through mental disability.

4- Selection failure: It occurs when there is a lot of information that is presented concurrently in front of the individual, and the individual is not able to notice all the information, and that the individual's loss of some cognitive information does not happen by chance, and failure may occur in the selection of information when the individual gets Less information, and when the information processing system is unable to carry out its cognitive processes on sensory inputs, crowding out information, or selecting the information in the required image as it is in its natural form (Strnberg, 1999; 93), (Broadbent) believes that the basic principles that explain his theory:

1- The cognitive system of a person cannot absorb the vast amount of stimuli or stimuli coming at every moment, because it is a specific capacity and needs some sort of filtering and selection of stimuli.

2- That the sensory receptors receive the various stimuli, then analyze them first and send them to the short-term memory store, as they remain for a short period and then move to the selective filter

device that works as a temporary time for information.

3- The selective filter performs a series of central analyzes of the selected and specified information and neglecting other information, and it excludes useful information only, and it works as a whole or nothing system, either it pays attention or neglects the information. (Broadbent) believes that the special operations in each short-term memory store, selective filter and capacitance device simultaneously and simultaneously as the initial analysis of information in the short-term memory is carried out, then the process of selecting important information from the selective filter and gives meanings, interpretations and encryption in the device of the specific ability as it occurs Recognition process. (Al-Zayat, 2001: 212-222)

Search procedures:

Research Methodology:

The method used in the current research is the descriptive approach that aims to describe psychological phenomena in general by collecting data on them and analyzing them and knowing the relationships between them (Melhem, 2007, 324). As this approach is concerned with studying the research variables as they are with the members of the sample without the researcher having a role in controlling the variables, and is concerned with describing the phenomenon accurately and expressing it quantitatively in terms of quantity, the quantitative expression gives us a numerical description that explains the amount of this phenomenon or its size and degrees of its correlation with other phenomena, either The qualitative expression describes the phenomenon to us and clarifies its properties.

research community:

The research community consists of students from the College of Basic Education - Al-Mustansiriya University. Thus, the research community reached (3567) students, (1100) students, (2467) students, and according to the academic specialization by (1550) scientific and (2017) human, Table (1) illustrates this.

Table (1)

The search population is broken down by gender and specialty

total	female	male	Sex /Specialization
1550	950	600	Specialization
2017	1517	500	Scientific
3567	2467	1100	The human

Main research sample:

The sample of the research was chosen in a random, stratified, and equal manner, with a total of (300) students in the College of Basic Education - Al-Mustansiriya University, and Table (2) illustrates this.

Table (2)

The research sample is divided by gender and specialty

total	female	male	Sex /Specialization
150	75	75	Specialization
150	75	75	Scientific
300	150	150	The human

search tools:

First: the size of problem solving:

Scale of solving problems: After reviewing the scale that relates to solving problems, including the scale (Al-Kubaisi, 1985), the scale (Alwan, 2009), the scale (Hamdi, 1998) and the scale (Al-Badri, 2015), the researchers relied on the Al-Badri scale, 2015, because it is on university students, which is appropriate With the current study.

Description of the problem-solving scale:

The scale consists of 40 paragraphs distributed in five areas (orientation towards the problem, definition of problem solving, generation of alternatives, decision-making, evaluation of problem solving) and five alternatives were identified for the answer and they are (they apply to a very large degree, apply to a large degree, apply a small degree, apply a small degree, Never apply) and scores are given (5, 4, 3, 2, 1), respectively. Thus, the highest score for the scale is 200 degrees, and the lowest degree for the scale is 40 degrees, with a hypothetical average of 120 degrees.

Validate the scale:

The scale was presented to a group of (10) arbitrators in education and psychology, and a cut point of 80% or more was adopted using the percentage of acceptance of the paragraph or not, and it became clear that all paragraphs are valid for measurement.

Stability of scale:

The stability of the scale was extracted by way of testing and re-testing, and this required that the scale be applied to a simple random sample of (50) students selected randomly from the research community from the College of Basic Education / Al-Mustansiriya University, and the scale was re-applied after 14 days, so the stability factor reached (0.83) degrees

Second: The scale of cognitive failures:

After reviewing the measures related to cognitive failures, the Broadbent Scale and its 1982 group consisted of 24 paragraphs, and the alternatives for answering the scale paragraphs are (always happens, happens a lot, happens sometimes, happens a little, never happens) with weights (5, 4, 3, 2, 1) respectively. Thus, the highest score for the scale becomes 120 degrees, and the lowest score for the scale is 24 degrees, with an average rating of 72 degrees.

Validate the scale:

The scale was presented to a group of (10) arbitrators in education and psychology, and a cut point of 80% or more was adopted using the percentage of acceptance of the paragraph or not, and it became clear after extracting the opinions of the arbitrators that all paragraphs are valid for measurement.

Stability of scale:

The stability of the scale was extracted by means of the test and retest method, and this required that the scale be applied to the same sample for the stability of the problem-solving scale. The scale was re-applied after 14 days, so the stability factor reached (0.80) degrees

research results:

The first goal: to identify the ability to solve problems for university students.

The results showed that the degrees of problem-solving level for university students in the current research were with an arithmetic average (142.34) and a standard deviation (10.45) and when compared to the hypothetical average of the scale (120) degrees it was found that the average of the research sample was higher than the hypothetical mean of the scale, and at the level of significance of the difference between the two averages Statistically at the level of significance (0.05) and degree of freedom (298), as the calculated T value reached (37.38) against the tabular value (1.960) and Table (3) shows that.

Table (3) T-test for the difference between the sample mean and the hypothetical mean for the problem solving scale

Indication of the difference	Significance level	Value t		Average sum of squares	deviation The normative	SMA	no	variable
		table	calculate					
function	0.05	1.96	37.38	120	10.45	142.43	300	Problem Solving

It is clear from the table that university students have the ability to solve problems, and this result is consistent with the study (Hamdi, 1997), the study (Justice and Abdel Wahab, 2003) and the study (Samarrai, 2009) and the study (Alwan, 2009), while the results of the current study conflicted With the study (Khazraji, 2003), the reason for having the ability to solve problems among university students

can be attributed to the elevation of man in the processing of information with selective attention that becomes easy for him to solve the problem, which he considers thinking oriented towards solving a problem.

The second goal: to identify the differences in the ability to solve problems for university students according to gender (male, female), and specialization (scientific, human).

To verify the differences of statistical significance in solving problems according to type and specialization, a dual-contrast analysis was used. The results indicated that the computed F value for solving problems in type (0.809) is smaller than the tabular F value (3.84) at the significance level (0.05) With degrees of freedom (1-296), this result indicates that there are no statistically significant differences between males and females in solving problems, and the results also show that the calculated value of ability to solve problems in the academic specialization (1.905) is smaller than the tabular alpha value (3.84) This result indicates that there are no statistically significant differences between a The two scholastic sections (scientific - human) solve problems, and the results indicated that the calculated value for solving problems in the interaction between sex and academic specialization (0.983) is smaller than the table value (3.84) and this result indicates that there are no statistically significant differences in the interaction between sex Specialization in problem solving, and Table (4) illustrates this.

Table (4) Analysis of the two-way interaction variance to indicate the differences in problem solving by gender and specialization

Indication of the difference	Significance level	Value t		Average sum of squares	Degree free	Sum of squares	Sources of variance
		table	calculate				
Not function	0.05	3.84	0.809	77.440	1	77.440	Type
Not function	0.05	3.84	1.905	182.250	1	182.250	Specialization
Not function	0.05	3.84	0.983	94.090	1	94.090	Gender x specialty
				95.629	296	28306.220	The error
					299	28660	Kidney

The third goal: Learn about the knowledge failures of university students.

The results of the research showed that the degrees of the level of cognitive failures among university students in this research were the arithmetic mean of cognitive failures (80.73) and the standard deviation (10.55) and the hypothetical mean of the scale (72), and using the T-test for one sample showed that the calculated T value (14.55) is greater than The tabular T value (1.960) is at the significance level (0.05), and this indicates that university students have cognitive failures, and Table (5) illustrates this.

The results of the research showed that the degrees of the level of cognitive failures among university students in this research were the arithmetic mean of cognitive failures (80.73) and the standard deviation (10.55) and the hypothetical mean of the scale (72), and using the T-test for one sample showed that the calculated T value (14.55) is greater than The tabular T value (1.960) is at the significance level (0.05), and this indicates that university students have cognitive failures, and Table (5) illustrates this.

Table (5) T-test for the difference between the sample mean and the hypothetical mean for the measure of cognitive failure

Indication of the difference function	Significance level	Value t		Hypothetical mean	deviation The normative	SMA	no	variable
		table	calculate					
	0.05	1.96	14.55	72	10.55	80.73	300	Cognitive failures

This can be explained by the student’s failure to identify important information about unimportant information, the individual’s failure to receive, analyze, and classify the information and to prioritize its passage from the cognitive system to the memory system when the system fails to mediate between the cognitive and memory systems, as well as attention and awareness biases that may be a reason for Emotional disorders continue. The results of this study are consistent with the 1982 Broadbent study and the 2013 Al-Atabi study, while

the results of this study conflict with Al-Khailani’s study 2008. Fourth Objective: Differences in cognitive failures of university students according to gender (males, females), and specialization (scientific, human). To verify the statistically significant differences in cognitive failures according to type and specialization, a binary variance analysis was used with the interaction, where the results indicated that the calculated value of cognitive failures by type (78.803) is greater than the table metabolic value (3.84) at the level of significance (0.05) With degrees of freedom (1--296), this result indicates that there are no statistically significant differences between males and females in cognitive failures. The results also showed that the calculated value of cognitive failures in the academic specialization (3.095) is smaller than the categorical value value (3.84) and this result indicates that there are no statistically significant differences between the two academic (scientific - human) branches of cognitive failures. The results indicated that the calculated value of cognitive failures in the interaction between sex and academic specialization ((1.343 is smaller than the categorical value value (3.84) and this result indicates that there are no statistically significant differences in the interaction between sex and specialization in cognitive failures, and Table (6) shows that.

Table (6) Two-way interaction variance analysis to indicate differences in cognitive failures by gender and major

Indication of the difference	Significance level	Value t		Average sum of squares	Degree free	Sum of squares	Sources of variance
		table	calculate				
function	0.05	3.84	78.803	980.150	1	980.150	Type
Not function	0.05	3.84	3.095	34550	1	34550	Specialization
Not function	0.05	3.84	1.343	15	1	15	Gender x specialty
				11.163	296	3304.30	The error
					299	38849.455	Kidney

It appears through the table that there are statistically significant differences according to gender and in favor of males, as the students who used the surface treatment method produce a faster failure in the memory, while the treatment of more in-depth information produces a more powerful and sane memory effect with a slow rate of corrosion.

The results of this study are consistent with the study (Al-Atabay, 2013), while they differ with the results of the study (Al-Khilani, 2008).

Fifth goal: strength and direction of the relationship between problem solving and cognitive failures.

The results of the analysis showed that there is a statistically significant inverse relationship between problem solving and cognitive failures, as the correlation coefficient value (0.66) was greater than the tabular value (0.098) at the level of significance (0.05) and degree of freedom (298).

Recommendations:

Based on the research results, the researchers recommend the following:

- 1- Incorporation of problem-solving skills in academic courses.
- 2- Providing an environment that helps students to solve cognitive failures through holding seminars and educational programs.
- 3- Give the effective educational guidance by setting up training programs to develop problem-solving skills.

Arab and foreign sources:

Abu Hashem, Al-Sayed (2004). Method of problem solving in learning, Zagazig University, Faculty of Education, conference research, Egypt.

• Hamdi, Mohammed Nazih (1997), The relationship of the skill of solving problems to depression among university students, Journal of Educational and Psychological Sciences Studies, University of Jordan, Volume 25, No. 1 of 1998, Jordan.

Al-Khailani, Kamal Muhammad (2008). Social pain and its relationship to trauma memory and cognitive failures among university students, unpublished doctoral thesis, College of Arts, University of Baghdad.

- Al-Khatib, Jamal (2003), *Amending Human Behavior*, Al-Falah Library for Publishing and Distribution, Kuwait.
- Al-Zghoul, Emad Abdul Rahim (2004), *Cognitive Psychology*, Al-Shorouk Publishing House, Amman, Jordan.
- Al-Zayat, Fathi Mustafa (2001). *Cognitive Psychology - Research and Studies, Part One*, First Edition, University Publishing House, Egypt.
- Samurai and Sun Bergs (2009). *Multiple Intelligence and its relationship to problem solving among university students*, unpublished Master Thesis, College of Education for Girls, Tikrit University, Iraq.
- Salih, Qasim Hussain (1982). *Psychology of Perception of Form and Color*, Dar Al-Rasheed Publishing, Baghdad.
- Abdul Rahim, conclusion (2010). *Thinking concepts, patterns*, 1st floor, National Library House, Jordan.
- Abdul Salam, Mustafa (2002), *The role of teacher curricula in helping our children to become effective thinkers*, Yearbook of the Teachers College in Abha, the third issue, Palestine.
- Al-Aboudi, Tariq Muhammad Badr (2008), *Cognitive Approach and its Relationship to Generating Solutions for University Students*, Unpublished Master Thesis, College of Arts, University of Baghdad, Baghdad.
- Justice, Adel and Abdel-Wahab, Salah (2013), *The ability to solve problems and metacognitive skills of ordinary and mentally-excluded people*, Journal of the College of Education, Umm Al-Qura University, No. 27, c3, Saudi Arabia
- Alwan, Musab Muhammad (2009). *Information processing and its relationship to the ability to solve problems*, unpublished Master Thesis, Islamic University, Gaza, Palestine.
- Odeh, Thanaa Meligi (1996), *studying the levels of fifth-grade students' learning of some scientific concepts and principles and its relationship to their ability to solve problems*, Journal of Educational Studies, No. 36, May, pp. 44-96.
- Ghanem, Mahmoud Mohamed (2004), *Thinking about children*, Amman, Jordan.
- Katame, Youssef (2007). *Thinking Education for All Children*, 1st

Floor, Al Masirah Publishing House, Jordan.

•
Mahmoud, Salah Al-Din Arafa (2001). Boundless Thinking Contemporary educational insights into thinking and learning, Book World, Cairo, Egypt.

Miqdadi, Youssef Moussa and Abu Zaitoun, Jamal Abdullah (2010). The effect of a training program based on emotional rational education on improving social competence and problem-solving skills for the seventh and eighth grade primary students, Al Al-Bayt University, Faculty of Educational Sciences, Islamic University Journal, Volume XVIII, second edition, 521-528.

Melhem, Sami (2007). Measurement and Evaluation in Education and Psychology, 3rd floor, Al Masirah House for Publishing, Distribution and Printing, Amman, Jordan.

Nofal, Muhammad Bakr, Abu Awad, Feryal Muhammad (2011). Educational Psychology, 1st floor, Al Masirah Publishing House, Amman, Jordan.

Al-Nuaimi, Muhannad Muhammad (2007). The effect of cognitive failures and the midterm dominance of the brain in solving verbal symmetries among primary school students, (conference research), the participation of educational and psychological sciences, College of Basic Education, Diyala University.

Captain, Enas Fahmy (2008). Cognitive strategies for self-organization of learning and its relationship to the ability to solve problems among high school students, Journal of the Faculty of Education in Port Said, 4, pp. 181-217.

• Broadbent, D, E, Cooper, P, Fitzgerald, P & Parks, K, R, (1982). The Cognitive Failure Questionnaire (C, F, Q) and its correlates British Journal of Clinical Psychology.

• Damalie, M, & Jessica (2010) .Cognitive in Every Life, New York, Guilford, Press.

• Elliot, C.L & Green, R, L. (1992). Clinical depression and implicit memory.j.of abnormal psychology vol.101, No3.

• Houston, D.M. (1997) .Psychology distress and error making among junior house officers heath.

Norwood, N, J, (1987). Speed of information processing and intelli-

gence. Review by Robert Kail.

- Shipman, S. & Shipman (2010). Cognitive Styles Some conceptual Methodological and Applied Issues Published by the American Education Research Association Review of Research in Education.
- Strnberg, E (1993). What Makes Certain Arithmetic Word Problems in Volvo is the comparison of difficult sets for children, journal of Educational Psychology.
- Yamanaka, A, (2003). Relation of Mood States With Types of Typical Cognitive Failure in Every Life; A diary Study Psycho, Rep.



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