Research on Innovation of Teaching Reform Mode of Visual Image Dissemination in Colleges and Universities Based on Visual Bionics

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Abstract: with the Development of Education and Teaching Reform, the Major of Visual Communication Design in Colleges and Universities Should Conform to the Relevant Requirements of the Reform and Reform the Teaching. with the Continuous Development of Information Technology and the Continuous Expansion of the Application Field of Machine Vision, the Course of "Visual Image Dissemination" Has Expanded from Computers to Many Specialized Courses of Electrical Specialty Such as Electronic Information and Automation. When Teaching Visual Communication Design in Colleges and Universities, Attention Should Be Paid to Language Research and the Development of Visual Communication Symbols. as a New Term of Modern Design, Visual Communication Design Has Gradually Been Accepted by People and Has Become the Direction and Important Teaching Content of University Design Teaching through the Integration of Traditional Design Disciplines. with the Continuous Promotion of Teaching Reform, the Innovation of Visual Communication Design Teaching Development Has Become the General Trend. on the Basis of Explaining the Necessity of the Teaching Reform of Visual Image Communication in Colleges and Universities, This Paper Analyzes the Main Problems Existing in the Practical Teaching of This Course by Combining with the Technology of Visual Bionics.

1. Introduction

With the Continuous Development of Information Technology and the Continuous Expansion of the Application Field of Machine Vision, the Course of "Visual Image Dissemination" Has Expanded from Computers to Many Specialized Courses of Electrical Specialty Such as Electronic Information and Automation. in the City Where We Live, All of Us Will See Hundreds of Image Designs in Our Daily Life. in Today's World of Images, People in Action Have Very Limited Time to Look At Images. with the Rapid Development of Visual Communication Design Education in Our Country, New Ideas and Ideas Are Constantly Emerging, and with the Continuous Promotion of Teaching Reform, the Continuous Innovation in the Development of Visual Communication Design Teaching Has Also Become the General Trend [1]. as a Teacher, One Should Carefully Study the Meaning of Tools and the Operation and Use of Orders. At the Same Time, One Should Also Combine Practical Cases with Courses to Meet the Needs of the Development of Social Talents, So That Students' Learning Will Not Be Too Old-Fashioned [2]. Today's Visual Communication Design Courses Can Cover Almost All Training Courses. These Courses Use Visual Information as a Means of Expression. When Teaching Visual Communication Design in Colleges and Universities, Attention Should Be Paid to Language Research and the Development of Visual Communication Symbols [3]. from the Perspective of the Nature and Method of the Generation of Visual Images, Thinking Seriously, the Kind That Breaks through the Constraints of Traditional Visual Rules Can Create an Incomparable Spiritual Effect to Infect Viewers with a Very Rational, Powerful, and Simple Form Techniques Have Become the Development Trend of Contemporary Visual Design [4].

Artistic Creation is a Process That Develops from Perceptual to Rational, and the Intuition of Art Has the Ability to Leave the Concrete and Abstract. Originality Often Occurs between the Association of Two or More Things, and Uses Its Interconnected Abstract Similarity and Its Inherent Association to Derive New Results, Which is Often a Breakthrough Point of Inspiration in Artistic Creation [5]. as a Professional Basic Course for Computer Application Technology Major,

the Reform of Teaching of Graphic Vision and Image Plays an Important Role in Cultivating Students' Professional and Technical Ability [6]. as a New Term of Modern Design, Visual Communication Design Has Gradually Been Accepted by People and Has Become the Direction and Important Teaching Content of College Design Teaching through the Integration of Traditional Design Disciplines [7]. the Design of Imaging Systems Based on Biological Vision Characteristics is Called Visual Bionic Technology. Visual Bionic Technology is a Bionic Technology That Improves and Realizes the Function of Imaging Systems by Imitating Biological Vision Mechanisms [8]. Teaching Reform is to Change Outdated Teaching Ideas, Teaching Concepts, and Obsolete and Unreasonable Parts of Teaching Activities into New Ones in Accordance with Certain Goals and Requirements. It is a Practical Activity That Can Meet Certain Social, Political, and Economic Needs. [9] . the Visual Age Puts Forward New Requirements and Challenges for Graphic Design and Art Design Education. on the Basis of Explaining the Necessity of Teaching Reform of Visual Image Communication in Colleges, This Paper Analyzes the Main Problems Existing in the Practical Teaching of the Course in Combination with Visual Bionic Technology.

2. New Ideas of Teaching Curriculum Setting for Visual Image Communication

2.1 Enhance Practicability

With the Advent of the Internet, Information Dissemination Media Are Not Limited by Region, Time and Space, and Can Be Shared Globally, Changing the Traditional Visual Image Dissemination Information Transmission Area, Time and Other Issues. Visual Image Dissemination in the Curriculum Should Focus on Combining Teaching with Scientific Research and Design Practice, and Then Promote and Apply the Results of Professional Knowledge to Achieve the Purpose of Practicality [10]. the Reform of the Teaching Mode of Visual Communication Design is Another Important Task of the Corresponding Curriculum Reform, and Directly Affects the Effectiveness of Teaching. in the Digital Age, Designers' Design Methods Are More Convenient and Intelligent. Designers Can Use Computer Software to Carry out Three-Dimensional Processing. Visual Communication Gradually Changes from Two-Dimensional to Three-Dimensional and from Static to Dynamic. How to Let the Students Express the Visual Elements in the Art in the Image Thinking, Combine with the Design Analysis and Logical Thinking, and How to Let the Students Integrate the Customer's Needs, Market Analysis, Consumption Psychology and Other Essential Links into the Design Thinking Are All Higher Requirements for the Visual Communication Design Teaching Mode. Visual Image Communication Can Be Understood as the Sum of the Two Concepts of Visual Accord and Communication, in Which Visual Accord Mainly Refers to Something That People Can See with the Naked Eye, and Communication Mainly Refers to a Process of Using a Certain Accord to Transmit Information.

2.2 Optimize the Curriculum System

In Order to Enhance the Social Practice Ability of Students Majoring in Visual Image Communication and Effectively Meet the New Requirements of Digital Background for Visual Image Communication Talents, Colleges and Universities Should Change the Teaching Concept of Visual Communication Design Specialty and Base on the Actual Situation of Professional Teaching. Teachers Should Revise the Personnel Training Plan According to the Employment Situation and Social Needs of Students, Highlight the Characteristics of High-Quality Applied Personnel Training, and Train New Talents. with the Rapid Development of the World Economy, Culture Shows a Trend of Internationalization and Diversification, While China's Visual Communication Design Has Such a Large Scale of Education. in Today's Information Age, Based on Multimedia Information Network, Providing Convenient Online Learning Conditions, and Effectively Organizing and Managing Teaching Information Resources to Create a New Learning Environment for Students Are Also Important Contents of Strengthening Experimental Teaching Reform [11]. Students with Spare Capacity Should Be Encouraged to Take Part in the Second Class Activities and Studio Construction, Form Interest Groups, Brainstorm and Learn from Each Other. Extracurricular

Scientific and Technological Activities Not Only Provide Training Opportunities for Students, But Also Give Full Play to the Investment Benefits of the Studio. Digital Technology Enriches the Expression Techniques of Visual Design and Stimulates the Inspiration of Design.

Digital technology makes the form of visual communication design more and more diversified. It can use any form and medium to realize its design intention. The course content should be combined with scientific research, highlighting the construction of knowledge modules and key courses of the course group. Designers need to choose different colors and match colors according to the aesthetic preferences and psychological characteristics of different objects. Warm colors easily become the visual focus in a short period of time and quickly attract attention. However, because warm colors can speed up people's perception of time, they are prone to visual fatigue and irritability. Taking the design of multimedia courseware as an example, the design defects of multimedia courseware are investigated, and the investigation results are shown in Table 1.

Table 1 Design Defect Survey Results

Defect type	Frequency	Percentage (%)
Interface	27	30
Color	19	21.1
Format	21	23.3
Content	9	10
Other	14	15.6

3. Creative Thinking Mode of Modern Graphic Design and Reform of Communication Teaching

Modern visual communication design is constantly changing in form and concept. Multidimensional expression has become the norm in visual communication design, bringing new visual experience. Teachers should always put themselves in the perspective of social trades when teaching, and put giving students real gains first. People's way of thinking and lifestyle have undergone fundamental changes, which requires that visual communication design should have new ideas and new concepts, continuously improve the design process and design methods, and gradually develop towards diversification and multi-dimensionality. The development from traditional paper media to digital multimedia platforms such as mobile phones, Internet and electronic display screens has greatly increased the demand for visual communication design. Facing the impact of new technologies, how can modern visual communication design face the reality and let visual design concepts and thinking be baptized by digital technology informatization [12]. The essence of visual communication design is to use visual language to convey information to people. Therefore, works must be close to life, face the public and show an affinity. When choosing teaching methods, we should fully combine the unique emotional elements of visual communication design specialty, and can integrate emotional experience into other teaching methods. The development trend of modern graphic design puts forward more comprehensive requirements for the knowledge structure, imagination, abstract thinking ability and artistic expression ability of contemporary designers.

On the whole, the relationship between the three dimensions of the teaching process and between the three dimensions and the learning effect is assumed to be consistent with the observed data. Each path coefficient of the path model has significant significance. Figure 1 is a path analysis model of visual image dissemination teaching environment construction dimension and learning effect.
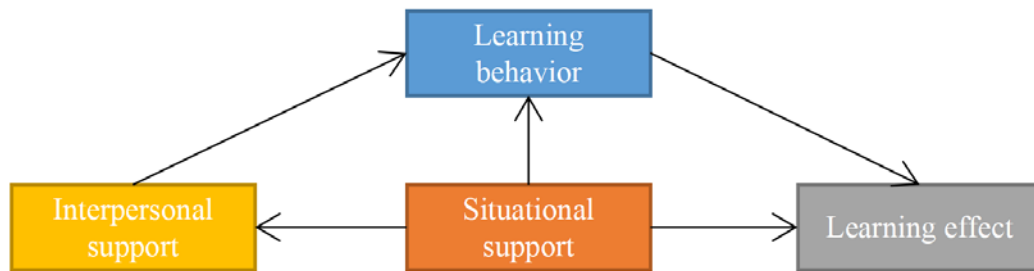
Fig.1 Path Analysis Model

Classroom is a good platform for interaction between teachers and students, and is also the best time for students to show themselves. Innovating classroom mode is helpful to further stimulate students' innovative ability. Visual communication is a process that starts with people and ends with the successful transmission of information. The internal changes and laws of anything can be expressed, memorized, extended, associated, understood and communicated with visual appearance. The color wheel is a device for mixing colors. Generally, it consists of two parts: color wheel and power unit. When in use, two or more paper plates with different colors are embedded in the discs. When the rotating speed exceeds the flash critical frequency, it can be mixed to produce a stable mixed color. Figure 2 is a color wheel rotation mixing device.

Fig.2 Color Wheel Rotating Mixing Device

As art design education is based on the traditional arts and crafts education and developed in the specific stage of social and economic reform in our country, its teaching ideas and structure are deeply branded with the original teaching system, and the traditional graphic design teaching mode can no longer meet the needs of the visual era. With the advent of the information age, modern students have mastered the means to acquire more knowledge. Their knowledge is relatively expanded and they touch on a wide range of fields. Digital technology provides an innovative way of thinking for visual communication design and enriches the expression techniques of visual design, and uses this unique expression technique of digital technology to stimulate a steady stream of design inspiration [13]. The study of contemporary visual communication design involves the ability training of body shaping and graphic creative thinking. We should dialectically reexamine the relationship between art basic skills and professional design, and see the most basic quality as a designer. In the process of teaching, we should avoid the teaching of single knowledge, let students feel the relevance between design, humanities and Social Sciences, so as to strengthen the perception of design art. The digitalization of visual communication design is developing in this unique ecological environment. In recent years, the digitalization and information technology have penetrated into every corner of visual communication design.

4. Conclusion

As an indispensable part of people's life, visual communication design is playing an increasingly

important role in contemporary design. With the rapid development of science and technology, visual communication design major should meet the needs of the current social development to cultivate more excellent design talents. With the rapid development of the information age, teachers should try new teaching models and optimize teaching methods if they want to cultivate various talents. The digital age puts forward new requirements for the teaching of visual image communication. Therefore, the teaching of visual image communication must be innovated. First of all, the teaching idea is to cultivate students' innovation ability. Innovative visual communication design teaching requires innovative teaching concepts, teaching methods, classroom models and evaluation methods. Through the teaching reform of computer vision inspection and image processing in this course, students' interest and enthusiasm in learning this course can be improved. We should try our best to avoid abstract explanation of formal mathematical knowledge and try our best to make students experience wonderful, vivid and exciting creative process. Only by changing the old teaching mode and teaching concept in the past, promoting the development of teaching reform, and creating a new mode of visual communication design development, can we cultivate new design talents that develop with the times.

Acknowledgement

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