

## The effectiveness of using Sketch Notes to developing cognitive skills in Teaching design curriculum

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### Abstract:

The aim of the learning process is to enhance learning outcomes and support students' cognitive , mental and Competencies skills, The educational environment for applied design decisions is characterized by a variety of teaching methods based on the theoretical and applied framework, And teaching methods vary, and these tools may be oral, audio or visual Such as “The Sketchnotes” method, which aims to simplify and facilitate knowledge information through simple graphics combined with words to facilitate the delivery, preservation and retrieval of information ,**Research problem:** : How effective is the use of “The Sketchnotes” method in developing cognitive skills in learning design courses? **Research importance:** Study “The Sketchnotes” method and make use of it in setting a modern teaching trend to teach cognitive skills for design courses. **Research goal:** Disclosure of statistically significant differences between the averages of students 'grades in the cognitive test of design decisions before and after applying “The Sketchnotes”. **Research hypotheses:** There are no statistically significant differences between the averages of students 'scores in the cognitive test of design decisions before and after applying “The Sketchnotes” method. **Research methodology:** Research The descriptive approach to the theoretical framework for research and the experimental approach through experimenting with the use of “The Sketchnotes” and its application in teaching cognitive skills to a furniture design course for fourth level students at the Department of Interior Design College of Family Sciences Tayba University in Madinah, Saudi Arabia. **The research concluded** That the educational environment is a rich environment and that “The Sketchnotes” method helped students to learn, motivate and create, increase their knowledge and achieve efficient learning, **The research recommended** to Using “The Sketchnotes” method by creating simple graphics combined with words to support rapid memorization and support for the transfer of information and understanding of content to become an effective means and enhance educational outcomes of applied design decisions

### Keywords:

Sketchnotes, Effectiveness of teaching, Linguistic and non-linguistic representation of information, visual information

### Introduction:

The current era is witnessing a huge breakthrough in technological innovations, in addition to the continuous communication revolution and innovations that impose new requirements in the teaching and learning currencies, which represent the use of modern methods in education as a

basic and urgent requirement for all sides of the educational process. Teaching methods based on visual communication of interactive graphic data and information designs are The most important innovations that enhance communication and increase the effectiveness of education, especially the method of sketch notes, which is defined as the translation of ideas and summaries into drawings that include some visual vocabulary combined with words and ranks in a specific form that is easy to memorize and retrieve, and the sketch notes method helps in clarifying the main information through simple graphics and helps To communicate the idea without the need to use words, and through the foregoing the idea of research came to study the effectiveness of using the sketch notes method in teaching design decisions and raising interest in this method in teaching and its link to enhancing students' cognitive skills in teaching a fourth level furniture design course in the Department of Interior Design College of Science The family is a good university in Medina in the Kingdom Saudi Arab.

### **Research problem:**

The research problem begins through the work of researchers in the field of teaching related to applied arts, which requires the teaching of some basic courses related to design theories and sciences and they found that these courses require students' knowledge of a set of theoretical cognitive skills to support and refine their experiences before starting the design process, and the research seeks to answer the question The following main:

### **How effective is sketch notes in developing cognitive skills in learning design courses?**

*The main question arises from several sub-questions:*

- 1- What is the general picture of the proposed educational environment for developing cognitive skills for students in learning design courses through the use of sketch notes method in teaching?
- 2- Are there statistically significant differences between the averages of students 'grades in the cognitive test of design decisions before and after applying the sketch notes method in teaching?

### **The importance of research:**

- 1- This research is in response to recent trends in the field of teaching applied design courses.
- 2- To reveal the effectiveness of employing the educational environment based on the sketch notes method in learning the applied design courses.

### **Research Objectives: The research aims to:**

Highlight and increase awareness of the opportunities offered by using sketch notes in developing cognitive skills to teach applied design courses.

- 1- Knowing the general picture of the educational environment to develop the cognitive skills of students in learning the design courses through the use of sketch notes method.
- 2- Disclosing the statistically significant differences between the averages of students 'grades in the cognitive test of design courses before and after applying the sketch notes method in teaching design courses

### **Research hypotheses: The research assumes that:**

- 1- The educational environment does not achieve effective development of students 'skills in learning design courses through the use of the sketch notes method.

2- There are no statistically significant differences between the averages of students' scores in the cognitive test of design decisions before and after applying the sketch notes method in teaching.

### **Research limits:**

*Substantive limits:* Research limited to examining the effectiveness of the teaching-based learning environment by using the sketch notes method for design decisions.

*Time limits:* Research and experiment were applied in the second semester of the academic year 2019/2020.

*Human frontiers:* Students of the Interior Design Department - Fourth level - Furniture Design course.

*Spatial limits:* College of Family Sciences - Taibah University - Medina - Saudi Arabia.

### **Research Methodology:**

The research relies on the descriptive analytical approach by referring to the literature of the topic of research in books and previous studies to support the theoretical aspect of the research, and analyzing it to extract the importance of teaching using sketch notes in enhancing cognitive skills for students in learning design decisions, and the experimental approach through experimenting with the use of sketch notes and its application in teaching Cognitive skills for furniture design course for fourth level students, Department of Interior Design, College of Family Sciences, Tayba University, Madinah, Kingdom of Saudi Arabia.

### **Research tools:**

A theoretical test to determine the cognitive skills required for students of furniture design course (prepared by researchers).

### **Search terms:**

1- **Definition of effectiveness:** the ability to succeed and achieve the desired results, **The researchers define the efficacy** as the ability of the visual coding method to achieve the experimental goals of developing the cognitive skills of students at a fourth level in the course of furniture design at the Faculty of Family Sciences, Thebes University in Medina, Saudi Arabia

2- **The definition of sketch notes:** it is a form of note taking that involves entering more visual images and adding graphics, which helps to use the mind to explore ideas with a strong mixture of words and graphics.

3- **Cognitive skills:** it is a term that refers to an individual's ability to perform many mental activities closely related to learning and problem solving such as remembering, cognition and awareness.

### **Research themes:**

**The first axis:** the conceptual framework for sketch notes:

This theme includes the concept of sketch notes, its elements and steps for its implementation, and best practices for creating successful sketch notes .

**The second axis:** Teaching using sketch notes, This axis includes the concept of teaching and its components, and the directions of teaching applied arts courses, as well as the role of sketch notes in the process of application design, and the teaching theories associated with the sketch

notes method such as the double coding theory and the theory of visual communication were discussed.

**The third axis:** an experimental study to practice teaching a fourth-level furniture design course, Department of Interior Design, College of Family Sciences, Taibah University, Medina, Saudi Arabia, using sketch notes .

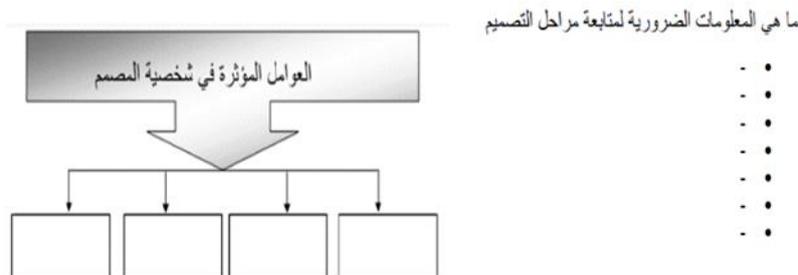
**Description of the experiment:** The researchers conducted an applied course teaching (furniture design) using sketch notes method on students of the fourth level of the Department of Interior Design, College of Family Sciences, Tayba University in Madinah, Saudi Arabia, through design and presentation of a lecture related to the theoretical part of the course (lecture title: basic concepts of design Furniture), and they applied the experiment to a number (108 students registered in the decision for the second semester of the academic year 2019/2020 AD) and they were divided into a control group, a group consisting of (51) students and this group the lecture was presented to them through a presentation that was designed in a way Narrative written only without displaying drawings or illustrations, and an experimental group consisting of (57) students. This group was presented to the lecture by designing a presentation designed with visual coding method, in order to measure the research hypotheses.

**Objective of the experiment:** To measure the cognitive skills of students to the concept of furniture design in general for the control group that the scientific content of the lecture is presented in a narrative written form only, and the experimental group that offers the scientific content of the lecture using the sketch notes method

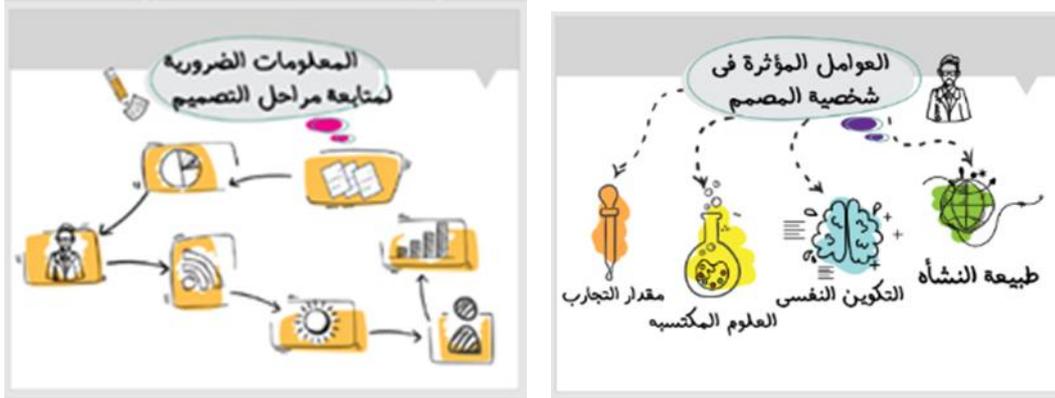
**Experiment tools:** A theoretical test was conducted to determine the cognitive skills necessary for students of the furniture design course (prepared by researchers), for each of the two groups, according to the different method of designing the test questions for each group according to the presentation method in which the scientific content of the lecture was presented.



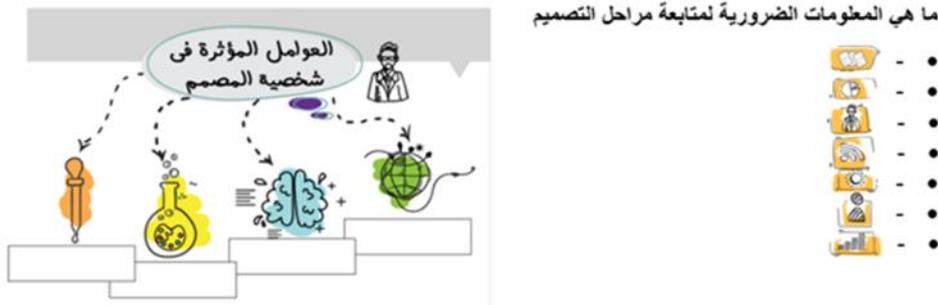
The presentation form of the lecture to the control group (a presentation in written form only designed on the PowerPoint program).



The pre-prepared test form consists of two questions for each question 5 minutes to measure the extent of direct achievement within the lecture (for the control group).



The presentation form of the lecture on the experimental group (a presentation designed with visual writing style)

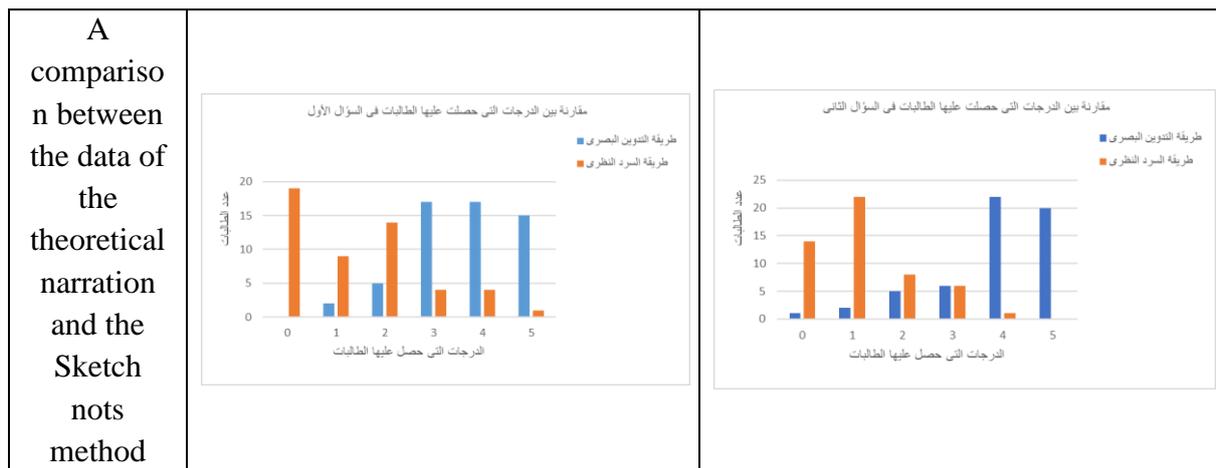


The pre-prepared test form consists of two questions for each question 5 minutes to measure the extent of direct achievement within the lecture (for the experimental group).

**Data analysis:**

Analyze the evaluation process data on the experimental group

	The first question	The second question
Theoretical narration method	<p>تقديرات السؤال الأول للطالبات اللاتي درسن بطريقة السرد النظرى</p>	<p>تقديرات السؤال الثاني للطالبات اللاتي درسن بطريقة السرد النظرى</p>
Sketch notes method	<p>تقديرات السؤال الأول للطالبات اللاتي درسن بطريقة التكوين البصرى</p>	<p>تقديرات السؤال الثاني للطالبات اللاتي درسن بطريقة التكوين البصرى</p>



### Results of the applied experiment:

The results of the application experiment showed the clear difference between the results of the two experiments greatly, so the number of female students who got a score greater than half of the test score in the control sample was 8 female students by 16% and the number of female students who got less than half the degree to 43 female students by 84%, in contrast the number of female students Those who received a score greater than half of the test score in the experimental sample were 53 female students, with a percentage of 93%, and the number of female students who obtained a score less than half of the test score to 7 female students by 7%. This clear and big difference confirmed the effectiveness of using sketch notes in the process of communication between learners (female students) in a way that they easily and quickly understand design information through multiple visual forms. This led to a high percentage of female students who adequately mention educational content since the first time of the show, which is This confirms the research hypothesis.

### Research results:

- 1- Sketch notes is effective in stimulating different intelligences among learners and working to highlight each according to individual differences.
- 2- Sketch notes is the ability to improve the quality of education by linking educational content with visual codes that help learning by interpreting the content visually.
- 3- The educational environment in sketch notes is a rich environment for learning skills, motivation, creativity and remembering, and this is confirmed by the results of students by their preference for studying with visual materials than written materials
- 4- The Sketch notes teaching method can help integrate ideas and theoretical content and facilitate the linking of information in a way that enhances the cognitive skills of students.

### Recommendations:

- Working to activate the teaching design in a sketch notes method, which helps to improve understanding, remembering, linking information and analyzing it visually.
- Teachers must highlight the importance of linking the different senses to the educational process as a whole and teaching design in particular to change students' perceptions in dealing with theoretical content.
- The necessity of conducting other research that helps to measure the activities of exploiting different senses to develop the educational process in a way that suits every field.

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