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On three dimensional perceptions in the visual age

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Abstract

Aim of the study is to examine the values of the three dimensional perception and collect information about that. Starting point is the observation of differences in two and three dimensional perception abilities of individuals having education in visual arts. It has been observed that some students, who have high level of competency in two dimensional perception, do not have the same competency in three dimensional perception. This is considered important since it creates two and three dimensional perceptions and differences of expression between them. We tried to emphasize the importance of the subject particularly in terms of visual arts education in the current visual age. The study is a document review. In this study we addressed the characteristics of the age we are living in, perception, visual perception, and two and three dimensional perception. We summarized the differences in visual perception and included three dimensional comprehension. By examining the related literature, we came to the conclusion that the two and three dimensional perception processes and their requirements are different.

Keywords: sculpture, three dimensional perceptions, visual perception, visual age.

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1. Introduction

We all agree at once that people, particularly the students having education in visual arts, have advanced visual perceptions in this world in which we live with and perceive that much visual. Perhaps, the answer of this is not that simple and varies based on many other factors. In this regard, it is remarkable what differences individuals show regarding two and three dimensional perception. It is detected as a result of individual (non-experimental) observations carried out in departments of universities which train visual arts teachers that some students with high two dimensional perception level do not possess the same competency in three dimensional perceptions. What must be underlined here is not the fact that each student with high two dimensional perception and expression ability is weaker in three dimensional perception and expression. This is only a conclusion observed in some students. The main subject that provides the basis of the study is to collect information regarding the reason of this difference. The study on this difference in perception has been experienced in sculpture, workshop and other lessons where three dimensional works are carried out in the related units of universities.

2. Way of Seeing

The way of seeing of an individual provides us with information about his characteristics and perception, therefore is important for our subject.

Thinking is not enough for seeing; seeing is a conditional thought, and is born "through" what happens in body (Merleau-Ponty, 2003). Considering the fact that the real instrument of seeing and observing is the mind (Aktaran Leppert, 2002), we can foresee that there are various determinants regarding visual perception since the mind is the subject. This case also expands the frame of the subject.

A way of seeing underlies each image. Even in photographs. Because often, photographs are not mechanical records as considered. When we look at each photograph, we realize that no matter how little, the photographer has selected that view among endless view possibilities. Photographer's way of seeing reflects on his subject selection. Way of seeing of a painter is reanimated by the images he puts on cloth or paper. Although a way of seeing underlies each image, our perception or evaluation of an image is also dependent on our way of seeing (Berger, 2010).

An anthropology and semiotic expert, Thomas Sebeok claimed that appreciation is fundamentally a way of selection that responds natural needs by showing that even animals prefer certain styles. Such observations show that stylistic characteristics have effect on perception, hence behaviour, and therefore play role in selection or appreciation. Thus, characteristics observed in an object looked at are not those that are attributed by the one looking at it, but those that exist (Erzen, 2011).

Based on Hume's statement "appreciation is what perceives the characteristics of objects", Lenoir (2004) contributes to this subject by saying that the competency of each sense or ability is based on correctly perceiving the most definite characteristics of the object it examines, and not letting anything slip past its notice and observation.

3. On Visual Perception in the Visual Age

In general, the historical process starting from the twentieth century is called the visual age. We are living in a visual age, in which the image has a meaning beyond what is seen; to some, the name of this age is the "screen age". We benefit a lot from visual images that remind us a certain subject, event, process or history. These visuals have penetrated completely into our daily lives and surrounded us. At the same time, they also have functions that make our lives easier.

Our current period in 21st century expresses a "visual age" that includes much more comprehensive visuals, images and symbols than the "information age" which is basically based on words and numbers. The old have a saying: "The one who knows teaches; the one who does shows". This saying has obviously important clues regarding how we share our information. Truly, being able is the next stage of knowing. When it is necessary to transmit information, a practical demonstration can often provide communication which is more effective and permanent than pages of text. Researches have shown that more than 75% of the information in our brain forms as a result of visual processes (Orhon, 2011). This point of view reveals the importance of the visual perception level in terms of education.

Certain characteristics defining our current visual age can be summarized as follows: (Orhon, 2011).

1. Life is much more visual than ever. Most of the modern life takes place on screens. In this line, human experience is much more visual and visualized than ever.
2. Our perceptions, visual perceptions in particular, act based on cultural fundamentals. Visuals in our life and what is attached to them benefit from our social, political and cultural life. Our way of seeing and the reactions we give depending on what we see are based on our culture. In this regard, visuals are built socially.
3. Seeing has become a learnt activity. Perception takes place depending on cultural factors and previous visual experiences.
4. There are differences between written and visual communication. Researchers have shown that while visual communication acts over a different circumstance, written communication acts over more different methods of agreement.

When these characteristics are examined in terms of the subject of this study, the most striking characteristic is the fact that our visual perception acts based on cultural fundamentals. It is also remarkable for our study that perception takes place depending on cultural factors and previous visual experiences. Moreover, fields of interest and focus of an individual also play role in visual perception.

4. Perception-Visual Perception

Appearing as an important concept in the process of perceiving and analysing the environment, perception is defined as "transmitting the material world to subjective consciousness through senses (Ozcan, Bayraktar, Goker & Tekel, 2003).

Perception is the interpretation of the expressions of sense, while visual perception is the ability of individual to understand what he sees. What and how an individual will see and perceive which images he will perceive and which images he will not, what meanings and values he will attribute to the images he perceives sensory is mostly related to his knowledge and area of life experience. In order for visual realization to take place, individual must be psychologically ready to look and see. Here, what the individual wants to see and what he needs to see within the chaos of images surrounding him has importance in realization process of the visual perception (Inceoglu, 2004).

Visual perception is also associated with discrimination. Visual discrimination is expressed as the ability to the differences and similarities between groups of objects such as size, colour and shape, while visual perception is expressed as the ability to recognize, distinguish visual stimulus and interpreting them by combining them with previous experiences (Transfered by: Memis & Harmankaya, 2012).

In visual perception process, individuals experience primarily a superficial acquisition process regarding the concept perceived. This process is a two dimensional perception. In this stage,

individuals perceive images as width and height. Following this process, they start creating a deeper image regarding the concept within their field of visual perception. In that process, the third dimension steps in together with the perception of depth. Then, they give the meaning of that concept with their cultural background and provide it with an identity, i.e. recognize it (Booth, 2003; Findlay & Gilchrist, 2003) (Transfered by: Eristi, Uluuysal & Dindar, 2013).

To summarize until this section, there are so many theories regarding perception that we cannot include here. We can summarize as follows the determinant characteristics of these theories that have importance for our subject.

- characteristics of the object perceived
- age, gender, cognitive, affective and preparedness level of perceiver
- characteristics of objects providing clue in creation of perception related to perceiver
- characteristics of the educational environment and it's having stimulants compatible with the expectations of perceiver
- cognitive, affective and psychomotor development levels of perceiver
- individual characteristics of perceiver such as age, gender, attention and curiosity
- perceiver's being in need of/interested in the relevant situation

5. Three Dimensional Perceptions

It is stated in the related literature that visual perception problems arise from lack of detection, discrimination, recall and interpretation of visual sense. However, there are other reasons creating differences related to the two and three dimensional perception that forms the fundamental problem of the study.

Three dimensional perception in human	
Clues from a single eye	Clues from two eyes
- Pictorial clues (composition, light and shadow, perspective, ratio, magnitude) - Motion parallax - Eye harmony by different distances	- Difference in the image falling on two eyes - Divergence and convergence of two eyes by different distances

(http://www.biltek.tubitak.gov.tr/gelisim/psikoloji/algilab.htm#ucboyutlualgi)

While visual-spatial perception and visual perception are closely related to each other, both perception types mean different things. Visual perception is allocentric perception. That is to say, visual perception expresses information about magnitude, shape and colour of an object. On the other hand, visual-spatial perception is egocentric perception. Hence, visual-spatial perception varies by the position of person. Visual-spatial perception expresses the relation between the objects in that environment, sub-components of object, distance estimation between objects, i.e. depth perception, and internal representation regarding object and event, i.e. images (Kurt, 2002).

Attention: One must be focused by type of task or use constant caution in order to show successful performance in visual-spatial perception tasks. In other words, target stimulant must be distinguished from misleading stimulants, i.e. attention must be focused on target stimulant and this must be continued throughout the duty (Kurt, 2002).

It is important for individuals, who are surrounded with visual messages, having education in visual arts in particular, and performing practice in this field, to develop this way of seeing to be deemed visually literate.

In the definition made by Genc and Sipahioglu (1990), perception is expressed as the process of obtaining environmental information through a method in order to meet the requirements of an organism. Here, "requirement" can be marked as one of the reasons of differences in two and three dimensional perceptions of the same individual.

Erzen (2006) also supports the above opinions. People usually direct their caution and attention to the objects they choose, and do not realize others. What draw their attention are things that they met before, and they don't need to put effort again to define them. In environment, everything has a definition and a place. Humans live an easy life in this settled world by perceiving easily as desired. Today, humans usually do not perceive and discover deeply and virtually see and hear. In this case, we can say that the artistic environment is the only place where the human uses his perceptions and senses intensively.

Visualization includes the ability to transform and manipulate two and three dimensional objects mentally. Bishop divides the visualization ability in two as low and high spatial abilities. Low level spatial ability includes visualization of two dimensional objects that does not cover mental manipulation of visual images. High level spatial abilities include visualization of three dimensional objects that require mental manipulation of images (Kurt, 2002).

6. Conclusion/Evaluation

Differences between the two and three dimensional perception ability in the same person are put forward approximately in the above summarized form. Personal characteristics (attention, care, expectation etc.) and mental process play role in this subject. As understood from researches conducted, three dimensional perceptions is more complex process. This is closely associated with the structural characteristics of three dimensions. For instance, sculpture has the intensity and shadow of reality. Similarly, reflection of reality requires more complex processes. In painting, technique is more in sight; however this is not seen in three dimensions. Person stays alone throughout the entire process. Sculpture has analysis, perception and comprehension from several points. As in painting, you cannot omit any part by leaving it in shadow. You also have to realize, reveal and place in the environment and space what is left in shadow. In sculpture, surfaces have connections that are not seen from the angle we look from. Even if they can be seen, it is rather hard to implement them. A student, who is considered to be talented, can perform reproduction of Rembrandt as realistic to a certain extent; however this is a weaker probability or less visible or challenging situation for sculpture.

Another feature of three dimensional perception and expression is that it is touchable. The sense of touching experienced while shaping a sculpture makes its reality stronger. As expressed by Yilmaz (2006), saying just "hello" to people and "giving them a hug and kissing them" create different emotions. Sculpture is the latter!

An old story tells: A woman was deeply in love with a young man; she drew his shadow at the wall while he was sleeping, her father, who was practising clay, was amazed by this tremendous portrait, and gave it an embossing shape by filling contours with clay. Young woman does nothing but keeps the shadow of her lover by her side. She reflects the figure of the model on a wall as shadow and reduces the being down to an image. According to Stoichita (2006), this shadow is not the body itself, but *the other one* of the body. Intervention of the father gained this imaginariness a new reality. The father added intensity to this dream. First stage of realization of the first non-realization of the unreal is thus completed.

Similarly, Ancient Egyptians believed that the body must be protected in order for spirit to continue living in the other world. Protection of body only was not enough. Since the king would certainly live forever if his outer appearance did not vanish, sculptors were asked to make portrait or sculpture of king/pharaoh. The aim of this sculpture was to ensure that spirit continued to live in that image and by virtue of it. Here the form preferred by Egyptians is three dimensional. It is sculpture. Because sculpture is the closest form for the mentioned image to be perceived as reality.

The word sculptor had the same meaning in the Ancient Egypt as the "guardian of life". These works of art were not built for satisfaction. Their duty was to protect life (Gombrich, 2007).

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