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Research on the Public Art Education System and Evaluation of the Science and Engineering Colleges from the Perspective of Aesthetic Education in the New Era

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Abstract: *The construction of a public art education evaluation system in colleges and universities in the new era is the core component of the evaluation system of aesthetic education in colleges and universities. It is also an important path to comprehensively deepen the comprehensive reform of college aesthetic education and improve the work of college aesthetic education. This article combines the characteristics and practice of science and engineering colleges. And we address the problems of science and technology colleges and universities in the current public art education work. It includes "light" aesthetic education consciousness, "partial" aesthetic education understanding, "wrong" aesthetic education concept, "incomplete" aesthetic education mechanism, "few" aesthetic education resources, "weak" aesthetic education teachers power, "old" aesthetic education concepts, "low" aesthetic Education quality, "empty" aesthetic education system, "unspecialized" aesthetic education materials, "generally" aesthetic education evaluation. These problems are used as the basis for constructing a public art education system in polytechnics, and exploring the implementation of an aesthetic education evaluation strategy suitable for polytechnics colleges and universities with public art education as the core.*

Keywords: *Aesthetic education in the new era; Public art education system in science and technology; Evaluation of aesthetic education*

The Importance of Reform and Development of Aesthetic Education in Colleges and Universities in the New Era

In 2020, the General Office of the CPC Central Committee and the General Office of the State Council issued "the Opinions on Comprehensively Strengthening and Improving Aesthetic Education in Schools in the New Era". It is the second national-level document on aesthetic education issued after "the Opinions on Comprehensively Strengthening and Improving Aesthetic Education in Schools" which was issued by the General Office of the State Council in 2015. The publication of such documents fully demonstrates the great importance that the Party Central Committee and the State Council attach to the work of aesthetic education in schools (Guo, 2021). The most prominent feature of the two documents is the "new era". This document is based on the new era and focuses on the reform of aesthetic education in the new era. It points out the direction of work and reform for universities to further deepen the work of aesthetic education and realize the

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work of aesthetic education under the "Five Educations in Parallel".

At present, China is going through a critical period of economic transformation and development. The competition in the industry has become more intense, which ultimately reflects the "Inward Roll" and "Lying Flat" in work and life at the individual level. To a certain extent, this is also due to the lack of spiritual resources, which leads to powerlessness and negativity in the face of difficulties. Therefore, strengthening aesthetic education from elementary school to university and cultivating a "useless but interesting soul" has undoubtedly become the inner motivation for people to face difficulties and the spiritual power that drives people to a happy life and a good life. Aesthetic education in the new era is an essential part of whole-person education. For a student, education without aesthetic education is an incomplete education and partial education. For every aesthetic educator, we should consider aesthetic education as a career to make students have true beauty and goodness in their hearts.

The Connotation of Public Art Education Work in Polytechnics in the New Era

Aesthetic education, a term whose meaning and function are not static. It has been given a new connotation with the development of times. Aesthetic education is aesthetic education, as well as education of sentiment and mind. It can not only improve people's aesthetic quality, but also subconsciously influence people's emotions, interest,temperament and broad-mindedness, inspire people's spirits and warm their hearts (General Office of the State Council, 2015). Beauty is an important source of moral purity and spiritual enrichment. School aesthetic education is the work of cultivating the roots and casting the soul. Improving students' aesthetic and humanistic qualities and comprehensively strengthening and improving aesthetic education is an important task for college education at present and in the future (Ministry of Education, 2019). It can be seen that aesthetic education is the soul of a school construction and the soul of the comprehensive development of college students in the new era. Therefore, we cannot just take aesthetic education as aesthetic education, or understand aesthetic education only as art education. Aesthetic education in the new era, with public art education as its core. It encompasses not only the aesthetic education component of art education, but also the humanistic education component such as sentiment education and spiritual education. It also contains the scientific literacy education component of cultivating the spirit of innovation, especially the aesthetic education of science and technology colleges and universities, which is even richer in connotation. This makes it necessary to pursue not only the beauty of form, but also the beauty of connotation and even the beauty of science in concrete implementation work.

Public art education in colleges and universities is a popular art education for all students in ordinary colleges and universities, an important component of aesthetic education in the new era, an important field for colleges and universities to strengthen students' aesthetic education, and an important way to improve students' aesthetic and humanistic qualities. Then, public art education in polytechnics in the perspective of aesthetic education in the new era should have at least three components, namely artistic aesthetics, humanistic heritage and scientific spirit. As educators of aesthetic education in science and technology colleges and universities, we must fully recognize and deeply understand the important connotation and far-reaching significance of college aesthetic education in science and technology colleges and universities. Only when we fully realize

this point in our mind, we can more consciously promote aesthetic education in a comprehensive and integrated way in the actual work of aesthetic education in colleges and universities. Only by doing so can aesthetic education really become an important component in implementing the fundamental task of establishing moral education, an important force in promoting the concurrent and coordinated development of five educations, and an important path in promoting the all-round development of students.

The Main Problems of Public Art Education in Science and Technology Colleges and Universities under the Current Perspective of Aesthetic Education

At present, there are still a series of misunderstandings in the practical work of aesthetic education in colleges and universities. The common problems in practical work include “light” aesthetic education consciousness, “partial” aesthetic education understanding, “wrong” aesthetic education concept, “incomplete” aesthetic education mechanism, “few” aesthetic education resources, “weak” aesthetic education teachers power, “old” aesthetic education concepts, “low” aesthetic Education quality, “empty” aesthetic education system, “unspecialized” aesthetic education materials, “generally” aesthetic education evaluation. These problems can be broadly categorized into the following four points.

The Problem of Awareness of Aesthetic Education

Most colleges and universities have the problems that the understanding of aesthetic education is limited to the education of art, treating aesthetic education and aesthetics as equally useful, treating aesthetic education as the subordinate relationship of moral education, and public art education emphasizing skills rather than education. The root cause is the weak awareness of aesthetic education, which leads to the misunderstanding of aesthetic education in colleges and universities, the misconception of aesthetic education, unclear goals of education, etc. Therefore, it is necessary to improve the environment of aesthetic education in science and technology colleges, and fully grasp the guiding ideology and target tasks of the construction of aesthetic education in colleges and universities. First of all, it is to solve the problem of aesthetic education consciousness, and to clarify the relationship and connotation between aesthetic education and art, and aesthetics from the root. Establish a correct concept of aesthetic education, so as to establish the concept of public art education in science and technology under the vision of aesthetic education.

The Problem of Teachers in Aesthetic Education

The weakness of aesthetic education teachers is still the norm in colleges and universities, especially in polytechnics. Among the teachers of aesthetic education, the full-time teachers of art majors should be the main body of public art education, while most of the teachers of aesthetic education in science and technology colleges and universities are mostly part-time teachers or external teachers. Moreover, the group of teachers of aesthetic education generally has old teaching concepts, weak aesthetic education literacy, and the use of other subjects for aesthetic education materials. Aesthetic education teachers are the main force in implementing the work of aesthetic education in the new era. Such a faculty and teacher structure are not conducive to the implementation of aesthetic education in the new era. Therefore, polytechnics need to strengthen the

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construction of aesthetic education teachers, increase the efforts of internal training and external attraction.It is also necessary to match and strengthen the professional teachers of aesthetic education in universities, and optimize the structure of aesthetic education teachers.

The Problem of Resources for Aesthetic Education

Compared with teacher training colleges and professional colleges, polytechnics have "fewer" resources for aesthetic education and lack of integration of existing resources for aesthetic education, as well as lack of resources for venues, funding and teaching materials. These are important guarantees for creating a good environment for aesthetic education, and are important measures to cultivate students' all-round development. Science and engineering colleges and universities should vigorously increase the number of aesthetic education venues, improve the utilization rate of existing resources, and develop supporting aesthetic education teaching materials. Thus, they can optimize the environment of aesthetic education in colleges and universities and promote the sustainable development of aesthetic education.

Problems with the Mechanism of Aesthetic Education

Most science and engineering institutions lack top-level design for aesthetic education. They have not formed an aesthetic education mechanism for collaborative education, have not established an aesthetic education curriculum system, and have not constructed an aesthetic education evaluation system and aesthetic education evaluation standards. These problems lead to the phenomenon of "generalization" in the evaluation of public art education and other aesthetic education. The specific implementation of aesthetic education evaluation is cross-departmental, cross-field and cross-disciplinary in nature. In response to the current problem of lagging behind in the overall planning of aesthetic education, there is an urgent need to establish a coordinated and multidimensional mechanism for overall planning.

Based on the above problems, we need to clarify the educational objectives of aesthetic education in polytechnic colleges and universities. At the same time, we adhere to the goal-oriented and problem-oriented approach to build a public art education system and a public art education evaluation system.

The Construction of Public Art Education System in Science and Technology Colleges and Universities under the Perspective of Aesthetic Education in the New Era

The goal of aesthetic education in science and engineering colleges is not to train college students to become artists or literary scholars, but to train students with a good humanistic background, artistic aesthetics and scientific spirit. Students will be able to understand and recognize the true, good and beautiful in combination with the examination of natural beauty, artistic beauty and social beauty. At the same time, it promotes the healthy development of the body and mind of college students and enhances the sense of social responsibility and mission in a subtle way. In addition, the students will establish an aesthetic attitude and even an attitude towards life, and enhance the aesthetic realm and even the realm of life. In this way, they can construct and create the beauty of the new society, the new era, the new life, and the beautification of human beings them-

selves, and learn to be "Artists in Life".

Improve the Environment for Aesthetic Education in Polytechnics

First, strengthen the top-level design and enhance the awareness of aesthetic education. Organize all levels and departments of the school to study and study the spirit of relevant documents in depth and fully grasp the guiding ideology and goals and tasks of the construction of aesthetic education in colleges and universities. The school should correctly understand the importance of promoting aesthetic education, and include the content of aesthetic education into the important content of the training for new students and teachers, such as school entrance education and training for new teachers in the school. At the same time, we should effectively strengthen the awareness of aesthetic education, correct the understanding of aesthetic education, clarify the connotation of aesthetic education and update the concept of aesthetic education among teachers and students of science and technology.

Secondly, the system is strengthened to highlight the elements of aesthetic education. It has formulated and introduced school-level documents and systems such as the "Rules for the Implementation of Aesthetic Education in Schools". Step-by-step development and introduction of the "School Aesthetic Education Curriculum and Practice System Construction Program" "School Aesthetic Education Work Evaluation Program"; revision of the "Comprehensive Quality Assessment of School Students" and the "School Student Handbook". Aesthetic education will be assessed in a separate column in the comprehensive quality assessment of students, along with moral education, intellectual education, physical education, labour education and aptitude. Public art elective credits will be incorporated into the talent training programme of the school. Each student in the school is required to take two credits of aesthetic education courses before he or she can graduate normally. In this way, full coverage of aesthetic education is achieved for all staff and processes.

Third, optimize the aesthetic education team and enhance the power of aesthetic education. Increase the efforts of internal training and external attraction, match and strengthen the teachers specializing in public art in science and technology colleges and universities, and optimize the structure of the teaching team. Thus build a high-level and high-quality aesthetic education teacher team composed of "Public Art Teachers (Full-time) + Interdisciplinary Teachers (Part-time) + Thinking Teachers (Auxiliary) + External Visiting Professors (Auxiliary)".

Fourth, we are improving the aesthetic education base and enriching the resources for aesthetic education. Integrate resources, make comprehensive plans, and build or renovate and expand a series of aesthetic education sites and facilities. Improve the functional equipment, enhance the utilization efficiency, and create a new carrier for teaching and practical education of aesthetic education courses in colleges and universities. Strengthen the construction of aesthetic education venues and apply for the school's national school, art education center and other aesthetic education venues. And expand the funding to provide aesthetic education resources for the reform and development of public art education evaluation in polytechnics colleges and universities.

Establish An Integrated System of Public Art Education in Polytechnics

First, it has constructed a public art curriculum system for science and engineering colleges and universities

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to enhance the effectiveness of aesthetic education courses. By insisting on "Educating People through Beauty and Culture", taking aesthetic education as the entry point and running through the whole process of talent training, we pursue the truth of science, the goodness of humanity and the beauty of art. At the same time, with the five modules of literature, history, philosophy, art and synthesis, it builds a public art curriculum system for colleges and universities of science and technology that includes four types of curriculum groups, including public art theory course group, public art appreciation course group, public art practice course group and public art creation course group.

Secondly, it constructs the public art teaching materials system of polytechnic colleges and universities to enhance the study of aesthetic education teaching. According to the public art curriculum system, through clarifying the concept, essence, attribute and function of the public art curriculum materials in universities of science and engineering, the potential aesthetic education elements of campus professional courses are explored. Form a curriculum team to strengthen the preparation of public art teaching materials in universities of science and technology. And build a public art teaching material system with science and technology characteristics.

Third, to build an integrated system of public art classroom teaching and practical education in science and technology colleges and universities, and to bring into play the function of aesthetic education to educate people. By insisting on aesthetic and humanistic literacy as the core, focusing on the cultivation of aesthetic and innovative abilities, and taking the excellent Chinese traditional culture as the main content, the first classroom public art curriculum system containing mainly public art courses, supplemented by cross-disciplinary courses, is constructed. This system covers four major curriculum clusters, including appreciation, practice, theory, and innovation. In addition, by building and relying on the school's humanities quality education teaching base, we will deeply integrate the first classroom teaching content and build a public art education system in science and technology colleges and universities that has both national, regional and school-based characteristics. This system is a second classroom public art practice system with literature lecture series, literature and art theater, literature and art competition, and base open day series activities as the main way.

The Path of Public Art Education Evaluation System in Polytechnics in the Perspective of Aesthetic Education in the New Era

On the basis of establishing an integrated system of public art education, based on goal orientation, combining many elements such as the first course teaching and second classroom activities, and taking into account the characteristics of science and technology students, explore the implementation path of public art evaluation in science and technology in the new era. Actively play a demonstration role and explore a set of implementation-ready and effective evaluation paths and application paradigms that are applicable to college students in science and technology institutions.

Build An Evaluation System for Public Art Education in Science and Technology

First, to establish overall evaluation standards for public art education in polytechnics. First of all, we should strengthen the top-level design of aesthetic education and grasp the progress of aesthetic education in schools.

At the same time, the policy formulation and system introduction of the responsible departments and the implementation of university aesthetic education with public art education as the main body should be included in the overall evaluation system of the school together. In this way, the overall evaluation criteria and the application of results of public art education in polytechnics should be established.

Second, to establish evaluation standards for public art education teachers in science and technology. By establishing evaluation standards for public art education teachers in science and technology, aesthetic awareness and aesthetic quality are incorporated into the assessment of full-time teachers of aesthetic education, and a mutual evaluation system is implemented for management. Combining the performance of teachers' personal aesthetic literacy level and aesthetic teaching level, quantitative qualitative evaluation of teachers' teaching ability is conducted in leadership assessment, between teachers and teachers, and between teachers and students. The evaluation results serve as an important basis for teachers to improve their aesthetic literacy and teaching level.

Third, to establish evaluation criteria for public art education for science and technology students. For all college students, public art courses and practical activities are incorporated into the school's talent training programme. Establish public art education evaluation standards for science and technology students, and implement an all-round and whole-process evaluation and management of the public art credit system. It is mainly based on the school academic affairs system and the second classroom management system data, the first classroom public art general education course credits and the second classroom public art practice credits, the first classroom course grades and the "second classroom transcript" practice activity grades. It also integrates several evaluation criteria to quantitatively evaluate and certify students' aesthetic knowledge, aesthetic ability and aesthetic literacy. The evaluation results will be used as an important basis for the evaluation of students' merit. Finally, the data results will be analyzed and studied to gradually improve the evaluation and certification of public art education for science and technology students.

Explore the Implementation Path of Public Art Education Evaluation in Science and Technology Universities

First, strengthen the assessment of first classroom courses in public art education. First classroom course assessment related to public art education is conducted for all school students. Generally, this is the responsibility of the unit department and the Registrar's Office of the school offering the public art education course to assess the participating courses. The results of the assessment may be on a five-point scale, classified as excellent, good, fair, passing, or failing. The first classroom course assessment mainly tests whether students have the knowledge of beauty, the awakening of beauty awareness, and the development of beauty skills in public art education. The integration of public art education and the study of this major is also a basic component of the assessment and evaluation of public art education.

Second, strengthen the second classroom course assessment for public art education. Second classroom course assessment related to public art education is conducted for all current students. In general, this is done by the school committee through the second class transcript system for course assessment and feedback. The second class system makes use of online education platforms such as "To Dream Space" and "E-Class".

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It sets up courses and credits on such platforms and tracks students' practical course completion data. The second classroom program tests whether students have expanded their knowle is also an idge of beauty, improved their skills, practiced their behaviors, and created things of beauty in public art education. The second classroom's mutual promotion of learning in this major, etc.,mportant component of the assessment and evaluation of public art education.

Third, to strengthen the permanent and comprehensive assessment of public art education. The school conducts semester-year assessments based on individual students' self-study content in public art education credits. The main basis of the assessment includes the data of the academic affairs system and the second classroom management system, the first classroom public art education course credits and the second classroom public art education course credits, the first classroom grades and the second course grades. This will be used as the basis for quantitative evaluation of students' public art knowledge, ability, and literacy during the school year. The results will be used as an important basis for the evaluation of students' awards and merits. Finally, the data results will be analyzed and studied to gradually improve the assessment and evaluation of students' public art education.

Conclusion

Aesthetic education in the new era is education about the soul. Public art education is the core and backbone of aesthetic education in the new era. This is precisely why major universities across the country are paying more attention to public art education than ever before, especially in science and technology institutions. Some institutions have also set up institutions such as the Department of Humanities Education and Teaching, the Center for Aesthetic Education, and the Department of Public Art Education as the coordinating body for university-wide aesthetic education work. Some institutions have achieved certain results. They have formed the concept of aesthetic education in the new era, clear and explicit construction ideas, and initiatives of joint efforts to educate people. These are worthy of the significance and value of public art education work and research in polytechnics. Aesthetic education with public art education as the core is a whole-person education, a whole-process education and a "whole-person" education for all students. Science and engineering colleges and aesthetic educators are obliged to lead students to establish correct aesthetic concepts, cultivate noble moral sentiments and shape beautiful hearts. At the same time, they should carry forward the spirit of Chinese aesthetic education. And make the important task of cultivating socialist builders and successors for the all-round development of moral, intellectual, physical, and aesthetic education.

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