

The effects of visual perception experiences on academic success in fine arts

Ozlem Uslu *, Textile and Fashion Design Department, Faculty of Fine Arts, Cukurova University, Balcali, Adana, 01330, Turkey.

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Abstract

The aims of this study are: to find out how students' previous aesthetic knowledge, visual perception and hand-eye coordination experiences affect academic success in the Faculty of Fine Arts; and to compare the academic success of the students who entered the faculty by aptitude test with students who entered the faculty only university exam score without aptitude test.

In this study, literature search, qualitative and quantitative data collection techniques were used. The universe of the study included the graduates who were accepted by the faculty by taking drawing aptitude test and also students who entered the program only by university exam score without aptitude test. The sample of the research included 23 aptitude test takers and 39 non aptitude test takers. The drawing course academic grades were compared between those test takers and non-test-takers. It was found that aptitude test takers were much more successful in drawing class than the respondents who entered the school without aptitude tests. In conclusion, for the art schools the talent exam should be required in order to educate better students.

Keywords: Visual perception, aptitude test, art education, drawing.

* ADDRESS FOR CORRESPONDENCE: **Özlem Uslu**, Textile and Fashion Design Department, Faculty of Fine Arts, Cukurova University, Balcali, Adana, 01330, Turkey. E-mail address: ozlemuslu01@gmail.com

1. Introduction

Drawing is always one of the fundamental disciplines in all fields of visual arts in Fine Arts and represents the improvement depending on visual perception and hand-eye coordination skills. The definition of perception in the Turkish Language Institution Glossary (2011) is "Sensations with the mind in terms of interest, a sense of simple consciousness, cognition". In other definition; perception is the process of transformation of stimuli coming from sensory organs. Choosing of stimulus in the natural environment by the individual is called selective perception (Tarman, 2002). The stimulus, chosen by the organism, is associated with the individual's interests and life experiences. Individuals perceive stimuli that attract the attention in line with past experience.

Learning through perception occurs by gathering and carrying information about the external environment via sensory organs to the brain for processing and interpretation (Saban, 2000). Hence, it is possible to speak of visual, auditory and tactile perception.

Frostig (1964) defines visual perception as recognition, identification and ability to interpret and correlate previous experiences and visual stimuli. According to this definition, visual perception is not confined to seeing. In Frostig's research, visual perception was divided into five sub-areas such as "Hand-eye (eye motor) coordination", "figure-ground distinction", "constancy of shape", "perception of position in space" and "perceiving of spatial relations".

During visual perception process brain evaluates other sensory stimuli, social and cultural factors besides visual input. In this stage, selection of senses, inhibition or amplification of some of them, filling the gaps and signifying due to expectations take place. Previous life style and experiences may cause various perceptions.

Eye-motor coordination is the ability to make the body movements coordinated with seeing. Visual perception deficiencies can negatively affect children's daily activities, their ability to write and draw which requires manual manipulation. Furthermore, the lack of visual perception, can also adversely affect mathematics and literacy skills (Sortor & Kulp, 2003).

Figure-ground distinction is defined as perceiving the selected stimulus among many other stimuli – selective perception- and considering, focusing and paying attention to that particular stimulus. This selected stimulus renders "figure" in visual perception area and the remaining blurred stimuli generate "ground". An object can only be perceived associated with the ground. The perception of "shape stability" is the expression of steady objects in visual perception level despite the differences in physical stimulation. Such stability is called "perceptual constancy". "Perceiving the relationship between space and position" is the ability to perceive the relationship between two or more objects visually. "Perceiving of spatial relations" is the individual's perception of relationship between space and position of an object (Tugrul, Erkan, Aral & Etikan, 2002).

Drawing is the visual-linear expression of concrete reality via image, ideas and concepts. This kind of presentation varies according to the nature of the subject and the individual's cultural background and personality traits. The power of the individual's observation, perception and creative capacity are important factors in determining the quality of the expression. Beginning from early ages, the improving visual perception, hand-eye coordination, figure-ground distinction, perceiving of spatial relations with hand-eye coordination experiences throughout development, affect artistic activity developments. Individual's practice of visual perception, emotion, intuition and decision elements are reflected in the drawing with hand-eye coordination.

The acquisitions of Design course are visual analysis of figure-space relations, expressing the true measurement-rate relation in human anatomy, visualization of object and figure in possible linear and stain expression, distinguishing the volume effect in light and shadow formatting. Design course reinforces individual visual perception in accordance with their interests.

Human brain consists of right and left hemispheres which are responsible for different tasks. It is determined that left hemisphere is responsible for logical, analytical, rational, audial functions whereas right hemisphere is responsible for intuitive, emotional, visual and musical functions. However, it is difficult to distinguish this process in daily life, people's thinking process and performance are associated with the functions of both lobes (Sprenger, 1999).

As a result of his research, Ned Hermann (1996) states that in terms of functions, brain consists of four parts, each with its own unique language, perceptions, values, abilities and cognition-recognition methods.

Hermann (1996) also states that individuals tend to employ the same particular section of brain which they are used to using extensively to learn new things or solve a problem. Accordingly, individuals using predominantly the right-side of their brain maintain learning by seeing, doing and trying whereas individuals with left-side brain dominancy learn by reading. As one semi-dominance brain increases, it becomes difficult to employ the other half (Ozden, 2003). Visual art experiences should be maintained during growth and development period and included in school curriculum, so that these experiences provide balance in the educational process of the individual (Buyurgan, 2012).

As a result of studies spanning nearly two decades, Hermann developed "Brain Dominance Instrument". More than two million brain dominancy preferences were recorded with this measurement tool (Avci, 2008). Hermann reported that people are born with certain mental abilities. Every individual has different strengths and weaknesses. Once the dominant brain section discovers the pathway to success in daily life, this tendency becomes permanent. Consequently, individuals who have spent years in the educational process with one-way education system use one hemisphere of their brain permanently and their tendency to employ the other hemisphere of the brain is reduced naturally.

If logical and analytical thinking are persistently reinforced by one directional education, individuals' visual, intuitive and imaginative talents become redundant. The purpose of this study is to emphasize that the students who lacked visual arts education in their previous experiences encounter difficulties in visual perception experiences in relation with artistic activities in one-year course.

2. Material and Method

In this study, the data were collected by surveys and from students' transcript database of Cukurova University. Students' survey information were gathered by the researcher at the first week of drawing course each year in order to have knowledge about the students' drawing abilities. Graduates' data were collected by the survey published online at the web site addressed <http://ozlem.questionpro.com>. The descriptive statistics of survey was shown in Table 1. While students' data were collected from the class of 2014 and of 2015, graduates' data represented 10 graduates from the class of 2013 and 7 graduates from the class of 2012. Other 6 graduates were from the class of 2010 and of 2009.

Table 1. Descriptive Statistics of Surveys.

An example of a column heading	Number of respondents	Graduated	Gender (Female / Male)	Vocational High School Graduate	Aptitude Test Taken for the acceptance of the program
Non-Aptitude Test-Takers	39	28	35 / 4	4	0

Aptitude Test Takers	23	23	19 / 4	13	23
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As seen in Table 1, while 4 of 39 non-aptitude test-takers attended vocational high school before the university education, more than half of the aptitude test-takers who were accepted to the school by aptitude test graduated from the vocational high school

3. Findings and Discussion

It is common knowledge that Fine Arts Faculties choose students who have high artistic talents and skills. This selection process consists of two-phased exam which are Imaginary design designing and live model designing studies. In imaginary design designing exam visual perception, interpretation, sensitivity and accuracy are scored. In live model designing exam ratio and proportion, movement, value, style and placement in the paper are scored.

The success rates of 39 students who did not attend any kind of drawing aptitude test in design course from two different semester remarkable in this study. These students were asked to attain a certain score in one particular university entrance exam. This score is to measure knowledge based on Turkish and mathematics test results. 39 students were given a questionnaire about their previous visual artistic experience and interviews were conducted. The duration of design course is 3 hours for the students who were admitted with aptitude test, however the students who have no previous artistic experience need extra one hour. The information obtained from interviews showed that 30% of the students attended outside courses to improve their drawing skills at the weekends. This kind of students reminds us Hermann’s “Dominant Brain Theory”. It is difficult to reshape settled brain functions of an individual who has received short-term art education or no art education at all.

During the course it is observed that students were anxious about being unsuccessful. This situation generates a negative impact on their creativity, in this manner they lose interest in new artistic activities. Interviews and questionnaire answers of these students verify this conclusion. This situation resembles a person who has managed to survive with his right arm, then suddenly starts to use his left arm. However, the trouble here is not the use of single organ, but establishing correlation between cultural experiences in relation with arousal of interests.

Table 2 shows the big difference of academic grade between aptitude test-takers and non-testtakers. Three factors were used to find out the gap between test takers and non-test takers in order to emphasize the importance and positive effects of previous aesthetic knowledge, visual perception and hand-eye coordination experiences at the art school success: 1. Drawing course grades, 2. Number of times that the drawing course taken by students, 3. Percentage of the students that passed the drawing course at the first time.

Students passed the drawing course with “the grades AA, BA and BB” were categorized as successful, with “the grades CB and CC” as average, and “with the grades DC, DD and FF” as below the average. This finding was supported by the literature, since Compos and Gonzales (1994), Compos et al. (2001) and Perez-Fabello et.al (2007) also found that imagery control was positively correlated with academic performance.

Table 2. The Comparison of Drawing Course Success Rate Between Aptitude Test Takers and Non-Test-Takers

	Mean of the academic grade (1=successful, 2=average, 3=below average)	Number of times “drawing” course taken by the group	The “drawing” course passed at the first time
Non-Aptitude Test-Takers	2,77	2	46%
Aptitude Test Takers	1,13	1	87%

As seen in Table 2, while mean of the academic grade of the drawing course for the aptitude test takers was 1.13 which means successful, mean of the non-test-takers was 2.77 which is average but very close to the below average point "3". On the other hand, 54 % of the non-test-takers took the drawing course more than once and 29 % of them repeated the course more than twice. Lastly, 87 % of the aptitude test takers passed this course at the first time.

All of these findings show that aptitude tests are required to eliminate ungifted students in order to give better education for the deserved ones. Because of the aptitude tests: students with definite vocational goals may have visions and determined minds; they may prefer vocational high schools; and they may take preparation courses for the exam. All of these experiences improve the aesthetic knowledge, visual perception and hand-eye coordination of the students which will be very important in their future academic life.

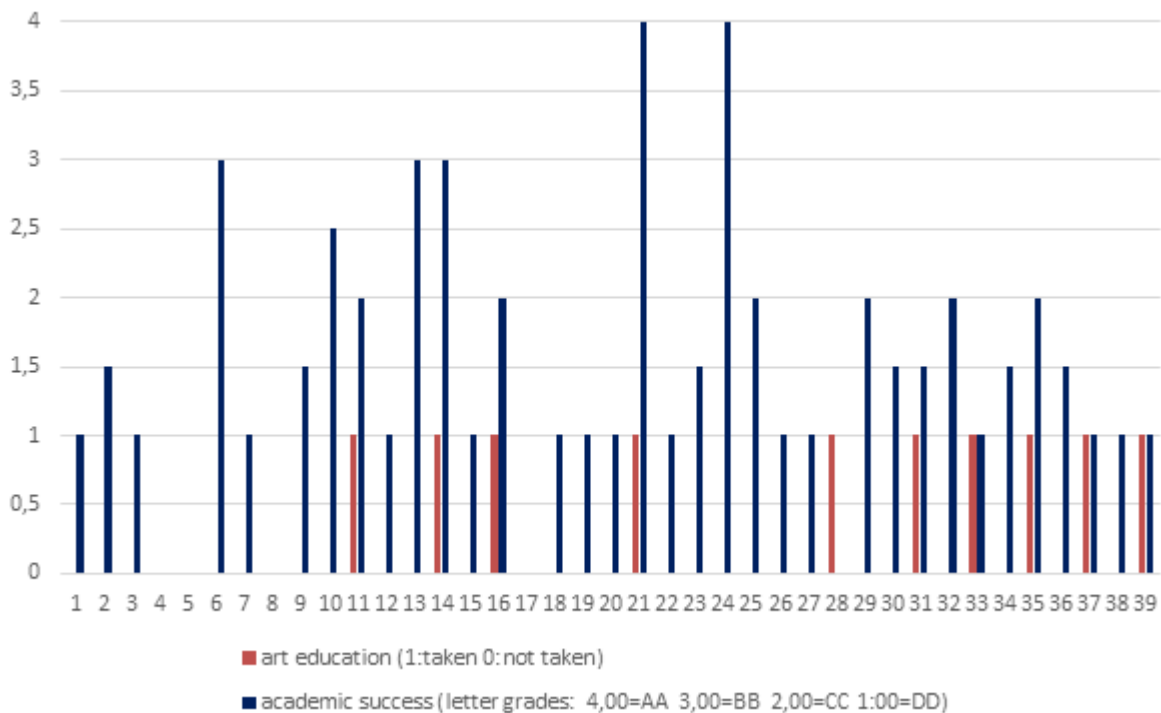


Fig. 1. Non-Aptitude Test Takers "Design Course Grades" vs "Art Education Taken before University"

Figure 1 shows the relationship between the grades taken from the design course at university and the art education existence before university education. For example, student number 21 took art education before the university and her design course grade was "AA". According to the findings, 25 % of non-test-takers either received art education or attended art test preparation courses. On the other hand, as seen in Figure 2, 87 % of test takers had either art education or preparation for the exam.

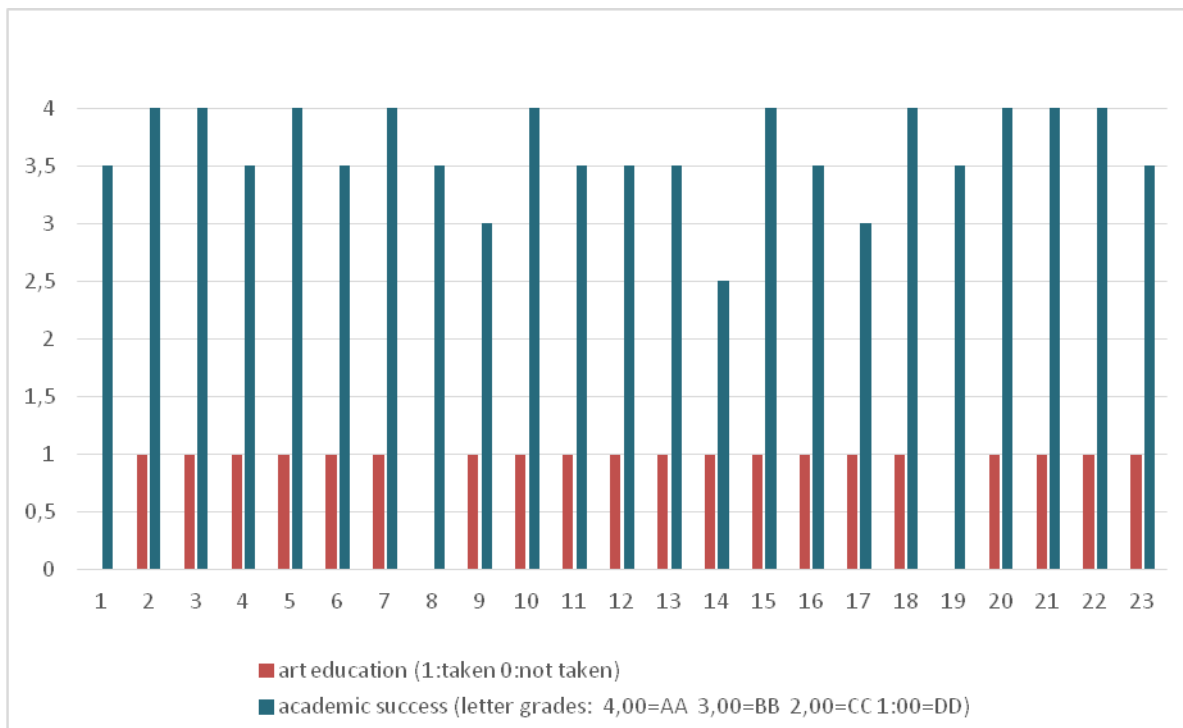


Fig. 2 Aptitude Test Takers "Design Course Grades" vs "Art Education Taken before University"

4. Results

Arts education begins in childhood. Art education is effective on seeing, gaining experience and creation process of an individual. Since perceptive development depends on ability and experience, every child has his/her own growing rate which is associated with physical, emotional, social and intellectual development. Childhood visual perception experiences are the basis of the second dimension of the individual's perception in future years and affect the level of success of the fundamental skills such as problem solving, critical thinking, aesthetic consciousness, visual perception and creativity.

If a person did not find a way to transform his/her capacity to artistic ability in early ages, visual perception skill would be weakened or even diminished in adulthood. The capacity of individual should be cultivated in childhood, moreover, this ability should be supported with cultural ambience and educational opportunities. "Art making" is a pretentious statement. Our study indicates that adult art school students should have high level of readiness. Otherwise, being successful within four years will be below expectations for art school graduates. If level of education was reduced, visual arts education period would be possibly longer than the education period in childhood.

Regardless of having the same educational background, the students who had visual arts education in puberty are more successful than the students who did not. Motivation increases with success for those who had art training before while it declines for those who have the art education in adulthood.

As a result, the current situation is visual arts courses are not given enough emphasis due to insufficient course duration, overcrowded classes, having no contribution in placement exam attention is paid to other courses, therefore these cause challenges in visual perception in future ages. Consequently, students could not develop not only in proportion, forming relationships, linear

experience, texture, color and perspective awareness but also problem solving, critical thinking and creativity skills; ergo, they do not show any interest. In this study, two groups were compared with their success in the pattern course and a correlation was found between student's repertoire of visual perception experience and academic success. In conclusion, aptitude tests are essential for The Faculty of Fine Arts.

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