Playful or dangerous?; A cross-cultural study of discrepancy in Designers' and kids' perception of toy appearances

Mohsen Jaafarnia
Assistant Professor, School of Design, Hunan University, China
Tie Ji
Professor, School of Design, Hunan University, China

Abstract

A product is an object to be used by users; many are used for different purposes and some of them are manufactured to be used as toys. Each product can be used or the meaning from each product can be deciphered in different ways, designers try to infuse some meaning into some products that the products can be used as toys so that the users can be helped to acquire skill in a Playful time, based on parameters on which they are perceived.

Sometimes the user may not derive the correct meaning that is to be delivered by the toy. But the question is whether both children and designers have similar understanding of the expression behind the toy? Is there a difference in perception of factors by children belonging to different culture? How does a user react to a toy that could possibly carry the idea of a wrong design? The knowledge of design semantics helps designers to create a feature with the product's ability to communicate its meaning. This paper reports a cross-cultural study involving features of toys and their subsequent influence on the user's reaction.

In order to conduct an inductive study of the use of toys and the element of meaning involved there, three models samples are used in this context and the reaction of 508 children respondent from India and China have been taken into consideration. The study is based on questionnaires and interviews that have been systematically undertaken to understand how the skill of design semantics affects toy design. The study in the course of fragmentation indicates that sometimes features of a toy do not influence children's perception. This lack of ability to encourage children's creativity fails to give any joy and in turn could create a sort of hindrance in its purchase by the user. Firstly the study came up with the outcome that the perceptions of Indian and Chinese children were on similar lines. Secondly, the experiment which was conducted to identify the location of the trigger as a probable good feature of a gun, indicates that when toys are designed, the placement of operating and other details of toy has to be given due attention to in order to avoid bewilderment amongst children.

Keywords

Toy, Product features, Design expression, Meaning, Design semantics.

Introduction

Children are often driven by their imagination which enables them to transform almost anything into a playful toy. A child may pick up a household item , look at the details and overall form of that objet then based on the similarities with adult's products, 'fly' it around pretending it to be an airplane, if some of the detail he/ she finds is similar with that of an airplane. In Gestalt we call it "Law of Past Experience" which implies that under some circumstances visual stimuli are categorized according to past experience. If two objects tare observed within close proximity, or small temporal intervals, the objects are more likely to be perceived as being the same. (Todorovic, 2012).

The origin of toys is prehistoric; dolls representing infants, animals, and soldiers, as well as representations of tools used by adults are readily found at archaeological sites (Kline, 1995). These identification of toys with products of everyday use help their bodies grow strong, learn the relationship between cause and effect and practice skills

(Khanna, 1999, Walsh, 2005 and Wulffson, 2000). Toys bring out more than simple amusement; they and the ways that they are used profoundly influence many aspects of life. In ancient Greece and Rome, children played with dolls made of wax or terracotta, sticks, bows and arrows, and yo-yos to learn which they need for future (Powell, 2001). All toys have some amount educational value (Khanna, 1992). Through play, children develop skills, values, attitudes, tolerance, and understanding. A toy will have less opportunity to be useful if it is not able to establish correct emotional bonds (Caldera, 1989). A good understanding contributes in establishing a correct emotional bond that gives way to a playful toy but unfortunately many designers may or may not be aware of the exact nature of Design Expression, Design Semantics to select a proper form and position for placing the details.

Implications for Designing

The element of fun or the mere amusement that the user derives by playing with a toy is part of the Toy functionality. Designers of toys are entrusted with the task of embedding visual qualities while designing them. It is through these visual qualities that a certain perception deemed proper can be expected (Jaafarnia, 2010). Design researchers working on Design expression and Design semantics, have stated that a form of a toy expressed through volume, texture, color, sound etc are differentiated by a designer to embed desired expression of form into the toys' so as to create a definite reaction (Jaafarnia, 2007).

Semantically, how embedded expression cues are differently understood by user and designer in a toy - is of interest to any toy designer. Features of toys often either contribute to or interfere with the toys ability to communicate its meaning. The expressions of toys are dependent on user's understanding.

It has been pointed out by researchers that the understanding of the designer and that of the user is qualitatively different from the product (Krippendorff, 2006). Therefore one can think of such questions:

Can both children and designers have similar understanding of the expression behind the toy? Is there a difference in perception of factors by children belonging to different culture? How does a user react to a toy that could possibly deliver a wrong design? Several such questions arise from such study. What actually happens in a toy while designing and while playing with the same can be understood by studying the perception of both children and designers.

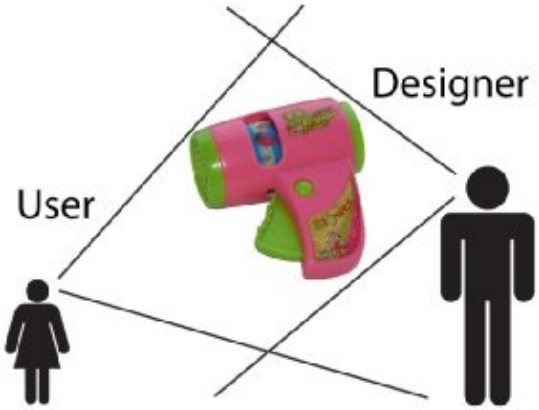

Figure 1. Difference of understanding on a hairdryer toy

It is through experiences that one's understanding of something differs from that of another and ones willingness to explain and learn from these differences leads to individual meanings (Krippendorff, 2006). For a designer of products, understanding design expression processes as they take place in the perception of users - forms the basis of embedding product features while conceptualization. (See Figure1)

Visual Culture and Consumer Behaviour

Now we can begin to question as to how, one sign can be a representation of a meaning in a designer's mind but the same sign does not convey any meaning to the users mind.

Study of design expression, as a feature is an important empirical perspective on consumer perception. Hence, designers

should have knowledge of common meaning of signs if they aim to understand how users from different ages or culture have reactions on symbols, shapes and features (Mowen, 2008). This difference can be effective on designing.

Figure 2. The visual image', Charles E. Martin, drawing, 1961, The New Yorker Magazine, Inc

Here the dance displayed in the above figure was not identifiable as it did not really resemble a flower, so the observers also had differences in assuming what it could actually mean and so differed the imaginations and perceptions. The cartoon used by Ernst (Gombrich, 1960) in his article' The visual image' is a fine example of the ambiguity of symbols (Mijksenaar, 1998), which implies that one form with a specific expression can create different meaning for different people (Hirschman, 1980 and Holbrook, 1995). Therefore communication is an important part in designing toys. Hence if this be considered, people in the relevant social group should see toys exactly in a similar manner that a buyer sees (Richins, 1994).

However, products can possess expression value independent of its value infused by users. Owing to this, designers should be intelligent in using expressions, in fact we can say, design expression and design semantics are the foremost means to use common sign to design and formulate meaning for users (Lynch, 1982).

Experiment

Here the researchers try to seek possible explanations and answers to some of the raised questions like; do both children and designers have similar understanding of the expression behind the toy design? Is there a difference in perception of factors by children belonging to different culture? How does a user react to a toy that could possibly deliver a wrong design? An experiment was conducted involving children. The children were asked to express their feeling about the hairdryer (Figure 1) and about models (see Figure 4, 5 & 6), which were recorded in a printed questionnaire form.

Method

Prepared questionnaire format cum interviews were used to observe and collect experimental data. This experiment involved 457 children from India and 51childern from China. Data collection was intended at

exploring the functionality and the associated enjoyment that children derive from the hairdryer thought to be a toy.

Based on the observations made by children on the hairdryer in the researcher's last research, the toy gun models were replicated. The hypothesis was that the trigger and its placement (position) were the single most significant factors that influenced the reaction as well as forced a definite observation in the child. This can be illustrated on the basis of the girls belief that the hairdryer was a gun and therefore not to be played with. The ON button on the hairdryer toy was the critical feature that associated the hairdryer to a gun in the mind of the child. If the toy was to be made less of a gun and more of a hairdryer, it can be posited that by changing the trigger's (ON – OFF button on the hairdryer) position a shift in the expression of the toy could be brought by the designer. To test this out another experiment described bellow was done.

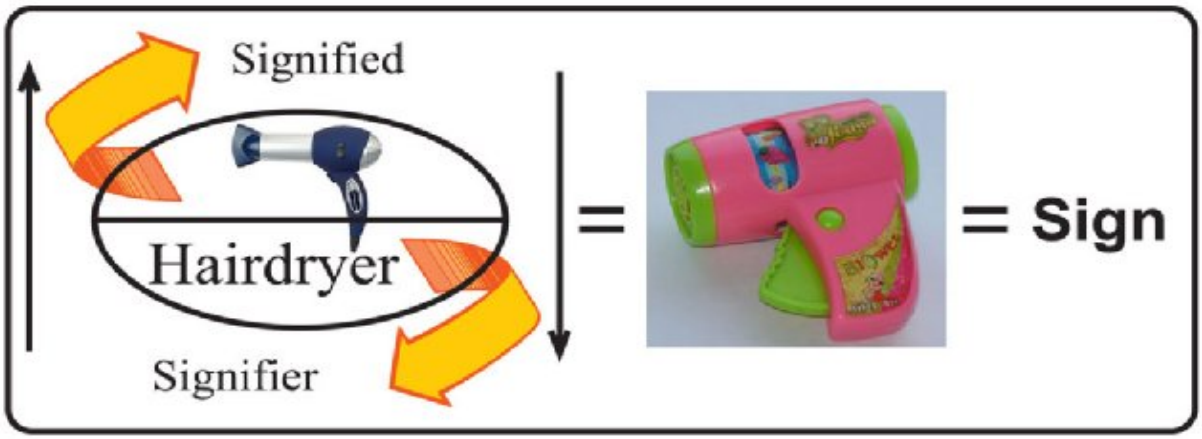

Figure 3. Does the toy hair dryer toy represent real hairdryer?

Subjects involved in this research were 508 children (280 boys and 228 girls, 51 Chinese and 457 Indian). All of them were between 4 and 8 years old. All were habitants of Guwahati city of India and Changsha city of China. To conduct the experiment we went to the schools and public places. Figure 1, 4, 5 & 6 depicts the toys samples used in this experiment. In this case during the course of the experiment, we showed the model of Figure 1 to the kids one by one and following question were asked. " Do you know what it is? " the kids answers were affected in the questionnaire format, then sequentially we showed the models of the Figure (4, 5 & 6) asked the second question " Which one is a gun? " then the kids' answer were put down in the questionnaire format again.

Only selected results for a few selected questions have been statistically compiled from the data collected and are presented below keeping the length of this paper in view. No attempt has been made to validate the results using statistical tests as the sample size was a limited total of 508 in this experiment. The percentage distribution of the responses to each of the question is shown in Figure 7 and 8.

The hairdryer here based on its expression communicated one meaning to the child and another to the designer who designed it, the form and features of the product remaining visually same for both of them.

In case of the hairdryer's colour and soft edges of its form makes it less threatening in nature but the placement of ON button position is similar to that of a trigger in a gun. For an adult the possibility of being confused with the 'ON' button as the trigger was irrelevant whereas for a child the existence of this feature led to difficulty in distinguishing clearly and making a clear demarcation between a hair dryer and a gun. The child opted not to choose it, relying solely on its emotional state of mind though

rationally the toy was not making much sense.

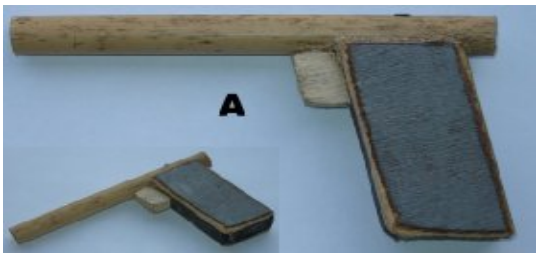

Figure 4. Wooden gun with button like trigger

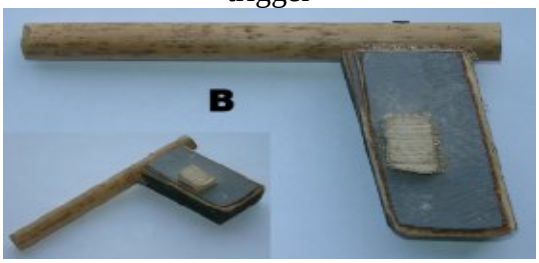

Figure 5. Wooden gun with button like real hair dryer

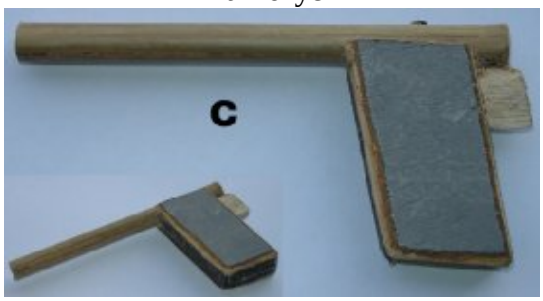

Figure 6. Wooden gun with button behind the hand Gripe

On the more basic level also, meaning restores perceived differences between what is sensed and what seems to be happening. To be in tune with the world that had become uncertain or in doubt of perceived meanings is an important subject of study. More complex meanings could be likened to explanations for how a sense is embedded in the context of other senses (Krippendorff, 2006).

In order to understand further the confused response of the children to the hair-dryer and to find out the validity of our assumptions and posits made for the confusion, in the data collection of ideas & experimentation was carried out as an exploration.

Results

The hairdryer was shown (see Figure 1) to the respondents by asking a simple question "Do you know what it is?" The graph in Figure 7 indicates the distribution of responses. 317 Indian children (69 %) stated that it was some sort of a gun. 114 Indian children (25%) answered that they did not know what it was. 6 Indian children (about 1%) named it as handle torchlight and 20 Indian children (5%) could recognized it as a hairdryer and 33 Chinese children (65 %) stated that it was some sort of a gun. 9 Chinese children (17%) answered that they did not know what it was. 4 Chinese children (about 8%) named it as handle torchlight and 5 Chinese children (10%) could recognized it as a hairdryer.

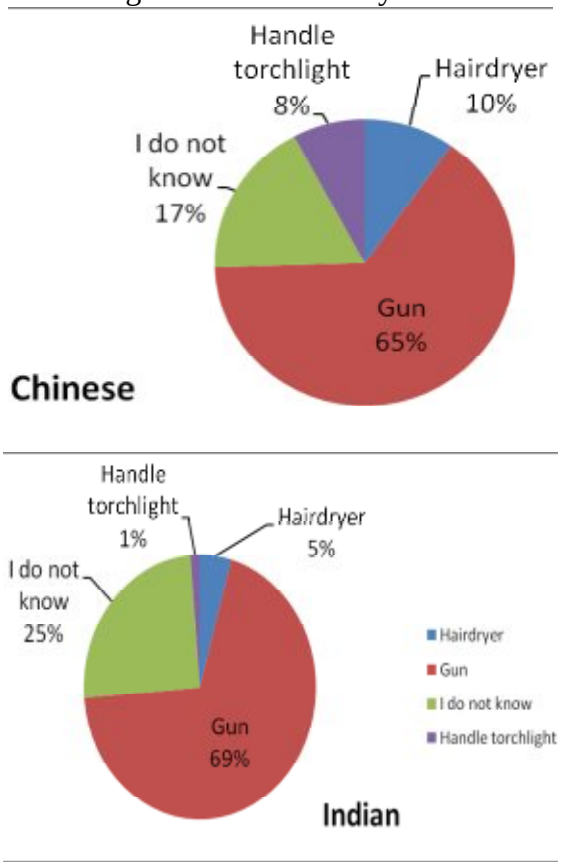

Figure 7. Do you know what it is?

The same set of children (508) was shown three models (see Figure 4, 5 & 6). The question put to them was "Which one looks like a gun?" The models were similar to each other with only one feature (trigger)being placed in different positions.

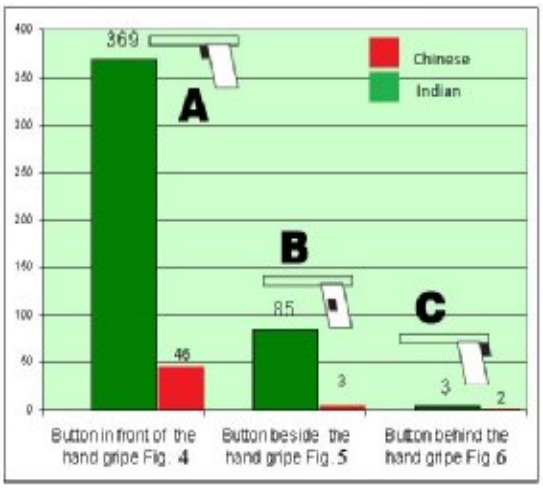

Figure 8. Which one is gun?

The results of responses shown in Figure 8 were as follows:
369 (80%) Indian and 46 (90%) Chinese children could associate the model A (see Figure 4) with a gun without hesitation. Model C (see Figure 6) with the trigger placed in the back had a very poor resemblance with a gun.

The trigger and its position were indeed the feature which mapped the meaning of how a gun needs to have as normal feature.

Discussion

It is posited that the feature that made the children associate the hairdryer to a gun (despite its softened form and pink color) was the prominent position of the ON button on the hairdryer that could be likened to a trigger in a gun.
In this problem we can say alteration in position can change meanings for one product, and it is very important for a designer to choose a perfect position to situate the button for establishing that it is the hair dryer and also locating a position for establishing that it is a gun. In this case we understand that placement of an object has special limitation. Fuzzy logic can be of help to find all possible intermediate forms between four locations of buttons (see Figure9) parts 7, 8, 3 & 6 and the best one for gun were parts 1& 5 and for hairdryer part 2 was the best.

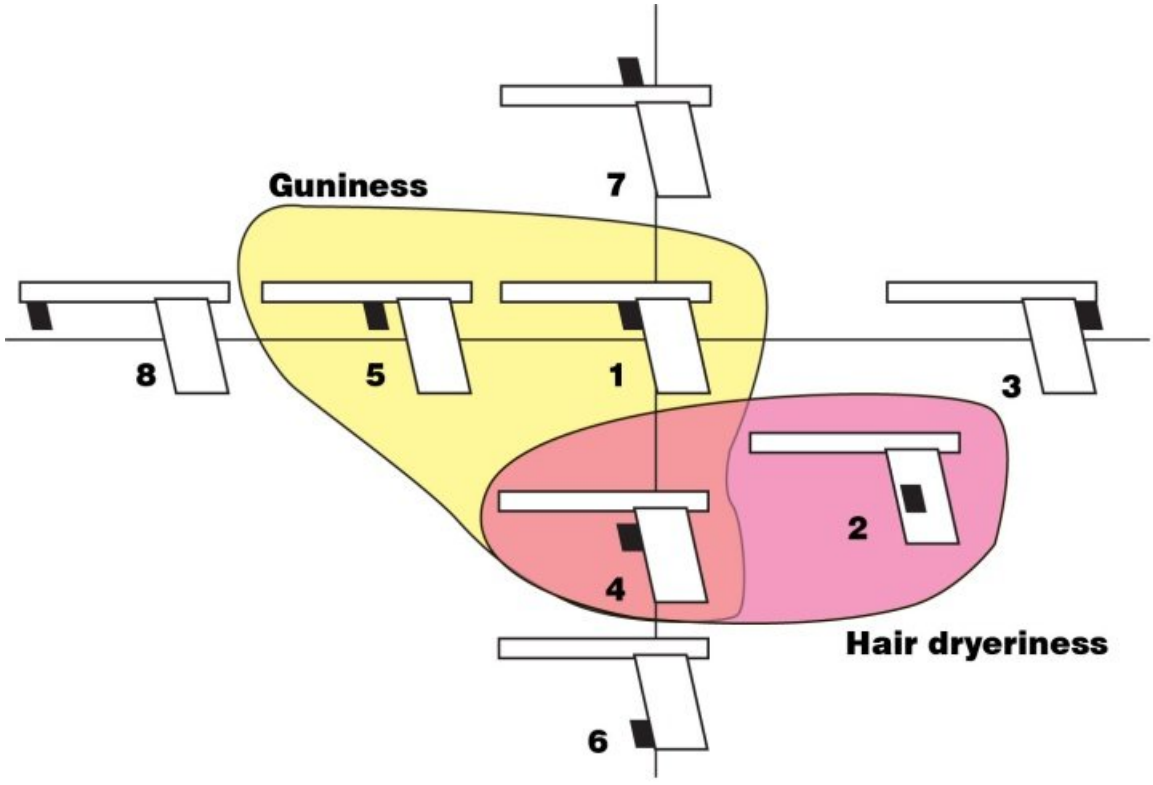

Figure 9. Possibility of button.

Conclusions

As can be seen from the results of such an analysis it is evident that sufficiently exciting insights can be drawn to know the differences in perceptions between kids and designer, therefore as the answer of "Do both of children and designer have similar understanding of the expression behind the toy? " we can say, There is a very important aspect in the problem with product communication: the understanding was completely different which the discrepancy between designer intent and user response.

For the next question, "Is there a difference in perception of factors by children of different culture?" we see the results of the study give no reason to believe that the perception of the toy designs is different for Indian or Chinese children.

For the last Question, "How does a user react with a toy that could possibly deliver a wrong design?" From the data collected and reactions monitored from the Indian and Chinese respondents it was apparent that action generating cues, if in conflict with the overall features, are likely to increase curiosity initially but may be a cause for rejection of a toy when it becomes too difficult for the child to resolve the conflict in the process of making sense of the toy as a whole.

The experiment conducted to identify, the perception of the meaning of the toy was determined by the detail (of the placement of the trigger), rather than by the overall appearance. This is particularly important, for designers can think that they make a very toy-like appearance in an object, whereas children only recognize the non-toy-like details in the object. Therefore the location of the trigger as a probable good feature of a gun, indicates that when toys are designed, the placement of operating and other details of toy has to be given due attention to in order to avoid bewilderment amongst children. There are indeed many complex interrelated variables involved in choosing a toy which needs to be considered while designing. This implies that a designer must have sufficient knowledge of Design Expression and Design Semantics.

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