

Reform and Practice of Visual Communication Teaching from the Perspective of Innovation and Entrepreneurship Education

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Abstract: In recent years, although universities have been guided by the concept of innovative design development, they have been constantly innovating teaching concepts in the visual communication teaching model. With the rapid development of China's economy and the continuous enrichment of material life, people's aesthetic requirements are becoming increasingly high, and simple design can no longer meet people's needs. To strengthen the innovative development of visual communication design, especially the cultivation of adult students' thinking ability in visual communication design, has epoch-making value. This article outlines innovation and entrepreneurship teaching, discusses entrepreneurial intentions, visual communication design, and analyzes the current situation of school-enterprise cooperation in the field of visual communication design in universities. This article proposes a connectionist learning theory and analyzes the current situation of cultivating innovative and entrepreneurial college students' design thinking abilities in the field of visual communication. The research results show that the innovative design awareness and innovative spirit of college students in visual communication are worrying.

1. Introduction

The major of visual communication design is an important component of artistic design. In recent years, the visual communication design profession has flourished, and the demand for professionals in the industry has also increased significantly. The enrollment scale of visual communication design majors in colleges and universities is expanding. In this state, many universities have adjusted their professional structure and made efforts to establish a graphic design major or a design major with its own characteristics.

Thomas M developed the idea of using 3D visual representation technology to create animated films. Film and video animation is captured from the content of a 3D visualisation, processed on a server and edited on a client machine. A scale factor interval is constructed in the 3D visualisation so that the scale factors of the two intervals are close to each other. Afterwards, the animation is done by detecting and extracting the features between video image frames in grey-scale projection, using 3D visual communication techniques [1]. ZomayZ dissects the innovation and development

of digital media art from the perspective of digital media art, and provides some discussion on digital media art in China [2]. Bouyer-Ferullo S analysed the data obtained from all the questionnaires by using correlation of sample means, standard deviation, component analysis, and tests [3]. Despite the abundance of research on visual communication, there is a dearth of research on the reform and practice of visual communication education from the perspective of innovative entrepreneurship education.

In order to study the reform and practice of visual communication teaching from the perspective of innovation and entrepreneurship education, this paper studied innovation and entrepreneurship and visual communication, and found a benchmark regression model. The results show that it is beneficial to reform and practice visual communication teaching from the perspective of innovation and entrepreneurship education.

2. Method

2.1 Innovation and Entrepreneurship

(1) Innovative Concept and Entrepreneurship Teaching

Innovation and entrepreneurship education is neither a synonym for innovation education or entrepreneurship education, nor a simple addition of the two educational concepts. It is a new talent cultivation mode completely different from traditional education, which is formed to meet the development needs of the era of social knowledge economy and the development needs of higher education itself. This is China's new contribution to world higher education [4]. Innovation and entrepreneurship education is a quality education centered on new school running concepts, combined with modern educational technology forms, and centered on students' self-development and social development needs. Its emergence and development have greatly changed the situation of emphasizing theory over practice in higher education, and it is an inevitable need for the country to further consolidate and improve the quality level of higher education. Although innovation and entrepreneurship education has the non competitive and exclusive characteristics of certain public products, innovation and entrepreneurship activities also have the characteristics of private products, with a certain degree of competitiveness and inclusiveness. The consumption of innovation and entrepreneurship education resources by teachers and students in any form of entrepreneurial activities will affect others' consumption of innovation and entrepreneurship teaching resources. Firstly, in the overall teaching plan of higher education, the innovation and entrepreneurship talent cultivation plan is only a small plan, which has led to many universities not forming a sufficiently stable teaching team [5]. Innovation and entrepreneurship education requires teachers to have good theoretical knowledge, excellent teaching ability, and rich practical experience. The rich experience in innovation and entrepreneurship can provide students with effective entrepreneurial guidance, which greatly increases the entry threshold for innovation and entrepreneurship teachers, leading to a slow growth in the number of university innovation and entrepreneurship teachers.

(2) Entrepreneurship intention

This project will explain the process of entrepreneurial involvement through the lens of 'planned behaviour'. A new theoretical model will be proposed to explain the involvement of entrepreneurs in entrepreneurial activities. This model will help students to better understand entrepreneurial behaviour and how to better motivate university students to become entrepreneurs. In the context of entrepreneurship education, the theory helps to provide insight into the entrepreneurial behaviour of firms and thus better promote students' willingness to start a business. Therefore, to effectively motivate university students to start their own businesses, it is important to ensure that they are willing to do so. Based on the theory of planned behaviour, this paper combines the concepts of 'intention' and 'action', using 'intention' rather than 'action' to explain the formation of

entrepreneurial will [6]. Using theoretical analysis, empirical analysis and case studies, the study investigates the influence of students' English learning ability on entrepreneurial intentions. Based on the existing literature, this project aims to systematically examine the mechanism of entrepreneurial will of university students on innovation and entrepreneurship education from both individual and school levels. A theoretical model focusing on the English learning ability of university students is constructed based on the summary of the existing literature. Secondly, at the individual level, we explore the mechanisms of the psychological state, learning attitude and self-efficacy of university students on innovation and entrepreneurship education [7]. In summary, this article uses innovation and entrepreneurship education (personal and school factors) as an independent variable, entrepreneurial willingness as a dependent variable, and entrepreneurial self-efficacy (opportunity recognition ability, innovation efficiency, and relationship coordination ability) as intermediary variables to study the impact of innovation and entrepreneurship education on entrepreneurial willingness in universities. The theoretical model for this study is shown in Figure 1.



Figure 1: Theoretical model of intermediary effects of innovation and entrepreneurship education in universities on entrepreneurial intention

(3) Connectionist Learning Theory

Connectionist learning theory emphasizes that the learning process is not a simple information internalization activity, but rather that learners use effective learning tools to continuously acquire knowledge fragments from the outside, connect new knowledge fragments with other knowledge nodes, and maintain their fluency [8]. This approach emphasizes dynamic, discrete, and multidimensional relationships, making the entire learning process more dependent on the meaning relevance of knowledge. Connectionist learning theory regards every piece of knowledge as a node in a knowledge system that is irregularly distributed into discrete and networked patterns [9]. The learning process involves learners connecting these irregular and chaotic knowledge nodes through a network. Disordered nodes are reconstructed and connected according to their meaning to form

any element in the network. Nodes can be information, data, knowledge, personal opinions, and other abstract things, as well as learners' subtle thoughts, inspiration, or feelings about things. Connectionism is not only a verb, but also a dynamic process [10]. Connection is an effective process for restructuring nodes and building knowledge networks. This process involves the integration of dispersed knowledge nodes and the association of discrete knowledge fragments, building a new knowledge system in a certain sense [11]. In the process of establishing a knowledge network, it mainly includes screening and identifying new knowledge, updating and improving old knowledge, and finally connecting new and old knowledge with meaning, thereby expanding and updating learners' own knowledge base. In the process of personal knowledge management, it is also the interconnection between knowledge nodes, constantly establishing and forming a network and systematization of knowledge [12]. The theory of personal knowledge management emphasizes the transformation of knowledge. Learners should use some effective knowledge management tools to transform, correlate, integrate, and evaluate internal and external knowledge, ultimately creating, optimizing, and integrating their own knowledge network systems [13].

2.2 Visual Communication

(1) Visual Communication Design

Visual communication design includes three basic concepts: vision, communication, and design [14]. In art, visual information is usually conveyed through symbols. Visual communication is the preferred way to achieve more accurate information transmission, which can be more intuitively conveyed to the audience through visual images and specific understanding. Visual communication can enhance the speed and flexibility of information, making it visually appealing. Visual communication can make the communicator's creativity more vivid and imaginative [15]. It makes the state and process of information transmission more artistic. In the universality of visual aesthetics, visual communication regularly combines various formal elements as visual language to form visual communication art works. The artistic language used to express artistic works is a symbol in visual communication. Visual symbols do not express abstract concepts like language, but rather through perceptual image concepts. Regardless of its development, visual communication language must achieve the creation of new visual images, namely, visual communication symbols of images, symbols on unique content, and symbols on unique forms. Communication is the ultimate goal of design [16]. Communication includes the meaning of communication and sharing, which refers to the visual interaction process in which designers convey information to people through certain visual symbols, enabling the conveyed to understand information through symbols, achieving communication, publicity, and other purposes. The dissemination of information includes five processes: communicator content form audience effect, as shown in Figure 2.

(2) Analysis of the current situation of school-enterprise cooperation in visual communication design major in universities

The rise of visual communication design in many countries has a long history. With the growth of social economy, some universities in China have also opened this major. The demand for culture and art in daily life is increasing, and people begin to pursue the art of life, while design serves people. Therefore, the enrollment of design majors in the future will continue to expand year by year. According to the analysis of employment trends in China's talent market in recent years, the employment competition for visual communication design professionals is becoming increasingly fierce. Enterprises require graduates from relevant majors to enter their positions as soon as possible, while also possessing strong comprehensive qualities and design experience. In fact, the design and art talents cultivated over the years, art over design, and performance over physical objects, are in urgent need of pre job training and knowledge updating of the student career system, which is also a

headache for enterprises. However, the longer you work in this industry, the richer your experience will be. The more you can become an expert in this industry, the greater the value of designers themselves. Both social and economic values will be beneficial to the personal development of designers, and their career will become increasingly smooth. Currently, there are millions of visual communication design practitioners in China, mainly working in media and advertising departments, advertising companies, packaging design, advertising planning and creative design and production, web design, exhibition image design, and other fields. Generally qualified graphic designers require years of artistic skill learning and accumulation to possess skilled hand-painted performance skills, solid artistic literacy, and strong professional operating skills. Graphic design, event planning, artistic guidance, and project services are key needs in the industry, and there is a dearth of relevant professionals with high-level, strong professional skills, work experience, and excellent foreign language skills. Colleges and universities attach different importance to the curriculum and school running characteristics of the training of design talents, with some focusing on the plane, some on re media, and some more on training in multiple professional directions.

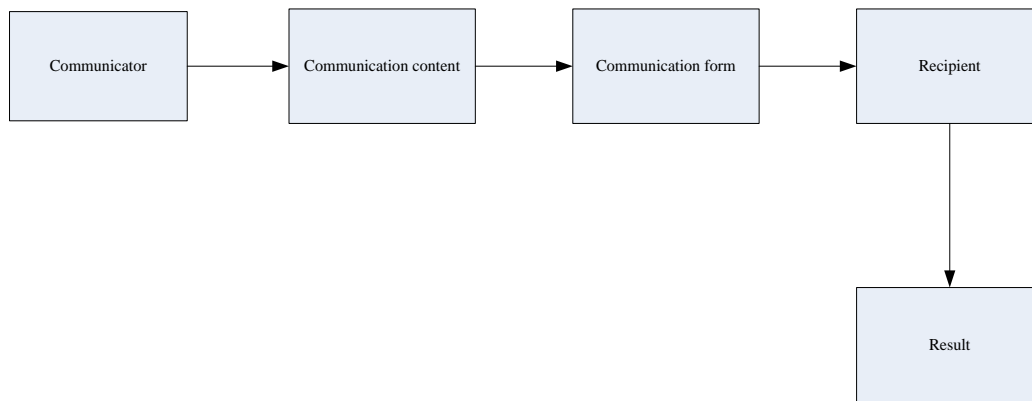


Figure 2: Information transmission process

2.3 Benchmark Regression Model

In the benchmark regression, $EntrpmInt$ represents a variable indicating whether there is a willingness to innovate and start a business, and the subscript i represents each individual in the sample, as shown in Equation (1):

$$EntrprnInt_i = \beta_0 + \beta_1 On \ln Finance_i + \beta control + \varepsilon_i \quad (1)$$

If $EntrpmInt=1$, it indicates a willingness to innovate and start a business, and 0 indicates no willingness to innovate and start a business.

In heterogeneity testing, cross product models and group testing can be used to test for heterogeneity. The impact of financial knowledge heterogeneity can be tested using cross product models, as shown in Equation (2) (3):

$$EntrprnInt_i = \beta_0 + \beta_1 finance_i + \beta_2 finance_i * other_i + \beta control + \varepsilon_i \quad (2)$$

$$int ermediary_i = \alpha_0 + \alpha_1 On \ln Finance_i + \alpha control + \varepsilon_i \quad (3)$$

"Other" refers to a variable that represents the degree of understanding of financial knowledge, namely, an adjustment variable.

3. Experience

3.1 Extraction of Experimental Objects

In visual communication education, the importance of cultivating the design thinking ability of innovative and entrepreneurial college students is reflected in two aspects: the rapidly changing social environment requires cultivating the design thinking ability of innovative and entrepreneurial students in visual communication teaching, and the demand for the development of the creative industry market also requires cultivating the design thinking ability of innovative and entrepreneurial college students in visual communication education. In order to grasp the current situation of the cultivation of design thinking ability of innovative and entrepreneurial students majoring in visual communication, an interview outline for the cultivation of design thinking ability of innovative and entrepreneurial students majoring in visual communication was designed through in-depth interviews with front-line teachers of visual communication education, combined with relevant literature research. Through personal interviews, collect the innovative consciousness of innovative and entrepreneurial college students majoring in visual communication: whether traditional Chinese values and traditional artistic design have a positive impact on the cultivation of innovative and entrepreneurial college students' design thinking abilities; Whether the education of visual communication majors focuses on the cultivation of teaching artistic knowledge and aesthetic ability, or on systematic scientific knowledge and innovation of works; And whether to cultivate the design thinking ability in the teaching content, teaching methods, and evaluation methods of the visual communication specialty.

3.2 Experimental Analysis

Based on regression analysis, a matching analysis method is introduced to randomly select samples from all samples, enabling correlation analysis to be carried out in accordance with the requirements of randomized experiments, thereby making the estimation of college students' innovation and entrepreneurship intentions by visual communication majors more causal and explanatory. In order to make the estimation method more accurate, this paper uses two matching strategies, covariate matching and propensity score matching, using 1:1 or 1:n matching criteria to estimate causal interpretation effects one by one, improving the accuracy and robustness of the estimation results.

4. Discussion

4.1 Design Oriented Entrepreneurship

Economic globalization and the development of Internet technology have promoted the exchange and collision of culture, information, and ideas. The diversified development of social culture has provided fertile cultural soil for college students to design and start businesses. With the transformation of China's economy and industrial structure, the country has vigorously promoted the development of the cultural industry. Social and cultural creativity, product innovation, and economic development are closely integrated. As the main driving force for independent innovation and industrial upgrading, design plays a crucial role in promoting the transformation of the development of the creative culture industry from "Made in China" to "Created in China". With the support of an open social environment and strong entrepreneurial policies, innovative business models for college students to design and start businesses have brought more possibilities. Design led entrepreneurship refers to the entrepreneurial model in which design plays a leading and

decisive role in the entrepreneurial process. As shown in Figure 3, it is one of the main innovation models for college students' design entrepreneurship.

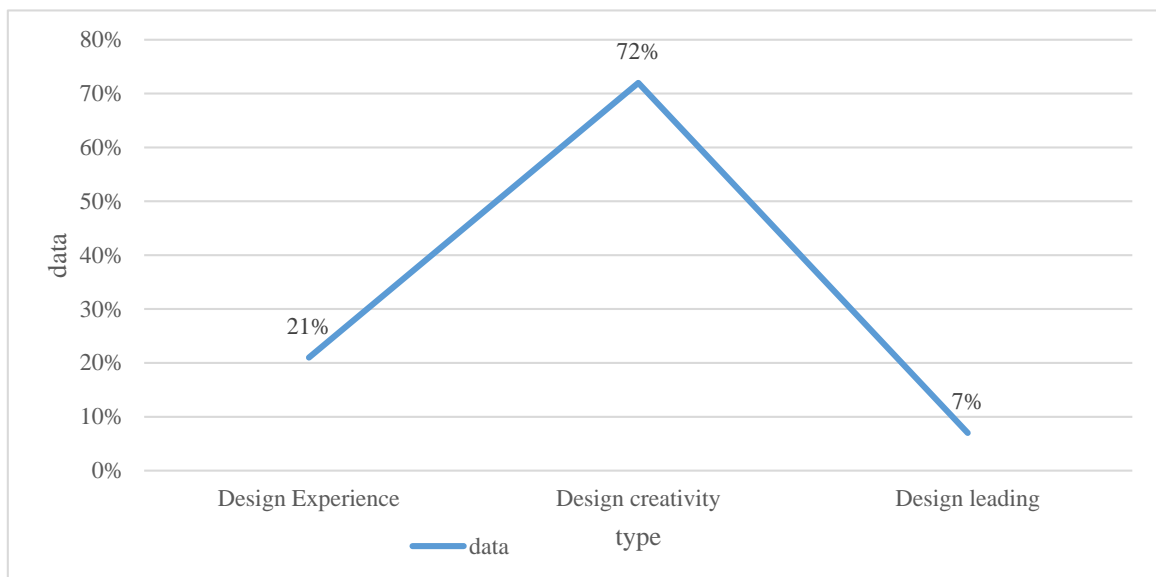


Figure 3: Design and entrepreneurship types of 30 college students

As can be seen from the above, among the 30 students surveyed, this innovative design led entrepreneurial model accounts for 7%. In this innovative model, design, as the main body of entrepreneurial behavior, is the only innovative driving force and productivity of entrepreneurship, and the entire entrepreneurial activity revolves around design.

4.2 Current Situation of Cultivation of Design Thinking Ability of Innovative and Entrepreneurial College Students Majoring in Visual Communication

In the cultivation of design thinking ability, innovative design awareness is the foundation for forming design thinking. Only with awareness can thinking be formed in learning and work, as shown in Figure 4.

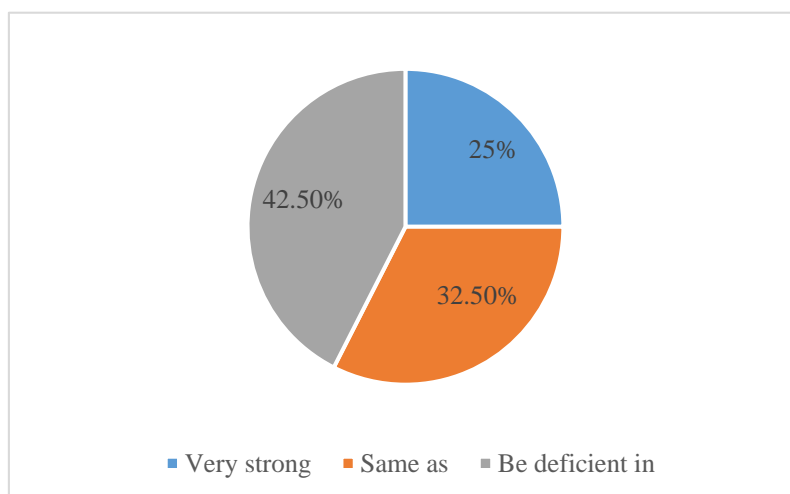


Figure 4: Statistical Chart of Investigation on Creative Design Consciousness and Innovative Spirit of Visual Communication College Students

Currently, in a survey of college students' innovative design awareness and innovative spirit in visual communication, 42.5% of front-line teachers in visual communication education say that students lack innovative awareness and innovative spirit in design, 32.5% of teachers say that students' innovative design awareness and innovative spirit are average, while only 25% of front-line teachers in visual communication education say that students have strong innovative design ability and innovative spirit. It can be seen that at present, the innovative design awareness and innovative spirit of college students are worrying.

5. Conclusion

The development of network technology provides a good entrepreneurial environment and innovative conditions for college students to design and start businesses. The interactive and open Internet platform provides college students with opportunities for communication and cooperation, allowing individual knowledge, resources, and human capital to better participate in the design, formulation, value creation, and value allocation process of game rules. This will stimulate individuals' unlimited creative enthusiasm, encourage more students to join, automatically and spontaneously pursue innovation and entrepreneurship, and provide unlimited possibilities for college students to design innovation and entrepreneurship models. This article conducts a research on design oriented entrepreneurship, and the results show that design, as the main body of entrepreneurial behavior in the innovation model, is the only innovation driving force and productivity of entrepreneurship, and the entire entrepreneurial activity revolves around design.

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