Creative Thinking Of Academic Staff During Covid19 period, An Exploratory Research

التفكير الإبداعي للملاكات التدريسية ضمن فترة covid19 : دراسة ميدانية

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Abstract

This research aims to prepare a theoretical study on creative thinking and describe and diagnose the elements of creative thinking among the Academic Staff in the faculties investigated represented by (fluency, flexibility, originality, overflowing, sensitivity to problems). Creative thinking was studied during the period during which many sanctions, crises, and transformations occurred in educational programs and methods. The research sample was represented by a group of five private colleges in Iraq (Al-Rasheed, Al-Nusour, Al-Rafidain, Al-Hikma, Al-Nokhba) and the research sample amounted to (160) individuals. The number of retrieved questionnaires was (160) valid for analysis. The data was analyzed using the (SPSS V.25) program, and to achieve the objectives of the research, several statistical methods were used, represented by (arithmetic mean, standard deviation, and coefficient of variation). This research reached a set of conclusions, perhaps the most important of which is that the Academic Staff possess high levels of creative thinking in most of its components

Keywords: Creative Thinking, Fluency, Flexibility, Originality, Overflowing, Sensitivity to problems)

المستخلص:

يهدف هذا البحث إعداد دراسة نظرية حول التفكير الإبداعي ووصف وتشخيص عناصر التفكير الإبداعي لدى الملاكات التدريسية في الكليات المبحوثة المتمثلة بـ (الطلاقة، المرونة، الاصالة، الافاضة، الحساسية للمشكلات). ، تمت دراسة التفكير الابداعي ضمن الفترة التي تخللت الكثير من العقوبات والأزمات والتحولات بالبرامج والطرق التعليمية . وقد تمثلت عينة البحث بمجموعة من خمس كليات اهلية في العراق (الرشيد ، النسور، الرافدين ، الحكمة ، النخبة) وبلغت عينة البحث (160) فرداً ولغرض جمع البيانات لإجراء التحليلات الإحصائية اعتمد البحث على الاستبانة كأداة رئيسة اذ وزعت (200) استبانة على الملاكات التدريسية وكان عدد الاستبانات المسترجعة (160) استبانة صالحة للتحليل. وتم تحليل البيانات باستخدام برنامج (SPSS V.25) ، ولتحقيق اهداف البحث استخدمت العديد من الأساليب الاحصائية المتمثلة (بالوسط الحسابي والانحراف المعياري ومعامل الاختلاف). وتوصل هذا البحث الى مجموعة من الاستنتاجات لعل من أهمها امتلاك الملاكات التدريسية مستويات عالية من التفكير الإبداعي في أغلب عناصرها.

الكلمات المفتاحية: التفكير الابداعي، الطلاقة ، المرونة ، الأصالة،الأفاضة ، الحساسية للمشكلات.

Introduction

The current era is witnessing many rapid developments and successive changes as a result of the knowledge orientation and the information and communication revolution, and research evidence in recent years indicates that creative thinking is one of the most important foundations of the current civilized progress. Pushing the organization towards achieving its goals, which made it gravitate towards adopting another precedence, which is the precedence of (creativity), which is excluded from its availability unless preceded by a mental process that is creative thinking, which seeks to generate or present unique ideas as well as dealing with the problems facing the organization, and that Through its five components (fluency, flexibility, originality, overflowing, sensitivity to problems).

In accordance with the foregoing and the scarcity of studies concerned with creative thinking in Iraq, the Researchers chose this concept to be the current research variable, and with the aim of identifying the reality of creative thinking among the Academic Staff in private colleges the sample of the research, and thus the importance of the current research stems in providing a theoretical framework for creative thinking, and a field framework Introducing the nature of creative thinking among the Academic Staff aims at the research sample, and presenting a number of proposals that can contribute to enhancing the creative thinking of these staffs.

For the purpose of completing the requirements of the field side, a questionnaire was designed to collect data, and a sample of the Academic Staff of five private colleges was chosen to form the research sample, where the questionnaire was distributed to it, and through several appropriate statistical methods, the research hypothesis was tested.

The research included four sections, the first was devoted to the methodology and the second dealt with a theoretical framework on creative thinking, while the third section was devoted to presenting and discussing the results of the research, and the research concluded with conclusions and recommendations

Research Methodology

First: The Research Problem

The research problem is the need for contemporary organizations to adopt creative thinking by their employees, as creative thinking is a key element in improving the organization's ability to long-term success, and a competitive strength that enables the organization to achieve competitive success. Creative thinking results in improving the life of the organization by solving problems in a better way first and coming up with more than one idea to improve the self, the team and the organization secondly. Accordingly, creative thinking is one of the methods that organizations resort to to find appropriate solutions to different problems to produce new ideas that contribute to fulfilling the needs of individuals.

The contents of the research problem can be clarified by asking the following question:

What are the levels of creative thinking of the Academic Staff in private colleges, the research sample ?

Second: The Importance of research

A- Academic importance

The importance of research academically is reflected in the fact that it deals with a topic that is one of the important topics in the environment of contemporary organizations, which takes the interest of most international organizations that are characterized by sophistication and leadership due to the impact of the need for the organization to be more able to keep pace with contemporary challenges to the environment. Therefore, addressing the topic by the Researchers is in itself a modest scientific addition and enrichment of knowledge in the field of the project topic.

b- Practical importance

The research gains its importance from the importance of universities being a pioneering institution in society that prepares human competencies, raises them scientifically and intellectually, and raises their level of knowledge. As the research, by diagnosing the level of creative thinking of the Academic Staff in the research sample, is a research contribution at the academic level and enables it to benefit from its results in the accurate and proper evaluation of the performance of the Academic Staff in colleges, and guides the administration to ways to enhance the positive aspects of performance and to put appropriate treatments for the negative aspects Including, which is reflected in the success of the Academic Staff in their performance and thus achieve success for colleges in general.

Third: Research objectives

In light of the research problem and its importance, the current research aims towards achieving a basic goal, which is to determine the level of creative thinking among the Academic Staff, and in confirmation of this main goal, this research seeks to achieve the following:

1.Preparing a theoretical study on creative thinking.
2-Describing and diagnosing the creative thinking elements of the Academic Staff in the colleges under study.
3-Presenting some recommendations and suggestions that would enhance the levels of creative thinking of the Academic Staff in the colleges under study.

Fourth, the research hypothesis

There is an increase in the level of creative thinking among the Academic Staff in private colleges, the sample of the research.

The following sub-hypotheses are derived from it:

A - There is an increase in the level of fluency among the Academic Staff of the faculties studied.
B - There is an increase in the level of flexibility among the Academic Staff of the faculties investigated.
C - There is an increase in the level of sensitivity to problems among the Academic Staff of the colleges under study.
D- There is an increase in the level of excellence among the Academic Staff of the faculties investigated.

Fifth: The research community and its sample

The research community was represented by the private Baghdad colleges, and due to the lack of time to choose all colleges, (5) colleges were selected, namely (Al-Rasheed, Al-Nusour, Al-Rafidain, Al-Hikma, and Al-Nakhba). Where the questionnaire forms were distributed to a random sample of Academic Staff in those colleges. The researchers was able to distribute (200) forms, and the sample was formed after excluding the forms with incomplete information or not retrieved (160) individuals, and table (1) shows the distribution of the respondents according to the surveyed colleges.

Table (1) Distribution of the surveyed individuals according to the surveyed colleges

	The college	The number	%
1	Al- Rasheed	34	21.25
2	Al- Nisour	31	19.37
3	Al- Rafdain	29	18.12
4	Al- Hikma	32	20
5	Al- Nukhba	34	21.25
Total		160	100

Sixth: Data collection tools

The survey list was used as a research tool to obtain primary data from the research community. The survey list was chosen because it is one of the most common and used means of collecting data for its suitability and compatibility with regard to the nature of the research. The survey list was designed in light of the research objectives to test the research hypotheses, which was prepared Based on a review of some previous studies and research specialized in the research topic.

Seventh: Data processing methods

In order to test the research hypotheses and reach the required conclusions, statistical methods were adopted (arithmetic means, standard deviations, and coefficient of variation) with the aim of developing the required treatments for the relationships between the research variables and in order to achieve the descriptive aspect of the research sample and its variables.

Eighth: Liquidity, charity and consistency

-**Honesty:** The best way to establish honesty is apparent honesty, which is presenting the items of the scale to a group of experts to judge their validity. The validity of the scale was verified externally, by presenting the items to a group of experts in administrative and behavioral sciences

Stability:

This is to ensure the reliability and validity of the statements used in the study's measures and to use the agreement "Cornbach's alpha" and such a measure to give a value ranging from zero: 1, that is, the closer this value is to one, the greater the stability of the reliability in the survey models to begin with. This value is close to zero, as this indicates a lack of stability.

It achieved consistency in measuring the proof of the scale (0.89), and as a result the measurement is internally consistent, because this belief in trust is the extent of our patients' growth.

Literature Review Creative thinking

First - the concept of creativity and creative thinking

1-The concept of creativity and its synonyms

The term creativity is one of the terms that is difficult to define in a specific way, and therefore, agreeing on a single and comprehensive definition of creativity is very difficult, as it is a behavioral phenomenon that it is impossible to agree on a specific definition. (Zhao et al., 2021)

In the management literature, creativity is defined as the ability to link and coordinate information in a specific manner so that the results are new and original. (Huang, 2021)

It was also defined as the individual's ability to visualize things and gain insight into them, which leads to the generation of new ideas that can be implemented if they are placed within specific contexts. (Maksić & Jošić, 2021)

According to another opinion, creativity is a process that gives something that did not exist previously, or is to provide products that exceed the expectations of customers. (Volery & Tarabashkina, 2021)

From another point of view, creativity is what leads to a change in the output of the materials used in the organization and is characterized by novelty, originality, value and social benefit. (An et al, 2019)

The concept of creativity overlaps with the concepts of innovation and invention, so it is necessary to distinguish between them. Innovation is the ability to collect ideas and bring them out in a unique way, while creativity is bringing innovation to actual use. (Sanz-Hernández & Covaleda,2021)

(Kassim, 2013) believes that innovation is the process of generating ideas, and invention is the introduction of new things, while creativity is the activity of translating innovations and inventions into field reality

The concept of creative thinking

For the purpose of clarifying the concept of creative thinking, it is necessary at the outset to define thinking

(Dewey) is a mental activity represented in solving the problem. It is the process by which ideas are generated about previous knowledge and then entered into the cognitive structure of the individual and linking things together to reach facts and general rules (An et al, 2019)

As for creative thinking, writers and researchers presented many points of view regarding this concept, and the definitions they gave of creative thinking varied according to their academic and practical orientations. Which leads to the improvement and development of oneself, as it expresses his individuality and uniqueness (Babalis et al., 2012). A productive mental process that results in a creative output that the creative thinker transfers to others (Beaty et al., 2020), and the next part includes a presentation of some of those definitions that indicate the differences in the writers and researchers' viewpoints regarding creative thinking.

Where creative thinking is defined as the ability to discover new relationships or original solutions characterized by seriousness and flexibility, and it is a complex and purposeful mental activity directed by a strong desire to search for solutions or reach original outcomes that were not previously known (Ersoy, 2014).

(Hidayat et al., 2018) defines creative thinking as a complex and purposeful mental activity directed by a strong desire to search for solutions or reach original outcomes that were not previously used.

From the point of view of (Huang et al., 2020), creative thinking is a collective method that encourages group thinking to find ideas, flexibility, sensitivity to problems, and analytical and synthetic capabilities.

Hürsen et al., 2014 defines it as a type of thinking that leads to production characterized by novelty and originality, in addition to a number of abilities represented by fluency, flexibility, sensitivity to problems, and analytical and synthetic capabilities.

As for (Kao, 2016) he believes that creative thinking is about a mental ability in which the individual tries to produce an idea - that did not exist before, characterized by fluency, flexibility, originality, abundance and sensitivity to problems through multiple stages, and for this idea to continue to raise the level of performance of the organization or individuals Thus, it is unique to some of the ideas that are distinguished by it.

Based on the foregoing and in line with the directions of the current research project, the researchers presented the following procedural definition of creative thinking:

Creative thinking is the faculty's ability to reason fluently, flexible, and sensitive to problems, and to provide additional ideas for the ideas of others

Second, the importance of creative thinking

The importance of creative thinking can be demonstrated through the following (Lucchiari et al., 2019):

It leads to setting the organization's goals in a more specific way.

It leads to not issuing decisions except after a mature thinking about the situations that are exposed.

•Developing new activities or events.

Creative thinking results in enriching and enriching relationships with others.

It leads to improving the productivity of the organization by achieving efficiency and effectiveness in management, achieving goals and using resources economically, as well as creating profitability opportunities.

Facing high competition.

Third, the characteristics of creative thinking

Creative thinking is characterized by the following characteristics:- (Kassim, 2013)

-Curiosity, curiosity, broad-mindedness and imagination, constant questioning to test and treat things, ambition and internal motivation.
-They are not afraid of risk or error and are ready to accept criticism
-They realize that mistakes are not the end point in solving problems, they use them as part of the learning process, which leads them one more step towards success.
-They do not have the preparations to accept things as they are, they do not follow the routine methods in their work, and they try to search for what does not exist actively and effectively, and openness to new experiences.
-Hatred of authority and resistance to social pressures

On the other hand, (Pringle & Sowde, 2017) shows that the personality traits of the creative thinker are represented in the following features and characteristics:

Self-confidence and the ability to implement what he wants.
-Flexibility in the performance of work and perseverance and not to receive easily.
-Adherence to the opinion to the fullest extent possible and cohesion in the face of problems.
-The tendency towards finding more than one solution to the problem and paying attention to what bears doubt and gives rise to prediction.
-High ability to assume responsibilities and always take the initiative
-Emotional balance and lack of adaptation easily with the group
-Presenting ideas that may be unfamiliar to others and accomplishing work in an innovative way.
-Possess a high degree of intelligence and reflect on new ideas

Fourth, the stages of creative thinking

There is a great similarity between the stages of creative thinking and the stages of creativity, but some do not differentiate between them and have used the two terms to express the same concept. Opinions differed regarding the number, sequence, and importance of the stages of creative thinking, due to the different philosophy and goals they seek to achieve. Accordingly, the following stages can be included:

The stage of preparation or preparation (collecting information) Preparation-:

The creative thinking process begins with the stage of preparation and saturation, in which the individual's intellectual activities are directed towards solving the problem that he perceives and feels important, collects information about it, identifies it precisely, and delves into his inferential and imaginative thinking in the search for possible solutions. In the same context, another researcher confirms at this stage that the problem is identified and examined from all its aspects, and information, skills and experience are gathered around it from memory, and related readings. (Piaw, 2011)

On the other hand, (Perry & Karpova, 2017) indicates that the stage of preparation includes the following- :

-Recall the individual's previous cognitive experiences
-Determine the area of knowledge that requires a creative breakthrough
-Seeing and communicating with experiences related to the situation or issue from its various sources.
-Organizing experiences in order to accurately understand the issue or situation.
-Formulation of a hypothesis in light of what has been communicated to.

The stage of incubation or puberty (arranging and waiting):

At this stage, the information and experiences related to the problem are organized and absorbed, and then the non-problem elements are absorbed, in preparation for the state of creativity or the emergence of a unique situation called the fermentation stage. (Redifer et al., 2021) On the other hand, the incubation stage is a state of anxiety, subconscious fear and hesitation to do work and search for solutions, and it is the most difficult stage of creative thinking, in which the focus is on the idea, or the problem so that it becomes clear in the mind of the innovator, and it is a stage Arranging and organizing ideas, and (Lee & Therriault, 2013) shows that the incubation stage includes the following-:

A- Serious thinking about the situation, i.e. mental preoccupation.
b- Freeing the mind of unrelated thoughts.
T - Considerations of the mental economic factor in the treatment of the situation.
W - Feeling and reacting to the situation at hand.
C - Determine a set of proposed solutions.
H- Formulation of the new idea

Illumination stage-:3

It is that moment when thinking suddenly appears about a solution or signs of solution to the problem that has always occupied a large part of mental activity during the preparation and incubation stages, and takes place in this stage in which the flash or spark that leads to the idea of the solution and exit from the predicament (Rivas, 2017) This situation cannot be determined in advance, as it occurs at some time or place. Perhaps the spatial and temporal conditions and the surrounding environment play a role in moving this state, and this stage can be described as a moment of inspiration, and this stage includes the following two steps: (Said-Metwaly et al., 2020)

A - The idea appears suddenly, the experiences seem to have been organized automatically without prior planning.
B - sleeping on the idea, and leaving it for a certain period.

Verification stage-:4

It is the last stage of creative thinking, in which the creative individual must test the creative idea, reconsider it and present all ideas for evaluation. It is the stage of experimentation with the new creative idea. At this stage, the original useful and satisfactory results that were reached are obtained. (Songkram, 2015) Some researchers and writers emphasized that the idea may be lost or the solution loses its value unless creative thinking continues until the idea reaches its extent by examination, development and evidence that it is unique, original, practical and unprecedented. This stage includes the following two steps: (Wang et al., 2019)

A - Experimenting with the ideas that have been communicated to, and testing their validity.

b - to arrive at an accurate formulation.

In light of the foregoing, creative thinking has four successive stages through which it passes, and each stage has a beginning and an end. An earlier stage, meaning that there is flexibility in the stages of the creative thinking process.

The presence of overlap between the stages confirms that the only feature common to all the stages is the feature of the greatest overlap is between the stage of incubation and shining

Fifthly, the elements of creative thinking

Creative thinking includes a number of elements or components, the most important of which are:

1- Fluency

It means generating new solutions to a problem or issue and finding alternatives (Yang et al., 2018), and it leads to a good understanding of the information that the individual has learned, and is characterized by the production of a large number of ideas and perceptions in a specific period of time, and also refers to the ability to generate the largest possible number of Alternatives, ideas, problems, or uses when responding to a specific question in a fixed unit of time. (Piaw, 2011) This skill is in essence a process of remembering and recalling the information available in the knowledge building of education from experiences, concepts or facts, and accordingly, the person who can give ten ideas per minute is considered more fluent than the person who gives seven ideas per minute the one. (Zhuang et al., 2021)

(Babalis et al., 2012) shows that fluency skill can be measured using the following tools- :

The speed of thinking by giving words of a specific format or pattern.

Add ideas according to specific requirements.

-Give a number of words related to one word.

Ideas are classified according to specific requirements.

Give a number of words related to one word.

Fluency is classified into types (An et al, 2019)- :

A - Word or verbal fluency: It means the ability of an individual to produce the largest possible number of vocabulary within certain specifications in a certain period of time.
B - Fluency Expression: It is the individual's ability to put words into as many phrases as possible.
c- Fluency of ideas or meanings:- It is the individual’s ability to recall a large number of ideas at a specific time for a problem.
D- Fluency in forms: It means the ability to quickly draw a number of examples, preferences or modifications in response to a situational or visual stimulus.
C - Compound fluency: It is defined as the ability to generate the largest possible number of appropriate complex responses in a given unit of time.

2- Flexibility

It is the ability to generate diverse ideas that are not of the type of ideas usually expected, and to switch from a certain type of thought to another when responding to a specific conciliator, that is, it is the ability to change the state of mind, the conciliator changes, it is the opposite of mental rigidity, and represents the qualitative aspect for creativity. (Kao, 2014)

And Zhuang et al., 2021) indicates that flexibility appears in the ability to change mental trends easily, so a person is able to change the course of new and rapid ideas and destinations according to the requirements of the situation, and flexibility reverses stagnation in thinking, which means stereotypical thinking, which is based on keeping (Mental systems and the knowledge they contain) on their previous state without change or renewal, and this means that flexibility is of two types:- (Hadar & Tirosh, 2019)

1-Automatic flexibility: It is giving a number of diverse ideas that are related to a specific situation.

2-Adaptive flexibility: It means reaching a solution to a problem or situation in light of the feedback that comes from that endowment.

As for the difference between fluency and flexibility, flexibility differs from fluency in that fluency is completely determined by the quantity of responses that an individual can generate in a fixed unit of time, while flexibility is based mainly on the characteristics of how the responses generated by the individual and measured by the amount of diversity these responses

3- Authenticity

It is represented in the ability to unique expression, and to produce more distant and skilled ideas than common and clear ideas, that is, it is the distinction and uniqueness of the idea and the ability to penetrate beyond the immediate and familiar of ideas (Gu et al,. 2019). An idea is original if it is not repetitive or unfamiliar, and is not subject to common ideas, and this characteristic depends on the idea of boredom from using familiar ideas and intuitive solutions. (Gregoriou, 2019)

Gilford defined originality in that it is the adaptive flexibility of the verbal material. Wherever there is a change in meanings, there is originality in terms of the ideas being new and unusual. In the same context, Gilford sees that there are three alternatives as arbitrators of originality: (Tu et al, 2017).

1- That the responses be rare from the statistical guide: that is, few in frequency among the members of the group to which the individual belongs:
2-The responses should be distantly related to the exciting or unfamiliar agreement.
3- To be characterized by skill in light of the criterion that would have been the opinion of the arbitrators. Originality is the common factor between definitions that focus on creative outcomes.

As for the difference between originality and the previous two elements. Originality does not refer to the amount of creative ideas that an individual generates, but rather depends on the quality of those ideas, or their arguments. Repeating what others do, and this is what distinguishes flexibility

The originality includes the following-:

The ability not to repeat the ideas of others.1

The ability to think logically.2

The ability to give new solutions.3

overflowing (Details):4

It is the individual's ability to provide additions or additions to an idea, which in turn leads to an increase in other additions, that is, the ability to add new details to the given ideas. This thinking skill includes reaching complementary assumptions that in turn lead to a new increase, that is, the extent of experience or knowledge space. It is the skill of exploring alternatives for the sake of deepening and integrating the idea. (Kashani-Vahid et al., 2017)

(Henriksen et al., 2017) sees detail as the creative ability to provide multiple details of limited things and expand a summary idea or detail an ambiguous topic.

It includes as follows-:

1. The ability to come up with interesting and interesting ideas.
2. The ability to challenge and confront problems.
3. The ability to plan long-term.
4. The ability to explain and clarify.

Sensitivity to problems-:

Guilford defines it as the individual's ability to see problems in things, tools, or social systems that others may not see, or to think about making improvements that can be made to these systems (Akpu, 2020).

(Tu et al, 2017) classifies this ability as the individual's awareness of the existence of problems, needs, or elements of weakness in the environment or the situation, and this indicates that some individuals are faster than others in noticing these problems or elements, and the process of discovering them is the addition of new knowledge or the introduction of improvements And modifications to existing knowledge or products, and this ability includes noticing unusual things, and then working on reorganizing and employing them or raising questions about them.

According to what (Redifer et al., 2021) indicated, it is the ability to discover problems and difficulties and discover the lack of information, that is, it is awareness of the existence of problems, needs or weaknesses in the environment or situation. It also includes the individual noticing a lot of problems in the presented agreement, realizing mistakes, and generating a sense and feeling for the problem, which requires a high level of awareness and an increase in it. (Said-Metwaly et al.,2020)

Based on the foregoing, problem sensitivity represents the ability to feel and feel the problem, awareness of the existence of a problem within a specific field, the ability to focus directly, and the ability to organize. It was clear from the above that creative thinking is not limited to presenting new ideas, solutions, or alternatives.

The third topic

Practical framework for research

First - Description of the research sample individuals:

Table (2) shows the distribution of the respondents according to their individual and functional characteristics. It was found from the table that the respondents within the age group of 35-46 years constituted the largest percentage (43%), and the majority of those holding a master's degree constituted (53%). As for the total service of the respondents, it is clear from the table that those who have served more than 10 years constituted nearly half of the respondents, i..(%41) .

table(2) Distribution of the respondents according to their individual and functional characteristics

Demographic Factor	Category	**Frequency**
Age	35_less	45
	35-46	70
	46-more above	45
Scientific title	Ass.lecturer	52
	Lecturer	40
	Asst.professor	38
	Professor	30
Educational achievement	MSc	85
	Ph.D	75
Service years	1-less than 5 years	45
	5-less than 10	50
	10 above	65

Second: Results of the statistical description of the research sample:

This part includes a description and diagnosis of the nature of the research variables, based on the answers of the research sample to the questions included in the research questionnaire. Based on the respondents' answers, the arithmetic averages and standard deviations of the respondents' answers for each dimension of creative thinking were calculated, and the results were as follows:

First, fluency:

Table No. (3) shows the values of the arithmetic averages and standard deviations of the respondents' answers on the fluency dimension, and the results indicate the high level of this dimension among the respondents from the Academic Staff, based on the values of the arithmetic averages of the respondents' answers, where it is noted that all of them are greater than (4), which is the value Which greatly exceeds the average area of the scale of (3) degrees. The interpretation of this result shows the agreement of most of the teachers that they have the ability to generate ideas, generate alternatives, and have speed in thinking.

The previous result confirms the value of the arithmetic mean of the total index, which expresses the average of the averages, as it reached.(4.482)

From following up on the values of the standard deviations of the respondents' answers, it is noted that most of them are close to the correct one, which generally reflects the homogeneity in the respondents' answers.

Based on the foregoing, it is clear that the respondents have high levels of creative thinking as much as they are attached to the dimension of fluency

Table (3) Arithmetic averages and standard deviations of the respondents' answers at a distance. Fluency

	paragraphs	Arithmetic averages	standard deviations	coefficient of variation
1	I have the ability to generate ideas	4.411	1	0.226
2	I have the ability to generate alternatives	4.423	0.844	0.190
3	Have a quick think	4.312	0.838	0.194
Total		4.482	0.894	0.199

Second - flexibility:

Table No. (4) indicates the arithmetic averages and standard deviations of the answers of the respondents from the secret distance, as it is clear from the analysis of the table data that the level of flexibility in thinking among the respondents from the Academic Staff, based on the values of the arithmetic averages of the respondents' answers, where it is noted that all of them are greater than (4) It is the value that exceeds the average area of the scale of (3) degrees. This is confirmed by the value of the arithmetic mean of the total index, which expresses the average of the averages, as it reached.(4.218)

Based on the previous results, it can be said that the respondents have high levels of the following abilities:

A - The ability to change the way of thinking according to the situation

b- The ability to generate diverse ideas

The ability to generate unique and unfamiliar ideas

From following up on the values of the standard deviations of the respondents' answers, it is noted that most of them are close to the correct one, which generally reflects the homogeneity in the respondents' answers.

Based on the foregoing, it is clear that the respondents have high levels of creative thinking as far as the dimension of flexibility is attached.

Table(4) Arithmetic averages and standard deviations of the answers of the respondents from a distance

	paragraphs	**Arithmetic averages**	**standard deviations**	**coefficient of variation**
1	I can change my thinking style according to the situation	4. 111	0.821	0.186
2	I have the ability to generate diverse ideas	4.323	0. 848	0.192
3	I can generate unique and unusual ideas	4.221	0.921	0.218
Total		4.218	0.863	0.205

Third - sensitivity to problems:

Table No. (5) shows the values of the arithmetic means and standard deviations of the respondents' answers from a distance sensitivity to problems, and the results indicate the high level of this dimension among the respondents from the Academic Staff, based on the values of the arithmetic averages of the respondents' answers, where it is noted that all of them exceed the average area of the scale. (3) degrees. The interpretation of this result shows the agreement of most of the teachers that they have the ability to feel and feel the problem, the ability to increase awareness of the importance of the problem, and to notice the gaps and shortcomings in the common ideas.

The previous result confirms the value of the arithmetic mean of the total index, which expresses the average of the averages, as it reached.(3.81)

From following up on the values of the standard deviations of the respondents' answers, it is noted that most of them are close to the correct one, which generally reflects the homogeneity in the respondents' answers.

Based on the foregoing, it is clear that the respondents have high levels of creative thinking as far as the dimension of sensitivity to problems**.**

Table(5) Arithmetic averages and standard deviations of the answers of the remote respondents, sensitivity to problems

	paragraphs	Arithmetic averages	standard deviations	coefficient of variation
1	I have the ability to sense and feel the problem	4	0.812	0.203
2	I have the ability to raise awareness of the importance of the problem	3.715	0.623	0.168
3	I can see gaps and shortcomings in common ideas	3.715	0.845	0.227
Total		3.81	0.76	0.199

Fourth - the overflowing
extravagance:

Table No. (6) indicates the arithmetic averages and standard deviations of the answers of the respondents from the extrapolation distance, as it is clear from the analysis of the table data that the level of this dimension is high among the respondents from the Academic Staff, based on the values of the arithmetic averages of the respondents' answers, where it is noted that all of them are greater than (4) It is a value that greatly exceeds the average area of the scale of (3) degrees. This is confirmed by the value of the arithmetic mean of the total index, which expresses the average of the averages, as it reached.(4.356)

Based on the previous results, it can be said that the respondents have high levels of the following abilities:

A- Explain and clarify ideas

B - adding to ideas easily

C- Presenting a variety of ideas

From following up on the values of the standard deviations of the respondents' answers, it is noted that most of them are close to the correct one, which generally reflects the homogeneity in the respondents' answers.

Based on the foregoing, it is clear that the respondents have high levels of creative thinking as much as they are attached to the dimension of excellence

Table (6)Arithmetic averages and standard deviations of the answers of the respondents from a distance

Paragraphs	**Arithmetic averages**	**standard deviations**	coefficient of variation
I have the ability to explain and clarify ideas	4. 412	0.521	0.118
I can easily add to ideas	4.412	0. 845	0.192
I have the ability to present a variety of ideas	4.245	0.558	0.131
Total	4.356	0.641	0.147

Based on the foregoing, it is clear that the results of the analysis of the respondents' answers showed high levels of creative thinking among the respondents from the Academic Staff in the colleges investigated, at the level of each dimension of creative thinking. Thus, these results came in support of the main research hypothesis and its sub-hypotheses, which stipulate the high levels of creative thinking among the respondents from the Academic Staff

The fourth topic

Conclusions and Recommendations

First, the conclusions

The most important conclusions reached by the research in the field are the following:

1- It can be concluded from the results of the descriptive analysis that the answers of most of the respondents were in agreement and at a high rate

It is good that the Academic Staff possess high levels of creative thinking.

2- The results of the descriptive analysis results of the respondents' answers lead to the extent of the respondents' possession of the fluency component, which indicated that the respondents possessed high levels, including the conclusion that the Academic Staff possessed high levels of the following abilities:

-Idea generation

-generating alternatives

Speed of thinking.

3-It is concluded from the analysis of the respondents' answers about the availability of levels of flexibility among the respondents that the Academic Staff in the colleges under study possess the following capabilities:

Changing the way of thinking according to the situation

Generating a variety of ideas

Generate unique and unfamiliar ideas.

4-The results of the descriptive analysis results of the respondents' answers about the extent to which the respondents possess the element of sensitivity to analyze problems, which indicated that the respondents possessed high levels, including the conclusion that the Academic Staff in the colleges under study possesses high levels of the following abilities:

Feeling and feeling the problem

The ability to raise awareness of the importance of the problem

Note the gaps and shortcomings in the popular ideas.

5- It is concluded from the analysis of the respondents' answers about the availability of the levels of excellence among the respondents that the Academic Staff in the colleges under study possess the following capabilities:

Explaining and clarifying ideas

Easily add ideas

Presenting a variety of ideas

Second, recommendations

1-Attracting creative people to work in the college because they have divergent thinking and use their intelligence in an innovative way, and this leads to the development of their performance first and the improvement of the educational level and the level of graduates secondly.

2-Adopting creative thinking development strategies because creativity is not restricted to some (distinguished) only.

3-The necessity for college administrations to study and treat the causes that are among the hindering factors for creative thinking.

4- Making creative thinking a continuous process in the college and not a temporary state that comes in response to a circumstance.

5- Enabling the faculty of the study sample to solve problems in creative ways.

6 -The college, the sample of the study, established a specialized department in the management of creativity to sponsor, support, and employ the creative ideas of the teachers, in addition to encouraging freedom of thought, democracy of work, developing a spirit of cooperation, participation and constructive criticism, respecting the ideas of others, and giving way to creative ideas to encourage creative thinking.

7-The need for the college under study to pay attention to the elements of creative thinking because it has an impact on the application of creative ideas

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The questionnaire

Dimensions	items	I strongly agree	I agree	neutral	I don't agree	I strongly disagree
Fluency	I have the ability to generate ideas					
	I have the ability to generate alternatives					
	Have a quick think					
flexibility	I can change my thinking style according to the situation					
	I have the ability to generate diverse ideas					
	I can generate unique and unusual ideas					
sensitivity to problems	I have the ability to sense and feel the problem					
	I have the ability to raise awareness of the importance of the problem					
	I can see gaps and shortcomings in common ideas					
the overflowing	I have the ability to explain and clarify ideas					
	I can easily add to ideas					
	I have the ability to present a variety of ideas					