An Approach to Evaluation of Aesthetic Function on Usability: An Exploratory Study About Descriptors of Aesthetic in Pruning Shears

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ABSTRACT

The aim of this study was to discuss the aesthetic evaluation in usability studies. Through an exploratory study with pruning shears, we seek to identify possible descriptors that make up the concept of beauty in these instruments for further evaluation of the perception of these factors with the variables of usability. The study was conducted with 90 subjects divided into three groups and both genders: Design teachers, students design and lay people in the matter. The interviews were individual. Each participant evaluated the appearance of nine pruning shears (with a focus on shape), with an issue which should answer what pruning shears considered more "beautiful", and a protocol for semantic differential with 18 pairs of descriptors of the beautiful, which were developed from definitions of beauty in dictionaries, theories of psychology and philosophy. We identified the most representative descriptors for the pruning shears elected most beautiful. The importance of these results is the possibility of carry out further tests about the influence of these descriptors in the perception of the usability of products, including the influence of the aesthetic function in the perception of usability.

Keywords: Aesthetics, Usability, Pruning Shears

INTRODUCTION

Ergonomics has an important role in ensuring the usability, allowing products are easy to use, quick and easy to learn (Nielsen, 1993; Jordan, 1998). According Mahlke and Thüring (2007), usability is also composed of elements such as "visual aesthetics" which should be included in evaluations of usability.

The perception of objects is reported by Lobach (2001, p.59-60), which describes the perception is the "relationship between a product and a user-level sensory processes" and it is related to the aesthetic function, which "responsible for promoting the sense of well-being, identifying the user with the product during use. The relationship between the

aesthetic characteristics of the product and usability is an investigative demand whose results can contribute important information to the ergonomic design.

In studies on aesthetics and usability (Kurosu and Kashimura, 1995; van der Heijden, 2003), the aesthetic has been assessed through the question about how attractive or pleasant is the product, however, there is a need for research on elements that comprise the beauty or ugliness of an object and then be able to investigate the relationship of these components in usability. The aim of this study was to discuss the aesthetic evaluation in usability studies. Through an exploratory study with pruning shears, we seek to identify possible descriptors that make up the concept of beauty in these instruments for further evaluation of the perception of these factors with the variables of usability.

AESTHETIC

Definition and Historical Aspects

Etymologically the word aesthetic comes from the Greek "aisthesis" and means "the ability to feel," "understanding of the senses", "totalizing perception." The meaning used in the field of philosophy refers to the "area of philosophy that studies the beautiful and rationally feeling that creates in human beings" (Aranha and Martins, 2003, p 369.).

The aesthetic is an object of study in different fields of knowledge such as Philosophy, Art, Psychology, Design, Architecture, and others. In common usage can be found using the term to refer to what is pleasant, or is used as an adjective. Out of common usage, the term aesthetics designates a number of formal characteristics, which together can be called style. In this sense, it is presented as a noun (Aranha and Martins, 2005).

Aranha and Martins (2003) refer to the concept of aesthetics as eminently historic, because every time and culture have their own aesthetic standard of beauty. In antiquity beauty was identified as a proportion (Eco 2010, p. 61). As Spider and Martins (2003) during the Middle Ages in Western Europe, the Church has used painting and sculpture for teaching due to illiteracy of feudal populations purposes. In place of naturalism styling was its strategy as a way to layout the figures. In the artistic Renaissance in Europe (between the XIV and XV centuries) the artist's work began to be taken to the condition of intellectual work in this context were incorporated to the arts: "the scientific perspective, the mathematical theory of proportions, which enable the creation of illusion of the third dimension on a flat surface, the achievements of astronomy, botany, physiology and anatomy " (Aranha and Martins, 2003, p 394.). According to Eco (2010) at this time the beauty has been designed in a dual-orientation, which seems contradictory: "beauty, is really, be understood as an imitation of nature according to the rules established scientifically, either as contemplation of a supernatural degree of perfection, not noticeable with the vision, why not fully realized in the sublunary world "(p. 176). Thus, the artist is the creator of novelty and mimic nature.

In the XVII and XVIII centuries, the aesthetic rationalism tried to establish standards for the artistic and synthesis defined that "art is an imitation of nature that includes universal, normative, essential, and the characteristic ideal" (Aranha and Martins, 2003, p. 394). In the XX century, according to Aranha and Martins (2003) the art was marked by independence of the artwork with regard to the intention of the author and not exactly to the values and aesthetic purposes. The art of the twentieth century shows an attention to the objects of use. In the XVII and XVIII centuries, the aesthetic rationalism tried to establish standards for the artistic and synthesis defined that "art is an imitation of nature that includes universal, normative, essential, and the characteristic ideal" (Aranha and Martins, 2003, p. 394). In the XX century, according to Aranha and Martins (2003) the art was marked by independence of the artwork with regard to the intention of the author and not exactly to the values and aesthetic purposes. The art of the twentieth century shows an attention to the objects of use.

The aesthetic in philosophy

Only with Baumgarten aesthetics was introduced in the scientific and academic community, and being closely linked to the aesthetic "beauty" can be said that already in the period of ancient Greece, Socrates (469 BC - 399 BC) was speaking about the beautiful (Bisognin , et al. 2005). Socrates said, "beauty is the exact function of each thing or each be" (Nunes, 2003 apud Bisognin et al. 2005), with truly beautiful what proves to be useful.

Socrates distinguished three different aesthetic characteristics: "the ideal beauty that is nature through an assembly of parts; spiritual beauty that expresses the soul through the eyes [...], and the useful or functional beauty" (Eco,

2010, p. 48).

After Socrates, his disciple Platão (428/427 BC - 348/347 BC) wrote the Phaedrus, treatise on the beautiful, and come say that beauty is the only "idea" that shines in the world, and influences all beings (Aranha and Martins, 2003). Plato considered Beauty as harmony and proportion of the parts (derived from Pythagoras) and Beauty and splendor, which will influence the neo-Platonic thought (Eco, 2010, p. 48).

It was only in the XVIII century, the word "aesthetic" has been defined and second Bayer (1995), Baumgarten was responsible both for definition as the introduction in philosophy. Thus, according to Aranha and Martins (1986), other philosophers began to study and define aesthetic more focused and specific way.

The way of thought with regard to aesthetics, was modified in the XIX century with the invention of photography, and with the Impressionists, for longer bother to accurately depict reality (naturalistic context) (Aranha and Martins, 1986, p 397). This position contrary to naturalism, eventually make room for new inquiries and proposals. The philosopher Immanuel Kant (1724 - 1804) in his paper "Critique of Judgment" published in 1790, presented his thought against the Cartesian, rationalist aesthetic. For Kant beauty, even if it cannot justify it by the intellect, beauty is all that pleases the senses universally. Kant drew a distinction between aesthetic perception and forms of conceptual thinking (beautiful is what pleases regardless of a concept). Also divided into two species beauty, free beauty that depends on no concept of perfection or use; these concepts and dependent beauty. For Kant the experience of beauty occurs in sensitive and independent of any other type of interest. For Kant, "Taste is the faculty of judging an object or a mode of representation through a satisfaction or dissatisfaction entirely independent interest. The object of this dissatisfaction is the beautiful" (Aranha and Martins, 2003, p 394-395).

Another philosopher to claim greater freedom in the canons was David Hume (1711 - 1776), a philosopher, historian and Scottish essayist. According to Hume the critic can only determine the rules of taste when it is able to break free of the habits and prejudices that, from the outside, determine your wits. This judgment should be based on inner qualities as good judgment and freedom from stereotypes, and method, excellence, practice (Eco, 2010).

Another important contribution was implemented in "Aesthetic - The Idea and Ideal", Hegel (1770-1831), which introduced the concept of history in defining aesthetics, beauty is the fruit of a historical moment and the current way of thinking, it is changeable, as societies and their values and accompanies all these changes through the ages. Hegel also distinguished the natural aesthetics of natural beauty, ie, the present phenomena of nature, artistic aesthetic beauty in the works of arts beauty, one created by human hands and in which man was based on the spirit to create (Hegel, 1991).

During the century XX, the aesthetic is largely reflected in several publications. Is currently considered an independent science of philosophy to have reached its own method, as introduced Bayer (1995), even though it is still the object of study of this and so many other areas, such as Design.

The aesthetics in Design

Brazilian theorists of design as, Cardoso (2003), argue that the profession of designer had his assistant start the first Industrial Revolution to increase the quality and appearance of industrial products. The aesthetic was applied to the product, usually similar to the aesthetic concepts applied in the art. However, as stated Dorfles (1991, p. 127) apud Costa Júnior (2007), most industrial objects produced in the early emergence of factories, the "aesthetic" had used the "wrong function to mask the functional characteristics of the object by ornamental to the dominant taste of the time "overlays (Costa JR, 2007).

Pantaleão and Pinheiro (2011) show that the transition from the "XIX to the XX century that begins to show the reflection of the design activity, as an alternative to reconcile artistic and industrial production, and that will characterize the aesthetics of modernist design century under the influence of the Bauhaus (and Vchutemas within the Soviet revolution) "(Pantaleão and Pinheiro 2011, p 119.). To Löbach (2001, p.156) the broader definition of aesthetics considers it as the science of appearances perceptible by the senses (aesthetic object), their perception (aesthetic perception) and its importance for men as part of a system sociocultural (aesthetic value). You can also add the theory of aesthetic production of man (aesthetics applied).

On the extent of the movement led by the Bauhaus school Pantaleão and Pinheiro (2011) show that production and design education prioritized functionality and satisfaction of social needs, in an attempt to reconcile the art, crafts

and large scale production industries reaffirmed by the architecture, as did some of the school teachers. Kandinsky, Mies van der Rohe among others, not only taught design and projected products, as were also the architects of their own homes and built to closely mirror the proposed design for them. Yet according to the authors, this season was the geometrization of forms and a tendency to abstract. Cardoso (2003) also argues that there was a section that sought more organic shapes and more elaborate ornaments, in contrast to the thinking of the Bauhaus and design, aiming at object functionality.

The post-war period was remarkable technological advancement, which, incidentally, helped define armed conflict (Cardoso, 2003). The discovery of new materials, new ways of using raw material, processing means, engines, polymers, greatly influenced the design of the era.

The Second World War provided the opportunity for growth consumer and peripheral countries economy, this season also had higher entry of women into the labor market and the consumer market. To meet the demands of this new consumer market, needs and even political plans, Cardoso (2003) explains that the designer served as the products become increasingly attractive to the public, and, increasingly, creating needs through product launches.

The postmodern period is also explained by Cardoso (2003), as a period of many and various changes in the way of thinking and also in production mode. Pantaleão and Pinheiro (2011) argue that the aesthetic function of the products has been rethought from new parameters, but rescuing the pioneering role of the designer, ie to reconcile the production in series with custom (and customizable) products, in contrast to the design postwar, which produced massively.

It appears also, according to Pantaleão and Pinheiro (2011, p. 120) "a revival of craft production and, consequently, an increase in the level and degree of semiotic elements (symbolic, as the metaphor) and psychological (emotional appeal)". "Due to the operating area of design in today's society have expanded into different contributions of knowledge without ever having eliminated the issues of artistic context, it is deemed appropriate such concepts, in that they are every day more interchangeable, leading to the constant need to assign the technological and scientific sectors, the aesthetic value. "

Another Brazilian theorist to discuss the aesthetic design is Löbach (2001), for which the industrial products has three basic functions, in addition to the user-assigned: Practice Function, Aesthetics and Symbolic Function Function. According to the author "to satisfy the aesthetic needs is not necessary for our physical existence, but to our mental health" (Löbach, 2001 p.35). This author argues that our everyday relationships are mediated by objects, thereby reaffirming that aesthetics is a psychic necessity, adds that, having the characteristic of being perceived by the best man, an object with high aesthetic value is also considered the most "visible" at the time of purchase, obscuring products whose aesthetic function was undeveloped, since the practical functions are usually perceived completely after purchase.

Aesthetic experience with products

As for these interactions with products, Hekkert and Desmet (2007) address the topic "experience with products", which refers to all possible affective experiences involved in human-product. This interaction is not limited to "instrumental interaction" (operation and management of the product), but also "non-instrumental" interaction (for example, one can indulge in the gentle touch of a bank or be inspired by the brilliance of a car) interaction and even "non-physical" (anticipate or imagine the interaction and possible consequences of the interaction with a product, for example).

To Hekkert (2006) for an attempt at definition experience with the product is: "[...] set of effects that are caused by the interaction between a user and a product, including the degree to which all our senses are gratified (aesthetic experience), the meanings attributed to the product (experience of meaning), and the feelings and emotions that are elicited (emotional experience). "

To Desmet and Hekkert (2007), the level of aesthetic experience involves the ability of a product to enchant one or more sensory modalities. A product can be beautiful to look at, make a sound, touch or smell nice. The degree to which a perceptual system can detect the structure, order and consistency and assess the novelty / familiarity and typicality of a product will determine the affect that is generated (Gaver and Mandler, 1989; Hekkert et al 2003, apud Desmet and Hekkert, 2007). To the authors this is the level of sensory pleasure that Norman (2004) refers to discuss the "gut level emotional design" and that Crilly et al. (2004) treat it as a cognitive response category of

"aesthetic impression."

As shown by Hekkert (2006) aesthetic experience can be considered as a component of experience with the product, so some researchers consider the aesthetic experience as a specific type of evaluation (Lazarus, 1991 apud Hekkert, 2006). To Hekkert this assessment, often referred to as the assessment of "intrinsic pleasantness" (Scherer, 2001 apud Hekkert, 2006), assesses whether a stimulus is pleasant or painful, for example. The aesthetic evaluation related to the experience with topical products will be discussed next.

Aesthetic judgment

To Hekkert and Van Wieringen (1998), in the world of art, architecture and design, evaluation and selection are often used. Artworks are selected for exhibition or bought by art institutions. Competitions are organized for the "best" design for a new building. Companies invite designers to generate new product concepts. These selections and competitions, in each case, are configured to detect a quality, how the aesthetic quality that can not be measured by any objective means. Moreover, despite the care with which the procedures are designed, decisions are often controversial and raise criticisms and disagreements.

For the authors, the question often raised is whether it is possible to make such judgments reliably. This research question was addressed in a previous research in aesthetic judgment of experts and lay people interested in the arts (Hekkert and Van Wieringen, 1996).

In this experiment, experts (professionals and other experts in the arts, as curators, critics) and interested non-specialists (people with professions outside the realm of art, but with an interest in the subject) judged 30 sets 10-20 slides contemporary works of art. After the slide show of the works of each individual artist, his whole set was evaluated in a series of 9-point scales for the classification, including the variables: "No skill - With skill", "Not original - Original" and "poor in overall quality - Good overall quality."

Contrary to what the researchers expected intuitively, the agreement between the experts was not higher than among non-specialists. However, although levels of agreement are low, they are significant ($p < 0.01$). In addition, correlations calculated refer to the level of agreement between any pair of independent. In most processes of selection, however, valuations are obtained from a larger sample of judges.

One reason for the low levels of agreement seconded by Van Wieringen and Hekkert (1998) is that these are caused by lack of agreement on the criteria for determining what is good. For standardization and to provide enhanced reliability of aesthetic evaluations groups of judges must agree to: (1) the criteria to be applied, (2) the weight assigned to each of them, and (3) as each criterion should be interpreted.

Also, note that a second question often raised about aesthetic evaluations of the validity. To what extent judges measure the aesthetic quality? To answer this question, is necessary an external, objectively identifiable criteria of aesthetic quality or assume that there is no undisputed or valid measure of aesthetic quality and in this case, the best possible measure is the average rating of all possible experts (Hofstee,1983 apud Hekkert and Van Wieringen, 1998).

Hekkert and Van Wieringen (1998) mention that a similar line of reasoning was proposed by Amabile (1982), research in the field of creativity. Towards an operational definition of creativity, developed a consensual assessment technique to measure the creativity of a product. A product can be considered creative if competent judges agree it is creative.Entretanto, argumentos têm sido levantados em favor de um processo de avaliação com base em julgamentos independentes, bem como em favor de um processo baseado em decisões do grupo (Oosterbaan and Martinius, 1990; Hekkert and Van Wieringen, 1996).

Hekkert et al (2003) investigated the influence of two constructs in consumer products, considering them as variables determining aesthetic preference: typicality and novelty. For these analyzes, researchers conducted tests

with four consumer products (kettles, telephones, sanders and midsize cars). In the first study were evaluated sanders pictures 19, 14 and 14 phones kettles. The products were selected to cover a wide range of typicality and novelty and categories vary to the extent that its aesthetic appeal was considered an important feature of the model, ie, namely sanders (minor aesthetic appeal), telephones and kettles (important) aesthetic appeal.

The images were evaluated by random display for 3 s each , to familiarize participants with the set of stimuli . Then they were presented again in a defined participant and rated by 9-point scales with the following classification variables pace : "Poor example of the category in question - good example of the category in question " (operationalization of typicality) ; " Not original - original " (operationalization novelty) and " Ugly - Cute" (operationalization of aesthetic preference) . Among other results it was found that typicality and novelty are jointly and equally effective in explaining the aesthetic preference of consumer products . In short , studies have shown that there is a preference for new designs , since the novelty does not affect typicality . Prefer typicality , but not at the expense of novelty. Preferred are products with a great combination of both.

Another point of investigation was approached by Hekkert et al (2003), was that the relative contribution of novelty is greater for specialists than for non-experts. Overall, the results demonstrated that discriminate strongly between experts and typical characteristics of that new non-specialists. However, for both experts and non-experts, novelty is a predictor of aesthetic preference only slightly stronger than typicality. These results do not support the assertion that experts prefer novelty versus typicality.

McDonagh et al. (2002) evaluated the users' perception on the aesthetic visual stimuli through a "visual rating of the product." The technique developed simulates scenarios Internet shopping restricting the information available to the user (5 minutes per product), users are asked to evaluate a product solely by appearance from two-dimensional images (eg projection of slides, photographs or drawings). Unlike group discussions, users are asked to complete their visual assessment individually. Since visual assessment was performed, it may be appropriate to allow users to manipulate the products.

The protocol visual assessment of product features items like the view of the subject as the "visual appeal" of the product (shape and size, color, material, size and weight) assessed using a 5-point scale ranging from 1 (very poor) to 5 (very good). Also presented open questions: "what you like in relation to the appearance of the product" and "what you do not like in relation to the appearance of the product." Apart from other issues related to the market value and the purchase desire.

This technical product evaluation provides some clear advantages and disadvantages: it provides rich material resource to evaluate the visual quality of products, or to learn the benefits and disadvantages of existing products. However special care of the quality of the images must be taken as they may confuse the subject.

Other aesthetic evaluations include its relationship with the evocation of pleasant feelings, appearance qualities such as durability, the influence of the aesthetic preferences of the responses, which are presented below.

Sevener (2003) investigated the influence of the aesthetic elements of table clocks (color, shape, material, graphics) in inducing the sensation of pleasure. Despite the low level of statistical treatment of the data, the experiment found, for example, the element "shape" watches had the greatest influence on the sensations of pleasure to the subjects.Já

Blijlevens et al (2009), with a refined statistical analysis, investigated how the appearance of the product is perceived by identifying visual attributes that users use to distinguish the appearance of durable products. Modernity inferred that Simplicity and recreation have identified visual attributes that consumers use in general, to distinguish between different appearances of products.

Hung and Chen (2009) analyzed the combined influence of product aesthetics and its typicality / novelty on responses preferably using pictures of chairs as the object of analysis. The results showed that the relationship between preference and aesthetics is an increasing linear function , where the chairs are preferred over those with high aesthetic level , and that the relationship between preference and typicality is a function in the form of “inverted U” by so that the chairs are preferred over those with a moderate level of typicality .

Although relevant studies on aesthetic evaluation of products is important to note that these evaluations were

performed with images and not actual product , in this sense agree Hung and Chen (2009) that the trial may be different.

According to Tullis and Albert (2008), one of the best ways to gather data about user perception about a product comprising the techniques of collecting self reported data. Although open questions are also useful, end up being more difficult to analyze. The authors report that the most efficient way to collect data is self reported by rating scales. Among the most widely used rating scales, are the Semantic Differential Scale (SD).

The SD involves the presentation of pairs of opposite adjectives, each on one end, separated by five or seven points scale (Tullis and Albert, 2008).

It is noteworthy that during the review of the product, other variables can be included because during user interaction with the tool, it receives two types of entries. A first tactile input consisting hold or grip the tool and the second entry, which is visual, which is to look at the tool. However, the visual input also influences the user experience and if they are positive, they can add (Sperling and Olander, 2004 apud Kuijt-Evers, 2006).

Dumur et al (2004 apud Kuijt-Evers, 2006) refer to this as an aesthetic comfort, which is subject to personal tastes and perceptions, sensations such as the forms and materials of the object. Helander and Zhang (1997) also found that cosmetic is associated with comfort. However, not always the visual aspects of the product meets the experience to use it, may result in conflict, and this also requires review.

OBJECTIVES

The aim of this study was to conduct a discussion on the aesthetic evaluation in usability studies and through an exploratory study with pruning shears identify possible descriptors that make up the concept of beauty in these instruments for further evaluation of the perception of these factors with the variables of usability. Considering that the most efficient way to collect data is through perception rating scales and one of them is the Semantic Differential Scale (SD), so we sought to develop a scale to assess the aesthetic pruning shears.

METHODS AND TECHNIQUES

Due to the fact of involving experimental procedures on humans, it was submitted and approved by the Ethics Committee in Research of USC / Bauru - SP (Protocol 240/2010) and meets the resolution and 196/96-CNS-MS "Standard ERG BR 1002," "Code of Ethics of the Certified Ergonomist" (ABERGO, 2003).

We attempted to initially define the semantic space for composition of pairs of bipolar adjectives. For this, initially, based on the study of Kuijt-Evers et al (2004) for the identification of writers of comfort for hammers, we attempted to identify the descriptors that describe the qualities of various brands of pruning shears, on websites, advertising inserts and product packaging. Among these descriptors were selected that corresponded to the appearance characteristics of pruning shears. In addition, synonymous with "beautiful" in dictionaries and concepts in history and theory of design were selected, resulting in a list of 34 words. Of these, we excluded if the synonyms, leaving a list of 18 descriptors were defined for which pairs with the aid of dictionaries, finally resulting in 18 pairs of adjectives that comprised the evaluation protocol of hedonic quality, with regard to the beauty of product.

In the second step we performed a test to evaluate the descriptors could be considered adequate. For this a test with 90 subjects divided into three groups was performed: 30 Teachers Design (15 male and 15 female), 30 Design Students (15 male and 15 female) and 30 laity in the subject (15 male and 15 female). This stage were not considered differences in gender and age.

The following materials were used: Statement of Consent; Recruitment protocols and identification; The assessment included the evaluation of nine (9) Pruning shears (Figure 1) and evaluation protocol of aesthetic pruning shears.

Procedures

The subject was asked to order the pruning shears of the most beautiful to the ugliest. After this procedure the subject should answer the aesthetic evaluation protocol for evaluating each of pruning shear. The sequence was

randomized evaluation of pruning shears.

Data Analysis

The data analysis was to ascertain what the best descriptors for the beautiful in the evaluation of pruning shears, ie considering that users agree more with the positive attributes in pruning shears felt more beautiful and the negative with the uglier they thought it was possible know the most "calibrated" descriptors to describe the beautiful. The results show the ranking of the best descriptors for beautiful, the best descriptor for the worst descriptor. And for the third stage there were differences with respect to perceptions of different groups.

Figure 1 - Pruning shears used in aesthetic evaluation

RESULTS

The semantic space set featured a list of 18 descriptors was defined for which pairs with the aid of dictionaries, finally resulting in 18 pairs of adjectives that comprised the evaluation protocol of hedonic quality. These

descriptors are presented in Table 1.

Table 1 - Pair of bipolar adjectives used in the SD range.

Pairs of bipolar adjectives
Gracefully / clumsy
Well done / Shoddy
Elegant / inelegant
Plump / Slender
Formoso / Formless
Harmonious / disharmonious
Pleasant / unpleasant
Charming / Hater
Attractive / Repulsive
Well proportioned / Mal provided
Pleasant / Unpleasant
High Quality / Low quality
Differential / Common
Captivating / chore
Beautiful / Ugly
Symmetric / Asymmetric
Affable / affectless
Recherché / Simplified

Based on the overall analysis of the data collected, it was found that most of the subjects selected the G pruning shears as most beautiful, then pruning shears H, D, A, E, F and C. Finally, the pruning shears and was considered the most ugly by most based on the frequency of the order positions on the scale of the aesthetics of analyte can be seen in figure 2.

Figure 2 - Pruning Shears in descending order of beauty (the most beautiful in the ugliest).

In the second step we performed a test to evaluate the best descriptors for designing the protocol of aesthetic evaluation. The results were analyzed to determine which were the best descriptors among those set to beauty pruning shears. Whereas the scissors was evaluated as more beautiful, Table 2 shows in descending order the best descriptors for this beauty scissors, defined by frequency. Among the top 10, the adjectives present in at least two groups were selected to compose the Protocol of aesthetic evaluation.

Table 2 - Results for aesthetic evaluation by Scale SD

Lay	Students	Teachers
captivating	high quality	elegant
slender	attractive	graceful
beautiful	nice	beautiful
delightful	graceful	lovely
Affable	captivating	attractive
shapely	elegant	shapely
graceful	shapely	nice
nice	harmonious	delightful
differentiated	delightful	captivating
beautiful	beautiful	well done

The results indicate that no consensus as to the best descriptors of beauty in pruning shears. Analyzing the first placement in each group can be seen that, lay in a related design prioritized emotion descriptor, while design students and design quality teachers, the appearance itself. A greater importance of matching descriptors between students and teachers.

DISCUSSION AND CONCLUSIONS

The aim of this study was to awaken a discussion of aesthetic evaluation in usability studies and through an exploratory study with pruning shears identify possible descriptors that make up the concept of beauty in these instruments for further evaluation of the perception of these factors with the variables of usability.

Hassenzahl et al. (2000) suggested that usability evaluation should be extended to aspects of satisfaction and preferences, including pleasure and fun as variables of interest. According to researchers, a product can be considered as attractive and as a result, the user can enjoy its use.

Mankle and Lindgaard (2007) also referred to traditional approaches, reviews that have given focus to the "instrumental qualities", in which predominate the concepts of usefulness and usability and include the "non-instrumental qualities" as relevant, also in these reviews, since that include aspects of quality that meet the needs of users that go beyond tasks, objectives and efficiency. As non-instrumental qualities information was collected regarding the aesthetics of the interface, which evoked emotions, pleasantness, among others.

Unlike research on the influence of perceived aesthetic elements in digital graphics interfaces research on the influence of this variable (physical, palpable, tangible) products usability is still scarce. The usability analysis has focused mainly on assessing the physical and physiological variables, performance, and analysis of the task.

Liu (2003), based on discussions on philosophy, explains that this happens because there are three types of trial: cognitive or scientific (pursuit of truth), aesthetic (pursuit of beauty) and morale (pursuit of the good the right). These three types of judgment are topics of study three areas of philosophy: metaphysics, Aesthetics and Ethics. Natural Science came the main courses, which contributed to the construction of knowledge in ergonomics, cognitive psychology, biomechanics, anatomy, physiology, etc. According to the author, the ergonomics are traditionally oriented to the pursuit of truth, while the pursuit of beauty and the pursuit of the good are not widely explored .

One of the reasons may include discussion presented on aesthetics, which presented in this text, as the aesthetic appreciation of objects, whether art or design is complex and requires clear and pre - defined criteria. The variables that can influence aesthetic preference are different and would not be possible in the specific focus of this article, exhaust all your settings and specifications.

The exploratory study presented here represents an initial approach to the development of a protocol to assess some possible variables that interfere in the aesthetic evaluation of the object under study and the importance of these results lies in the possibility of carrying out further tests on the influence of these descriptors in perception of the usability of products, including the influence of the aesthetic function in the perception of usability.

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