Abstract—Language is the emblem of a culture, representing the extension of cultural life. In addition, it is also an important tool for communication and message transmission. It carries not only information but also covers the self-conscious of the information constructor as well as the situational experiences of users from different backgrounds. Moreover, design can be regarded as a language, a dynamic process of coding and decoding. With the designers’ experiences in everyday life, they bring them into the products’ experiences. Considered from the aspects of atmosphere and the five senses, a designer should consider and reconsider how to communicate the messages effectively to suit the users’ needs.

In the process of language learning, we should understand the construction behind it and the rules of the compositions of language codes. Regarding the understanding of the design of works or the form of product construction, it is necessary for us to understand the coding system during the process of product construction. The form (signifiers) and meanings (signified) of Chinese characters are closely related. At the same time, it is also a process of simplifying the complicated to the simple.

This study discusses the Chinese characters that used in the cultural symbols construction, and analysis of existing products by Peirce’s semiotic triangles. Through people’s cognition of Chinese characters and constitute method, help to understand the way of construction product symbol.

Keywords—cultural product, cultural-creative product design, linguistic Symbols, cultural symbols

I. INTRODUCTION

Writing system includes abstract thought and specific presentation. Based on the manner in which they are formed or derived, traditional Chinese lexicography divided characters into six categories: Pictograms, Ideograms, Phono-semantic compounds, Associative compounds, Derivative cognates, Rebus (phonetic loan) characters. Letters are the symbol for languages. It’s not only a bridge between languages and thoughts, also the way show how the cultures change, and what the society is. Product can be considered as a kind of presentation, and cultural and creative product is symbolic of cultures. Therefore, the purpose of this article is to demonstrate how the cultural creative product is created base on the formative rules of Chinese characters.

II. DOCUMENT REVIEW

2.1 Development of the six categories of Chinese characters

After analyzing characters created before Zhou times, scholars during late Zhou to Han times lexicographically classified those characters into six categories. The term liushu, the six principles of word-formation, first appeared in the description of the duty of official Baoshi in “Offices of Earth”, The Rites of Zhou. Although the Old Text expert and bibliographer Xin Liu already listed the term of all six categories in his Seven Epitomes, it was not until the Eastern Han philologist Shen Xu who eventually defined each of these six categories in his Explaining Graphs and Analyzing Characters [1].

2.2 The liushu: six principles of word-formation

1) Pictograms:

Literally known as form imitation, pictographic characters are simplified drawings of the most representative features of objects in nature they represent.

2) Ideograms:

Ideographic characters express through an iconic form an abstract idea that cannot be illustrated with simple pictograms, including iconic modification of pictographic characters.

3) Phono-semantic compounds:

Often called “radical-phonetic” characters, a phono-semantic compound is a compound formed by one “morpheme” and one “phoneme”. The morpheme provides the semantic reference of the compound while the phoneme indicates how it is pronounced, including onomatopoeia or sound representation.

4) Associative compounds:

Also called compound ideographs, they are compounds making up of two or more pictographic or ideographic characters to suggest the meaning of the word to be represented. The common form is “morpheme(s) + “morpheme(s)”.

5) Derivative cognates:

Derivative cognates are characters with the same radical, quasi homophonous, or mutually explanatory to each other.

6) Rebus (phonetic loan) characters:

They are characters “borrowed” to express another homophonic or near-homophonic morpheme when making records [5].
2.3 Design with Chinese Characters

In his “Learning Principles of Chinese Character for Product Design”, Lin (2005) proposed: “When designing product style with Chinese characters, characters are mainly applied in two ways: product-focus and character-focus. In the product-focus manner, designers first determine the product type before looking for Chinese characters carrying relevant implications to develop the product style. In the character-focus way, designers look for characters freely to see what are fit for the product.”

In his “Investigation of the Creation and Design Principles of Product Style with the ‘Six Categories of Chinese Character’”, Hsiao (2005) established a set of sign formation rules based on the six principles of Chinese character formation.

1) Pictograms:
   Form a state or function with nature and ecology in the form imitation process.

2) Ideograms:
   Add ideographic signs to a product to inform users of how the product works and what the product is.

3) Phonemic-semantic compounds:
   A phonemic-semantic compound is a compound formed by one “morpheme” and one “phoneme”. While the radical is a Chinese-specific feature, turn the brand and product function into the radical of the product.

4) Associative compounds:
   Form a new product by combining products of homogeneous functions or properties. The common form is “morpheme(s)” + “morpheme(s)”.

5) Derivative cognates:
   Transform behaviors or concepts based on existing concepts, art styles, and cultures.

6) Rebus (phonetic loan) characters:
   Change the original function of a product for a new application.

2.4 Cultural-Creative Product

Signs are the result of human construction and interpreted based on human thoughts and concepts. The sign system thus makes human communication possible. US pragmatist philosopher Charles S. Peirce (1839-1914) illustrated the triadic relationship of signs into a semiotic triangle: representamen-object-interpretant to produce a tight triangular relationship network among the interpretant, the object, and the representamen [5].

In her “Case Study on Cultural Creativity and Design Transformation”, Hsiao (2011) proposed the cultural-creative product semiotic triangle adapted from Peirce’s semiotic triangle for cultural-creative product design and compared general products and cultural products with this triangle.

The need for readily identifiable cultural symbols or signs containing clear linkage between internal sign structures and external social functions is the main difference between cultural-creative products and general products [6].

III. METHODS

Concluding the theories of the above two scholars, this study found that Lin emphasizes more on the deconstruction of the form and meaning of characters to apply them to product design through transformation; while Hsiao has developed six sign formation rules for product design with Chinese characters based on the six categories of Chinese characters: pictograms, ideograms, phonemic-semantic compounds, associative compounds, derivative cognates and Rebus (phonetic loan) characters. This study analyzed and investigated product style based on Hsiao’s theory and Peirce’s semiotic triangle.

IV. RESEARCH EXECUTIVE

1) Pictograms:
   Besides imitating biology or ecology, pictograms sources come from biological behaviors or its growth states, meanwhile, pictograms can also be used to the shape or function of design.

2) Ideograms:
   Ideograms is to guide users, and the concept what this is, making products more convenient and intuitive. It also can be used to analyze the relationships between product function and action of all part, making the processes of using the products more fluent.
3) Phono-semantic compounds:
Phono-semantic compounds is applied brand thinking, or a certain style of series design, but at the same time it should be noted the spirit of the product, or it’s probably liable to a design with only personal style.
It can be fixed for a product, trying different kinds of material, or fixing a certain function, then making different shapes design.

4) Associative compounds:
Associative compounds is the complex functions of two or more products, can be set product type first, then think about which function are added, or combine different functional products.
Also think to the combination of shape or function is similar or dissimilar, produce a variety of different possibilities. Can also be used to modular concept extend.

5) Derivative cognates:
Derivative cognates through the transformation of existing art style or culture, thinking in the design of the existing lifestyle or new technologies, applying to products, and let the original cultural element or old-style to produce a new look.
Fig. 7 In Lachaise recliner designed Charles and Ray Eames to do rebus (phonetic loan) characters - symbol triangle Analysis [18]-[20]

V. APPLICATION

The above analysis, following table is the Chinese characters used in the design of concepts:

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>CHINESE CHARACTERS USED IN THE SIX DESIGN CONCEPTS FINISHING</th>
</tr>
</thead>
<tbody>
<tr>
<td>I initials</td>
<td>apply</td>
</tr>
<tr>
<td><strong>Pictograms</strong></td>
<td>Simulation of natural biology and behavior, apply in product design.</td>
</tr>
<tr>
<td><strong>Ideograms</strong></td>
<td>Product instructions and to guide users.</td>
</tr>
<tr>
<td><strong>Phono-semantic compounds</strong></td>
<td>Brand thinking and style of series design concept.</td>
</tr>
<tr>
<td><strong>Associative compounds</strong></td>
<td>Combination concept and Modular concept.</td>
</tr>
<tr>
<td><strong>Derivative cognates</strong></td>
<td>Reuse old style and cultural.</td>
</tr>
<tr>
<td><strong>Rebus (phonetic loan) characters</strong></td>
<td>Lateral thinking. Design borrows existing objects.</td>
</tr>
</tbody>
</table>

VI. CONCLUSION

Studied in this character-building rules and symbols the triangle, analyzing the shape of the product process apply to cultural creative product design.

According to the principle character, as a method of creative development, concluded as follows:

1) Take interpret the cultural content as the proposition, then use Six categories of Creative Development. Or take brand as proposition, then according to six different laws to do brand planning or design thinking.

2) Application of Ideograms, can be used with other rules of the overall think.

3) The rule apart from the independent, may also interact so that the process can create more possibilities and flexibility.

REFERENCES