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Decisive factors in the culture-oriented product development process in industrial design education

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Abstract

Designers see culture as a starting point for designing meaningful products that appeal to users. Culture has a dynamic structure that is constantly affected by social changes. This research examines how socio-cultural factors are perceived, analysed and transferred by design students. The design process is aimed to identify the complex or challenging and on the contrary clearly understandable aspects. In the first stage of the research, the ideas of the established cultural images, culturally influential designs and designers who use culture as a starting point were determined through 24 industrial design students. The ideas of the students were asked about design and identity in a particular geographic area, they were also asked to explain their ideas about traditional forms and draw forms of them by sketches. The results are presented together with visual examples. The common points of how the culture-oriented design approach is used by designers in the product design process and the frequent mistakes, approaches and examples of projects in this process are revealed.

Keywords: *Keywords:* Industrial design, education, material culture, design

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1. Introduction

Designers see culture as a starting point for designing meaningful products that appeal to users. Culture has a dynamic structure that is constantly affected by social changes. It has also been described by various researchers as being composed of multi-layered or even having different levels. These layers and levels can appear as visible or invisible basic structures, systems, assumptions and artefacts, products, rituals or behaviours. We contribute to our material culture by industrial design (Bayazit, 2011).

Understanding in advance how users will behave towards products, systems, who they are, their cultures and their stereotypical behaviours has developed in parallel with the expectations passed down from generation to generation for centuries. For example, in eastern cultures, reading and writing from top to down, in other words the direction of reading affects the expectations of direction, and it can show itself in usability of controls and expectancy of direction in many daily objects. Knowing cultural differences and transferring them to design can enable people working in this field to create more meaningful and preferable products.

It is a complex and difficult process that defines and explains culture and ensures that these concepts and subtitles of culture (design culture, material culture, material world, popular culture, subcultures or youth culture, kitch etc.) settle in students' minds. Although this information can be understood in a simple and short way, it has been observed that it cannot be assimilated and transferred to the design process easily.

It is important to put forward the theoretical background so that the designers can integrate culture with its various dimensions and meanings into design.

The difference between culture and material culture caused by material should be understood by designers correctly so that concepts should be assimilated by designers with all layers and theoretical infrastructures. Thus, good design products that are meaningful and preferred, satisfy the user's needs and can be created by designers.

2. Literature review

Especially in the Western culture, we can say that human history has named the way of life and the period with what it produces materially, as can be understood from names such as Stone age, Bronze age, Industrial Revolution and Atomic age. Past memories, current experiences and dreams describe the future through the objects in the human environment.

Humans not only make objects for living life more comfortable but also identify themselves through these objects. To understand people, we must understand the interaction between them and the objects they use (Csikszentmihalyi & Halton, 1981).

Things, both natural and man-made, are appropriated into human culture in such a way that they represent the social relationships of culture, standing in for other human beings, carrying values, ideas and emotions (Dant, 1999). Most of the time, designers have a tendency to focus on design beginning from the physical object, to create a form with an aesthetic value and easy usage, but today, however, designers should work on organisational structure and social problems, on interaction, service and experience design. Many problems involve complex social and political issues. So designers have become applied behaviour scientists, but to do this task they should understand the methods social scientists use to understand people, especially culture of the people. These issues are very complex to understand and are not easy to apply to researches (Norman, 2010).

3. Methodology

This research examines how sociocultural factors are perceived, analysed and transferred by design students in the design process. It is aimed to identify the complex or challenging and, on the contrary, clearly understandable aspects. In the first stage of the research, the ideas of the established cultural images, culturally influential designs and designers who use culture as a starting point were determined through 24 industrial design students.

These ideas were put forward with visual examples. The ideas of the students were asked about design and identity in a particular geographic area (Turkey); they were also asked to explain their ideas about traditional forms and draw forms of them. In addition, the design or craft examples that they suggested to be reconsidered for the future were determined. In the second stage of the research, the projects that emerged as a result of the analysis of the 2-month design process with 24 students and the difficulties encountered were compared; later, with 32 students a second research was carried out. The results are presented together with visual examples. The common points of how the culture-oriented design approach is used by designers in the product design process and the frequent mistakes, approaches and examples of projects in this process are revealed.

4. Outcomes

4.1. Understanding the importance of culture in all aspects in design education

It is a common approach that design students tend to initially consider culture only as a formal starting point, or to transfer it to design by examining its past or present interpretations. However, culture is in a state of change and transformation with all its sub-layers. The importance of transferring this state of change to the design by staying in contact with cultural studies and users dynamically throughout the entire design process has been understood. Today, the scope of the design discipline, which extends from very complex system designs to the design of objects of daily use, has carried the designers to a design definition for very solid bases and continuous research.

As it can be understood from the design definition that the World Design Organisation has renewed, the design process has turned into a structure that is transdisciplinary and collaborates with different disciplines and uses the methods of these disciplines.

In recent years, industrial designers have been increasingly involved in processes such as user research, user needs determination, and user experience design. In these processes, research involves understanding the user, their preferences, their preferences according to the infrastructure and information and the cultures of the users. Understanding the culture subheadings and users requires in-depth theoretical knowledge and the use of various research methods.

4.2. Ideas about the established cultural images and culturally influential designs and designers

It was observed that design students had difficulty in understanding the bases of the users' choices at the beginning. To understand the inspiration points, the students were asked some questions like:

- Which ideas of Turkish design inspire to you? (Explanation: What might be their strengths and weaknesses?)
- Explain and give four or five examples for Anatolian and or Istanbul historical forms, architecture, work or craft examples.
- What could be the design or craft issues that Turkish designers can reinterpret or inspire from? (For example: Cesmi Bulbul.)

4.2.1. Materials and traditional production methods

Design students in the context of Turkish design identity within the borders of the Republic of Turkey mentioned various materials and have been shown to specifically highlight some of the traditional methods of production of these materials, including leather, copper, ceramics, glass, marbling and calligraphy and the use of these materials deriving from Turkish traditional production methods like jewellery, textiles and copper products. Glass production technique *cesmi bulbul* was explained by one of the students as: *'If we talk about another design identity, it emerged when a spouse who lived in the 18th century went to Venice to learn this art, because the pattern of the glass produced in this technique was compared to the nightingale eye, they named Cesm-i Bulbul. The meaning of Cesm-i Bulbul is the traditional production and It continues to be produced with taste. Cesm-i Bulbul is a product that requires long processes and creativity as well as being added to the special glasses used in its creation. Its main feature is that thin and coloured glass sticks are placed into glass that has melted at high temperature and become like water. Turning from here, the lines reflect the skill and style of the master who shaped the glass form. The products called Cesm-i Bulbul have been found in forms such as vase, jug, sugar bowl, bowl and plate. This product is still produced today and is a design preferred by most oriental brands.'*

4.2.2. Ancient civilisations and archaeological sites that inspire industrial design students

Ancient civilisations and archaeological sites like the ancient city of Ephesus, Mimar Sinan mosque, Selimiye mosque, which one of the students called this building as his masterpiece at the centre of Edirne, Blue Mosque, Sultanahmet Mosque, Basilica Cistern, Turkish baths, Nemrut Mountain, Galata Kulesi and Antwerp Museum.

Turkish cuisine is the one of the third biggest cuisines with its diversity and cosmopolitan structure that every village also every region has its own food production types and recipes which inspire design students. During the preparation and service of food, there are lots of objects used. Students give Turkish coffee as another example and that was one of the most repeated answers, including Simit, Turkish breakfast, ice cream, *seyyar satıcılar*, traditional Turkish cuisine.

With regard to colours, there are colours like turquoise, blue and red which have cultural boundaries for Turkish design students as they mentioned.

Important places are Hagia Sophia, Galata Tower, Dolmabahce Palace, Topkapi Palace, Beylerbeyi Palace, The Ayasofya and Hurrem Sultan Hamam in Istanbul, which was designed and built by Mimar Sinan, the chief Ottoman architect. Built right across from the Hagia Sophia, in the classical Ottoman style, at a total length of 75 m; it was used actively until today. Kariye Mosque and Kiz kulesi are the examples of places which the students mentioned as important places. One of the students mentioned: *'Mustafa Kemal Atatürks mausoleum as "New types of architects". Designed by a Turkish architect, Anitkabir was inspired by both Seljuk architecture and ancient Anatolian civilisations. We understand here that in the new type of architecture there is a commitment not only to the ancient Turkish civilisation but also to the oldest owners of Anatolia'*.

Another example, Kariye Mosque is located in Edirnekapi district of Istanbul. The history of this building, which attracts many local and foreign tourists, actually dates back to 1,700 years ago. Kariye Mosque is actually a church building belonging to a large monastery complex. Its original name is Chora. Especially the inner and outer narthex of the church are decorated with magnificent mosaics. There are three important mosaic panels in the Naos, which is the main prayer area of the church. There are extraordinary frescos in the additional chapel called Parekklesion. The fact that the church is so full of artworks transforms the building into an art gallery.

Examples of arts are miniature art and the art of carving Kazaziye (Trabzon Kazaziye, which dates back to ancient times, is made of fine 1,000-carat silver or 24-carat gold wires and never welded. This art, which is made by knitting only by hand, is obtained by using various sizes of needles. This handcraft is very old and the first example is the flying horse brooch in the Usak museum. Meerschaum processing art (Eskisehir) and handcraft is still being made by enthusiasts in Eskisehir and

the young generation has become interested in this art. Meerschaum, also known as white gold, takes this name from its white colour and the best quality is extracted in Eskisehir in the world. Special wells are drilled for this stone, which is found in lumps 20–130 m below the soil.

Karagoz Hacivat shadow theatre and stone carving art (Mardin, one of the most ancient lands of Anatolia) have hosted many different civilisations for centuries. Churches, monasteries, madrasahs, mosques, inns and houses in Mardin are made of stone, famous for the durability of the region. This special stone, which turns the hands of the masters into art in Mardin, offers a chalky feature. Its thin and granular structure allows it to be easily processed when removed. Ceramic arts, tile art, ebru art and silk work are also of importance.

Objects of importance are censer, evil eye bead, double-headed seljuk eagle, Turkish Carpets, coffee pot, jug, shoe polishers and tools, tulip pattern, cat figure, crescent and star, poppy figure and thin waist tea glass.

4.3. Turkish designers inspire students with interpretation of culture

Students when they see the design examples of today by which they are designed by Turkish designers using culture, cultural objects, cities or people or trying to understand the culture of people. They can understand the subject better. So, when we ask which designers are good examples for them to understand the cultural approaches in design, names like Defne Koz, Seyhun Topuz (they mentioned the using geometric forms, iron as a material and his designs are elegant and unique), Ece Yalim, Erdem Akan, Ayse Birsal are given as examples.

4.4. Traditional forms and sketches

Students tried to draw the most influential forms which they thought were traditional. These are mostly the hand of the air, Ottoman monogram, pomegranate, crescent, star, elephant, abstract stylised animal forms and symbols in carpet patterns, evil eye bead graphic, Anatolian rug motifs, Seljuk star, miniatures and Galata tower forms. One of the students explained the Seljuk star: *'It is an eight-pointed star, this star, which is the symbol of the Seljuk state represents balance, power, freedom'*. Miniature paintings are common in the Ottoman period. The Moon star is located in the Republic of Turkey flag. Forms such as water drop, single star form and ram's head were also the traditional forms expressed especially by the students.

The common points of how the culture-oriented design approach is used by designers in the product design process and the frequent mistakes, approaches and examples of projects in this process are revealed.

4.5. Examples for inspirations and projects

Holding the title of the oldest temple in the world, Gobeklitepe is considered important in terms of human history. Gobeklitepe is a monumental architectural structure consisting of large oval / round structures, in which T-shaped obelisks made of limestone stand out. There are many animal figures or abstract symbols made in relief or carving on the obelisks. One of these symbols is the Kun-Ay symbol.

The symbol of Kun-Ay is very valuable for Turkish people; this symbol represents the sun and the moon is the sign of the first day of the first month of spring. The students used symbols such as rising to the sky, Kun-Ay on the product's feet and on the lid of the candy bar. The spherical form of candy is inspired by the world. There is a peace symbol of Ancient Asia on it. *'Where there is peace, there is culture, where there is culture, there is peace The design is planned to be produced with ceramic material'*.



Figure 1.



Figure 2.

5. Kibele pots



Figure 3.



Figure 4.

The origin of the concept of ‘mother goddess’ is based on Anatolian lands. We come across the first depictions in the Phrygian civilisation located in the centre of Anatolia. The goddess is named ‘Kybele’ by the Phrygians; Kultepe tablets in Kayseri were referred to as ‘Kubaba’ and ‘Kybebe’ in Lydians, ‘Rhea’ in Crete as ‘Artemis’ in Ephesus, ‘Venus’ in some parts of Italy, Magna Mater in Rome, and ‘Hepat’ in Hittites.

There was a cult in Neolithic Anatolia that we can describe as the mother goddess like Kybele. The best examples are female figures extracted from the settlements of Catalhoyuk and pilgrims. These are depictions of the mother goddess, whose stout, naked bodies are clearly visible, representing procreation and abundance.

6. Shared culture



Figure 5.



Figure 6.

All around the Mediterranean sea there are a lot of cultures living together in the past and one of the students think that there is a culture shared by the people in the ancient times but also in our daily life we have bounds with our shared past. The student was inspired from this figure and designed a 3-day printed case named 'Shared Culture'.

7. Anatolian Seljuk great sugar bowl



Figure 7.



Figure 8.

The double-headed eagle, which is a common motif in the Anatolian Seljuks, is interpreted as a combination of two powers and represents the union of power. Evil eye is used as a symbol of power, nobility and power in the most prominent places of architectural structures such as castles, palaces and inns. The beings that accompany people on their journeys to the sky and the earth are in the form of birds. The eagle is the epitome of greatness and height among birds. The sugar bowl, designed in the shape of a tent and on which a double-headed eagle is placed, will be made of copper.

8. Pomegranate candlestick



Figure 9.

The pomegranate symbolises fertility in mythology. There were many students who use mythology and stories in mythology as a source of inspiration and the beginning for a design project. Some of the brands like Porsche, Coca-Cola or films can be an inspiration also. The complex or challenging, or on the contrary, clearly understandable aspects were as follows: most of the time it is seen that students aim to take the shapes and forms directly from the sources of inspiration. It is a problem that they must draw many sketches and try to create their own ideas and unique designs and use the cultural examples as only a beginning point. Another problem was that it is not easy to read the lifestyles, meanings and needs from historic objects. So, the students most of the time forget about the fact that the context of use of these objects has changed.

9. Conclusion

The research focused on how cultural processes are experienced by students in design education and the approaches during these experiences.

In the process until the designs are formed as objects, designers make many decisions. While the design content is created culture appears as an important element. While the relationship of design with culture is being constructed, studies on the communication between human and object have gained momentum.

In the design process, design students should be shown practically how to understand the content is created. The theoretical must be supported by practical to be understood and experienced. This process is not only important for designers to recognise the culture, but also to establish meaning and value by identifying the contextual differences between the past and the present. In the study based on these approaches, it is seen that the students tend to directly use the cultural influences and elements they have identified and selected in the determined region.

The images of various archaeological sites and civilisations in the region, whose influence has diminished over time, of the crafts, architectural structures, historical buildings, materials, colours, symbols and patterns, and certain objects and rituals, which are in the minds of design students were obtained by making sketches.

It is seen that these images different from the past, whose context has changed today, are transferred to the design in various ways. One of the most important studies in the design process will be how users read and understand these effects. During the design process, this relationship is determined by the studies carried out on the users with various methods and the information obtained during these processes is transferred to the design.

References

Bayazit, N. (2011). *Endustri Tasarimi temel kavramlari*. Ideal Kultur yayincilik.

Csikszentmihalyi, M., & Halton, R. (1981). *The meaning of things domestic symbols of the self*. Cambridge University Press.

Dant, T. (1999). *Material culture in the social world*. Open University Press.

Norman, D. (2004). *Emotional design*. Basic Books by perseus Books Group. <https://wdo.org>

Norman, D. (2010). *Why design education must change*. https://www.researchgate.net/profile/Donald-Norman-3/publication/235700801_Wir_brauchen_neue_Designer_Why_Design_Education_Must_Change/links/54a2b47e0cf256bf8bb0d448/Wir-brauchen-neue-Designer-Why-Design-Education-Must-Change.pdf