

The Effect of Mental Maps ' Using on the Development of Artistic Aspects for the Students of the Faculty of Fine Arts, University of Wasit

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ABSTRACT

The current study aims at developing the art aspects of the Fine Arts students- Wasit University through the use of mind maps in analysing the works of Art in terms of its historical, philosophical and art analyses elements, and exploring the student abilities to use mind mapping elements in analysing works of art and absorbing in showing the maximum ability to analyse, branch out and think over the constituents of the work of art to be analysed.

To achieve this goal the researcher made an experiment by defining a research sample comprising 40 female and male students from the Art Education dept.- Faculty of Fine Arts- Wasit University, as well as, giving lectures on the mind maps teaching methods and techniques, the experiment involved also defining goals-teaching strategies-timetable and the subjects, in addition to, directing students to produce mind maps (the research sample).

Then the researcher presented these mind maps to judges.

The results showed statistical significance differences between the pre and post performance of the research sample students (males and females) in favour of the post performance.

The research main recommendations involved conducting further theoretical and practical studies and researches based on using mind maps to find the extent of its effectiveness in developing thinking and learning skills and its impact on practising the different creative activities in teaching art.

The researcher also recommended specialised workshops to be set up to train Art Education teachers on the mind maps structuring steps and using them in art teaching.

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INTRODUCTION:

The 21st century saw a large scale change on the global perception of education in general, as well as, the overall perception of education association with mind developing.

Education aim is not confined to preparing emphasizes creators whose activities are only associated with knowledge related to the left side of the mind, but creators able to use the right side of the mind concerned with handling all forms and types of languages: verbal, audio, visual technological, informational, scientific, artistic and creative.

They are also capable of turning the traditional knowledge into a new idea and creation which challenge, and add to all types of knowledge.

(SerriaSidki, 2009, 3)

Education aimed at this age to prepare a graduate who enjoys the highest rate of flexibility, swift thinking, accepting risk, ethical issues, learning through exploration, experiment and errors, feel the individual responsibility, deal with the probable and the unknown, deal with the real, virtual and symbolic worlds, and move from oriented to self-learning and remote learning, in addition to, promoting the graduate's ability in creativity imagination and taste.

With this orientation, the importance of Art teaching method is emphasised, which is based on developing the high thinking levels, by paying more attention to the way of formulating the graduate's critical mentality through which he can cope with the subsequent variables or art concepts via assuring the

activation of student's mental and intellectual skills and conceptual processes.

Hence, the mind maps are one of the important strategies that should be used in the educational field, specially in art teaching, thanks to its unique characteristics and positive effect in facilitating learning process by acquiring information easily, as well as, saving time and effort.

This is indicated in the skill and knowledge structure of each learner in understanding and explaining the structure of the studies subject whose elements are interrelated in various aspects.

(TarekAbudlRaouf, 2015, 2).

Mind maps can, in theueturn, provide us with means to encourage students to think, and the more we encourage students to think, the more we help them to understand the thinking processes, this is done through understanding their personal abilities and communication skills abilities or their ability to formulate concepts.

When the teacher asks the student to describe the thinking processes he goes through on analysing a concept using the mind map this will help him learn how to increase his awareness of the cognitive, symbolic, visual and conceptual processes he goes through.

When a student listens to his colleagues descriptions of the cognitive processes they go through, he becomes more flexible in thinking he accepts the variable techniques to solve problems, accepts viewpoints of the others, asks questions and confirms judgements based on mental, intellectual and art logic, and develop concepts in discussions.

The mind maps relates the cognitive world to the human mind world with its complicated processes, they indicate the relationship between art and thinking knowledge, perception, creativity and expression to the possibility of a relation between all these mental, educational and art activities and indicating the role of teaching art in developing these skills.

The Research Problem:

Mind maps may contribute to developing the cognitive aspects of Art Education.

These maps represent an important starting point that help fully integrate the mind left side activities concerned with verbal language, with the mind right side activities concerned with dealing with our available knowledge through

the verbal, audio, visual, technological, media, scientific, artistic and creative languages.

These maps also help students to deal with facts, knowledge, memory, language and thinking through practice, expression and stimulating imagination and creativity.

The research problem is defined through the following questions:

- 1- How far the mind maps are effective in developing the performance of Fine Arts Faculty students – Wasit University – in assimilating the concepts, history and movements of modern and contemporary arts, the constituents of art fields and the treatments followed by the artists of this period?
- 2- Are there statistical significance difference, between the research sample students (males and females) in being acquainted with the concepts history, movements of modern and contemporary arts, and the art fields constituents followed by the artists of this period?

Research Goals:

- 1- Developing art aspects of Fine Arts students – Wasit University – through the use of mind maps in analysing works of art interns of their historicaland philosophical basic constituents and their analytical artistic constituents.
- 2- Detecting students abilities to employ the mind map ??in analysing works of art, and their absorption in showing the highest level of analysis, branching out and thinking on the constituents of the work of art to be analysed.

The Research Hypothes:

- 1- There are no statistical significance differences at level (0.5) between the pre and post performances of Fine Education Dept. students – Fine Arts Faculty (Grade 3)-Wasit University – in being acquainted with the concepts, history, and movements of modern and contemporary art, and art fields constituents and the treatments followed by artists of this period.
- 2- There are no statistical significance differences at level (0.05) between the pre and post performances of the research, sample students, in being

acquainted with the concepts, history and ??of modern and contemporary arts, the art field constituents and the treatments followed by the artists of this period.

Research Importance:

Mind maps incorporation in Art Education curricula helps to:

- 1- Developing the art aspects with view to restoring integration between the left side and right side activities and their relevant overall characteristics.
- 2- Granting students the ability to generate control, analyse and express the ideas, as well as, giving them the ability to plan, concentrate, solve problems, stimulate their imagination and creativity, communicate effectively, and strengthen their memories.
- 3- Helping students to practise types of mental behaviour like describing their way of thinking accurately, self-control in following up the activities, thinking awareness.

Research Limits:

Time: Scholl year (2018 – 2910).

Place: Faculty of Fine Arts – Art Education Dept. – Wasit University.

Subject: The impact of using mind maps in developing the cognitive concepts of Fine Education Dept. students – Fine Arts Faculty – Wasit University.

Research Sample:

A random sample form Fine Education Dept. students – Faculty of Fine Arts – Wasit University – 40 students (20 males and 20 females) according to the one group system.

Research Methodology:

The research follows the descriptive method to study, and analyse mind maps constituents and the quasi-experimental method on running the research experiment on the students (the research sample).

Study Tool:

The theoretical framework includes 6 main points:

Point 1: Mind maps origin.

Point 2: Definition of mind maps.

Point 3: Mind maps based theories.

Point 4: Mind maps formation steps in Art Education.

Point 5: Mind maps advantages in Art Education.

Point 6: Mind maps uses in Art Education.

The practical framework involves a number of steps:

- 1- Defining the research sample (40 male and female students) Art Education Dept. – Faculty of Fine Arts (Grade 3) – Wasit University – divided into 2 groups (20 males and 20 females).
- 2- The lecturer asks all students to analyse works of art using their previous experiences and their special techniques in analysing a work of art.

Students may have some general experiences about mind maps they may have studied in general syllabi or subjects, but they may haven't used these mind maps in analysing a work of art (as a post performance).

- 3- Giving lectures on the course of methods and techniques of teaching art for Art Education Dept. students, grade 3, the course involves the mind maps subject as a survey tool for modern teaching, that may be used to analyse the constituents of any art subject, and these lectures involves:
 - a) Defining the procedural goals.
 - b) Defining the lesson's strategy.
 - c) Defining a time frame (3 lectures, 3 hours for each).
 - d) Selecting the study material (a variety of modern and post modern art works).
- 4- Directing students to produce their own mind maps (the research sample) (post performance).
- 5- Using mind maps to judge the pre and post performances, by presenting them to a panel of judges together with the mind maps measurement, the measurement consists of 40 works for each group. 40 for the males and 40 for the females. The pre performance is represented in the map from 1 to 20

and the post performance from 21 to 40.

- 6- Analysing and explaining the measurement results (comparing the males pre and post performances with the females).
- 7- Presenting the research recommendations and results.

Research Terminology:

- Mind maps a final regulatory thinking tool, they are the simplest way to access information into the brain, then retrieving this stored information.
- The mind map is an effective, creative way to take remarks, it stipulates the use of colours, and it has a single natural structure from which lines branch out.
- Mind maps use lines, signs, words and visualised drawings.

Art Aspects:

- First Aspect: Being acquainted with arts concepts and history, art trends and plastic artists biographies.
- Second Aspect: Being acquainted with the art fields constituents (plastic techniques, performing skills, materials and tools information, treatments followed by artists in their works of art).

Theoretical Framework:

Point 1: Mind Maps Origin

Mind maps emerged due to going back to concentrate on integrating the brain's two halves with their relevant activities overall characteristics, as well as, the emergence of the "Visual Culture" term which makes clear one's need for this basic type of humans, cultural components based on the formal language vocabulary (relations- signs- lines- colours and their eloquent uses in expression, as a language which helps one understand and explain elements, signs and the visual conduct in the environment, thus, one gets more capable of producing and receiving (concentration and deciphering) the different knowledge fields.

(SerriaSidki, 1984, 2)

While the left side of the brain was the point of focus, the verbal language played an important role in developing, acquiring and assimilating concepts as Piaget said, which enabled one to mentally deal with signs and ideas and deduce

the standing relation between ideas and things, and carrying out ratio and proportion and logic processes which link these relations, hence, one becomes aware of his thinking nature, and be able to handle and justify the complicated relations, and have a hypothetical thinking associated with solving problems.

Thus one can perform different processes like analysis, explanation, linking and generalization.

(MoshiraMotawea, 1995, 68)

Concepts formulation is done by mixing the verbal and visual languages, in art teaching domain which requires using the mental skills, verbal information and the general perceptive abilities.

Perception means thinking in concepts that consist of visual or verbal formulae or a common formula, via linking knowledge, mind world, thinking, perception innovation and expression.

Due to concentrating on the importance of achieving or restoring the missing integration between the right half and the left half of the brain, as well as, the emergence of the aforementioned visual culture term.

Mind maps emerged, they were radiant, dynamic, creative, visualized, symbolic, organic and more humane.

Mind maps have central shape and main branches that represent basic ideas and concepts, and secondary branches represent secondary ideas and concepts in a tree-like form.

(SariaSedki, MoshiraMotawea, 2009, 75)

Point 2: Definition of Mind Maps

Mind Map: is a diagram used to represent connected and radiant ideas or functions or things, organized around a single basic idea.

British psychiatrist "Tony Bozan" is one of the most famous persons who ??about the mind maps and their importance.

The mind map is a diagram that revolves around a single basic idea, whose design is like a cobweb, that is, the main idea is in the middle and radiant branches come out of it in all directions, it is a tree-like structure.

Relations between concepts are represented in words or conjunctions, written on the lines connecting two concepts, and it may end in an illustrative example.

(Tarek Abdel Raouf, 2015, 29)

Buzan, 2000; Joyce Wycoff, 1991; Jamie Nast, 2006; Nancy Margvile, 2005; and Manuel Gross, 2009; defined the mind maps as:

- A strong drawing technique which provides the main key to unleash the brain energy and may be applied to all aspects of life, in such way, that it improves the standard of learning and training and the clear thinking to enhance man's performance.
- A tool for organizing and generating ideas.
- An ideal tool to be creative in a natural and effective way, through organizing thinking process.

Accordingly, we can say that mind map in Art Education field, is a visual tool used to stimulate, activate and develop students minds in Art Education through regulatory contexts using pictures, colours, signs, drawings, rhythms, imagination, words, numbers and places, in a linked radiant, dynamic, organic, symbolic, creative and hierarchal shape to formulate a unique image of information and ideas which are connected in such way, that they facilitate understanding, concentration, summarization and solving problems in an effective way.

Point 3: Theories, Mind Maps, are based on:

(Tarek Abdel Raouf, 2015, 45)

1- Structural Theory;

Mind map is a technique by which knowledge is organized in lineless webs, many researches find that this technique is consistent with the structural theory in education, which confirm that individuals understanding of new knowledge is based on the interaction between their previous knowledge and modern ideas.

Mind maps is a strategy which is consistent with the structural theory, as the student or learner, design his own mind map based on his previous knowledge and ideas, stored in his cognitive structure.

2- Ozbel Theory:

Mind map strategy is based on Ozbel educational theory (meaningful learning), Ozbel sees that every study material has its own organizational structure which set it a part from other materials.

In every structure the more general and comprehensive ideas and concepts are on the top, below them come the less general and

comprehensive ideas and concepts, followed by the minute detailed information.

The cognitive structure for any school subject follows the previous arrangement from the more comprehensive to the less comprehensive.

mind maps work the same way they produce meaningful learning, as they provide the learner with a strong visual image represents the complicated relations and information, and connect the previous information with the new information.

Mind maps are based on Ozbel theory, that knowledge is arranged in mind maps the same way it is arranged in the learner's mind, that is, the more comprehensive ideas and concept are on the top, below them, the less comprehensive ideas and concepts, followed by the minute detailed information.

Point 4: Mind Maps Formulation Steps in Art Education

Buzan, 1991 said that mind maps consist of two basic elements:

(Concepts and relation) he indicated that mind map require: lineless paper, non-coloured pencils, your mind, your imagination.

Buzan (2003, 95-106) defined seven steps to formulate a mind map as follows:

- 1- Start from the middle: Put the concept or the main idea or word in the middle of the paper, to give the mind a full freedom to think and move in all directions.
- 2- Use a picture or sign to express the central idea: As the picture worth 1000 words, and the sign worth 1000 words, they will make us more interested, enhance concentration, as well as, activate the mind and emphasise the most important concepts.
- 3- Using colours for a visual organisation of concepts: As colours provide the mind maps with energy, creative thinking, humour attractiveness, and make the map more vibrant.
- 4- Using branches to link the central idea which comes in the first level of the map, with the relevant concepts: through a clock-wise connection of the main branches with the central shape, and connecting the second and

third levels branches with the first and second level branches and soon.

- 5- This structure is similar to the tree whose branches extend in lines connected with the main root, in a radiant shape, which facilitate understanding and remembering.
- 6- Make the branches take the curved shape instead of the straight one, given that curved lines like tree branches are ??, dynamic and graceful and more attractive to the eye, as for the straight line it is solid, stable and boring.
- 7- Use a single word or main concept at every link or line: The missing main word provide the mind map with strength and flexibility, and every word can generate new ideas and thinking ways, which enable the student to remember what he writes at once which invigorate his memory and strengthen his ability to understand, analyse and think in a critical way.
- 8- Using pictures while drawing the mind map:
As every picture is like the central picture is worth 1000 words, thus 10 pictures in the mind map equal 10,000 words in note-taking.
concentration is one of the most important elements which contribute to achieving the aforementioned.

Point 5: Mind Maps Advantages in Art Education Field:

Buzan 2003, Cherywilis 2006, John Budd 2007, Emma Careys 2009, defined the advantages of mind maps, which the researcher presented as follows:

Defining and highlighting the central idea we are dealing with, with the left side of the brain highlighting its basic constituents.

Presenting it with drawings, pictures, signs and colours.(right side of the brain).

Schedule (1):

Statistical descriptions of the research sample and the sample equivalence in formulating mind maps.

Seri al	Variable	Measuri ng unit	Mea n	Medi an	Standa rd deviati on	Lowe st value	High er value	Ran ge	Skewne ss	Kurto sis
1	Mind maps formulati on	degree	19,0 0	18,00	1.95	18.00	2.500	7.00	1.93	2.64

Spatially arranged (right side of the brain).

Observing relations partial details (left side of the brain).

Overall details (right side of the brain).

To strengthen understanding, analysis, and thinking (left side of the brain).

Ability to detect unclear relations that stimulate imagination and creativity (right side of the brain).

To get best results (left side of the brain).

Via mixing the verbal language with the visual language (left side and right side of the brain).

Point 6: Using Mind Maps in Art Education Field:

Mind maps have numerous uses in education in general and in Art Education in particular.

Buzan 1991, Nancy Margulies, Steve Tyrivett, Manuel Gross 2009, defined the uses of mind maps as follows:

Presentations, reports writing, creative thinking, goal setting, actions planning, personal growth, time management and work life balance.

Accordingly, the researcher found out the most important uses of mind maps in Art Education.

- 1- Mind maps uses for teachers: Planning, hand outs, presentation, mind map electronic programs for students living in remote areas and collaboration.
- 2- Mind maps uses for students: Brain storming, note-taking, assignment track, presentations, memory improved and research.

Practical Framework:

First: Study Population (a random sample from Fine Education Dept. students – Fine Arts Faculty – Wasit University – 40 students (20 males and 20 females).

Schedule 1 indicates the mean, median, standard deviation, lowest and highest values, range, skewness and Kurtosis to formulate mind maps.

The schedule shows that skewness co-efficient was (1.93) and Kurtosis co-efficient was (2.64).

Skewness and Kurtosis lie between ($3\pm$) which refers to the sample equivalence in mind map formulation.

Second: Used Statistical Techniques: researcher used the mean, standard deviation, median, lowest and highest values, range,

skewness, Kurtosis, Levin coherence test and T test for the differences significance and improvement rate.

Third: Results of research sample mind maps measurement application.

Schedule 2: Differences significance between (males and females) in mind maps structure post measurement. ($N_1 = N_2 = 20$)

Serial	Variable	Measurement unit	Males		Females		Variation Coherence		Significance differences	
			Mean	Standard deviation	Mean	Standard deviation	Levin test	Sig.	T	Sig.
1	Mind maps structure	degree	19.05	1.88	19.95	2.06	0.01	0.16 0.90	0.16	0.87

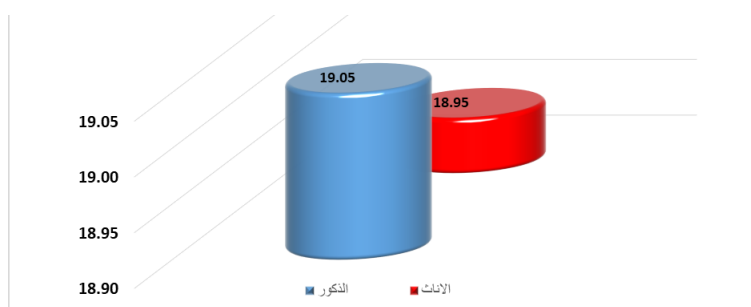


Figure (1)

Pre measurement for the research group (males-females)
in mind maps formulation

Schedule (2) and Figure (1) indicate the mean, standard deviation for the males group and females group, as well as, Levin tests results for the two groups coherence and "T" test for the two groups differences significance, and the significance level (Sig.) for mind maps formulation.

The schedule indicates that Levin test value for formulating mind maps was (0.05) with a significance level (Sig.= 0.90) which is higher than (0.05), which refers to the research two groups coherence (males and females) in formulating mind maps.

References point out that in case Levin test value has a significance, then the two groups are incoherent, they (the references) also refer that Spssprogram concerned with conducting statistical treatments in socio-sciences gives the significance level directly to Levin test

value under the name (Sig.), thus, the smaller significance level be applicable to the higher one.

(JoliBalant, 2006 AD – Page: 231).

The schedule also indicates that "T" value was (0.16) with a significance level (Sig.= 0.81) which is higher than (0.05) which indicates that there are no differences between the two research groups (males – females) in the pre measurement for the mind map formulation.

Schedule (3) Differences significance between the pre and post measurements means, and the important rate for mind maps formulation for males group.

Serial	Variable	Measurement unit	pre-measurement		Post-measurement		Differences		T	Sig.	Improvement rate
			Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation			
1	Mind maps formulation	degree	19.05	1.88	86.60	2.52	61.55	3.02	100.13	0.00	359,591,

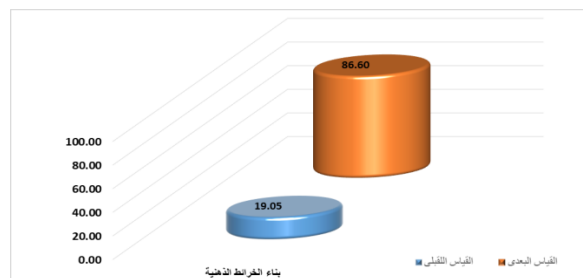


Figure (2)

The pre and post measurements means for the males group in mind maps formulation

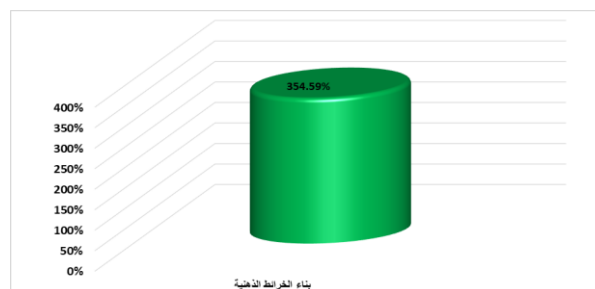


Figure (3)

Mind maps formulation improvement rate for the male group

Schedule (3) and Figure (2) indicate to mean, standard deviation for pre and post measurements and differences for the males group in mind maps formulation.

The schedule and the figure indicate that “T” value was (100.13) with a significance level (Sig.= 0.00) which is less than (0.05) which refers to statistical significance differences at the level (0.05) between the pre and post measurements in mind maps formulation in favour of the best mean, which is the post measurement here.

The Schedule and Figure (3) also indicate that the post measurement improvement rate against the pre-measurement for the males group in mind maps formulation was (354.59%).

Schedule (2) differences significance between the pre and post measurements means, and mind maps formulation for the females group. (N = 20)

Serial	Variable	Measurement unit	pre-measurement		Post-measurement		Differences		T	Sig.	Improvement rate
			Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation			
1	Mind maps formulation	degree	18.95	2.06	88.10	1.31	69.15	2.64	117.08	0.00	364.91%

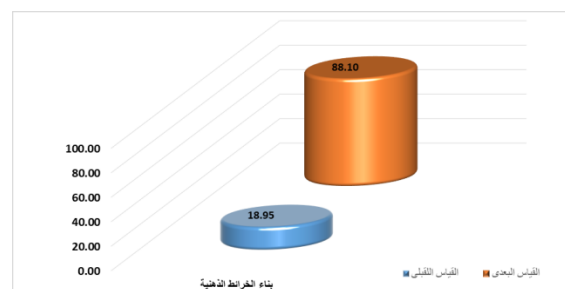


Figure (4) pre and post measurements means for the female group in mind maps formulation.



Figure (5) Mind maps formulation improvement rate for the females group.

Schedule (4) and Figure (4) indicate the mean, standard deviation for both the pre and post measurements and differences in females group in mind maps formulation.

The schedule and figure indicate that “T” value was (111.91) with a significance level (Sig. = 00) for mind maps formulation which is less than (0.05), which refers to statistical significance differences at level (0.05) between

the pre and post measurement in mind maps formulation in favour of the post measurement.

The schedule also indicate that post measurement improvement rate against the pre-measurement for females group in mind map formulation was 364.91%.

Schedule (5) Differences significance between (males and females) in post-measurement for mind map formulation.

Serial	Variable	Measurement unit	Males		Females		Significance differences	
			Mean	Standard deviation	Mean	Standard deviation	T	Sig.
1	Mind maps formulation	degree	86.60	2.52	88.10	1.37	2.34-	0.02

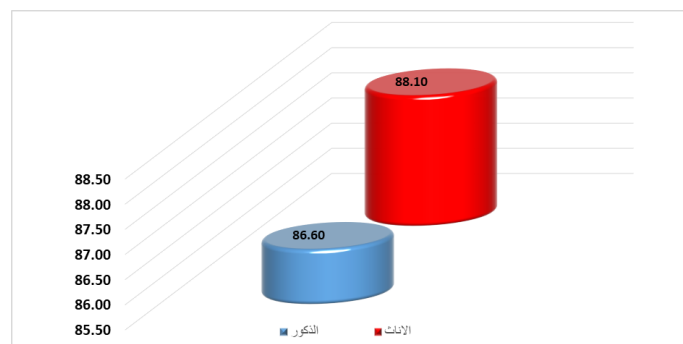


Figure (6) Post measurement mean for the two research groups (males – females) in mind maps formulation.

schedule (5) and figure (6) indicate the mean, standard deviation for the males group and females group, as well as, results of “T” test for differences significance between the two research groups, and the significance level (Sig.) for mind maps formulation.

The schedule also refers that “T” value was (2.34) with a significance level (Sig.= 0.02) which is less than (0.05) and which indicates that there are no differences between the two research groups (males and females) in the mind maps formulation post-measurement.

Research Suggestions and Recommendations:

- (1) Conducting further studies and theoretical and practical researches based on the use of mind maps to find the extent of their effectiveness in developing thinking and learning skills, as well as, their impact on practising the different creative activities in Art Education field.
- (2) Setting up specialised workshops to train Art Education teachers on mind maps formulation steps and their uses in Art Education field.
- (3) Varying teaching techniques and approaches for non-traditional arts, which aim at developing planning, working, researching and development.

Mind Maps Judging Measurement

(Used by the research sample male students in separation from females students)

- 1- Student applies the drawings inside the work of art.
- 2- He analyses the plastic elements used in the art work (the line, colour, touch, shadow, and light).
- 3- He applies the plastic elements used in the art work in the map formulation.

- 4- He describes the standing relations among the plastic elements in the artwork by using words, signs... etc.
- 5- He uses colours inspired from the art work colours in formulating the map.
- 6- Analyse the plastic formulae (elements that achieve formations – structures) of the art work inside the mind map.
- 7- He emphasises the relations of shapes inside the art work and their use in formulating (building) the map.
- 8- he applies the shapes movements inside the art work through the mind map formulation steps.
- 9- He Producing relations between the shapes sizes and the possibility of employing them in building the mind map.
He explains techniques used by the artist to produce his art work during his formations of the mind map.
- 10- He explains how far the expressive content is achieved through the plastic elements of the art work, during the formation of the mind map.
- 11- He adds explanatory sentences for the shapes used in building the mind map to give symbolic significance for the artwork.
- 12- He stresses the relation between the visual and lingual sign during his formation of the mind map.
- 13- He employs plastic signs in the mind map structure, to explain the significance of the art work.
- 14- He highlights the relation between the part and the whole in art work he analyses using the mind map.
- 15- He employs the plastic signs in a radiant, dynamic, visual, vibrant shapes on forming the mind map.
- 16- He can use his (personal, affirmative, symbolic, fancy) style in expressing the art work significance during his formation of the mind map.

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