

Research on Aesthetic Education under the Background of New Engineering——Take Industrial Design as an Example

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Abstract: Aesthetic education plays an important role in the training of engineering talents under the background of new engineering construction. This paper analyzes the current problems of aesthetic education for engineering students, such as unclear understanding of its importance, imperfect system setting, unscientific form of development, ideological and political effects are not obvious, discusses the effective exploration of the engineering College of Huazhong Agricultural University in curriculum setting, second classroom mining, scientific and technological innovation ability cultivation, and further explores the strategies of strengthening aesthetic education for engineering students in the new era.

Keywords: Institutions of higher learning; Art education; Aesthetic education; Engineering students; New engineering

The Opinions on Strengthening Aesthetic Education in Colleges and Universities in the New Era issued by the Ministry of Education in 2019 emphasized that aesthetic education in schools is the work of the bacon casting the soul, and improving students' aesthetic and humanistic qualities and comprehensively strengthening and improving aesthetic education are the important tasks of higher education at present and in the future. New engineering talents need stronger feelings of home and country, creative spirit and characteristics of The Times. Aesthetic education is a powerful means to expand the mind and vision of engineering talents, and there is an inherent compatibility between the two. Aesthetic education is not only an important task in our higher education, but also a sufficient and necessary condition for our higher engineering education to achieve our national mission. ^[1]

At present, the construction of aesthetic education courses in domestic science and technology colleges is not perfect enough to effectively guide students to develop and create beauty and apply it to their major and life. Foreign colleges and universities aesthetic education is relatively perfect, more practice experience as the main way of implementation of aesthetic education. Stimulate students' inner vitality and enhance their aesthetic quality from perception and experience.

1. The value of aesthetic education for industrial design majors

1.1 Aesthetic education can stimulate people's creative potential

In terms of thinking, aesthetic education can expand people's thinking, enlighten them with image thinking and supplement logical thinking. Aesthetic education can provide opportunities for inspiration. In a free and harmonious aesthetic state, the aesthetic subject will produce a variety of aesthetic images in the brain, and it is possible to obtain desired inspiration through the rapid transformation and combination of images.

1.2 Aesthetic education can cultivate people's social character adapted to contemporary society and correct personality defects

Perfect personality is the integration of knowledge, emotion and will, which is embodied in adventurous courage, independent character, anti-setback will, eternal perseverance, curiosity, desire for truth, integrity and character. Aesthetic education builds aesthetic personality, which aims to form beneficial checks and balances and adjustments to the one-sided personality molding caused by the expansion of instrumental rationality through the cultivation of aesthetic personality. Aesthetic education undoubtedly plays an irreplaceable role in the improvement of personality. The lack of aesthetic emotion will cause the imbalance and inclination of personality quality, dismemberment of complete personality and affect the development of sound mind.

1.3 The mode of aesthetic education is conducive to people's knowledge learning

Aesthetic education is a kind of pleasant knowledge learning education, it makes learning into enjoyment. It has the function of pleasing teaching, which can stimulate people's interest in learning, experience learning happiness, and internalize knowledge quickly. It has pleasant teaching strategies, which use soft induction, edutainment in beauty, and touching with emotion. Aesthetic education has pleasant teaching means, it is shown in images. Aesthetic education of this interesting, lively form of education, so that people can easily and happily learn and master knowledge.

1.4 The aesthetic emotion generated by aesthetic education can balance and soften the rationality and mechanics of high-tech

Aesthetic education is a kind of education in which sensibility permeates reason and emotion permeates reason. It can promote people's sensibility and reason, emotion and reason to develop harmoniously. In contemporary society, because of the excessive emphasis on technology, people may suffer from the repressive control of reason, while the significance of aesthetic education lies in stimulating people's spiritual, passion, imagination and other emotional emotions, freeing the fettered minds of people, so as to establish a harmonious relationship between sensibility and rationality.

2. Outstanding problems in aesthetic education of industrial design major

"The unity of technology and art" has always been one of the core issues in the study of industrial design. With the development of industrial design, the relationship between the two is getting closer and closer. This trend puts forward higher requirements for the comprehensive quality of industrial design talents. For a long time, under the background of the traditional teaching mode of science and engineering colleges, the teaching system, personnel training mode and curriculum setting of industrial design major often habitually follow the technology-led mode, and there are few researches and explorations in aesthetic education, which makes it difficult for students' aesthetic judgment and aesthetic creativity to rise to a higher level. In the face of the increasing convergence and integration of technology and art in the field of design, aesthetic education for students majoring in industrial design of science and engineering begins to receive more attention, but the situation of aesthetic education is still not in place in many colleges and universities.

3. Practical exploration of aesthetic education for industrial design major

3.1 Enhance aesthetic ability through curriculum

College students are in the watershed between childish and mature, their thoughts tend to mature, the basic formation of the three views Specific classroom education activities with socialist core values as the guidance of the penetration of "beauty" education can obtain different results. On the basis of giving full play to the aesthetic education function of the first classroom, attention should be paid to the development of the activities of the second classroom. The second classroom activities are closely combined with the first classroom to become the effective expansion and extension of the first classroom.

Strengthen the aesthetic education function of practical education in the second classroom, put classroom teaching into practice, and incorporate practical activities

The course. Scientific positioning of general aesthetic education objectives, actively carry out project-based teaching, actively carry out project-based teaching in flipped classroom, salon, workshop, professional lecture and other forms, to help students turn aesthetic education into a considerable, tactile and usable experience process, so that students have more time to immerse in practical ability to improve practical ability. Make full use of and optimize the integration of internal and external, integrate various other online and offline resources, improve the all-round aesthetic education system, and provide more curriculum design for students. [2]

3.2 Improve the aesthetic education evaluation system for engineering students

One is to establish an evaluation system in line with the characteristics of aesthetic education. Aesthetic education should take moral cultivation as its fundamental task and aim to promote the all-round development of engineering students. The evaluation system of aesthetic education should focus on the training effect of engineering talents, and should not only rely on academic qualifications or papers. A complete closed-loop evaluation system of "training objective-training program-training procedure-training effect-reflection goal" has been established to conduct research for society and enterprises, understand the technical needs of industrial talents and the needs of economic and social development, and provide effective basis for the continuous improvement of aesthetic education.

Second, we should improve the leading organization of aesthetic education. Relying on engineering colleges or disciplines, a team for promoting aesthetic education in new engineering construction will be established to take charge of the overall planning,

policy design, coordination and promotion of aesthetic education and improve the evaluation. The members of the scientific formation promotion group should include the main leaders, professional teachers and aesthetic education teachers. In addition, students and related units should be recruited as the think tank. The promotion group should actively strive for funding support for aesthetic education, especially gradually establish a team of professional, professional and professional teachers with excellent quality.

3.3 Carry out innovative training to enhance aesthetic experience

Innovation is the source of power for the development of everything in human society. The term innovation-driven development strategy first appeared in the report to the 18th CPC National Congress. Later, building an innovative country has become a social consensus. Colleges and universities of science and engineering play an indispensable role in the process of building an innovation-oriented country. Facing the needs of social development, industrial upgrading and participation in international competition, they have trained a large number of technical talents dedicated to the road of independent innovation with Chinese characteristics. In the new era, universities of science and engineering should take the innovation and development of the country and the nation as their own duty, shoulder the mission of carrying forward the spirit of innovation and highlighting independence. Since ancient times, aesthetic education has advocated the innovation of the old and encouraged new things, which is full of the thinking concept of seeking new changes and seeking truth with beauty.

College aesthetic education advocates the cultivation of innovative thinking ability, leads social fashion in reform and innovation, and inspires generations of college students to strive to realize their personal ideals and value pursuit. Qian Xuesen once said in his book that “scientific research should not only rely on logical thinking, but also use innovative thinking to broaden the horizon.” Through subtle influence, aesthetic education stimulates college students’ strong desire for truth, beauty and goodness, improves their moral and intellectual level, and finally stimulates their inexhaustible creative impulse. [3]

In the training of new engineering talents, comprehensive quality is an important index in the orientation of talent training, and aesthetic education is a key link to improve comprehensive quality. For the new engineering students with fast pace as the main characteristics of The Times and cross integration as the main characteristics of the major aesthetic education, setting reasonable aesthetic education can improve the comprehensive quality of talents, and meet the practical needs of students aesthetic education under the current prevailing education mode. Through the establishment of curriculum aesthetics, environment in line with aesthetic ideas and student evaluation system focusing on aesthetic, an effective aesthetic education system can also be constructed, which can produce benchmarking significance and promote the landing and practice of educational practice.

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