Kurdish Studies
Feb 2024
Volume: 12, No: 2, pp.5182-5195
ISSN: 2051-4883 (Print) | ISSN 2051-4891 (Online)
www.KurdishStudies.net

Received: December 2023 Accepted: January 2024
DOI: https://doi.org/10.58262/ks.v12i2.383

Encouraging Thinking among University Students

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Abstract

The current research aims to identify the degree of encouraging thinking among the students of the University of Karbala, and the significance of the differences in this variable according to the gender of the students and their scientific specialization, and the researcher built a test for encouraging thinking according to the definition of "de Bono", and the researcher verified the standard characteristics of the tool, and the final application sample reached (442) students, by (241) students and (201) students from the University of Karbala, who were selected by the random stratified method, and after applying the research tool and analyzing the data statistically using the following statistical means: T-test for one sample, and bilateral variance analysis, the researcher reached the following results.

- *The low degree of encouraging thinking among the students of the University of Karbala.*
- *There is no effect of the gender variable on the degree of encouraging thinking among students.*
- *There are statistically significant differences between the averages of the human and scientific departments*

Based on these in encouraging thinking and in favor of the students of the scientific departments findings, the researcher made a set of recommendations and suggestions.

Keywords: *Encouraging thinking, University students, Gender differences, Academic specialization, De Bono, Iraq.*

Research Problem

The cognitive trend in psychology has spawned new contemporary concepts such as cognitive methods, metacognition and memory, and new types of thinking such as: complex thinking, double thinking, deft thinking, encouraging thinking that seeks to change ideas, concepts and perceptions to generate new concepts and perceptions applicable in fields that need atypical thinking, and actions that cannot be done traditionally or routinely (De Bono 2005 :410). Although thinking studies in general have occupied a wide field in the field of educational, psychological and social studies, encouraging thinking has not received a sufficient number of studies and research, so the problem of the current research is determined in answering the following questions:

Are there differences in encouraging thinking according to the two variables (gender – specialization)?

The Importance of the Research

The university is supposed to play an important role in social and economic development, in addition to its primary role of transferring and developing knowledge, it tries to build students'

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thinking and direct it towards addressing the problems of society and providing appropriate solutions to them (Ali, 1987: 79). The need to teach thinking is growing now more than ever because education in the world has become more complex as a result of the challenges posed by information and communication technologies in various aspects of human life, as success in facing these challenges does not depend on the amount of knowledge as much as it depends on how knowledge is used and applied to suit scientific, technological and civilizational progress and advancement in the world, which makes it a major reason for the progress and development of society (Al-Jurani, 2010 : 3). Lateral thinking is one of the modern patterns of thinking, and it is related to the world "Edward de Bono", who sees it as a new direction in research and thinking in solving problems in non-traditional methods that do not adopt logic in a specific and consistent manner, and he has named it as well to distinguish it from another type of thinking, which is vertical or vertical thinking (Vertical thinking), which depends mainly on the logical context between introductions and results, and this type of thinking is common and familiar among students (De Bono, 2005 :91), while encouraging thinking depends on moving sideways from one idea to another, and in multiple ways as opposed to vertical thinking, which depends on rigid sequences and successive steps ahead and each step is logically related to its predecessor (Al-Mulla, 2009), when a person thinks vertically, he is more like someone who digs a hole and continues to dig it and remains within its scope, and this situation cannot come up new as long as he digs in one direction. If he has to come up with something new, he has to get out of this hole and into another , and this is the basic idea in encouraging thinking. That is, you have to look for another direction in which to go, because if you keep digging the previous hole, you will stay in one direction, but if you get out of it, you will have changed your direction, and that is why De Boo Nu called this encouraging thinking because it takes you out of the unilateralism in ordinary thinking.

The importance of encouraging thinking and the need for it is manifested through the mechanism of work of the mind itself, as "Tony Byouzan" provides in writing (the capabilities of the brain) a new situation for the mechanism of work of the mind, or its method of processing information and its effectiveness in performing this task, which is not so simple or easy, and that the mechanism of the mind in the processing of information involves, through itself, characteristics that impose some restrictions on it, and these restrictions stand side by side with the advantages of the mechanism of work of the mind, and we can encourage thinking to benefit from the advantages of this mechanism without experiencing its disadvantages, as it provides encouraging thinking through its freedom from intellectual templates and freedom to process information from modifying these disadvantages or creating some balance between them and the advantages (De Bono, 2006 : 13). The process of encouraging thinking can be used not only at the level of individuals, but also at the level of organizations, industry, leaders and others who are interested in implementing innovative ideas (De Bono, 2005: 47). De Bono believes that honest competition for excellence is part of creativity, as excellence depends heavily on concepts. To generalize these concepts, strong promotional thinking will be needed (De Bono, 2005: 51).

Based on the Above, the Importance of the Current Research Comes from the Research Variable, which is Encouraging Thinking, which can be Determined by the following Points

1. Despite the novelty of the research variable, its importance is gradually increasing, especially in the fields of finance and industry, and encouraging thinking is expected to have a prominent place in the world of creativity in all its forms and fields.

2. De Bono views encouraging thinking as (serious creativity) and researchers see it as ways to solve problems with concepts that seem illogical, that is, De Bono's vision of creativity skills differs from the vision of previous scientists such as Torrance, Glyford, and other scientists who limited creative thinking skills to fluency, flexibility, originality, sensitivity to problems, and awareness of details. This requires working on the availability of new metrics and tests that have the ability to measure these skills advocated by De Bono.
3. That encouraging thinking is a style of creative thinking, which can be learned, trained and used by everyone, and that the tools and methods of encouraging thinking have proven during (25) years of experience that they can be learned as studied methods, when we need a new idea, it is possible for the individual to use structured methods to produce new ideas.

Aims of Study

The current research targets, you know:

1. The degree of encouraging thinking among the students of the University of Karbala.
2. Statistically significant differences by (gender) and (specialization)

The Research Limits

The current research is as follows:

Spatial boundaries: Faculty of Education for Humanities and Pure Sciences/ University of Karbala.

Human Limits: University students (male and female), who are regular in morning studies.
Time limits: Academic year (2023/2024).

Identifying Terms

Encouraging Thinking

1. De Bono (1998) Defined it as

A creative, imaginative way of solving problems that changes an individual's perceptions and perceptions of a problem (Bono 1998: 3 De).

2. The Oxford Dictionary 2004 Defined it as

A way to solve problems using imagination to find new ways of looking at the problem (Hornpy 2004: 724)

Theoretical Definition

Since the researcher has adopted De Bono's point of view, the theoretical definition of reflection in current research is what was mentioned by De Bono.

Procedural Definition

The total score obtained by the respondent is determined by his answer to the promotional thinking test prepared for this purpose in the current research

Chapter Two Theoretical Framework

Encouraging Thinking

Thinking is one of the most different topics on which visions differ, and the multiplicity of its dimensions, its complexity and the complexity of its operations show us that it is like other

abstract concepts – intelligence, forexample – which are difficult for us to measure directly, or to determine its nature easily, so scientists have retrieved its work with several names and descriptions to distinguish between one type andanother of its types and to emphasize at the same time its complexity and the difficulty of comprehending all its aspects (Al-Atoum et al., 2007 : 17). Human thinking is an essentialfactor in guiding life and an essential element in the progress of civilization for the benefit of humanity. In our time, relationships are intertwined, distances converge, and barriers fall. Homo sapiens is in dire need of thinking. In light of modern educational trends, enough time should be provided for the learner to practice thinking that helps him to form information in a way that makes it transportable to the outside world (Ibrahim ,2000 :58). From here, we start to clarify each name and its overlap with the other: The name "lateral thinking " came from the world "De Bono", which is the most used name from the rest of the other labels. On the other hand, the name "lateral thinking" came to the attention of the translators of the book "De Bono" (2001), as it is the correct translation and is more related to the concept, as the word " encouragement " indicates at first glance a secondary thing that has no value, but it can be said that the word "lateral" is a cracking combination of the word " side", which refers to pluralism in more than one aspect. If we refer to the word "lateral", it is a word in the singular rather than in the plural form. Accordingly, the name of " encouraging thinking" is more appropriate than lateral thinking, but "lateral thinking" is the kind of thinking that seeks to understand the aspects of the problem it faces in the search for solutions to it (De Bono, 2001: 11). As for other labels such as serious creativity and renewed thinking, "De Bono" has been established as synonyms for encouraging thinking in his writings. When he mentions serious creativity or renewed thinking, he means encouraging thinking and vice versa. It indicates that creativity is thinking based on understanding self-organizing information systems in which the same information is organized in sequences and patterns and there is no ambiguity in them. Many scientists believe that encouraging thinking is thinking outside the box and the meaning of this is a departure from the pattern of objective thinking of the general population to strange thinking (somewhat) but it remains reasonable and logical (Al-Suwaidan, 2008: 387).

Theoretical Basis for Encouraging Thinking

Despite the fact that "de Bono" is the creator of encouraging thinking, he did not recognize the existence of a previous theory of encouraging thinking, but that his theoretical framework is related to the emergence of the Gestalt school of psychology as a school that revolts against the prevalence of behaviorism in psychology at the beginning of the last century. The first pioneers of this theory are "Max Frettheimer", "Kohler" and "Kofka", and the word "Gestalt" in German means a form or form. This name is due to the study of this school of sensory perceptions, which showed that the main layer in the perceptual perception is not the elements or parts that make up the perceiver, but the form or general construction (Abu Jadu, 2005: 190-190).

The Gestalt school has called for the unity of behavior, and its main focus is the law of grouping. For example, the assembly of the characteristics of the stimulus makes us form the field or problem in a better way, and achieve clairvoyance and organization of the field and a good understanding through the regularity of the elements of the field after they were scattered and mysterious. During the succession of attempts, an attempt suddenly achieves a solution to the problem, that is, by achieving clairvoyance, that is, by achieving understanding as a result of the sudden regularity of the elements within a single macro unit, after being in a state of complete ambiguity (Khairallah, 1978: 201).

Encouragement thinking is based on the idea of holistic perception in Gestalt theory, and putting parts of the situation and its organization in order to perceive it in an integrated manner within a context that becomes meaningful. One of the basic concepts related to Gestalt theory is the concept of (the dimension) is the full understanding of the structure of the Gestalt (the whole) by recognizing the existing relationships between its parts and reorganizing it in a way that gives meaning, and it is done suddenly and decisively in a single moment and not a gradual image or through approximations of the required performance (Abu Jadu 2005 195).

Principles of encouraging thinking (Principles of thinking)

The most important things that De Bono referred to in his first book on encouraging thinking (The use of lateral thinking) are the basic principles of encouraging thinking. In his theory De Bono defined four basic principles related to encouraging thinking, namely:

1- Identify the dominant ideas that attract the rest of the ideas:
2- Looking for different ways of looking at things:
3- Decrease vertical thinking control
4- The coincidence workers:

Encouragement thinking is not a new magical form, but rather a more creative way of working the mind, and this encourages the flexibility of the mind because the student has to see the issue in several aspects and realize that there are many ways to reach the right result, despite all this, the basic principles of encouragement thinking remain intertwined with other areas of learning (De Bono, 2010 3).

Other principles emphasized by (Kim Darwin 2007) in encouraging thinking are:

- Postponement of Judgment:

It is the basic principle in encouraging thinking and means postponing the evaluation until a large number of alternatives have been generated. The evaluation process here includes both negative and positive evaluation.

- Seeking thelargest number of ideas:

This principle is directed towards seeking to generate the largest number of ideas and alternatives which increases the likelihood of having original and distinct ideas

- Kickoff:

This principle emphasizes the recording of ideas that come to mind, whatever they are. Unconventional ideas are often the way to new alternatives, and starting from them emphasizes leaving the unleashed to go beyond the ordinary.

- Adding to the ideas of others:

This principle encourages seeking to benefit from the ideas put forward by others, and therefore we may call it adding a brick to the construction, and therefore this principle calls for vigilance to what others say as a starting point that activates our thinking and our awareness of new relationships (Kim Darwin 2007 83).

Encouragement Thinking Skills:(Thinking Skills)

De Bono (2005) emphasizes that thinking is a skill that can be improved by training and learning, as he believes that the skill of thinking is no different from any other skill, as it is

similar to thinking about the skill of driving a car, and through it intelligence works and affects human experiences (De Bono 2005 12).

Thinking is a holistic process through which we mentally process the sensory inputs of retrieved information to form, infer, or judge ideas. It is a process that includes perception, prior experience, conscious processing, and intuition, through which experience acquires meaning. As for thinking skills, they are specific processes that we practice and deliberately forget their work in information processing, such as the skill of identifying the problem, finding assumptions, evaluating evidence and praying (Gaiben, 2004 18-19).

The relationship between thinking and encouraging thinking skills is like the relationship between the game of tennis and the skills it requires, such as the starting pitch and the projective pitch... Each of them contributes to determining the level and quality of the game, and thinking also consists of multiple skills and talents that contribute to the mastery of each of them in the ability to think (Al-Baridi, 1999: 2) From the above, the learner's practice of encouraging thinking skills works to make the learner think beyond the limits of traditional thinking and direct problems with better ideas to obtain immediate results and generate an idea through other ideas. He designs ways to solve problems, develops new ideas, develops creative habits and practices, and works to transform problems into a branch of creativity. Thus, De Bono believes that encouraging thinking is skills that can be practiced, namely:

1- Generation of new perception:
2- Generation of new perception:

There are three types of concepts:

- Objective concepts are related to what the learner is trying to achieve.
- Mechanical concepts: They describe the amount of impact that is inferred from an action.
- Value Concepts: which refers to how a business acquires value.

3- Generation of new ideas Generation of new ldeas
4- Generation of new Alternatives
5- Generating new innovations: innovations Generation of new

Uses of Encouragement Thinking:

In his theory, De Bono has written extensively about the process of encouraging thinking, and he believes that many problems require different perspectives to solve the problem successfully, and generate new solutions to it. His basic idea is that we go away intentionally from linear or strict thinking, and seek to extend the breadth of considerations within the field of solution in order to create the possibility of better solution methods (Chapman, 2007:19). When a person becomes sure of his ability to take a position in encouraging thinking, he will not need someone to tell him where or when to use encouraging thinking (De Bono 2005: 30). The uses of encouraging thinking can be summarized in:

1- New ideas.
2- Problem solving:
3- Periodic Evaluation Habit:
4- Dealing with the first cognitive choice (innate behavior):
5- Reducing assertive assessment and polarization:

Encouragement Thinking Strategies

(Chunk, 2000) defines strategy as performance-oriented plans or tasks in a successful manner, or the production of systems to reduce the level of dispersion between the learner's current

knowledge and the goals they wish to achieve. De Bono (1997) defines it as a set of designed tools whose workers are thoughtfully and consciously led to new ideas, new perceptions, new concepts, and new alternatives, which lead to encouraging thinking (De Bono 1997:30).

The most important of these strategies are:

1- Focus strategy:
2- Random Entry Strategy
3- Alternatives strategy)):
4- Strategy Challenge (:)

Chapter Three

Research Procedures

This chapter deals with the procedures adopted by the researcher to achieve the objectives of the current research, as it includes a description of the research community and its core sample that represents this community, while providing measures characterized by honesty and stability, as well as the use of appropriate statistical means to analyze and process data.

First: The Research Community

It means all the vocabulary of the phenomenon studied by the researcher (Melhem, 2000: 219). The current research community has identified the fourthgrade students as the morning study for the academic year (2023-2024). The community consisted of (4373) students distributed over two faculties, by (2313) students and (2060) students distributed according to specialization (scientific-humanitarian), by (1211) students from the scientific specialization, (1012) students from the humanitarian specialization, (1381) students from the scientific specialization and (679) students from the humanitarian specialization.

Second: The Research Sample

An important step in conducting educational and psychological research is the selection of a sample that must correctly represent the community, and for the purpose of determining a sample that represents the community, the number of students of scientific specialization (113) students and humanitarian specialization (187) students was determined.

Third: Research Tools

For the purpose of preparing a tool that measures encouraging thinking, the researcher reviewed the literature, previous studies and related measures, such as the scale of encouraging thinking. The researcher adopted the scale (De Bono, 1998) in a manner commensurate with the research community and its objectives.

Preparing Scale Instructions

The instructions for answering the scale are necessary, to understand the respondent's way of answering them in a way that achieves the basic goal and is the guide that guides the respondent to that. The instructions for answering were written in a simple and understandable way, and the respondent was urged to choose the appropriate alternative freely and was only asked to mention some information related to gender and specialization and the respondent was asked to answer for each paragraph immediately after reading it, and the confidentiality of access to the answer was confirmed, and the duration of the answer ranged from (30-45) minutes.

Indicators of Validity and Stability of the Encouraging Thinking Scale

First: Validity Validity

Honesty is an important indicator of educational and psychological tests and measures, because honest testing is what achieves the goal for which it was set (Al-Kinani ,1995, 172), and it has been achieved in the current scale:

Virtual Validity

This type of honesty was achieved outwardly at the current scale,when its paragraphs were presented to a group of experts in the educational and psychological sciences Appendix(2), and it was also logically achieved by defining each field in the measurement of encouraging thinking, as it covered that information according to its specificity, as apparent honesty plays a clear role in increasing the arbitrator's cooperation, attracting his attention and focus on the required answer, and clearly realizing the idea of the test so that he can judge the validity of the test outwardly, as the value of the chi-square reached (6, 2) .

Second: The Stability of the Scale Seale Reliability

Stability refers to the accuracy of the test in measuring or observing, and its non-contradiction with itself, its consistency and its frameworks with regard to the information it provides us about the examined test, and the aim of calculating stability is to estimate the errors of the scale, and to suggest ways to reduce these errors (Abu Hatab et al.,1972: 101), and the stability coefficient has been calculated in a way

Test-Re Test

It is to reapply the test to the same sample and under the same conditions in which they were previously tested, and then calculate the correlation coefficient between their performance in the two times (Faraj,1980, 149). Accordingly, a scale was reapplied due to dealing with the pressures on a sample from outside the statistical analysis of university students, consisting of (20) students randomly selected, and the period between the two applications was (14) days, which is an appropriate period for reapplication (Firkson ,1991, 527). After completing the application, the stability of the scale was calculated, by calculating the sample scores in the first application, and calculating the scores of the same sample in the second application, and then extracting the Pearson correlation coefficient between the scores of the two applications, where it reached (84, 0), which is a good stability coefficient that can be relied upon according to the standards of specialists in psychometry, in saying that the stability coefficient is preferably more than (70%).

Statistical Means

The researcher used statistical means in the current research using the Statistical Program for Social Sciences (SPSS).

Chapter Four

Objective 1 Identify the Degree of Encouraging Thinking Among University Students

The De Bono test (1998) was applied to measure the encouraging thinking skills of university students on the main research sample of (100) students. The arithmetic mean was (44, 69) and the standard deviation was (536, 9) degrees. When comparing the achieved average with the

theoretical average of the scale of (72) degrees, it appears that the achieved average is smaller than the theoretical average. To find out whether these differences are real, use the test (2) for one sample and as shown in Table (1).

Z test results for one sample (Table 1)

Sample size	Mean	Hypothetical mean	Standard deviation	Calculated H Value	Tabular H-value	Degree of Freedom	Significance level 0.05
100	44, 69	72	563, 9	-898, 1	- 96, 1	99	Statistical function

Since the above results showed the value of the arithmetic mean of (44, 69) and compared to the hypothetical mean of (72) and the value of (H) calculated (-898, 1) and compared to the tabular value at the level of significance of (05, 0) and the degree of freedom of (99) and the value of (-96, 1) and an explanation of the above results that the students (the research sample) are not characterized by a sense of their ability to think encouragingly, but they show a disorder at the level of negative and positive poles (joyful , sad) . These results generally indicate that students are not inclined to use this method frequently in stressful situations facing them.

Conclusions

- University students (research sample) do not have a level of encouraging thinking.

Recommendations: - In light of the findings of the researcher, he recommends the following:

The possibility of benefiting from the encouraging thinking scale in identifying students who do not enjoy encouraging thinking and knowing the causes and treating them. The Ministry of Education must pay attention to the educational media, which helps increase students' awareness of the stressful situations that they may face in their lives in general and in their studies in particular.

Suggestions: - The current study makes some proposals for future studies, namely: -

- Conducting a study to identify the level of encouraging thinking among primary school students, especially the completed stage.
- Conducting a study to identify the relationship of encouraging thinking with a number of other variables such as (personality style, psychological strength, self-strength) .

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