

Preferring "Art & Design" Education Candidates'

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Abstract:

In the modern era, art & design are closely linked, as a result of manufacturers' interest in adding the aesthetic values provided by fine arts to the utilitarian products that man uses in his life not only to develop the general taste of users but also to increase the percentage of product sales by increasing the aesthetic values of his design, Here, the general trend of interest in art & design faculties emerged, which combined fine arts curricula and different design curricula. Attention was directed to art & design students and the development of their various skills and quotients.

The Art & design student is considered the core of developing and spreading the aesthetic values in his community. The process of preferring the appropriate student is the first step towards preparing a qualified creative original designer, This is because it represents the basic talent that is developed through the curricula of art & design colleges.

preferring the suitable student depends basically on three innate abilities he should have. These skills are: his creativity (IQ+EQ), his good taste, and his psychomotor skills (SQ). We can measure these abilities and quotients with different kinds of tests. There are some available tests which can measure the right amount of these abilities possessed by the student enabling him to study Art & Design. The art & design studies help the candidates to develop these natural quotients which he already possesses, These quotients and abilities are innate that cannot be learned or acquired through training.

This paper aims to study the process of preferring the Art & Design candidates, and also the tests related to it. Including some case studies involving these tests applied in different schools and universities.

Keywords:

creative, Aesthetic judgment, psychomotor skills

Introduction:

The aesthetic values represented in the different designs surrounding the human being included in his visual environment, represents an important element of upgrading the culture of people in society, It also plays a key role in achieving psychological comfort and emotional maturity, which makes the individual more willing, able to give, and work, driven by that positive energy derived from visual aesthetics.

Perhaps the main source of these aesthetic values is the designs created by designers around the world, whether they are related to everyday products, architecture, or any kind of creative design related to the man's daily life, Therefore, studying art & design, and the various related studies, considered an important way to elevate human taste and affection.

Since the study of art & design plays an important role in the maturation of society and the upgrading of the culture of its members, interest in it has become an urgent necessity sought by

states and societies on their way to artistic and cultural development, Consequently, the Preferring candidate suitable to Art & Design education is an important topic for making researches and discussions, starting from the student's suitability to the nature of those educational programs, and his preparations, and orientation related to learn this type of education.

Hence the idea of this research came to put forward a proposal for how to candidate preferring to study Art & Design, have to be performed through presenting a set of tests that aim to measure some of the innate abilities and quotients such as the good taste, creativity or(IQ+EQ), and psychomotor skills (SQ).

Problem statement:

How to prefer candidates with the appropriate innate abilities and quotients to learn Art & Design, which guarantee the success of the educational efforts presented to them during their studies at the college, and thus ensure the achievements to realize the goals and aspirations of the national education quality standards required for graduates.

Assumptions:

- An art & design student should have some of the additional abilities needed to master art & design theory and practice.
- These skills cannot be learned but could be improved and enhanced.
- The most important abilities and quotients that an art & design preferred candidate should have are: the good taste, the ability to think creatively (IQ+EQ), and psychomotor skills (SQ), We also have to increase the learner experiences in these three fields

Aims:

Paying Attention to prefer a candidate who has appropriate innate skills and quotients that can help him to learn Art & Design.

search limits:

Art & Design educational institutions in Egypt.

Key words:

Visual aesthetic - aesthetic values- innate abilities - psychomotor skills- creative thinking- Intelligence quotient- emotional quotients- skillful quotient- aesthetic experiences- VAST- TTCT- visual stimuli-Aesthetic judgment.

Literature review:

The student of art & design is considered the basic essence of spreading and elevating aesthetic values in his community, Therefore, the process of selecting the right student to study art & design is the first step in obtaining a creative and original designer; The student of art & design must have a set of diverse innate abilities, which would ensure the success of the educational efforts presented to him during his studies at the college.

These abilities are innate abilities that an individual has since his birth, and they differ in its amount from one person to another, This is in addition to the abilities acquired as a result of education, learning, as well as training and practice, where each of the natural and acquired

abilities of the individual represents an important factor that plays a primary role in the ability of the art & design student to benefit from what is offered to him, through which he develops to eventually become a unique designer.

The process of selecting the suitable student depends mainly on three innate abilities and quotients that the student must have, they are: The extent of his sense of visual aesthetic values, the ability to think creatively or (IQ+EQ), and psychomotor skills (SQ), These abilities and quotients can be measured objectively through a set of different tests, which are used to determine what the student possesses of these skills, and which are fully compatible with his studies of art & design curricula in order to develop these abilities .

A test of the ability to sense visual aesthetic values:

Aptitude tests that are held in different colleges of art & design lack the ability to measure a student's sense of different aesthetic values, or the ability to measure the good taste of the applicant students, not all human beings are equal in their ability to sense aesthetic values. Some of them are highly sensitive, moderately sensitive, and have little sensitivity to these visual aesthetic values; this is what has been proven by researches in which a number of psychologists, philosophers of beauty, and artists participated. Many of these researches sought to find objective tests to measure the level of an individual's ability to sense visual aesthetic values.

The measurement of aesthetic experiences and preferences began through Fedsher in 1876, and Baltalon in 1900, where the main aspect of studying each of them was to find laws that govern aesthetic relations in a scientific way, as each tried to put concepts such as "beauty" and "good taste" under Experimentation with the aim of reaching the basic determinants that govern judgments of aesthetic preference in the visual environment.

There were many tests through which scientists tried to measure good taste in visual aesthetics, which is also known as the sensitivity of the individual to visual aesthetic values, perhaps the most prominent of them are the Mitland-graves test to judge design, as well as the Barron-welsh art scale, but neither of them was successful, as They were criticized for their dependence on the psychological and emotional aptitude, where the visual stimulus in itself lacked technical aspects and aesthetic values, which resulted in the inability to determine the individual's sensitivity to visual aesthetic values.

The Hans Eysenck Test of Good Taste, developed in 1983 and known as the Visual Aesthetic Sensitivity Test, or VAST, is the most objective test capable of measuring individuals' sensitivity to aesthetic values, or good taste.

VAST:

Hans Eysenck developed this scale after several years of experimentation in cooperation with a German artist, and presented it at an international conference on psychology and art, Cardiff, United Kingdom, in 1983, The VAST scale, in its latest version, consists of 50 pairs of drawn shapes, whether geometric or artistic, in each pair a compatible design drawn by a professional artist, and the other is the same shape with some changes that would disturb its compatibility, Figure (1), So that both designs become very similar, but one outperforms the other in terms of design because it is more harmonious, better balanced, and better in terms of the arrangement of the elements and the way the lines are drawn.



Figure (1): Sample VAST Scale Questions

Because the forms are abstract, subject-related influences have been excluded, and only the absolute aesthetic value remains. This type of question would judge the quality of the design, without personal preferences interfering with it, as it relies on identifying regular response patterns and general perceptual, cognitive and emotional processes.

While developing this test, 8 artists took it, where the question that the eight artists can answer is adopted, and thus we have a professional standard by which we can judge, and this test also includes three degrees of difficulty, which are judged by the percentage of correct choices that the Individuals answered. In the set of questions shown in Figure (1), for example, 95% of the students were able to answer the first question, while only 60% were able to answer the second question.

The instructions to the students mention that they should carefully consider each pair of shapes; As each pair consists of two similar designs, One of them is designed to be more compatible in its general composition than the other, and that the least compatible design contains flaws and errors, This is based on the opinion of a group of experts, artists, photographers and graphic artists, The student must choose from each pair the most compatible design, and places his symbol R (right) or L (left) in front of his number in the group, noting that the wrong design may sometimes be on the right, And sometimes to the left. And according to the number of correct answers, the degree of sensitivity of the student to the visual aesthetic can be valued. (Eysenck 1940)

This scale was widely used in Germany, England, Japan, Hong Kong and others, **among the experiences and statistics, the most important results of the application were:**

- 1- There is no relationship between the degree of these tests and the degree of intelligence. Those who most of their choices coincide with what the experts agreed on determining the correct answer for each number are not among the most intelligent people, most of these judgments are based on experience.
- 2- Differences in personality type have little effect on the outcome.
- 3- Receiving art education for individuals, whether they are children or adults, did not affect the results of this test, and their ability to taste good.
- 4- The scale was not affected by the extent to which individuals (children and adults) received training.
- 5- There are no differences between adults' performance of the test and the performance of youngsters, meaning that age does not play any role in the judgments of aesthetic preference, which confirms the absence of the effect of training. (Frois and Eysenck 1995)
- 6- Study or life experience does not play any role in the results of this test, so it measures the innate ability to judge aesthetic aspects.
- 7- The culture of the environment in which the student grew up affected to some extent the student's ability to answer. (Myszkowski, et al. 2013)

Although there are some opinions that support the idea that people differ in their aesthetic assessment because they differ in interests, motives, abilities, knowledge, and experience, for example, art history students prefer asymmetry of forms more than other students, because they rely more on knowledge Declarative When making intentional assessments of visual designs, from their point of view, aesthetic sensitivity is a multidimensional construct, and it is not a static personality trait, as it can change depending on context, experience, and expertise.. (Ieder, et al. 2019)

Measuring the ability to think creatively:

Creative thinking (creative quotient CQ) is never simple thinking, but rather a complex type based on complex mental processes, it is a complex mental activity that aims to search for solutions, and to reach original results that were not known before.

Creative thinking is an important factor in the study of art & design because it helps the student to carry out various mental activities related to design thinking, such as solving problems and identifying design methodology in addition to the psychological aspects related to mental activities in design (Nazidizaji, Tomé and Regateiro 2015).

The Torrance tests are the best ways to measure the ability to think creatively. These tests were developed in 1966 by Professor E.Paul Torrance. These tests for creative thinking measure the student's ability to solve problems and find visual solutions in the most innovative way (Torrance 1984), which is used to measure what follows:

- **Fluency in ideas**: it presents the number of ideas that can be created as a reaction, and in response to a specific visual stimulus, in a fixed unit of time, or we can say that it measures the ability to create new ideas and quickly, in the fields of arts and design, we are primarily concerned with the fluency of forms; For example, the student is given a drawing in the form

of two parallel lines, and asked to make a simple addition to it to come up with a composition, and build multiple, real forms. Figure (2).

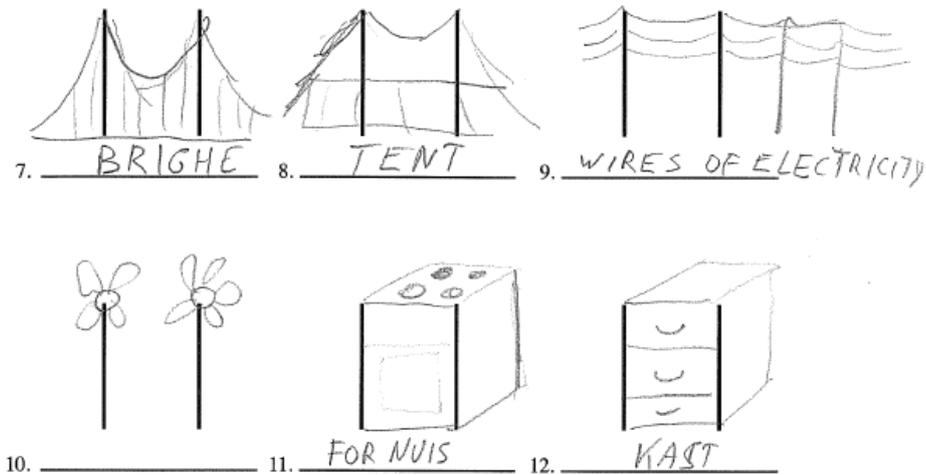


Figure (2): One of the examples of questions measuring the Fluency of ideas

- **Flexibility in thinking:** Here, it means speed in producing ideas belonging to different aspects and related to a specific situation, so that these ideas are not of the kind expected usually, therefore, flexibility is the opposite of rigidity, or mental rigidity, in which the individual tends to adopt specific stereotyped ideas, such as asking a question by suggesting the largest number of non-traditional uses for the pencil.

In 1984, flexibility in thinking was replaced by resistance to premature closure, based on the Gestalt theory.

- **Originality in ideas:** It is considered the most associated characteristics with creativity, as it does not refer to the amount of creative ideas that an individual proposes, but rather the value and distinction of those ideas, the lower the degree of prevalence of the idea, the greater its originality, Figure (3).

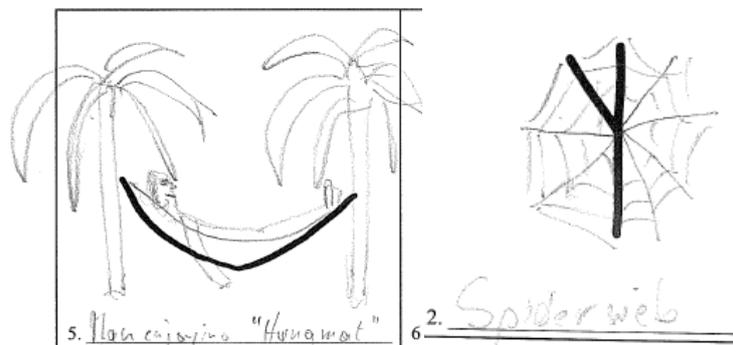




Figure (3): Examples of some questions by which originality can be measured

- **abstractness of titles:** An integral part of the Torrens Scale tests is to place a expressive heading for the drawing, which expresses the individual's ability to summarize his thoughts, and express them briefly, this skill was also added in the third edition of the Torrens scale tests in 1984. (Kim 2006)

Torrens Test of Creative Thinking (TTCT):

The test is divided into three sections, the first section represents the test in a verbal form using verbal stimuli, and the second section represents the test in a verbal form using non-verbal stimuli, the third branch is the test in the form of forms, the second and third branches are the most related to visual creative thinking of art & design.

Test in verbal form using non-verbal stimuli:

Question and guess task: This type of question requires the individual to ask questions about an image. Next, he is asked to guess or formulate hypotheses about the possible causes of the event depicted, and then its immediate and distant consequences, the main objective of this test is to reveal the individual's ability to be sensitive to what is unfamiliar to him.

Product improvement: In these quests, common games are used and the individual is asked to think of as many improvements as possible that would make the game 'more fun to play with'. People are then asked to think of unusual uses for these games other than "something to play with".

Uncommon or alternative uses: In this type of question the individual is asked to think of the smartest, most interesting and most unusual uses of a game, other than gameplay. These uses of the game can be as it is, or when a modification is made to it, or the individual can be asked to give as many uses as possible to empty boxes, or pencils, so that the individual frees his mind from constant and specific thinking. (Torrance 1984)

The test is in the shapes of form:

Picture completion test: In this test, the individual is given a set of missing figures and drawings, and he is asked to complete them by adding all possible details to them, and then choose an appropriate title for them.

form building test: In this test, students are given a triangle shape and a blank sheet of paper, and asked to think of a picture in which the given shape is an integral part of the design, In this test, the student must paste the shape wherever he wants on the white paper, and add lines with

the pencil to complete the design that includes the triangle shape, and the student must think of a name for the picture and write it at the bottom.

Circles and Squares Test: This test was originally designed as a non-verbal test of fluency and flexibility in thinking, and has since been modified to emphasize originality, In this test two printed models are used, one of which includes forty circles on one page, where the individual is asked to draw objects, or pictures using the circle as the main part, and in the alternative model, squares are used instead of circles (2011 غضبان), figure(4).



Figure (4):circles test

The Torrens Scale is designed to select individuals who are able to innovate whenever they have the appropriate cultural and social environment that helps them to do so; it also measures creative thinking abilities known as fluency, flexibility, originality, and versatility, this test is considered one of the most widely used tests in this field, and it has been translated into different languages, including Arabic, these tests are suitable for application at many levels, from primary school to university level.

Intelligence quotients (IQ) and Emotional quotient (EQ):

The relationship between creativity and intelligence is controversial as there are many researches that have linked creativity and intelligence, where several researchers contend that creativity and intelligence originate from the same intellectual process, Accordingly, it can be said that creativity requires a high level of intelligence, this is confirmed by the threshold theory (Nazidizaji, Tomé and Regateiro 2015), But it emphasizes at the same time that intelligence alone is not sufficient for creativity (A. Plucker and Esping 2015), Therefore, intelligence can be considered as one of the factors that greatly influence the creativity process and its measuring, so the Intelligence quotients tests can be used to infer the degree of creativity of the candidate student.

Since the measurement of intelligence quotient alone is not sufficient to measure the extent of the student's creativity, it was necessary to combine it with another quotient, which is the emotional quotient.

Recent research has confirmed that emotional intelligence is a real intelligence in people's thinking. Researchers have defined emotional intelligence as a set of abilities through which it is possible to perceive, absorb and direct feelings to improve the development of thinking (D.mayer, Salovey and R.Caruso 1997).

From the above, it can be concluded that the combination of creative thinking tests (CQ), intelligence quotient (IQ) tests, and emotional quotient (EQ) tests makes it easy to prefer the most creative candidate to learn the art & design educational Curriculums.

psychomotor skills (SQ):

psychomotor skills or skillful quotients (SQ) as psychologists call it, are the third complementary aspect of the creative process, through which it is possible to complete the circle that begins with the visual vision, realize its aesthetic values, then think about it in an innovative and creative way, and finally express it through psychomotor skill.

Therefore, psychomotor skills represent an important factor in the acceptance of individuals to study art & design, where artistic talent and psychomotor skills of the student are necessary to express the design ideas that the student reaches for the various elements.

The methods of measuring psychomotor skills varied, starting from drawing an innovative design, ending with completing the painting in the picture, Figure (5), Figure (6), however, all of them lack objectivity, and personal opinions are included in their evaluation, as they are corrected by individuals - art & design professors - who in turn differ in opinion and artistic taste, making them unsuitable measures for evaluating the psychomotor skills of art & design students.



Figure (5): One of the psychomotor skills measurement questions



Figure (6): One of the psychomotor skills measurement questions

So when I think about it I found that the most appropriate way to measure the psychomotor skills of applicants to study art & design in an objective way, is to develop questions whose answers can be corrected through the computer and artificial intelligence, such as the student's ability to enlarge or reduce a specific scene, and measure the extent of congruence between the original scene and the scene produced by the student through computer programs, and determine the percentage of congruence that qualifies the individual to study art & design.

This method is valid when the number of applicants is not less than 1000. It is also one of the best ways to measure not only the student's psychomotor skill, but also his visual processing of what he sees, and his ability to mentally analyze and reproduce it.

Conclusion:

At the end, it can be said that admission tests for art & design students may be able to measure the student's ability to have artistic taste, or sense of beauty, in addition to his ability to think creatively, find new, and innovative design solutions, in addition to his ability to express his designs through a certain amount of psychomotor skills, and to measure these abilities objectively, through tests that can be corrected by the computer.

Results:

- The necessity of developing tests to measure the abilities of students applying to study art & design.
- The capabilities required for students applying to study art & design vary, and which achieve the standards required for graduates.
- These abilities may be innate aptitudes that the individual has enjoyed since his birth, and their amount varies from one individual to another, such as his sense of visual aesthetic values, the ability to think creatively, and psychomotor skills.
- The three previous abilities are what the art & design study programs work on developing and developing in the student to be able to produce creative and original designs.

- These abilities can be measured through objective tests with guaranteed results such as VAST, TTCT, enlargement and reduction test.

Recommendations:

- Interest in studying the innate abilities of art & design students, and the various ways of developing them.
- Expanding the finding of appropriate objective tests to measure the various innate abilities of art & design students specially the three quotients IQ, EQ and SQ.
- Attention to design complementary tests that measure the rest of the aspects required in new students, such as tests of innovation ability.

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The study of art & design has become linked to each other in the academic field, as evidenced by the presence ¹¹ of many Art & Design colleges around the world