The Impact of the Creative Thinking and the Brainstorming on the Students

(The students of Interior Design in Cihan University as a case study)

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Abstract

This research is set to study the relationship between creative thinking and brainstorming and their impact on the students' thinking. Education and teaching are great tasks; therefore, the study will clarify the importance of those tasks in students' lives. Also to study the impact of creative teaching on stimulating or activating the creative thinking of the students. During the research, many terms will be illustrated such as terms of creative thinking, perception, brainstorming, and creative teaching.

For improving the study hypothesis, the research had took the students of Interior Design in Cihan University / Erbil as a case study. By using the method of questionnaire form (20 forms), each form includes 20 questions that distributed on a random sample of the 3rd-year students.

The research had concluded that the creative thinking has an impact on the students and affects the final production. In addition, the brainstorming has an impact on the students and affects the final production. Moreover, the creative teaching has an important role on the creative thinking and the brainstorming of the students.

Finally, it presented samples of students' final projects in design that confirm the creativity of the students resulting from creative teaching.

Keywords: Creative Thinking, Brainstorming, Creative Teaching, Teaching Methods

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1- Introduction:

The importance of the research is to illustrate the impact of creative thinking and the brain storming on the students and its relationship with the creative teaching for students. The practical importance of the research represents when applied to the students of interior design and the great shift in the ideas of the students in general. Moreover, that resulted with the physical output of the design models that were worked in the model workshop. These products represent the butter of intellectual creativity and brainstorming of design ideas. The limits of the research is (time limits represented by the years 2017-2018, spatial limits represented by Erbil city-Cihan University, and human limits represented by the sample of the research and that is the students in the interior design department). The research followed the questionnaire measurement through a series of questions given to a random sample of the students (20 students out of 30 students of the 3rd year).

2- Previous Literatures:

2-1 Creative Thinking Techniques (Brown, & Kusiak (2002-2005)):

This paper studied how systematic, creative thinking techniques can be used to design practical solutions to business problems. It applied a number of creative thinking techniques to identify potential solutions for the problem. It also discussed some of the successful creative thinking techniques used by business analysts as well as design strategies and methods, creative thinking and brainstorming, and described a generic model, which can be used to guide the process.

2-2 Creative teachers and creative teaching (Cremin (2015)):

The paper discussed several questions and started to answer them, such as: What are the key features of creative teachers, how do teachers teach creatively and teach for creativity then fostering children's creative learning. It also discussed key features of creative practice. It sets distinction between creative teaching and teaching for creativity.

2-3 Brainstorming/Free-flowing creativity for problem-solving (Arivananthan (2015)):

The paper discussed and defined brainstorming and set several methods for stimulating creativity, problem solving, innovation, and discovering diverse solutions, through brainstorming.

2-4 Learning to learn-Creative thinking and critical thinking (Coughlan (2007-2008)):

This paper set to understand why creative and critical thinking skills are important, and combined between both. By applying creative and critical thinking approaches to subject area, it will enrich and deepen learning experiences, problem solution to decision making. In addition, it discussed some strategies that can apply to foster both creative and critical thinking skills.

2-5 Creative Teaching and Training (Al-Sweedan (2017)):

The study discussed how to provide participants with information and skills refinement and transfer of information and knowledge, and excellent preparation of teaching work. In addition, developing participants' performance and style, enhancing participants' behavior by using best presentation methods, and finally to introduce participants in how to evaluate the training.

2-6 Creative Teaching Strategies (Al-Saeed (2003)):

This research studied the active learning and some approaches and strategies that enhance teaching career. In addition, it set many definitions to the creativity (generally, mentally, linguistically, mathematically, and as a product), and the effects of environment on math creativity. Moreover, it compared between creativity and innovation, and set many approaches for developing math creativity, and some samples and programs of math creativity.

2-7 Design Thinking (Ambrose & Harris (2010)):

The study put definition to design and discussed the design process, themes of thinking, brainstorming and presenting ideas, and deferent solutions for creativity in design. In addition, it presents an overview of the design thinking involved at each stage of the design process. And the methods used by designers to generate and refine creative ideas, the key considerations that help shape them and the feedback and review.

3- (Problem – Aim – Hypothesis) of the research:

Through the previous literatures, it can conclude that there are some missing information and knowledge gaps representing by the relationships between creative thinking, brainstorming and creative teaching and their impacts on the students. Therefore, the research had put the following problems which represented by:

- There is no clear vision about the impact of the creative thinking on the students and the effects on the final product.
- There is no clear vision about the impact of the brainstorming on the students and the effects on the final product.
- There is no clear perception about the impact of teaching on the creative thinking and brainstorming of the students.

This research aims to understand why creative thinking and brainstorming are important in teaching career and in student's thinking, and it aims to identify the impact of creative teaching in creative thinking and brainstorming among students. In addition, to identify the methods of creative teaching and its impact on creative thinking of the students.

According to that, the researcher put the following hypothesis for the research:

1- The creative thinking has an impact on the students and affects the final production.

2- The brainstorming has an impact on the students and affects the final production.

3- The creative teaching has an important role on the creative thinking and the brainstorming of the students.

4- Perception Processes:

4-1 Perception

It is branch of psychology. They are the means by which the information is acquired from the external environment through the members of the sense and converted into experiences to learn things, events, and voices. In addition, we perceive our surroundings by interpreting the information we receive from the sense organs by the process. (Hasan, 2007)

4-2 Sensory Perception:

Sensation is the unexplained basic information transmitted by our sense organs. The perception is developing by sensation or the receipt of information by the members of the sense to the higher level of cognitive processes conducted in accordance with that information. According to that; Sensory Perception is to modify sensory impressions of external stimuli in order to interpret and understand them. It is the process by which the

sensory stimuli are introduced, organized, and understood. The cognitive system needs to be directed according to stimuli in the outside world. (Hasan, 2007)

From above, Perception is a higher mental process that is related to the cognitive structures of the individual and is influenced by his or her own abilities.

5- Thinking and Creativity:

5-1 Thinking:

Thinking is a mental and cognitive process. Thinking relates with human existence, movement, performance and giving is linked to the long march of life, As long as man thinks so, he exists. Thinking is mental activities or processes that overlap, cooperate and integrate with each other. Therefore, thinking is linked to all mental processes of knowledge closely; the outcome of thinking is the product of the interaction of these processes in the brain, such as perception and memory. The process of thinking is influenced by many external variables by virtue of the environment in which people live. These variables include education, socialization, customs, traditions, knowledge acquisition, imitation, simulation, and others. Therefore, the idea that forms inside human's brain, is the result of continuous dynamic interaction between many internal and external variables. Structured thinking teaches us how to organize, formulate, and launch information. It drives in the human the ability to critique, creativity, and innovation. (Hasan, 2007)

Many things can convey the ideas of the participant. Thinking can be reflected in images, especially to designers, images can convey the ideas very quickly. It is important to spend adequate time on images preparation, selection, and presentation. Thinking in shapes that used in design helps the designer to make spatial relationships between the elements he used in the design. In addition, Thinking in colours and materials selection is important because colour is a powerful communication tool, it can drag and focus the attention and make things stand out and look more attractive. (Ambrose & Harris, 2010)

5-1-1 Thinking Types:

From a cognitive point of view, there are three types of thinking according to its mental processes: (Hasan, 2007)

1- Virtual Thinking: It focuses on the first concepts, how to organize them to build the conclusions, how to deliver them, and the evolution of the delivery of ideas.

2- Motor Thinking: Such as children's movement.

3- Visual Thinking: It is in the form of mental images.

5-2 Creativity:

Creativity is coming up with something new and original. Creativity is the use of imagination or original ideas to create something; inventiveness. The ability to use skill and imagination to produce something new or to produce art; the act of doing this. It is the action or process of innovating. (Oxford dictionary)

Creativity is the mental processes that lead to solutions, ideas, perceptions, technical products, theories and products that are unique and new. (Al-Saeed, 2001)

There are two types of creativity relating with the field of art: Mental Creativity and Hidden or Concealed Creativity. Mental creativity is the hidden creativity after it is been grew and performs its function. The hidden creativity includes all the creative possibilities that exist within the individual, whether it grew up or not. (Hasan, 2007)

5-2-1 Creative Thinking:

Creative Thinking is one of thinking types according to psychology schools, it is about applying imagination to find a solution to the learning task. (Coughlan, 2007-2008)

There are many strategies of Creative thinking such as brainstorm ideas by writing down them as soon as they flash into the head on one topic onto a piece of paper without editing. Plying and thinking with the generated ideas during doing other activities. Giving a deferent answer or solution for the same problem. And combining two or more solutions together to generate a new one. (Coughlan, 2007-2008)

So Creative thinking is imaginative, generates many possible solutions and it is divergent.

The views of researchers differed regarding creativity. The first view sees creativity as a work that has nothing to do with the creator and society. It is inspired by natural innate force. The second view relates to the development of modern psychological theory as a learning theory. It is a pattern of behavior patterns that can be learned and acquired. Anyhow, the researchers gathered that the ability to think creatively exists in all individuals but to varying degrees. (Hasan, 2007)

The creative thinking is characterized by the originality and the ability to produce new ideas and images. It has the flexibility to move from one idea to another as well as it has the fluency, or the ability to produce the largest number of ideas in a short period. Moreover, is characterized by sensitivity to problems, or the ability to see the shortcomings and defects that others cannot see. In addition, it has the advantage of continuing the trend by continuing to work and strive to achieve the goal. (Al-Saeed, 2001)

On the other hand, some of the personality characteristics of creativity are; curiosity, independence in judgment and thinking, intuition, idealism, risk taking and a capacity to become preoccupied with tasks. (Cremin, 2015)

5-2-2 Constraints of Creative Thinking:

There are many constraints of creative thinking such as; (Hasan, 2007)

- lack of self-confidence
- The tendency to keep pace with people
- Enthusiasm, desire and excessive motivation to succeed
- The stereotypical thinking bound by restricted habits of creativity
- The individual's sense of helplessness and insensitivity towards the situation or problem
- Resistance to change and adherence to the current situation and the traditional way of solving problems.

5-2-3 Creativity Theories:

According to psychology schools, there are many creativity theories, some of them are the following: (Hasan, 2007)

1- The theory of genius: It interprets creative works based on the assumption that man is only a creature of divine ideas, divine will, and that it does not play a direct role in the process of creativity and it is only the act of the Creator. The creative works are

scattered among great people in moments of sudden inspiration. The genius's character is flexible in thinking, unusual sensitivity, and ability to focus.

2- Psychoanalytic Theory: This theory said that the main engine of creative work is the internal conflicts of the individual that have been inhibited at the level of unconsciousness, and that the process of creative thinking is linked to that level.

3- Gestalt Theory: It sees that the creative person has an aesthetic sensitivity that enables him to choose the only choice from among several choices, and this only choice called the good Gestalt.

4- Humanistic Approach: This trend shows that all individuals have the ability to innovate according to the subjective experience and social environment in which the individual lives. Therefore, his creative energies will manifest himself.

5- Cognitive Theory: This theory focuses on thinking processes, style, and levels of thinking. Also the relationship of intelligence with creativity and the external and internal world of the individual, and dealt with several concepts including perception, creative personality and the foresight in solving problems.

6- Teaching and Creative Teaching:

6-1 Teaching

To teach; is to impart knowledge to or instruct (someone) as to how to do something. Moreover, to give lessons to students in a school, college, university, etc., to help somebody learn something by giving information about it. (Oxford dictionary)

6-1-1 Teaching Methods:

The method of teaching is the means of communication used by the professor in order to communicate the objectives of the lesson to his students. The planning and good preparation of the lecture leads to the creative performance of the professor. The strategies of good teaching including; clarifying the purpose of the project, providing types of sensory stimuli, audio and visual presentation, pictures and video illustrations. In addition, making spirit of excitement by offering problems and solutions, and the participation of students to develop solutions to stimulate their creative thinking. (Sahrawy, 2015) The missions of teaching represented with transferring of information

and knowledge, skills training, and development of ideas and behavior. (Al-Sweedan, 2017)

6-2 Creative Teaching:

Creative teaching is to involve teachers in making learning more interesting, effective, and using imaginative methods in the lecture. Teaching for creativity is to involve teachers in identifying students' creative forces and fostering stimulates their creativity. (Cremin, 2015)

Teachers using imaginative approaches to make learning more interesting, exciting, and effective. Those approaches help to develop creative thinking of students. (Wilmot, Hannah)

The National Advisory Committee on Creative and Cultural Education suggests that the first task in teaching for creativity is 'to encourage young people to believe in their creative potential, to engage their sense of possibility and to give them the confidence to try'. (Cremin, 2015)

To be a creative teacher, widening the understanding of personal creativity and the imaginative approaches and engaging activities that will employ in order to develop the students' capacity for original ideas and thoughts. In addition, learning to be flexible and responsive to different learners and diverse learning contexts. Confidence, enthusiasm, risk-taking, and commitment are common qualities in creative teachers. Creative teachers remain open to new ideas, engage in problem solving, share any particularly inventive practices, and generate and critique their ideas. (Cremin, 2015)

Innovation and creativity in teaching is important which is making improvements in teaching by adding something new, new methods of teaching, new illustration ways etc.

7- Brainstorming

7-1 The Brain's Physiology – Left and Right Sides

To understand the meaning of brainstorming, we must know how human's brain works. "The brain consists of two hemispheres joined by a bridge of nervous tissue called the Corpus Callosum. In unusual cases, some people have been born with a split corpus callosum where the two halves of the brain are not connected. Split-brain patients are excellent subjects for studying how functions are localized and in which part of the brain

they are performed. This has shown that anatomical features in one half of the body are controlled by the opposite half of the brain - the brain is crossed."

It is found that in right-handed people, the left-brain deals with the senses movement of the right of the body, speech, reading, mathematics, and analytical (logical) thinking. The right brain deals with the senses and movement of the left side of the body as well as with creativity, innovation, and brainstorming. (Brown, & Kusiak 2005-2007).

The left side seems to be rational and dominant on the other side of the brain. It tends to control all crazy and wild thoughts, which the right side thinks of it. Right side can be trained to be more dominant in generating creative ideas.

7-2 Brainstorming process

Brainstorming is a creative approach to developing ideas and thoughts and originating solutions during the imagination stage. (Ambrose & Harris, 2010)

Brainstorming is a quick way to generate novel ideas for problem solving and innovation. It stimulates or excites the brain thinking about issues in a new way. It encourages people to arrest conventional, logical thinking and embrace spontaneity, creativity, originality, and imagination. Brain storming is useful in problem solving, innovation, and discovering diverse solutions. (Arivananthan, 2015)

Brainstorming generates different ideas that are pared to a few possibilities for potential development. The brainstorming process starts by defining the problem to be addressed, selecting group of students that will address it, and forming questions with which to stimulate the creative process. Resources such as charts, data show, videos, or a whiteboard may be used to facilitate the process and to record the ideas that are generated. Following the session, ideas are grouped by type and their suitability in order for making a list of the best ideas to be formed. (Ambrose & Harris, 2010)

In brainstorming's rules, any idea will be valid, so the criticism is not allowed at first. In addition, start resolving the strongest idea first, will prevent the flowing the rest of ideas. In addition, it must be a target to reach through all ideas, focusing on quantity not quality. In addition, should be setting a time by which the session would end. This helps to keep the pressure on, forcing more ideas to be generated. Students must not be afraid of offering weird or odd ideas, and the teacher or the director should encourage all members to contribute. (Ambrose & Harris, 2010)

7-3 Brainstorming Methods

Participants in a Brainstorming session express their thoughts quickly and spontaneously, without much processed ideas. Association and building on the ideas of others are encouraged; criticism is forbidden. The session focuses on quantity rather than quality, as well as to generate as many ideas as possible in a short time. Then choose the most effective and suitable one between them. Brainstorming can be individually (standalone), or it can be in groups (multi session workshop). (Arivananthan, 2015)

Anyhow, there are several steps of brainstorming process so to generate ideas that can be developed later; those are the following: (Ambrose & Harris, 2010)

1- Visualization: Quick visual aids can be produced to help brainstorming and focus attention, visualization aims to provide feedback to stimulate further creativity and build ideas and thoughts.

2- Groups and voting: The brainstorming participants can be split into smaller groups, to find solutions to particular problems or specific required design. Groups can vote to choose the best idea that produced by the other groups, then to be implied as a solution.

3- Making sketches or notes: Use of draft paper allows participants to write down their ideas quickly. Sketching can convey a visual idea for a design, and it can be done at any time during the process. This method also helps students to relax, and to express more ideas.

4- Assessment criteria: Last step must assess the ideas generated according to specific criteria. Criteria can include cost, resources, materials, time. This assessment allows the ideas to be ordered and organized according to their priority.

8- Research Measurement – The Case Study

The measurement of the research represented by measuring the impact of teaching on the creative thinking and the brainstorming of the students. In addition, it measures the relationship between creative thinking and brainstorming. The researcher used the method of questionnaire form, which is included 20 forms distributed on the students of Interior Design Department in Cihan University in Erbil (random 20 students out of 30 students). The questionnaire related to the creative thinking of students (applying it on the Model Making subject during the whole semester).The questions included the terms that have been addressed in the research, such as creative teaching, creative thinking, brain storming, teaching methods, etc. The questionnaire form consists of (20 questions),

each question has (5 answers) which are they; (Strongly disagree – Disagree – Natural – Agree - Strongly agree). The numbers of forms that had been distributed are 20 forms.

8-1 The questionnaire answers results: * * (See the appendix charts for further details of the fields rates)

- Generally, the numbers of votes for each field of the students' answers were (149) votes for (Strongly agree), (146) votes for (Agree), (63) votes for (Natural), (32) votes for (Disagree), and (10) votes for (Strongly disagree). Moreover, the percentage for each question was as the following:

1- Question no.1 result percentage was (60%) of the students (Agreed) with it, and the rest of percentage for the rest of other fields.

2- Question no.2 result percentage was (50%) of the students (Agreed) with it, and the rest of percentage for the rest of other fields.

3- Question no.3 result percentage was (45%) of the students (Agreed) with it, and the rest of percentage for the rest of other fields.

4- Question no.4 result percentage was (40%) of the students (Strongly Agreed) with it, and the rest of percentage for the rest of other fields.

5- Question no.5 result percentage was (35%) for each of (Agree) and (Strongly Agree), and the rest of percentage for the rest of other fields.

6- Question no.6 result percentage was (45%) of the students (Strongly Agreed) with it, and the rest of percentage for the rest of other fields.

7- Question no.7 result percentage was (55%) of the students (Strongly Agreed) with it, and the rest of percentage for the rest of other fields.

8- Question no.8 result percentage was (50%) of the students (Agreed) with it and the rest of percentage for the rest of other fields.

9- Question no.9 result percentage was (50%) of the students (Strongly agreed) with it, and the rest of percentage for the rest of other fields.

10- Question no.10 result percentage was (55%) of the students (Agreed) with it, and the rest of percentage for the rest of other fields.

11- Question no.11 result percentage was (35%) for each of (Agree) and (Strongly Agree), and the rest of percentage for the rest of other fields.

12- Question no.12 result percentage was (40%) of the students (Strongly agreed) with it, and the rest of percentage for the rest of other fields.

13- Question no.13 result percentage was (50%) of the students (Agreed) with it, and the rest of percentage for the rest of other fields.

14- Question no.14 result percentage was (35%) of the students (Strongly agreed) with it, and the rest of percentage for the rest of other fields.

15- Question no.15 result percentage was (45%) of the students (Strongly agreed) with it, and the rest of percentage for the rest of other fields.

16- Question no.16 result percentage was (65%) of the students (Agreed) with it, and the rest of percentage for the rest of other fields.

17- Question no.17 result percentage was (50%) of the students (Strongly agreed) with it, and the rest of percentage for the rest of other fields.

18- Question no.18 result percentage was (40%) of the students (Agreed) with it, and the rest of percentage for the rest of other fields.

19- Question no.19 result percentage was (50%) of the students (Strongly agreed) with it, and the rest of percentage for the rest of other fields.

20- Question no.20 result percentage was (45%) of the students (Strongly agreed) with it, and the rest of percentage for the rest of other fields.

9- Conclusion and Results Discussion:

Through the research and its methodology, we can see that the high percentage of questionnaire's votes is for (Agree) and (Strongly agree) fields. That refers that most students agree with the teaching method that has been used with them during the semester, such as the brainstorming methods, creativity stimulating methods, and creative thinking enhancement. Therefore it could check the hypothesis of the research which are they; (The creative thinking has an impact on the students and affects the final production. The brainstorming has an impact on the students and affects the final production. The creative teaching has an important role on the creative thinking and the brainstorming of the students). So the research have reached its aims which are they; (verified that creative

thinking and brainstorming are important in teaching career and in student's thinking, identified the impact of creative teaching in creative thinking and brainstorming among students. Also it identified the methods of creative teaching and its impact on creative thinking). So the problems of the research have been solved by making a clear vision about the impact of the creative thinking on the students and the effects on the final product. Making a clear vision about the impact of the brainstorming on the students the effects on the final product. and a clear perception about the impact of teaching on the creative thinking and brainstorming of the students.

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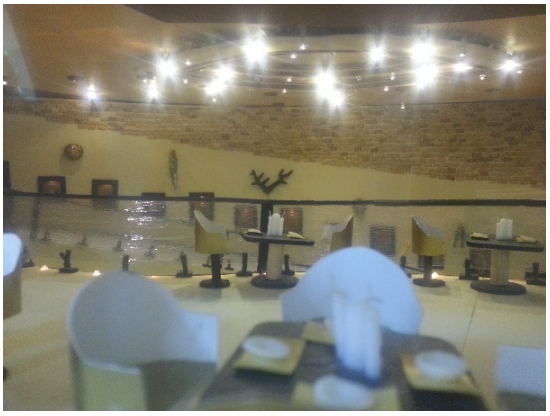
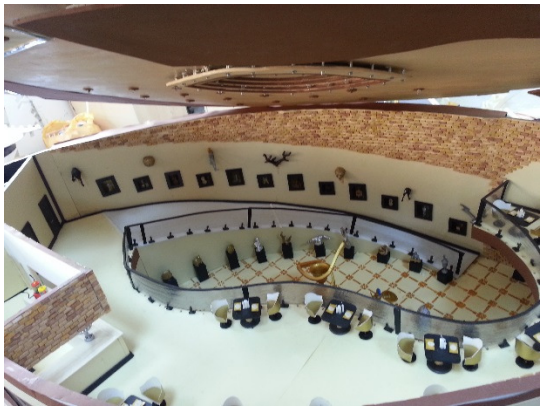
Appendix (1): Students' Design Results:

From the tangible results of this study, here are some results of the Model Making subject, those result proved that the creative thinking and the brain storming of the students could be activated through creative teaching. The following projects are the final projects' results of designing (Gallery of Aquarium) and (Gallery of Sculptures) by the Interior Design students in Cihan University.





Appendix (2): Questionnaire form

Note: The form is part of a research questionnaire related to the creative thinking of students of interior design (especially the Model Making).

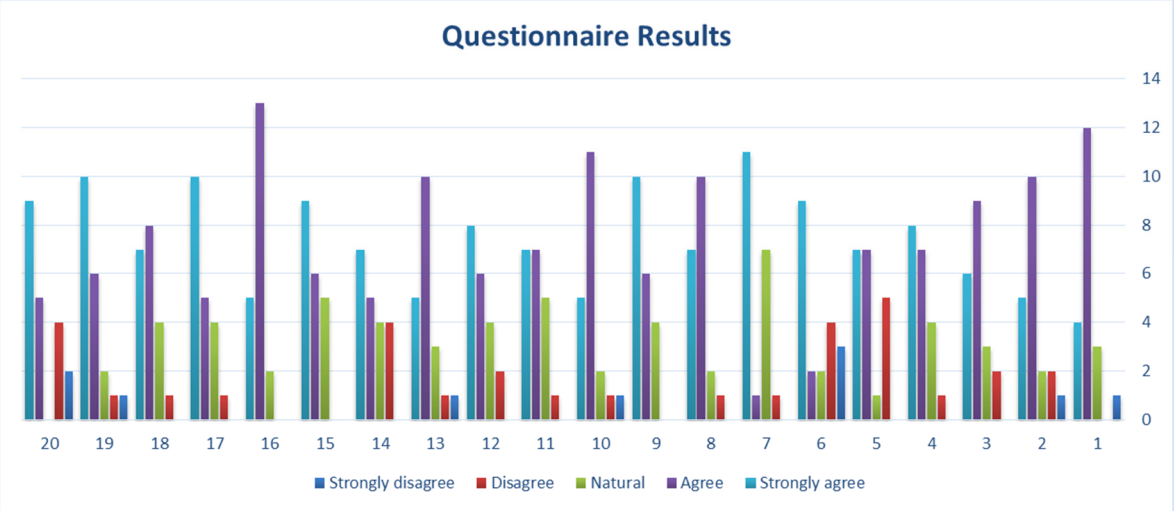
Please refer to the following questions and answer through the questions mentioned below:

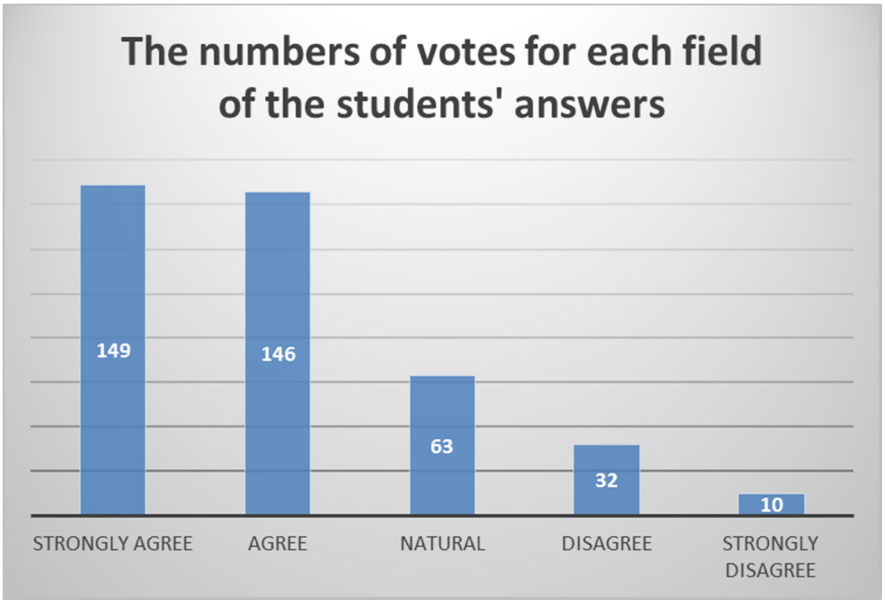
No	**Questions**	Strongly disagree	Disagree	Natural	Agree	Strongly agree
1	Do you think that the way, which your teacher teaches you, affects your design product?					
2	Do you think teaching should enter the field of creativity?					
3	Do you think the social interaction between you and your fellow students has an impact on your creative thinking?					
4	Do you think that the ongoing discussions between you and your teacher have the great effect of stimulating your creative thinking?					
5	Do you think that the teaching method of a teacher has an impact on the creative thinking of students?					
6	Do you think that the teaching method of a teacher has an impact on the brainstorming of students?					
7	Does your attention to the professor during the lecture					

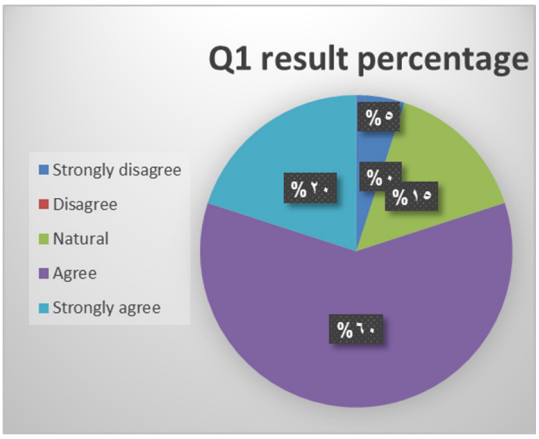
	affect your cognitive and sensory awareness?					
8	Does the teacher provide you with explanatory means such as pictures, videos, etc., activating your design thinking?					
9	Do you think that explanatory means are important in stimulating students' creative thinking?					
10	Do you think that the teaching way of a teacher affects the level of student thinking?					
11	Do you think that the continuous follow-up by the professor to his students contribute to the improvement of the design output of students?					
12	Do you think that the creation of new teaching methods affects the level of creative thinking of students?					
13	Does the professor's explanation way of the subject affects your creative thinking?					
14	Do you think that creative thinking and brainstorming are inseparable parts?					
15	Do you believe that you would have reached less or different design result if the teaching method were					

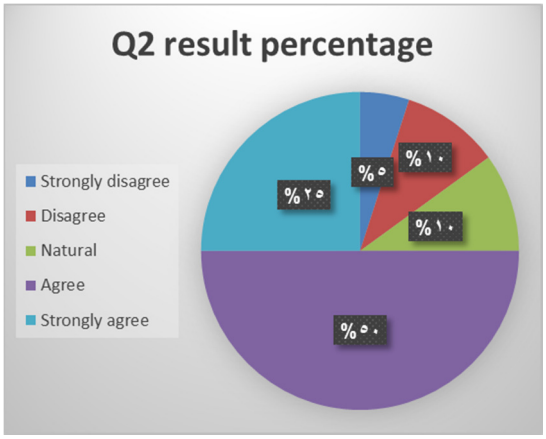
	different or if the teacher had changed?					
16	Does the teacher's performance during the lecture affect your thinking, attention, and concentration?					
17	Do you think that the creative thinking of the student can be activated through the teaching way of the professor for the subject?					
18	Do you think that brainstorming affects the final design output?					
19	Do you think that the creative thinking of the student affects the final design output?					
20	Do you think that your final design product meets the requirements of creativity and innovation?					

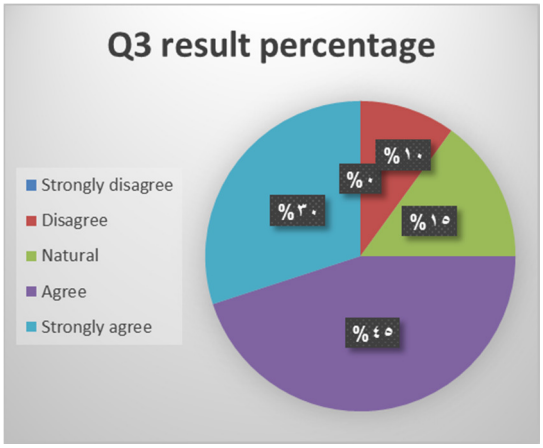
Appendix (3): Questionnaire Results






Q1 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
%٥
%٠
%١٥
%٢٠
%٦٠


Q2 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
%٥
%١٠
%١٠
%٢٥
%٥٠


Q3 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
%١٠
%٠
%١٥
%٣٠
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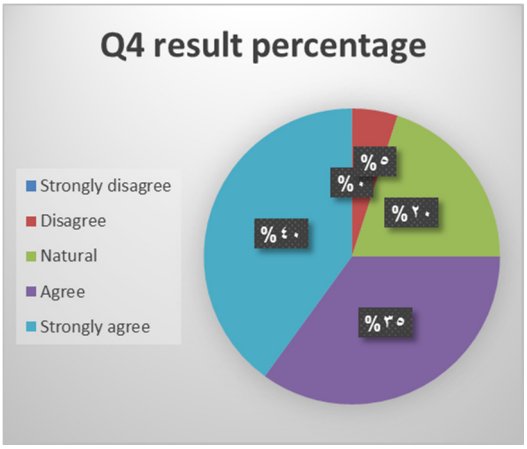
Q4 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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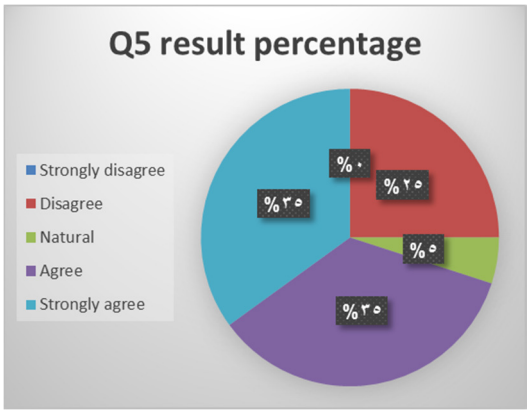
Q5 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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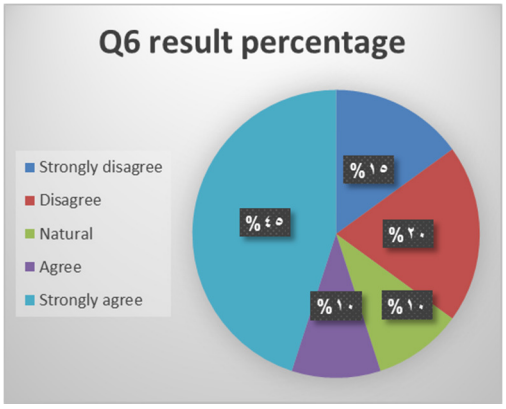
Q6 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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%٢٠
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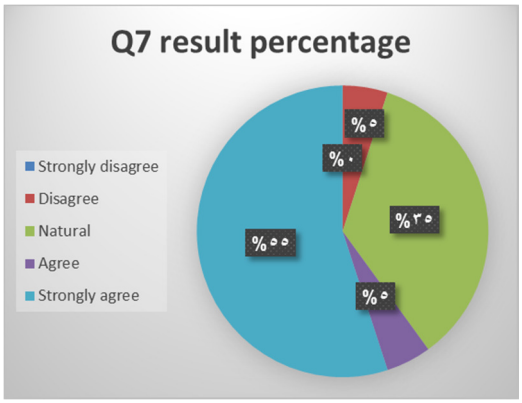
Q7 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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%٣٥
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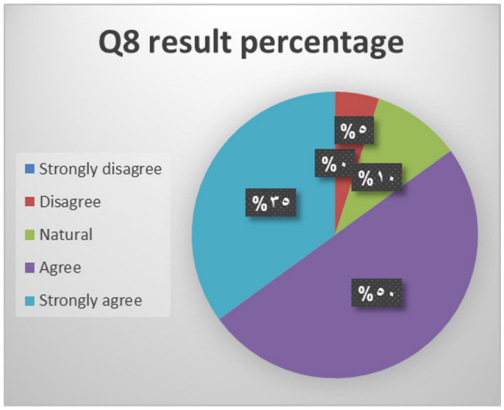
%٥


Q8 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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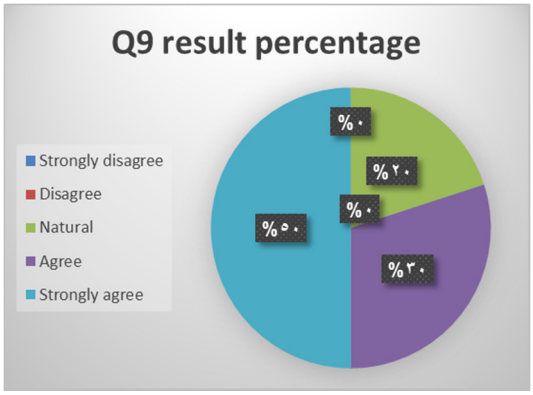
%٥٠


Q9 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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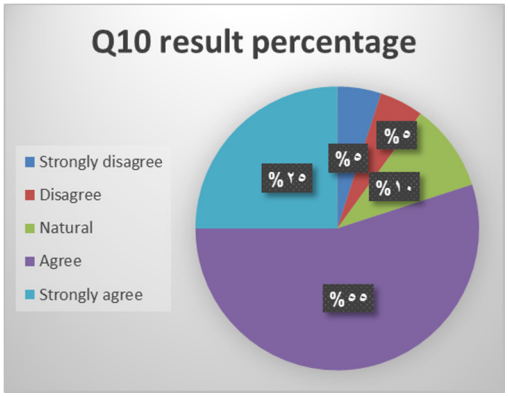
Q10 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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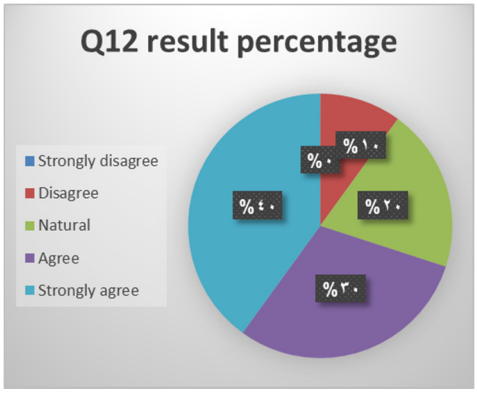
Q12 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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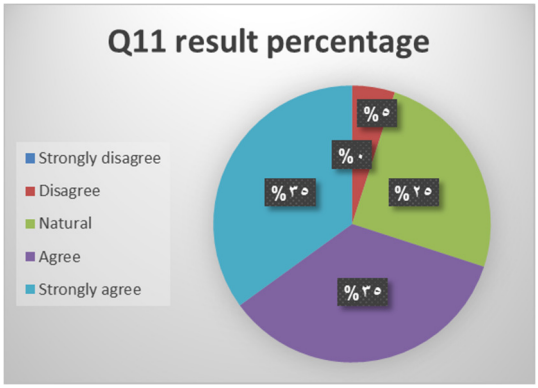
Q11 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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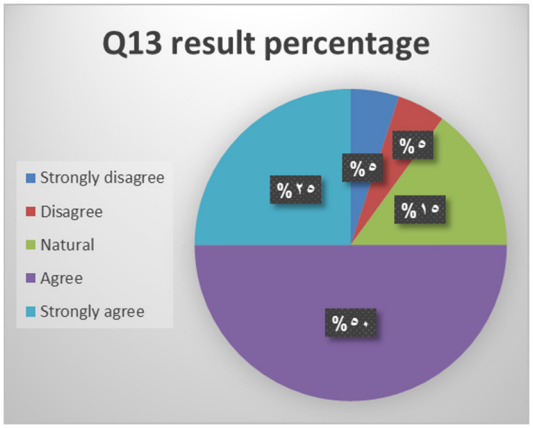
Q13 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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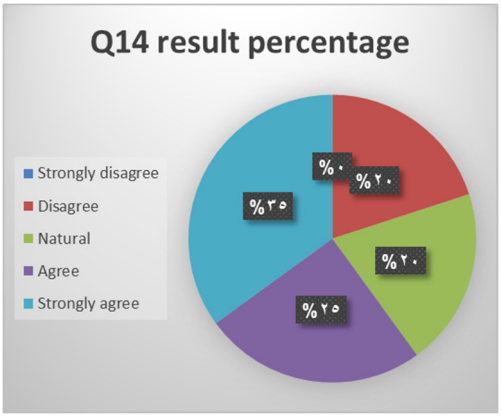
Q14 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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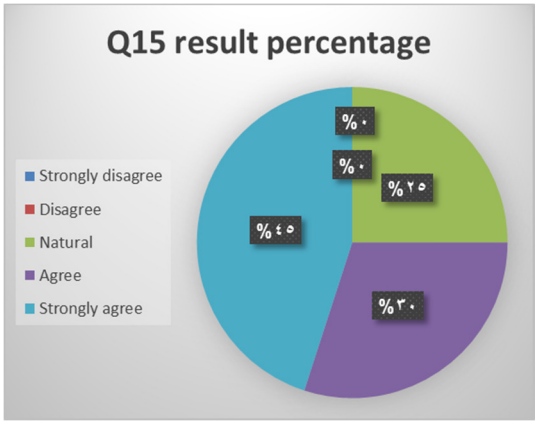
Q15 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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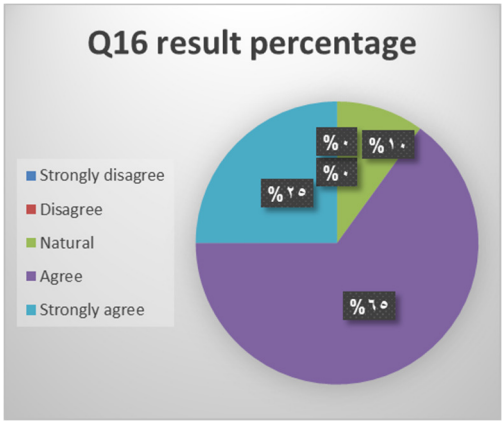
Q16 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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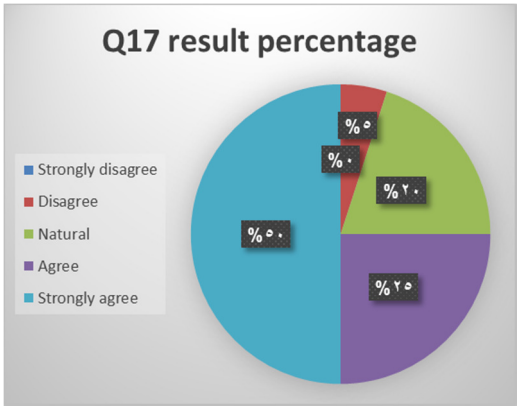
Q17 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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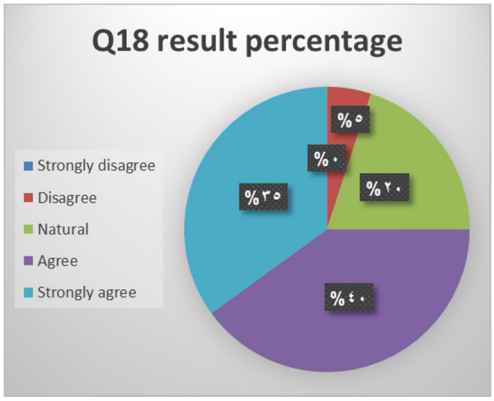
Q18 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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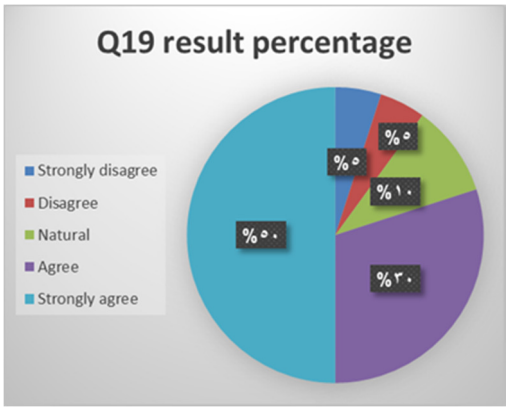
Q19 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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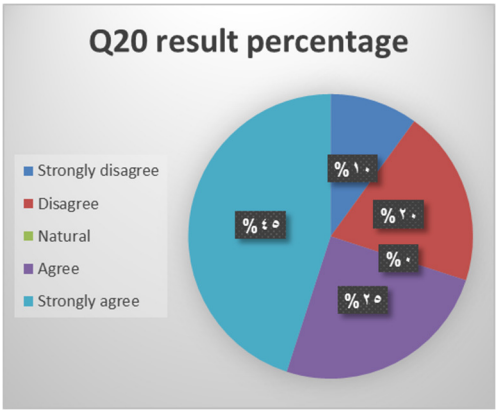
Q20 result percentage
Strongly disagree
Disagree
Natural
Agree
Strongly agree
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