

Innovative Design Thinking and Its Model Construction Analysis

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Abstract. People who work in the arts should use their imagination vividly and expanding innovative thinking, because thinking is the most unfettered and the most active existence in human's life. Innovation and design thinking are very important for artists, this paper proceed from these two areas, analyzed mode of thinking exhaustively and explained how to achieve the model of innovative thinking; parsed design thinking from psychology and other aspects, prospected issues we would encounter after innovative design and proposed appropriate solutions at the same time. People's thinking may be limited because of customary so that it is difficult to find the root of the problem in design innovation, if change of direction to think this time, the problem may become simple and clear and we can achieve the ultimate goal of innovation.

Introduction

Social progress is inseparable from the development of human civilization, innovation is the original power of this development. Innovation is an indispensable part in human history, it plays a very important role in human sciences and the development of human civilization. With innovation we have broaden our minds which makes science history played a role in the social progress and laid a rich, solid foundation for the modern science.

The biggest difference between human and other animals is that human have their own thinking, and we can continue to create, innovate. Many examples of ancient civilizations in history such as "Compass", "movable type" all prove the great accomplishment of creativity and innovation. Innovation is present in every aspect of people's lives, its source is thinking which divided humans from other animals, thinking is creative, it is the so-called creative thinking. Creative thinking is essential for humans and it is indispensable for invention, modern civilization is the result of its development.

Thinking

Thinking is crucial for the artists work in the arts, unconstrained active thinking allows workers to play well in the creation. There are vertical thinking and lateral thinking, tradition thinking more emphasis on longitudinal mode whose concept and model is more rigid. Designers with traditional thinking such as the frog being confined in the bottom, his vision is limited and thinking is trapped, it's hard for them jump out from the well to look around, and their fixed thinking is difficult to change.

A nature thinking of human is very difficult to change once formed, it is like "a leopard can't change its spots", this "spots" refers to the thinking in design psychology.

1. Thinking mode

imagine is the prerequisite of thinking, where there's no imagine, there's no thinking. Imagination is a psychological process, it's formed from the reshaping of some original surface phenomena. In the

process of reshaping, surface phenomena will be changed from their original image to something new because of the designer's thinking. Character modeling, fashion, clothing, body art, painting are mostly formed like this.

"Reconstructing imagination" and "creating imagination" constitute the entire imagination, they both have their own characteristics and play important roles in design and innovative thinking. We can think "reconstructing Imagination" as an upgrade, it's the thought the way that putting something we are unknown that created by others into our thinking and imagination to make it to be a new existence. While the "creating imagination" is a new thing, it is not exist in the past and is created by designers with their ideas, there's no reference.

Thinking has its own unique properties, it can be divided into four different types in accordance with different properties. In terms of content, divided into reproducibility and creativity; on the depth of consciousness, thinking can be divided into two conscious and subconscious; on the way of thinking, it can be divided to figurative and abstract; in the process, it can be divided and divergent and polymeric.

This paper describes the innovative design used three modes of associative thinking, those are associative thinking of cross type, straight type and reverse type.

(1) Cross-type associative thinking

There are three versions of cross-type associative thinking, the first is divergent thinking, this argument is more popular in psychology; the second is the "illusion of thinking," this is the way some experts call it; the third is "extraordinary thinking", references to unusual way of thinking, there is no conservative, stubborn.

American psychologist Jill • blessing proposed new arguments - "divergent thinking." on the basis of creativity in 1967. Jill • blessing thinks that "divergent thinking" is essential for creative thinking and is its core presence, it has four distinct characteristics: "divergent thinking" has a considerable amount of vision and ideas at the time point and the continuity, which is smooth; "divergent thinking" requires people to think from many aspects, this is flexibility; on thinking, "divergent thinking" makes idea special and unique, this is the originality; in the details, "divergent thinking" can depict in detail, this is the delicate nature.

The biggest difference among cross-type associative thinking, straight type associative thinking and reverse type associative thinking is that cross type associative thinking allows integrated association of elements, things, objects whose nature, attributes, functions and effects totally different or completely opposite, and creates a new thing. Designers need fluency, flexibility, originality, refinement thinking, many real-life cases prove cross-type associative thinking is a highly creative way of thinking.

(2) Straight type associative thinking

It's more rational for straight type associative thinking, it's a strong regularity of thinking following with a certain way through the psychological process. This kind of thinking should be regulated following logical thinking first of all, orient divergent thinking next, then provide material to oriented divergent thinking by associative thinking, finally, imagine generated in the minds of designers. Its feature is the association follow a straight line, Its feature is the association follow a straight line, not longitudinally or laterally thinking association. straight type associative thinking can not be understood as a kind of intuitive sense associative thinking, because intuitive feeling is just a subjective conjecture, it has no credentials at all, but straight type associative thinking exists theoretical foundation and rich practical experience.

(3) Reverse type associative thinking

Reverse type associative thinking, as it's name, is a kind of associative thinking in the opposite

direction, it is a representation of the association for things with opposite nature and different shape. Reverse type associative thinking is also called different thinking. It has substantiated different with straight type associative thinking, its thinking line is neither straight nor curved or broken, but completely reverse "contrary." In order to achieve innovative, pioneering and unique purpose, designers will reverse the association that what they see, hear, involved and think, and to achieve extraordinary results.

2. Innovative Thinking

symbol is the inevitable product of human social development, expression and recording of text, music, painting and other forms are all inheritance of symbol, are all product generated to communicate and exchange conveniently. Social development, learning, transmission of knowledge is often through these symbols, symbols have very decisive role in the social practice. However, it is also experience symbol that bring some obstacles to social development and human civilization sometimes. For example, when designers design the phone, the phone's template symbol appears in their minds: screen, buttons, speaker-these are necessary for a cell phone, it can be said to be a liberal sign. As designers, we will often be trapped in this framework, can only design under the framework of symbols with general knowledge. Oriental art has a long history, whether it is "person sword" or "aloo", if we want to assign oriental art which contains formal beauty and mystery new life and fresh blood, we need innovative thinking. Only by breaking the traditional concept of thinking, we can create something with a new life. If a designer is still thinking step by step, there is no doubt that his works is dead and lifeless. Therefore, innovative thinking is essential.

Construction of innovative design thinking mode

1. Model of thinking

(1) Model design thinking

Design thinking is much paradigmatic, creative design with this model design thinking is a historical mode of thinking, these works are inherited and carried forward as a model for posterity. Model design thinking formed in a certain cultural and historical areas, ideology and values system was expressed in specific social and historical background. There are two steps to design mode of paradigmatic works, first, look for a model, second, imitate the model and borrow assets to break it. Model design thinking is logical and rational, that's because it is a new design based on model works, its method and form of architecture has a certain value. Model design thinking is an important study ways in many aspects, it not only plays a role in building and traditional design, but also has a pivotal position in the field of calligraphy. For many things, they are all from the imitation to innovation, copy the works of others at beginning and then create their own styles.

(2) Model design Construction of thinking space

Design model's design pattern has two main steps: first, look for a model work to be imitated, second, imitate the model and borrow assets to break it. We call the new design works "normative design" which was finally formed by thinking innovation and design innovation. Obviously, this "standard design" has a fixed pattern and value system, we can get new design works and its expressions by this pattern and value system. In the value system of "standard design", there are three important points: first, the composition of non-technical content on the value system; second, two significance - significance of humanity and "God" in the value system; third, the design is reasonable and rational in the value system. "Norms" that the designers looking for from the model works is the specification designers needed in the next creation and innovation. For the model works, it's never just limited to the architecture or traditional design whether from style design or learning, calligraphy also used a model thinking, learners usually copy model works firstly and then make

breakthrough innovation, formed its unique style. So as designers during the process of designing works, first imitate those traditional and the model works they favorite, then works for further analysis, synthesis, summary, and finally to make breakthrough, form their unique artistic style and artistic works.

2. Procedural thinking

Procedural thinking is a mode of thinking that designers assisted with some unique tools, material to compare and create when take visual design, in this mode of thinking, designer's idea can play very well. Procedural thinking it can be said that design think is largely a more traditional way of thinking, this mode of thinking is very reasonable. Procedural thinking has a very distinctive features, that is arranging existing resources according to certain rules, then complete sets of actions, find "problem" and ultimately achieve a breakthrough innovation. This design thinking was emerged for people's needs. We will find "problem" during procedural mode of thinking, solving these small portions one by one and then taking integration and innovation, so the "problem" will be solved, the procedural mode of thinking will be complete.

3. Narrative mode of thinking

(1) Narrative design thinking

Narrative design thinking as its name is that stressing the design concept but not value the practicality and utility. Narrative design thinking is like a story to narrative intuitively. There are some fake things after a certain spread, will become really, and lie will become a motto. From this we can see the importance of "advertising". A good designer, if uses the narrative design thinking very skillful, the works he designed will be contagious and persuasive, they are not only to achieve designer's anticipation, but also has a strong presence in the market today.

(2) Construction of narrative mode of thinking on visual communication design

In addition to the common verbally expressed language, human has another common language - visual language. Visual language includes text, graphics and expression. In visual language, learning and use of text is very time consuming, to express the text well it should take a long time to learn and practice. Thus, the commonality of text is not as good as graphics and expression. Text, graphics, expressions are all visual language, to achieve the integration of these three, it is necessary to find commonality among them. The essence of design concept conveyed by visual language is communication, graphic design is different from part of the visual language like media which has timing, it is a timeless presence. The communication between graphic design and media between is in terms of time. In visual communication design, ninety percent of the design technology is plane expression, how to express the visual effects on the two-dimensional plane that reflected on the multi-dimensional plane, this is a kind of transformation between time and space. To achieve this effect and technology, we should start from the use of words, emotional moderation and integration, and the extent we grasp the characteristics. In addition to these, visual communication design need to relieve concerns of the audience's sense of humor and clean image to achieve the ultimate goal of communication. Advertising design, for example, if the designer only focus on expression and communication but no persuasion, Then this advertising design is a failure one. Therefore, it is very important for a design to be accepted and convinced by the masses. For this, we need careful observation on ways of thinking of visual communication design, start from "human nature" and "Features" to find good, especially creation.

Summary

Designers' design thinking plays a very important role in visual communication design, it is not only structural and integrity in the design ideas, but has visual tension in the creative process. Designer

thinking is not isolated, there are connections between any forms, this requires designers look problems with developing and global views during creative design and without generalize. Designer mindset formed from observation and accumulation, designers will have a better creative mindset by constantly learning.

References

- [1] Ma Mingzong, Zhan Xiao, Zhu Tongtong, On diversified training of innovative design thinking, *J. design*. 11 (2013).
- [2] Yang Xianyi, *Design Art History*, Huazhong University of Science and Technology Press, Wu Han, 2006.
- [3] Wang Shufeng, Wu Yuzhang, Li Jintao, Wang Li, The idea of an associative type of Creative Thinking Mode, *J. Age Education (Education Edition)*. 1 (2008).
- [4] Ouyang Daiming, Innovative design thinking: Model of Design Thinking and Innovation, *J. Education Article*. 3 (2008).
- [5] Yin Dingbang, *Introduction to Design*, J. Hunan Science and Technology Press. (2003).
- [6] Xi Chuanji, *Design Art classic treatise Readings*, J. Southeast University Press. (2005).