

Research on Data Visualization Design in the Information Age

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Abstract

Information visualization is a trend. Whether it is commercial publicity or professional design, highly symbolic infographic can directly convey information to the target audience through simple visual power. Therefore, Infographic are an easy-to-understand and visualized form of communication. Visual design of information and data not only helps people to better perceive and acquire knowledge, but also reveals the logical relationship behind complex information, and produces more education, persuasion and guidance according to its content and purpose. In this sense, the integration of data visualization and Infographic design into the education of visual communication design has a strong practical significance for training designers who meet the requirements of today's social life. In this era of interactive information, the expression of any data and information should be interesting, at least affinity. An excellent infographic should not only list data, but also be a system, including data classification, logical relationship, reading habits and visual experience. The significance of Infographic design is to make the audience easily understand the complex and boring data information through the visual expression of designers. Infographic pay more attention to the balance between content (raw data information) and form (visual representation) than other graphic design types. Despising content and blindly pursuing visual effects, or despising visual performance, and not paying attention to the strict correspondence between the two, are not good information design works.

Keywords

Data Visualization, Infographic, Visual Communication Design Education.

1. Summary of Data Visualization and Infographic

Nowadays, visual communication design has become a comprehensive communication field of interdisciplinary cooperation, which also affects the content of visual communication education. Visual communication design education needs to cultivate talents to meet the requirements of this interdisciplinary field. This kind of synthesis not only updates the content quickly, but also changes constantly. This change affects the adjustment of learning style. Students need to be more active in mining, understanding, accurately interpreting and expressing information, and use it to achieve the desired goals. Information is not a simple data reproduction, but a purposeful reconstruction after reflection and screening. How to train students to use editorial typesetting, book design, advertisement design, illustration, font design, interface interaction design and other visual manifestations comprehensively to complete the clear transmission of information, and then to solve the actual needs of life, is the problem that visual communication education needs to face.

Infographic and data visualization aim at the effective integration and design of information. Today, people are facing with more complex data and information than ever before. We can easily find that the use of data visualization and Infographic in various media has greatly increased, because this way can help people understand information more easily and accurately, and become more and more important.

2. The relationship between the data visualization and Infographic

Data visualization and information visualization are both ways of visualization. Data visualization takes every data item in the database as a single element, and a large amount of data constitutes a data image. At the same time, each attribute value of data is expressed in the form of multi-dimensional data. Data can be observed from different dimensions, thus data can be further observed and analyzed. Information visualization aims at visualizing data and data. Information visualization is a kind of picture that combines data with design. It is helpful for individuals or organizations to communicate information to the audience in a short and effective way.

The purpose of data visualization and Infographic is to visualize complex and irregular information in a more understandable way, and to help people better understand and remember information. Although they have the same purpose, they have different meanings. Infographic is the presentation of story content and visual form of a certain subject, while providing a comparison of various data or process presentation. Various elements, such as images, illustrations, maps and visualization, can be used to describe such visual stories. Data visualization uses charts, tables and statistical graphs to present numerical values, and converts the original data information into visual elements to express, including explicit information based on measurable statistical data. Data visualization is a way of scientific visual presentation of "data" using schematic maps.

The use of fonts, images, illustrations, maps and data visualization in Infographic varies from content to content. It is used to design how to tell a story, to visualize a complex information or process in an easy-to-understand way, and to attract the attention of readers and curiosity, and to present the content to the audience. Infographic are more like speeches than ordinary charts. They serve the same purpose as speeches. They are to inform, entertain or persuade the audience so as to attract the attention of readers.

3. The Role of Data Visualization and Infographic in Visual Communication Design Education

Information design is one of the most important requirements nowadays. In visual education, students need to deal with Infographic and data visualization projects in a more systematic way, so that they can have the ability of analyze, edit and design data and information. Students need to understand the subject well. Students complete the learning process of subject content, and construct information by studying the data obtained and systematically classifying these data. Students should analyze the data accurately and organize the content in an orderly way.

Attractive subject content is easier to stimulate the interest of students, and then actively find the visualization method of data, and use the appropriate graphics language to show the subject content in an efficient and easy-to-understand way. In the design of Infographic and data visualization works with complex information, students need to maintain a systematic way of thinking and provide high-quality visual design solutions. The trainings help students understand that designers need to master knowledge of other disciplines besides their own professional fields, and the thinking and practical abilities of students will be enhanced with this interdisciplinary learning method.

4. Evaluation criteria for data visualization and Infographic

Words is the form and carrier of language. The same text of the words expressed through different fonts, which can give readers new feelings; images in Infographic, such as illustrations, photos, points, lines, symbols, etc., are visual expressions, which express the important factors contained by setting the theme and content of Infographic; colors in Infographic are the expression of their ideas. Media expresses different meanings through different color matching; the time and space of the ups and downs of the plot in the Infographic enable readers to understand the text information and interact in space and time through the artistic conception in association. Beautiful design is often expressed by simple elements. Visual language in Infographic design constitutes information by calling elements

such as text, image, color, time and space. Simple text and data information will be transformed into a rich level, interesting and easy to understand visual form, so that readers can easily and quickly access the information contained in the information icon.

"Shape tree diagram" is to make plane information three-dimensional by means of logical reasoning, of course, it can also through visual effects to make information occurring in different periods presented in the same plane, which can make information interesting. In the design of information icons, visual language is used to fuse visual information with striking force and intelligent text information together, so as to induce people's eyes to combine the coding of visual symbols and make all kinds of information move from disorder to order. Infographic design can make use of visual language, which is a very imaginative and intelligent information design. In this design method, the space is temporalization and the time is spatialization, they are symbiotic and interactive, which jointly embody the value of information.

Visual language is used in infographic design to make the information not only reflect the rational thinking and logical structure, but also realize the information to be expressed and conveyed in the design through the emotions and thoughts contained in the visual language. That will also make people have a kind of aesthetic enjoyment when receive information at the same time.

5. Conclusion

The character and function of infographics and data visualization determine their importance in design. In visual communication design education, they can provide students with a lot of training, including collecting and sorting, systematic thinking, finding solutions for functional and unique visual aesthetics of works, and working well in a team. In the learning process, students are positively influenced by how to correctly organize information, present the theme with a reasonable story form, and effectively use creative visual design and technical means to complete the work. Through information graphics and data visualization courses can help students to establish a reasonable way of thinking and master effective design learning methods, so as to cultivate suitable talents to meet the requirements of the information age.

With the rapid development of Internet applications, visual design will develop towards a more personalized and customized direction in the future. The presentation form of information visualization will not be limited to a two-dimensional plane, but pay more attention to the integration with interactive experience. No matter what kind of carrier the plane information visualization will serve for people in the future, they are all reliable tools for people to constantly learn the world and transform the world.

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