

Industrial Arts Education and Pattern Education in China's
Modern Design Education:
China's Modern Design Education in the First
Half of the 20th Century from Research on Chen Zhifo

Gong Xiaofan

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Gong Xiaofan

School of Design and Art of Beijing Institute of Graphic Communication

447680681@qq.com

Abstract

Chen Zhifo (1896-1962) was one of pioneers and founders of China's modern design education. From the 1910s to the end of the 1940s, as a learner and educator on modern design, his experience and activities reflected the conditions and features of China's design education during that period, and the correlation between the design education and the social environment of China then. This paper divides Chen Zhifo's activities into two parts: One is his experience in design learning as a student, and the other is his teaching activities as a teacher. His design learning experience as a student and design teaching experience as a teacher reflected the conditions of the first stage (industrial art education stage) and the second stage (pattern education stage) in the course of the development of China's modern design education. The industrial arts education in the late Qing Dynasty and the beginning of the Republic of China formed an important part in China's emerging industrial education. And the industrial education represented the historic trend of China to be stronger through reformation. The industrial arts education was regarded as the beginning of China's modern design education. And pattern education became the representative topic of design education and the prevailing of such education in the Republic of China (1912-1949) was closely related to the intense competition of the national industrial and commercial commodities against foreign commodities. It can be drawn that the generation and development of China's modern design education bears close correlation with the overall social and historical development as well as the actual demands of the social, economic and production development. The industrial arts education and pattern education was the foundations and historic fortunes for the modern design education in China nowadays. Researches on the pioneers of modern design represented by Chen Zhifo are of great necessity to summarize the historical experience of the development of China's modern design education and provide historic references for present design education. This paper mainly applies document research approaches.

Keywords: Chen Zhifo, Industrial Arts Education, Pattern Education, Modern Design Education, China

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Introduction

Chen Zhifo (1896-1962), as one of pioneers and founders of China's modern design education, has made many breakthroughs in the field: He was among the first batch of graduates majoring in graphic design and of the graphic teachers (1916) in Chinese modern times, and the first student who studied design abroad (Tokyo Fine Art School, and Tokyo University of the Arts at present, 1918-1923). He published the first graphic textbook *Lectures on Graphics* (1917) in China and the first book on graphic theory *ABC for Design Pattern Methods* (1930). He had been working on design education for over 40 years and was of great influence on the development of China's modern design education. From the 1910s to the end of the 1940s, as a learner and educator on modern design, his experience and activities reflected the conditions and features of China's design education during that period. This paper attempts to understand and comprehend China's modern design education in the first half of the 20th century from Chen Zhifo's learning and teaching practices.

Chen Zhifo was a person with comprehensive development and wide interests. More than a design educator, he was also a designer and an ink painter with great attainments. In the design education and artistic creation in the Republic of China, Chen Zhifo was a quite important figure. Presently, more researches on Chen Zhifo are focused on his creation on bird-and-flower painting¹⁾, and few of the researches on his design education focus on the correlation between his design education and the design education in China in that period, or the correlation between the design education and the social environment of China then. This paper divides Chen Zhifo's activities into two parts: One is his experience in design learning as a student, and the other is his teaching activities as a teacher. This paper puts his activities into specific historical background in hope of understanding the development of modern design education in China in the first half of the 20th century.

Chen Zhifo as A Student and Industrial Arts Education in the Late Qing Dynasty and the Beginning of the Republic of China

Chen Zhifo is one of the first batch of the Chinese students learning design at home and abroad. His learning experience on design can reflect the conditions of the design education in China in the Late Qing Dynasty and the beginning of the Republic of China.

Chen Zhifo was born in 1896, the late Qing Dynasty in the feudal society of China. He had shown his great interests in painting in his childhood. When he was admitted in Zhejiang Industrial College in 1912 at the age 16, China had stepped into the era of the Republic of China as a modern national country. After entering Zhejiang Industrial College, he selected the Weaving Department. "He began to learning courses such as painting and pattern, such courses were taught by Japanese teachers, of which Mr. Guan Zhengxiong kept in close touch with him

1)——According to retrieving on CNKI (<http://www.cnki.net/>), there're 352 researches related to Chen Zhifo from 2006 to 2017, of which 276 are researches on his painting creation, a proportion of about 76%.

and often offered him guidance after class²⁾.” In 1916, Chen Zhifo graduated from the College and was recruited by the College with excellent achievements. He was in charge of teaching on courses such as dyeing and weaving pattern, weaving method and pencil drawing. He “learned photographing and weaving technologies from Japanese teacher Guan Zhenghong and compiled *Lecture Notes on Patterns* based on the teaching practices, which was the first teaching material on pattern in China³⁾.” In 1918, Chen Zhifo took part in the government-supported student examination for overseas students in Japan. Later on, he went eastwards to Japan and was admitted by the Industrial Pattern Department of Tokyo Fine Art School (now Tokyo University of the Arts). Professor Daotianjiayi was the Director of the Industrial Pattern Department. Chen Zhifo was the first overseas student in the Department as well as the first one who studied in Japan specifically for industrial pattern. In 1923, Chen Zhifo was graduated from Tokyo Fine Art School and returned to Shanghai as Professor and Director of Pattern Department of Shanghai Oriental Fine Arts Vocational School.

Chen Zhifo’s curriculum vitae is somewhat the reflection of the conditions of design education in the late Qing Dynasty and the beginning of the Republic of China. First, at that time, there were no specific design colleges in China and design education was mainly offered in the industrial schools and art schools. Chen Zhifo was just a graduate of such emerging industrial education. Various types of industrial schools aiming to serve the industries and vocational trainings occurred in the late 19th century, which represented the historical trend of reformation and improvement in China. After the Opium War in 1840, the ancient agriculture-based China was forced to open the gateway of the country and gradually descended to a semi-feudal and semi-colony nation. The process of modernization was started in quite a passive manner. Facing the imperialism with fierce guns and boats and the meager and weak late Qing Dynasty, far-sighted personages of China proposed the initiative of “saving the nation by engaging in industry”, to be specific, making “self-redemption” by toughening up the own strength through military industries and civil industries. In the late 19th Century and early 20th Century, some practical industrial arts schools and fine arts schools emerged. Such schools offered courses such as machinery, metalworking, carpentry, glass, textile and drawing and covered areas such as military, construction, electric appliance, railway, machine manufacturing and shipbuilding. Such education is called industrial arts education. The expression “industrial arts” has two layers of meanings, of which one is the general reference of various types of handicraft arts and the other refers to the procedures, approaches and technologies to process raw materials into finished products. However, “industrial arts” does not necessarily mean “design”, only the part making the product appearance more attractive by certain artistic methods in the industrial arts activities belongs to design activities. According to the actual conditions of industrial arts education, the contents and scopes of industrial arts education are greater than those of design education. Many contents belong to engineering technology and craftsmanship. However, some of contents, such as dyeing and weaving, ceramics, metalworking and lacquering, are bearing close correlation with design. In addition, some emerging professional educations

2,3) ————— Chen Xiufan, Li Youguang, *Chronology of Chen Zhifo*, [J]. Journal of Nanjing University of the Arts (Fine Arts and Design Edition), 2006, (2).

such as machinery and shipbuilding also contain contents related to industrial design. Especially, the “Artwork Drawing Department” in industrial arts education represented the feature of separation of design and manufacturing in modernized production. In 1913, the Ministry of Education of the Republic of China issued the *Order on Industrial Schools* to further boost the integration between industrial education and ordinary education. By 1922, there’re already 1,209 vocational schools all across the country⁴⁾. The industrial art design in the late Qing Dynasty and beginning of the Republic of China was regarded as the beginning and stages in germination of China’s modern design education.

Second, Chen Zhifo’s learning experience reflected the influence of Japan on China’s design education at that time, which represented in two aspects — Chinese students studying in design in Japan and Japanese teachers in lecturing design courses in China. On one hand, the overseas Chinese students in Japan formed the major part of early stage design education in China. According to related information, in the early 20th century, Chinese students abroad studying fine arts had more than three hundred people, roughly half went to Japan, the other half went to Europe and the United States. During the period of Beiyang government, the number of Chinese students studying in Japan is twenty thousand or so, on the top of the students abroad all over the world. Since the 1920s the number of students studying in Europe and the United States became more than the number of students in Japan⁵⁾. There’re also many other people studying design or fine arts in Japan and working on design and fine arts education after returning to China like Chen Zhifo. For example, the Beijing Fine Arts School (now the Central Academy of Fine Arts) established in 1918 was the first national fine arts school establishing design major in China. Among the Chinese tutors available to apply for in the 1920s and 1930s, one (Jiao Zengming) was graduated from Kyoto Higher Polytechnic School, and four (Xu Jin, Han Dong, Huang Rui and Ding Ruwei) were graduated from the Design Department of Tokyo National Technology College⁶⁾. Among such overseas students, there’re pioneers and founders for China’s modern design education. They were of significant influence on China’s modern design education. Chen Zhifo was just a typical figure of such persons. On the other hand, among the design teachers in China, there’re also many Japanese teachers. As recorded in *Chen Zhifo’s Chronology*, when Chen Zhifo was studying in Zhejiang Industrial College, the Japanese teacher Guan Zhengxiong was teaching in the College. Chen Zhifo established close relationship with him. The Japanese tutor Kashima Eiji had been working as Guest Professor of Beijing Fine Arts School from the 1920s⁷⁾. In 1929-1930 at the invitation of the Republic of China, a visiting professor Zhaitengjiasan was recommended by the Tokyo Art School which was commissioned by the culture department of Japan’s Foreign Ministry as the director of design department in National Art College of Hangzhou⁸⁾. Such information reflected the influ-

4) ——— Zhao Shuai, Bao Mengruo, *Evolution and Transcendence — Preliminary Study on Thoughts of Industrial Arts Education in Early Republic of China*, [J]. Heilongjiang Social Sciences, 2016 (4).

5) ——— Li Huaqiang, *Modern Arts Students and the Spread of the Chinese Modern Design*, [J]. Journalistic University, 2013, (06):34-41.

6.7) ——— Zhou Bo, *The Beginning of Beijing Fine Arts School and China’s Design Education, Research on Knowledge Focused on Lecture Notes of Design Approaches of Beijing Fine Arts School*, [J]. Art Research, 2014(1).

8) ——— Zheng Juxin, *Narrating about Zhaitengjiasan Teaching in National Art College of Hangzhou*. [J]. The New Art, 2016, (11):43-52.

ence of overseas students in Japan and Japanese teachers in China on the formation and development of early stage design education in China.

Chen Zhifo as A Teacher and Pattern Education in the Republic of China

In 1923, Chen Zhifo graduated from Tokyo Fine Arts School and returned to China, he had taught in various types of arts colleges on pattern courses. His pattern teaching activities reflected the development conditions of the design education in China in the Republic of China to some extent.

From Chen Zhifo's return to China from Japan to the end of the 1940s, he had been teaching in several arts schools, including Shanghai Oriental Special Arts College, Shanghai Fine Arts Vocational College, Guangzhou Fine Arts Vocational College, National School of Fine Arts, National Central University, etc. He taught several courses such as pattern, color, perspective science, art history and human anatomy. Among such courses, pattern education is the center of his teaching. As early as in 1916 when he was retained by Zhejiang Industrial College as tutor, he worked on teaching of dyeing and weaving patterns. After his return to China from Japan, he once worked as Director of Pattern Department in Shanghai Oriental Special Arts College and Guangzhou Fine Arts Vocational School. During his teaching, he had compiled several teaching materials on Pattern, of which *ABC for Design Pattern Methods* is the representative one (World Book, 1930). The book offered clear and vivid introduction on concepts on patterns. The main content of the book was introduced in the notes on the use of the book: "The book contains the general knowledge and approaches on design patterns." "The book focuses on the plane design as well as the colors applied on the design, and it only outlines the general knowledge about three-dimensional design." Chen Zhifo pointed out that the basic characteristics of design patterns was "the beautiful and practical" in the book, he thought that it may constitute a design pattern unless it has the condition with "the beauty and practical". The book elaborates on the three elements of pattern composition: shape, color and decoration; the three aesthetic principles of pattern constituting: rhythm, balance and harmony; the function of the pattern: used safely, easily, adaptively, pleasantly, stimulating the desire to use⁹⁾. Illustrations are provided to explain each approach contained in the book. There're totally 79 illustrations in the book. And the book contains 136 pages.

After returning to China, Chen Zhifo had been working on pattern education for a long period. One reason was that he had specifically studied pattern in Japan. And another important reason was that the pattern education was in line with the actual demands of China's society in that period. In the period of the Republic of China, design education was included in the pattern education and handicraft education in various types of schools, of which pattern education was the most prevailing. At that period, pattern education mainly focused on decorative patterns. The popularity of pattern education was mainly due to the demands of market and product manufacturing. In the Republic of China era, the industry and commerce circle of China's national capitalism in the process of growing faced great hardships. At that time,

9)———Chen Zhifo, *ABC for Design Pattern Methods*, The World Publishing Company 1930, p16, p3.

the markets were occupied by quite a number of products from western countries and Japan. The civilians in China just called them “Western Goods” and “Japanese Goods”. And the local products in China were called “National Goods”. Compared with local goods of similar types, such foreign goods were often more refined in manufacturing processes and their prices were cheaper. The product quality was inaccessible for the national industry and commerce in China which was just at the beginning to some extent. China’s national industry and commerce had no advantage on production-related factors such as new material, new technology and new production methods. With this regard, novel and decorative features of the product forms became important factors for national industry and commerce to take part in market competitions. At that time, “some of the pillar business of national industry, such as cotton textiles, consumer goods manufacturing, etc., in the competition with foreign enterprises increased the demand for graphic design”,¹⁰⁾ for example, pattern design of textile, product trademark design and product advertising design, etc. The actual demands of economic manufacturing was an important reason for the development of pattern education.

The pattern education in the Republic of China was the second development stage of China’s modern education after industrial arts education in late Qing Dynasty. The Chinese expression “图案” was derived from Japanese expression “デザイン” which was translated from the English word “design”. Chen Zhifo had made explanation on this in the 1930s: “‘图案’ in English means ‘design’ or ‘artistic conception’ (The artistic conception is the process of ideological creation, and design is the outcome of artistic conception). And the expression ‘图案’ was the liberal translation by the Japanese and now it is commonly adopted in China”¹¹⁾. The patterns education in China emerged in late Qing dynasty, in the period of the Republic of China got larger development. Zhang Zhidong set up Sanjiang School in Nanjing in 1902, the pattern course as one of the main courses in the school. In 1918 the Beijing Fine Arts School set up the pattern department, divided into two units: the industrial arts pattern, the building decoration pattern, National Art College of Hangzhou set up the pattern department in 1928. The pattern course was taught in all the art academy in 1928-1937¹²⁾.

In the pattern education in the Republic of China the pattern course was divided into basic pattern and the industrial arts pattern. Basic design refers to the universal pattern design, the foundation training of pattern design, having no specific practical function. The contents in Chen Zhifo’s *ABC for Design Pattern Methods* belonged to basic pattern. The industrial arts pattern was the pattern design according to the need of production and the specific material, process and use. As a result of the need of the patterns education all kinds of pattern books published in the Republic of China. In addition to *ABC for Design Pattern Methods*, Chen Zhifo’s other pattern books: *Symbol Pattern* (1934), *Pattern Textbook* (1935), *Pattern composition method* (1937) were also published in the Republic of China. Other than Chen Zhifo’s works,

10) ———— Li Huaqiang, *Modern Arts Students and the Spread of the Chinese Modern Design*, [J]. Journalistic University, 2013, (06):34-41.

11) ———— Sun Hongwei, *From Pattern to Design — Evolution of the Modern Design Modes in China*, [J]. Design Forum, 2013(3).

12) ———— Shen Yu, *History of Chinese Modern Design Concept*, Shanghai People’s Fine Arts Publishing House 2017, p22.

there're also a great number of books on design published in the Republic of China era, for example, Yu Jianhua's *Latest Design Methods* (1921), Zhao Minquan's *Design* (1939), Lei Guiyuan's *New Design Studies* (1947) and Fu Baoshi's *Basic Design Studies* (1947). In addition, there're also lecture notes on design printed and distributed by the school themselves. This shows one spot about the pattern writing during the period of the Republic of China.

It should be noted that many teaching materials on pattern in the Republic of China were influenced by western countries and Japan. As pointed out in Zhou Bo's *The Beginning of Beijing Fine Arts School and China's Design Education, Research on Knowledge Focused on Lecture Notes of Design Approaches of Beijing Fine Arts School*, by comparison of the four *Lecture Notes on Design Methods* by Beijing Fine Arts School from 1918 to 1922 and Xiaoshixincang's *General Design Methods* (1909), except the fourth volume specifically on "design patterns" and "printing", the remaining three were all influenced by Xiaoshixincang's *General Design Methods* to some extent. Certainly there're also some books on design relatively greatly influenced by western thoughts, for example, Zhao Minquan's *Design*. Among the four references listed in the book, three were English books, and the remaining one is Xiaoshixincang's *General Design Methods*¹³⁾.

In the development of Chinese modern design education, forming the two connotation of the word "pattern": the generalized connotation is the "design", in a narrow sense, it is planar pattern in line with aesthetic runes. The main contents of pattern education in the Republic of China were planar pattern. And nowadays in China, the term of "pattern" used by the people is mainly in a narrow sense. The design education in the Republic of China was an important development stage of China's modern design education. Pattern educators, as represented by Chen Zhifo, were the receivers and spreaders of modern design. And their teaching practices and works on patterns formed an important part in the research on China's modern design education.

Conclusion

As one of the pioneers and founders for China's modern design education, Chen Zhifo had been working on design education for over 40 years for his lifetime and was of significant influence on China's modern design education. His design learning experience as a student and design teaching experience as a teacher reflected the conditions of the first stage (industrial art education stage) and the second stage (pattern education stage) in the course of the development of China's modern design education.

The industrial arts education in the late Qing Dynasty and the beginning of the Republic of China formed an important part in China's emerging industrial education. And the industrial education represented the historic trend of China to be stronger through reformation. The contents and scopes of industrial arts education were both greater than those of design of education nowadays. The industrial arts education was regarded as the beginning of China's mod-

13) ——— Zhou Bo, *The Beginning of Beijing Fine Arts School and China's Design Education, Research on Knowledge Focused on Lecture Notes of Design Approaches of Beijing Fine Arts School*, [J]. Art Research, 2014(1).

ern design education. In China's design education in the Republic of China, pattern education had been widely focused and become the representative topic of this period. The prevailing of pattern education in the Republic of China was closely related to the intense competition of the national industrial and commercial commodities and foreign commodities. The main contents of pattern education in the Republic of China are domestic planar patterns, which was a narrow sense in terms of generalized and narrow senses. The contents and scopes were narrower than nowadays design education and should be a part of present planar design education. From the industrial arts education and pattern education, it can be drawn that the generation and development of China's modern design education bears close correlation with the overall social and historical development as well as the actual demands of the social, economic and production development.

After the founding of the People's Republic of China in 1949; China's modern design education also experienced the arts and crafts education stage (after the 1950s) and the modern design education stage (from the 1980s up to present). The industrial art education and pattern education in the first half of the 20th century was the foundations and historic fortunes for China's modern design education in China nowadays. Researches on the pioneers of modern design represented by Chen Zhifo are of great necessity to summarize the historical experience of the development of China's modern design education and provide historic references for present design education.

Author Biography

GONG XIAOFAN

Gong Xiaofan, female, Doctor of Theory of Literature and Art, graduated from Renmin University of China, presently working as Professor of School of Design and Art of Beijing Institute of Graphic Communication, Master Supervisor, Postdoctoral Cooperative Supervisor, Director of Aesthetic Research Institute, Director of the Academic Committee of School of Design and Art, Member of Council of China Aesthetic Society, Member of Council of Beijing Aesthetic Society, Member of Council of Aesthetic Education Research Association of China Higher Education Society, Member of China Association of Sino-Foreign Literary & Arts Theories, Member of International Aesthetics Association (IAA), Member of Design History Society (DHS, UK), etc. Research Orientation: History of Design, Artistic Theory and Aesthetics. She has published 3 works and over 80 papers. Her papers have been awarded two provincial level prizes of including the North China Literary Theory Awards.