

The Necessity and Implementation Strategy of Design Education in Primary and Secondary Schools

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ABSTRACT. *From the four aspects of the physical and psychological development of primary and secondary school students, from the integrity of the design education chain, from the “civilian education” and the needs of the national economy, it is necessary to carry out design education in primary and secondary schools. At present, the design education of primary and secondary schools is in the exploratory stage. The students' learning objectives are not clear, the teaching content and mode are too single, and the school teachers are insufficient. Grasping the ideas of modern design education, cultivating innovative talents, and diversifying the teaching model is a bright prospect for educators on design education.*

KEYWORDS: *Design education; Necessity; Innovation; Diversification*

1. Historical Development of Design Education

The word design, derived from the Latin *designare*, is the original meaning of the plan. Regarding the meaning of the word design, many people think that it is color, pattern, shape or decoration. In a broad sense, design refers to the creative imagination under the guidance of a certain purpose, and the concrete expression of one kind of activity. [1]

Design education was born in the 19th century, and the British design thinker John Ruskin first proposed that design education should be a comprehensive education throughout the brain, mind, and hands. The Bauhaus School in Germany, founded in 1919, is the world's first professional design education school. It focuses on cultivating students' independence, originality and innovation, and rejects the imitation of any fixed style and genre. The development has made a certain contribution. Modern design education requires designers not only to master the design skills, but also to have a sufficient understanding of the whole process from design and manufacture to market, to achieve the combination of design and business.

2. The Necessity of Implementing Design Education in Primary and Middle Schools

2.1 From the Perspective of Students' Physical and Psychological

Modern pedagogy and psychology research on children and adolescents show that the way of thinking, behavioral habits, emotional attitudes and values that people develop in early education lays the foundation for the development of his or her life. Implementing targeted education during the growth phase is key. The educator Ron Feide called “adolescence” (about 13-17 years old), students are energetic, no longer passive, adaptors, obedient, performers, imitators, and strive to be active explorers, discoverers, selectors, designers. It is also the most effective period for comprehending knowledge, perceiving aesthetics, mastering skills, developing habits and shaping personality. At this time, education should provide young people with rich opportunities for stimulation and practice, and promote their comprehensive use of known ability to explore the unknown through practical actions. Seeking and discovering an intrinsic connection between things can solve some specific problems and gain a sense of accomplishment in the process. Design education just provides some kind of unique conditions and imagination to meet the development needs of young people. Professor Ron Feder's book “Creation and Growth of Mind” provides adolescent art education strategy for young people. More than two-thirds of the curriculum is designed or designed for related courses, including scrapbooking, preparation, and tableware. , pottery, clothing, architecture, environment, landscape, transportation, decoration, woodworking, metal, machinery, furniture, flower arrangement, gardening, etc. [2]

2.2 Starting from the Integrity of the Design Education Chain

The quality of teaching and the results of design education are not satisfactory. Relevant departments can attribute the reasons to the admissions system, management model, student quality, educational environment, etc., but it seems to ignore a more important factor - the continuous development of design education at each stage. Sex and generality. A well-established design education system at the basic education stage and a widespread citizenship design quality education will provide strong support for the long-term development of the entire design education. Let the students who have just graduated from high school enter the university design major, and they need to carry out the primary “basic work” in the university. The teaching situation is inevitably trapped. The design education implemented in the middle school stage is not only the basic popularization of design culture, consciousness and action ability, but also the role of industry identity, interest cultivation and self-discovery. The outstanding students naturally carved out by this process are more suitable for further study and further study. It is a natural and reasonable extension of the design education chain, so as to prepare for the improvement of the overall design education quality. [2]

2.3 From the Perspective of National Economic Development

When a country develops to a certain degree in economic development, design education emerges as the times require. Design education and economic development are basically synchronized. The design directly serves the national economy, and the development of the national economy has created a developed design.

The society is advancing, and there is a great demand for high-quality, high-level, innovative designers in various industries. It is imperative to recognize the reality of modern design education, grasp the ideas of modern design education, analyze and explore modern design education, and construct a reasonable modern design education system, making design education truly an important driving force for national economic development.

2.4 From the Perspective of “Civilian Education”

The purpose of design education is not only to create a designer with “design and creativity”, that is, not just a vocational skill education, but a social behavior and cultural action. Design education in the true sense is an education of correct values. Design education should not only serve the market, but also guide the market consumption and help create more reasonable consumption methods and lifestyles. Therefore, it is not an exaggeration to say that design is a way and means to create a new culture. Design art is not only a tool in modern industrial civilization and economic tide, but also a skill of a few designers to make a living. Design art should become a citizen-accepted education accepted by the whole society, that is, the “civilian education” advocated by Mr. Tao Xingzhi.

In Japan, design education has been included in the curriculum for primary and secondary schools as a common-sense course. In elementary school, the content of design art education is included in the picture class; the junior high school has design process class, in which the design course is divided into two categories: design and communication design; high school design and craft classes are divided into three categories, from different depths and breadths. Students' design appreciation and performance skills; design courses are offered in almost all universities, in order to meet the needs of modern social quality education and personality improvement. [3]

3. Prospects for Design Education in Primary and Middle Schools

3.1 Focus on Cultivating Students' Creativity

Design education, while focusing on cultivating practical design talents, also pays attention to the cultivation of innovative talents. Pay special attention to the experimental nature of teaching under the premise of heavy foundation and heavy

theory, encourage students to try boldly and advocate new conceptual design works. Design requires innovation awareness, and the cultivation of innovation consciousness can be achieved by using teaching experiments. In the teaching, students are encouraged to negate, dare to seek new ways to solve the courage, train students to look at the problem from different angles, and use a variety of different means to solve the problem. Encourage students to boldly envisage, but not to consider the possibility of technology, market demand, production costs, consumer psychology, etc., and find new possibilities in constant negation. Pilot trials are essential for design innovation, and schools can provide this stage for students. In the experiment, students can expand their knowledge of various possibilities such as materials, techniques, and means of expression, which can make students' creative thinking space expand infinitely. Of course, we should also realize that before the students conduct experimental training, students must have mastered the corresponding theoretical knowledge, and have a certain design basis, cultivate their forward consciousness, creative consciousness, and become the guide of the future design trend.

3.2 Promoting a Diversified Teaching Model

The scope of the design is very wide. The service target of the design is the market and the society. The market and society are also very different from region to region. Its complexity determines that there is no unified model for design education, and a completely stable design education system does not exist.

The demand for design talents in society is diversified. The cultivation of talents cannot be a model and should be developed in a diversified direction.

As a school, we can only adapt to the needs of today's society by establishing a multi-angle, multi-directional and multi-level educational concept. In terms of curriculum and teaching arrangements, different teaching ideas are reflected according to the characteristics of the school. Schools can use radio stations, audio-visual centers, and campus computer network systems for design education to organize various design knowledge lectures, knowledge contests, and small invention design competitions to enhance students' interest and arouse people's attention to design.

3.3 Combining Theory with Practice to Develop Teaching Materials for Primary and Secondary School Students

Design theory courses include “a brief history of modern design”, “design psychology”, “design aesthetics”, “design appreciation”, “design art thinking”, “design procedures and methods”, “ergonomics”, “value analysis” In the aspect of “design procedures and methods”, it is necessary to fully consider the physical and psychological characteristics of primary and secondary school students and to consider the connection with university design courses.

The design practice course requires students to have the ability to make sketches

and freehand paintings, master model making techniques, understand a drawing software, have certain expressive skills and skills to interact with people, and have the ability to write experimental reports and have a good appreciation.

It is the responsibility of the textbook writer to combine the theory and practice in the textbook to improve the design theory, design consciousness, design concept, design thinking and design aesthetic evaluation ability of primary and secondary school students.

Primary and secondary school design education can be focused on. According to the characteristics of the school, promoting traditional culture and developing characteristic school-based curriculum are all good choices.

3.4 Expectations for Students

China's basic education reform strategy attaches great importance to the teaching exploration of curriculum integration. The design education content is directly related to social life, culture and art, science and technology, and naturally. Therefore, design teaching can investigate and participate from different angles through inquiry learning. Experience all aspects of human existence: humanities, science and technology, economy, ethics, aesthetics, etc. In the rich and varied curriculum forms, realize the integration effect between courses and achieve mutual benefits.

As a learner of design, it is necessary to strengthen research-based learning, especially self-directed learning, while being familiar with relevant theoretical knowledge and techniques.

References

- [1] Liang Chengdong, Kang Yu (2005). Reflections on the Popularization of Design Education in Primary and Secondary Schools, *Journal of Guangxi Teachers College. Philosophy and Social Sciences*, vol.49, no.1, pp.42-44.
- [2] Xi Weiquan (2008). Design Education and Its Value in Ordinary Middle Schools. *Theory Space*, vol.32, no.2, pp.2-3.
- [3] Fu Zhiyi (2002). Conception of Quality Education in Industrial Design. *Design Education*, vol.49, no.1, pp.42-44.