Analysis of Design Education Based on Information Design Concept

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Abstract: The emerging design direction of information design is currently in the nascent development stage in the design education of China. Information design is closely related to everyone's life. Subway traffic map, pie chart, curve chart, histogram, schedule, etc. in daily data reports, timetables and weather forecast satellite cloud pictures all belong to information design. Information design sometimes involves large-capacity and complex data, so the requirements for designers are very high. They are a very special group of people who must have strong information integration ability, and master and understand relevant performance content deeply, as well as have the skills and talents of designers and the scientist's rigorous way of thinking and problem-solving ability. Our future design education industry needs to cultivate a large number of information designers with curiosity, performance skills and deep understanding to meet the various needs of China's information design field.

1. Introduction

At the end of the twentieth century, Alvin, a master of futurology, has foreseen the law of social development. He believes that the first stage of social development is agriculture and the second stage is industry; starting from the third stage, it's the information development stage from 1950s up to now. In the era of information explosion, our daily lives are covered by mobile computers and broadband networks, and the impact of massive information on everyone is inevitable. Every day, the overwhelming information is everywhere. People begin to have a boring feeling about words, data and numbers, which has a profound impact on human culture and lifestyle. People want to see simple, easy-to-understand, and more beautiful images for easy identification of relevant information.

2. The direction of information design major officially appears in the field of design education.

Our whole world is covered by the huge amount of information exploding at a high speed. Everyone needs to quickly select the relevant information content, which requires the designer to effectively classify and integrate the huge information to convey the beautiful, concise and clear information to the audience. So the new application design direction information design was born in the field of design education.

Many Western countries have positioned information design as an interdisciplinary direction.

Some countries call it "visual communication method", which integrates information through classification and understanding, and reveals and clarifies the inherent law and association of its information by the way of integration of easy-to-understand images and simple data. This is a full recognition process of thinking comprehension. Its main purpose is to design a graphical information expression path that can help the audience to recognize easily, understand beautifully and communicate effectively. This will effectively help the audience to process the large amount of data in a timely manner, through a certain logically connected design structure and content and more direct visual element expression, so that the audience can find and establish the correlation of key content. In the 1970s, the famous British educator Gram first proposed the term "information design". Information design was formally separated from this graphic design education.

3. The development of information design in the field of design education in the world

In Asia, the name of information design has certain difference different countries. Japan calls this professional direction intelligence design, which focuses on the combination of science and technology and artistic appeal. The effectiveness of information design can greatly enhance the audience's understanding and application of information. Information design helps audiences better and more quickly pass through the specific design logic, showing its core content clear and concisely. From the end of the twentieth century, the concept of information has gradually improved in design education. Edward Tufte and John Tukey jointly conducted a "statistical graphics" curriculum in the 1970s. According to the curriculum, the first related professional book *The Visual Display of Quantitative Information* was published. The vast majority of the contents of this book are the textbooks for the "Statistical Graphics". This is a high evaluation in the industry, causing a certain sensation.

In the past, statistical designers and quantitative information data engineers began to use the term of information design frequently. In the field of data computing, information design is to design a logical representation for the information database. At the same time, the field of computer information technology also includes building data models and classification analysis. In addition, we have a wide range of professional areas in our daily work that receive the impact of information design, such as financial statement information, medical information, food health information, use of technical manuals, map information and guidance design information. Countries such as the United States have made relevant regulations on some of the information used, which are well documented in relevant legislation, such as minimum restriction on financial statements, standard label for edible ingredients and shelf life, note on test products, and indications of side effects, etc. The education departments of various countries have gradually realized the importance of information design to social life, and a large number of professional information design institutions have been rapidly spawned. China's design first-tier cities such as Beijing, Shanghai and Shenzhen require a large number of information design professionals, and the construction of this new profession is began to be paid attention to by all colleges and universities design education.

4. The development status of China's information design education

In recent years, the Academy of Arts & Design, Tsinghua University (formerly China Central Academy of Fine Arts) first established the Department of Information Art & Design, which is a cross-disciplinary professional direction, which is an emerging professional direction born in the background of the information age. It mainly combines statistics and image design, and uses computer technology to explain scientific image visualization. The information design here can focus on all the people or special groups, in order to enhance the understanding and trust of the audience users, and to obtain and trust these descriptive information more clearly. So information

designers need to find ways to communicate information to users through effective organization and logic.

5. Two main directions of information design education

Infographic design and large-capacity complex information design are two major information design development directions in the field of design education in our country.

Graphic design plays a leading role in information design. It is an emerging professional design direction that belongs to the visual communication design profession. It can fully integrate multiple types of visual expression language. By organizing data to build graphic images, express charts and construct symbols, a special logical visual language is used for comprehensive analysis and communication of information. Due to the widespread use of the Internet and mobile phones, modern information is rapidly updated, and the audience's requirements for filtering and reading information are getting higher and higher. The design of infographics is widely used in business, news, weather forecasting, cultural synthesis, etc. and has entered every aspect of daily life. When we go out to travel, we need to find relevant maps. The daily news will broadcast the weather forecast that everyone cares about. You need to check the route by bus or subway, and the mobile APP interface to see what information we need at any time. We concern about the weather reports of TV stations every day, so that we can know the weather changes, how to dress, whether it is suitable to go out, arrange related plans and so on in advance. The use of visual expression of information can also convey topics of human and social value such as thoughts, attitudes, values and experiences.

Here is one case, in the Wenchuan Earthquake in 2008, the news reports on disaster relief have several main forms of text and television broadcasting. People can't understand the whole event by only reading articles and data, then effective information, chart design performance makes it easy for everyone to understand the overall situation and the relationship between them, with a clearer overall view. They clearly present the earthquake news, focusing on disaster relief and defeating the disaster with one heart-mind. Articles, symbols, images, shapes, and colors are important and indispensable visual elements in graphical tables, which are visual expression vectors. A lot of data in every corner of life makes people feel anxious about information, unwilling to accept boring words and data. They like to see logically clear information. This new visual experience is clear and easy to understand, attracts the attention of the audience, and make them enjoy the beauty of information design. The core content of design determines the form of chart design. According to these communication characteristics, we can divide the visual information design chart into five types: logic flow chart, tree form illustration chart, classification axis chart and deconstructed space chart. Each type of chart uses the methods such as data tables, diagrams, annotations, and associations to provide the audience with visually maximized performance. Visualization, imagination, and conceptualization form the final representation of information. Secondly, what the information design education needs to face is the design of large-capacity and complex information. For such a situation, it is bound to undergo a complex process of thinking and integration. The entire design process faces a series of considerations that transcend the practical concerns of form and function. Thus, all factors must be considered carefully, including symbolization, hierarchy, orientation, structure, information design, and simplified understanding, etc. The success of large-capacity information design depends on its readability. Therefore, standardization, simplicity, stratification, construction, guidance, etc. are all very important elements to complete the readability of information design. And, all of these elements will benefit from the entire process of the layout. The system implementing many simplified design processes is the characteristic of early stage information design education. Time schedules, grids, layout styles, and information classification

methods are all structure-based systems. The material content of large project is often accompanied by a content catalogue, which lists the information division and layering one by one. It's no doubt that there are common methods to cope with large-capacity information, but some designers have their own individualized implementation methods. The style draft is an excellent and underutilized means to help ensure the continuity of the large amount of material from beginning to end. How to determine the style of the text relative to the title, subtitle, quote, and body text can all be preset.

It is hoped that curators will enjoy a variety of flexibility to complete the arrangement and rearrangement of objects, images and characters quickly and easily according to classification, theme and space by using database program to organize all the information, communication objects and potential exhibits of large exhibitions. To convey a large amount of information in a visually harmonious and remarkable way, there must be a certain order. Only by giving priority to different types of information and giving a clear hierarchical structure can we maintain overall coordination. In facing with a huge variety of financial data charts and various commercial documents, we mostly adopt a multi-class hierarchical structure to determine the way to display information. To add the overall beauty to design, it can be established by selecting the text format, size and design color, material, and some other visual layered architectures, but it's the primary function in the large-capacity design to express the meaning of the articles with the best definition. Intricate design problems require some skills. Although the use of fonts and images can be considered with a focus on self-expression, most graphic designs convey the customer's message to the public and use design tools to help with the process. If this idea is applied to hierarchical structure and prioritization, the same effect can be achieved by applying spatial relationships, color and weight. When the information structure is designed, the first goal is to support the business goals and ensure that the orientation does not convey the pain to the users at the same time. It is of course necessary for the audience to feel the visual enjoyment. The primary task of the visual architecture architect is to figure out the content, which is the key to reviewing the content in the future. Secondly, understand the audience's ideas in the process of information communication. If you don't understand the audience, you can't organize specific content. You must know what kind of content has the best effect. After understanding, find the best visual representation of your audience and provide a positive audience experience.

The emerging design direction of information design is currently in the nascent development stage of design education in China. Information design is closely related to everyone's life. Subway traffic map, pie chart, curve chart, histogram, schedule, timetables and weather forecast satellite cloud pictures in daily data reports are all in the category of information design. Information design sometimes involves large-capacity and complex data, so the requirements for designers are very high. This is a very special group of people who must have strong information integration ability, deeper understanding of the relevant performance content, as well as the skills and talents of a designer and the scientist's rigorous way of thinking and problem-solving ability. In the future, design education industry needs to cultivate a large number of information designers with curiosity, performance skills and deep understanding to meet the various needs of China's information design field.

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