

# EDUCATIONAL STUDIES IN RELATION BETWEEN SUBJECTIVE CONCEPTS AND ABSTRACT FORMS

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## **ABSTRACT**

Teaching form studies is one of the main branches of Industrial Design; accordingly, a course named "Form and Space" has been included in the Industrial Designers' syllabus. Form is an important medium in understanding the contemporary world; therefore, we have to look for forms which associate common meanings in the mind of the peoples. To reach this goal, a research started based on this question that "Can we associate forms, shapes and volumes to subjective concepts and meanings?" To answer this question, some experiments were done based on the practical exercises and sketches in different universities. Exercises were done between 1996 and 2006 and based on the comparison between sketches we reached a positive answer. The method of the experiment was based on the communication of the subjective and objective concepts with the concept of form and space by presenting some group of words (a subjective concept and an adjective) in connection with an objective and physical space. Every student had to design abstract forms with those subjective concepts. Terms and spaces were presented without any changes so that the comparison would be easier. Although students worked totally independently, there were many similarities in their sketches and the results were interesting. By comparison these words with different pictures in the internet the same previous results were obtained. The result of this research can help us find parts of archetypes. The application of this study can be also useful for designing objects with special messages or semantic attributes.

*Keywords: Language of form, subjective concepts, objective concepts, internet, archetypes*

## **1 INTRODUCTION**

What is form? Wallschulaeger & Snyder believe that: Both two – and three dimensional compositions and forms are created by combining the subject matter, meaning, or intent with materials or media; the result is a tangible figure or form. During the "generation" of a form, artists, architects and designers manipulate components to devise and produce meaningful art forms, products, buildings, interior spaces, communications and so on [1]. The visual appearance of products is critical, determinate of consumer response and product success [2]. Actually, since the beginning of the academic education of industrial design in Bauhaus, this issue was also of great importance: Having been trained in the language of form, Bauhaus designers set about developing prototypes for the mass production of definitive, standard forms for the objects of everyday life [3].

From that time the language of form and meaningful form was talked about not only in the industrial design but also in visual arts. Artists such as Giorgio Chrico pointed out the general and the metaphysical aspects of the objects/things [4]. Also Chapman believes that: In attending solely to physical ageing, designers overlook numerous metaphysical renderings of durability. As a creative industry it is vital that we break away from the physical and begin to understand more about the sustainability of empathy, meaning, desire and other metaphysical factors that influence the duration of product life [5]. The ideas given on the metaphysical aspects of objects are pointed to the unknown sides of the language of the products and shows that there are still many hidden points which make it difficult to understand the language of the product. Despite the fact that there is the dictionary of verbal and written language which helps clear the nature of the meaning of the language of product, still there is the shortage of a means or guideline to understand it.

Designers use their skill, training and experience to produce products that induce a positive aesthetic impression. Designers' tacit understanding of perception and visual composition often guide their intuitive judgments [6]. Indeed there are those who feel that intuitive creativity is all that is required for the production of visually attractive products and that scientific approach is not relevant to an understanding of the problem. This view may be reinforced by the discovery that very few of the scientific studies have led to generalizations which are useful for students or practitioners of design [7]. To comprehend the language of the product, only remains the use of Hermeneutics, Semiotics, and intuition. This article declares that by clarifying the existence of a relationship between the words and common forms, which are considered as archetypes mentioned by Jung, can help the language of the product.

Form, as one of the main elements of design, is an important medium in understanding contemporary world. Considering the needs of global market and process of globalization, we have to look for forms which associate common meanings in the mind of people. Accordingly, a study was done about the language of the product and the relation between form and emotion, meaning and concepts in 10 years ago from which a disputable question was brought about: "Can we associate forms, shapes and volumes to subjective concepts and meanings?"

To answer this question, some experiments were started based on practical exercises and rapid drawing techniques (sketches) in the classes of "Form and Space" (A course in Iran Universities which discusses Form and Space due to the importance of their concepts in design) in different universities. Exercises were conducted during different years (between 1996 and 2006); results of the first three examinations (between 1996 and 1999) showed that the answer was right [8]; however, we repeated the examinations in other universities in order to prove the level of the reliability of the research.

## 2 MATERIALS AND METHOD

Experiments were started based on practical exercises and rapid drawing techniques (sketches) in the classes of "Form and Space" in 3 different universities. Exercises were conducted during different years between 1996 and 2006. For this paper, exercises of 115 industrial design students, male and female aged between 19 and 25, within 8 semesters randomly were selected.

Based on comparison between sketches we reached an interesting answer. The method for experiment was based on communicating subjective and objective concepts with the concept of form and space by presenting some groups of words (a subjective concept and an adjective) in connection with an objective and physical space (as context) .It should be mentioned that there were ten groups of words out of which only four are discussed here.

At first the 4 groups of words (Table 1) were introduced to students. Each group contains three words in which the first and second one impress a common state and the third word has been chosen to describe the situation or field in which both states can develop.

*Table 1. 4 groups of words*

	Word 1	Word 2	Word 3
Group A	Stability	Heaviness	Earth
Group B	Serious	Attentiveness (Alert)	Office
Group C	Concentration	Value	Factory
Group D	Movement	Acceleration	Path

The first and second words have propinquity together. It caused students to search the meaning of these words in their mind, and sketch unique forms related to given typical and especial space, instead of using usual symbols.

Every student had to design abstract forms with those subjective concepts. Terms and spaces were presented without any changes so that comparison would be easier.

An Instruction had been set up for students in order to prepare identical situations. The main contents of the instruction show below:

1. Sketch a shape or volume with abstract form for each group of words.  
Your sketches are subject not to be implied from usual and natural forms and well-known symbols, even as well as industrial and artificial products.

2. Allocated time for sketching for each group is 10 minutes.
3. Each student has to work individually.

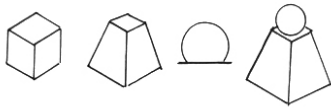
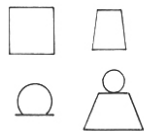
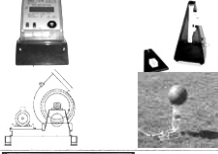
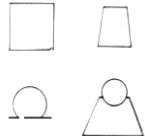
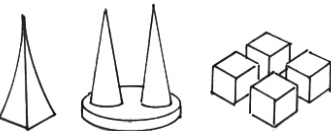



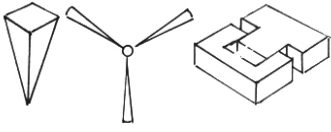
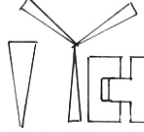




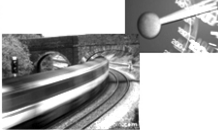

Sketches were collected after each session and the study was conducted to investigate the relationship between characteristic, symbol and emotion of sketches.

In 2003 we decided to search these words on the internet. We used Google search engine as an image source. The biggest advantage of using Google search engine was access to non-local ideas in related subjects which helped us to broad our domain of research. As we could find related issues in students' forms and web images, we concluded that resulted forms were mutual among peoples in the world in the case of ways to introduce concepts in form of figures and it would be concluded that there is a kind of figurative archetype in people's unconsciousness. It should notice that in comparison with web images with available results, we considered only figures and common forms and ignored colors, patterns and materials. Also the function of found images on the web was not important for us. Although there have been researches on the relationship between form and meaning in which the form was first given then the meaning and the emotional effect was obtained. While, in this research for the first time the method goes opposite.

### 3 RESULTS

Sketches were compared together and analyzed. Although students worked totally independently from each other, there were many interesting similarities in their sketches and results of work. Most of them had common characters and meaningful similarities in the form. "Latent common geometric patterns or volumes" were found on them. For example, in the sketches which were designed to show the concept of heaviness and stability in connection to the earth, they mostly used the concept of sphere and cube on the bottom of the work. Sketches were compared with different pictures in the internet websites and again the previous results were obtained. Table 2 shows the result in brief.

Table 2. Relation between words, sketches, internet pictures, stylization of sketches & pictures

Pictures The words	Students' sketches	Stylization of sketches	Pictures from internet	Stylization of Pictures from internet
<b>A</b> Stability, Heaviness, Earth				
<b>B</b> Seriousness, Attentiveness (Alert), office				
<b>C</b> Concentration, Value, Factory				
<b>D</b> Movement, Acceleration, Path				

We can study on these common characteristics for each group by categorizing the yielded figures. Categories and mutual characteristics have been mentioned below:

A) Stability, Heaviness, Earth (Figure 1)

A-1) A sphere which has been added to another solid or was not able to move.

A-2) A cubic form alone at the bottom of the frame.

A-3) Incomplete pyramid or similar forms.

A-4) Some not having any similarity with others or not developing any abstract form.

Result: Latent common geometric patterns yields of almost all groups. Figure A contains a triangle whose base is fixed on horizontal level of the frame.

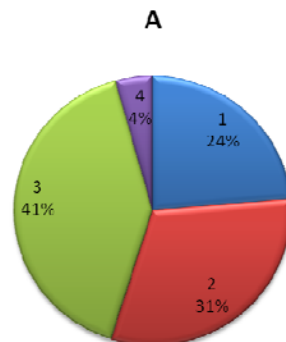


Figure 1. Result score for group A

B) Seriousness, Attentiveness (Alert), office (Figure 2)

B-1) Frequent pyramids or cones which usually situated at the top of other forms and has a tall proportion.

B-2) Inversed pyramids or cones, usually with sharp edges and tall proportion.

B-3) Spheres in 4-part groups situated close to each other.

B-4) Some of the sketches did not have any similarity with others or did not develop an abstract form Result: Latent common geometric patterns yields of almost all groups. Figure B contains figures with right lines and sharp angles at the top to show vertical figures with tall proportion.

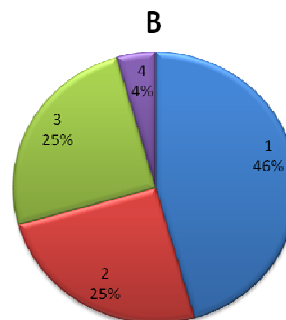


Figure 2. Result score for group B

C) Concentration, Value, Factory (Figure 3)

C-1) four or three facets pyramids like crystals.

C-2) Right or curved pyramids or cones, sometimes arrayed around a specific (centered) point.

C-3) Cubes or a set of them with sharp angles.

Result: Latent common geometric patterns yields of almost all groups. Figure C contains a set of platonic solids with sharp angles and facets.

C

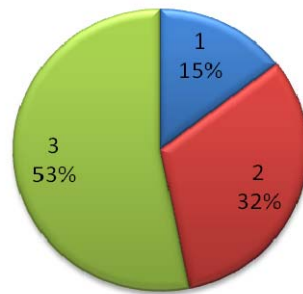


Figure 3. Result score for group C

D) Movement, Acceleration, Path (Figure 4)

D-1) A triangle with an elevated proportion and wide base which started from the bottom-left of the frame to the top-right. Some times a single triangle and some times a set of small figures seems as a triangle.

D-2) A few figures draw a similar shape in reverses.

Result: Latent common geometric patterns yields of almost all groups. Figure D contains a path from bottom-left to top-right of the frame, from wide to narrow.

D

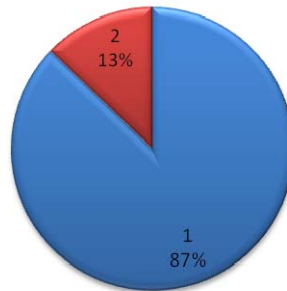


Figure 4. Result score for group D

#### 4 DISCUSSION AND CONCLUSION

Most of the subjects about product language have a semantic approach. As product language is a real subject in today's life, it seems an encyclopedia for this language is necessary. Globalization issues support this reason. This article is an introduction to prepare that encyclopedia.

As table 2 shows the students refrained from using any symbol and just used the basic forms and volumes such as 1) cube 2) sphere 3) pyramid 4) cone and 5) cylinder, or they used them partially or in combination of forms. The way of using these volumes depending on the subject is different in numbers, size and dimensions. However, the symbolic value of each volume cannot be ignored.

Stability, Heaviness, Earth: In most cases one or two solids and bulks have been presented. There are combinations of cubes, sphere, incomplete pyramids specially combinations of sphere and on another figure (geometry). Often the sphere has been located on the top and the other figure has been used as the base. There are some cases in which a sphere has been added to another form. Heaviness concept could be implied from combinations of sphere and cube. Stability and lasting could be implied from combinations of sphere and pyramids which can point out inaction. Using a sphere that has a strong movement potential in combination with stable figures such as cube or right pyramid might emphasize the concept of inaction. In fact, inaction has been expressed by limiting the movement of a sphere as an object with potential movement, which coordinates with the pictures on the web.

Stylization of sketches is shown in table 2.

Serious, Attentiveness (Alert), Office: Presented figures are mostly cubes, pyramids, concave pyramids. The number of presented figures is various, from two to eight. Forty four percent of the figures comes from a combination from cube and pyramids. In these figures two pyramids or more with high proportion have been placed as the base of the cube and the whole figure presented a tall







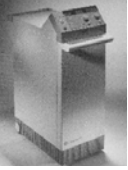

proportion. These compositions conduct the concept of attentiveness that has been shown by elevating figures from horizon. Twenty five percent of the figures contributed a regulative and strict order which can be implied as seriousness. Other twenty percent of figures contain concave pyramids which have been placed bottom up on the cubes. Using sharp edged geometries could be related to seriousness. Pair elements like the antennas on the Aliens' heads or horns on the helmets of a legendary hero are also seen.

**Concentration, Value, Factory:** Presented figures have got various solids ranging from one to ten. Basic forms and incomplete cubes are the most shown figures. They are all common in right and sharp edges. Some of them have been arrayed in star form with a radial concentration which could be implied as a try to show accuracy. In almost forty percent of the combinations a sharp-cut figure was added which emphasized on accuracy, like carved diamonds to show value.

**Movement, Acceleration, Path:** in this exercise different shapes have been used. More than half of them are pyramids with a single shape or some small shapes. Almost all of the frames' compositions contain a pyramid starting from the bottom-left of the frames and go to the top-right of them, sometimes with a slight curve in their path. This has also been the case in the works by left-handed students. Going from thick to thin through pyramid shapes shows acceleration.

Similar relation between students' original sketches and some industrial and graphic designs which is shown in Table 3 says that this study can be useful for designing objects with special messages or semantic attributes, suitable for teaching art and drawing. But still some questions are left unanswered: Can we consider the internet like a modern mass unconsciousness? Are there any archetypal forms for different meanings and subjective concepts in human mind? Which methods are suitable for further research about this subject?

*Table 3. Relation between original sketches & products*

	A- Stability, Heaviness, Earth	B-Serious, Attentiveness (Alert), office	C-Concentration, Value, Factory	D-Movement, Acceleration, Path
Students' original sketches				
Pictures of products	 1-Silicon Graphics- <i>Lunar Design</i>	 2-Bianca M.FM Radio- <i>Marcelo Joulia &amp; Alain Renk-1989</i>	 3-Novus 2000 Argon Laser- <i>Lunar Design</i>	 4-Motorcycle- <i>a graphical picture</i>

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