

Exploration of Design and Aesthetic Education Teaching Practice from the Perspective of Interdisciplinary

Tengfei Xu¹ Peng Gao²

^{1,2} School of future Design, Beijing Normal University, Beijing, China

¹ Academy of Arts & Design, Tsinghua University, Beijing, China

¹Corresponding author. Email: xutengfei@bnu.edu.cn

ABSTRACT

Design education includes education and improvement in the "humanistic spirit" aspects such as culture and aesthetic literacy. In the context of new liberal arts and new engineering, the trend of interdisciplinary is highlighted. "Educating people with beauty and culture" has become another focus of design aesthetic education. Different from aesthetic education in fine arts education, the improvement of aesthetic literacy in design education focuses not only on the cultivation of emotional experience in appreciation, but also on the rational enhancement integrated with "design thinking". School of Future Design of Beijing Normal University integrates design thinking into the projects and teaching of various laboratories. The Design and Education Laboratory has carried out practical explorations of aesthetic education under the interdisciplinary background from the perspectives of teaching and projects. In the process of aesthetic literacy cultivation, from "goals and value orientations" to "content and direction exploration", from "PBL problem-oriented and project-based teaching" to "attempts in the integration of art and science and interdisciplinary projects", etc., it attempts to follow the trend of times and create a new situation in cultivating interdisciplinary future design education talents who are comprehensive, innovative, and applied.

Keywords: Design thinking, Aesthetic education, Problem-based Learning, Practical exploration.

1. INTRODUCTION

Both art education and the popularization of fine arts quality, "humanistic spirit" is the key focus. Aesthetic education in design education includes the improvement of quality education and cultural cultivation, and both need to be nourished by cultural heritage. The foundation of understanding and mastering art lies in being able to establish a logical framework in advance and planned. Therefore, if you want to enjoy art, you must be a person with artistic accomplishment.[1] The fundamental purpose of aesthetic education is to improve people's artistic accomplishment, aesthetic and appreciation ability. The transmitter enables the recipient to expand and enhance their ideas and vision, and the recipient obtains a pleasant physical and mental feeling from the transmitter, rather than a simple and rough direct infusion. The entire process is based on the subjective initiative of both

parties to achieve true spiritual expansion and elevation and aesthetic enjoyment.

Looking back a few hundred years ago, Europe, which had just escaped the ravages of the plague, quickly began a vigorous construction after the disaster, and soon welcomed the Renaissance. The Renaissance was a cultural and scientific revival that centered on humans, observing nature and reality scientifically, rejuvenating the vitality of the classical world, and causing a cultural and scientific revival. European culture has been prosperous for hundreds of years since then. Today, times seem to have pushed us to the same historical intersection, and educators re about to face a new post-epidemic era of new technological civilization. In the future, design will have new interpretations and understandings, and many art and design majors will be reclassified and defined. This presents new challenges for artists and designers, who need to be more actively oriented towards future life, facing

information technology, constantly upgrading and learning for life-long self-improvement. Art and science are essentially exploring truth and order, insight into the mysteries of the universe and human hearts, and design is an important means of combining art and science. In the context of "future design", we will have more space to face new world problems and make new answers. In the era of rapid technological change in production and life, talent training needs to meet the emerging needs and new fields that continue to emerge.

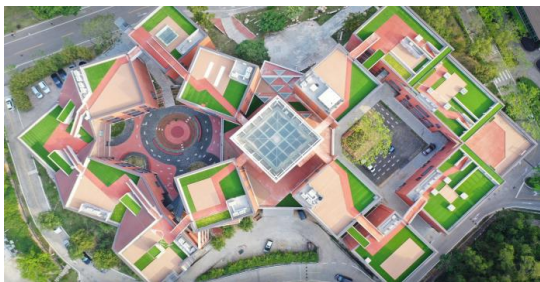


Figure 1 A bird's-eye view of the Bauhaus style building complex at the School of Future Design, Beijing Normal University.

Based on the innovative exploration of art and design education, Beijing Normal University established the School of Future Design ("Figure 1"). The School focuses on the intersection of multiple disciplines, aiming to cultivate creative talents with excellent comprehensive quality who are committed to solving future potential problems through art and design development practices. Based on the three core connotations of "human existence", "human creation", and "human development", the school established three research directions: design and future production and lifestyle (service design), art and technology (digital media art), and design and education (design science). It offers undergraduate and graduate programs. The Design and Education Laboratory of the school, based on the "humanistic spirit", carries out innovation exploration in design and education from three dimensions: basic aesthetic education, public education, and interdisciplinary education.

2. EXPLORING THE TRAINING OBJECTIVES AND VALUE ORIENTATION OF DESIGN AND EDUCATION

"Culture" occupies an important position in the fields of design and education. Integrating cultural orientation into design education is consistent with

"educating people with beauty and culture". Aesthetic education is not a one-day effort, and it requires down-to-earth and long-term efforts to start with teaching aesthetic education well and build a student-centered teaching model. Aesthetic education is not only aesthetic education, but also sentiment education and spiritual education, which plays an irreplaceable role in cultivating people with morality.

As early as the mid-19th century, anthropologists and sociologists began to officially include the concept of "culture" in their discussions. The time node for the formal discussion of "culture" as a topic was in the second half of the 19th century. The modern meaning of cultural anthropology came from the result of discussions between two famous British anthropologists, Malinowski and R. Brown. The "sociological anthropology" discussed in the field of anthropology is called "cultural anthropology" as an independent discipline in the United States. In the 1950s, American cultural scholars Krupp and Clark Hong actively participated in the discussion and definition of culture, analyzing and enumerating more than 160 definitions of culture. To this day, there has been no unified definition of culture in the academic community, but the unprecedented analysis and discussions by sociologists, anthropologists, cultural scholars, and psychiatrists at that time covered different perspectives and values of connotation and extension. In 1871, the British anthropologist Edward Taylor, who was known for his research on culture in the 19th century, mentioned in his famous book "Primitive Culture": "The so-called culture or civilization includes knowledge, beliefs, art, morality, law, customs, and other abilities and habits acquired by individuals as members of society." [2] Taylor's interpretation focuses on the synchronicity of cultural development and social development. This is also the first time to define culture as a whole. Starting from a cross-disciplinary global perspective, this paper makes a summary and explanation of many fields such as knowledge, beliefs, art, morality, and law. The display of culture in art and design has always been an important topic. "In the face of the new technological wave, how to carry forward human aesthetic ideals, inherit cultural traditions, and introduce humanistic spirit into the spiritual realm and discourse system of the people to enhance the noble aesthetic taste and elevate the national art, are issues that need to be considered deeply." [3]

The "Design and Education" direction of the Future Design Academy starts from the talent demand in the Greater Bay Area and is committed to the cultivation of high-end applied talents. This direction combines regional characteristics, professional advantages and industrial clusters to cultivate talents that meet the requirements of enterprises more effectively, thereby reducing the costs of talent training for schools and enterprises. In response to the practical talent demand in the Greater Bay Area, it realizes the output of high-quality applied and practical talents; through the PBL teaching model, it strengthens school-enterprise cooperation and realizes "order-based" talent training, achieving zero-distance connection between study and employment, effectively driving the development of the Bay Area, thereby forming an expandable and replicable local teaching and talent training model. Relying on local industries, the academy radiates across the country, providing mature and applied high-quality talents for the Bay Area and even the whole country, and providing a new model for talent training.

Unlike traditional art education, design aesthetic education is closely related to people's lives, using a grounded approach to enable educators to obtain aesthetic feelings. Design education faces the changes in the demand for future design fields, cultivates sustainable design talents, and builds a corresponding design education system to meet the needs of the new era of enhancing national aesthetics and humanistic accomplishment. The "Design and Education" direction fully combines the strong disciplinary background of Beijing Normal University with the advantages of teachers from professional art colleges, builds a sustainable excellent talent incubation environment from the intersection of disciplines, explores a new model of future design education system from practice and research, focuses on the development of future design education, and cultivates high-level design education innovation talents with international vision, multiple disciplines, professional expansion, strong practical ability and diligent management. It also provides a systematic, rich and mature path, method and experience for the interdisciplinary education practice of other disciplines.

Students trained in the direction of design education can engage in design and design education research, teaching, planning, management and other work in art and design institutions, museums, galleries, research institutions, laboratories in the field of art and design, education institutions, museums, galleries,

research institutions, laboratories, etc., becoming high-level professionals with strong professional practice and innovation and development capabilities. Through systematic study of design and design education theory, methods and historical knowledge, students understand the development trend of design education at home and abroad. On the basis of forming a basic understanding of the field of design education, they further learn the core content of pedagogy, such as pedagogy, curriculum theory, teaching theory, etc., and improve their humanistic literacy and professional adaptability by learning related discipline courses such as psychology, anthropology and sociology, communication, language and literature, management, and museum science.

3. EXPLORATION OF CONTENT AND DIRECTION OF "DESIGN AND EDUCATION LABORATORY"

"Design and Education" is an innovative research in the field of pedagogy, aiming to cultivate new talents needed for future design and explore the future development direction of design education. This field of research focuses on the educational laws of design disciplines, "adolescent design thinking", primary and secondary school "aesthetic education", and the design of educational scenarios (campus, classrooms, desks and chairs, teaching aids, clothing and other educational products or services). This direction of research reflects the disciplinary advantages of pedagogy and psychology at Beijing Normal University, highlights the characteristics of normal colleges and universities, creates a new direction of interdisciplinary education in design, and explores the future development direction of design education.

The Design and Education Laboratory focuses on design education in the compulsory education stage, relying on the industry-university-research model to explore a future-oriented design education system. Through connecting with various types of research, exhibition, and communication institutions (such as art and design colleges, educational institutions, museums, art galleries, research institutes, laboratories), it promotes the development of diverse design education, cultivates high-level design education innovation talents with international vision, multiple disciplines, professional expansion, and strong practical ability, and provides a comprehensive experimental

platform with strong professional practice and innovation and development ability for the development of interdisciplinary education in other disciplines.

3.1 Basic aesthetic Education - Basic Art Education with Design as the Language

Basic aesthetic education, with art and design as the core, carries out basic design aesthetic education for younger age groups. Based on children's brain cognition research, it cultivates children's and adolescents' aesthetic cognition and design thinking. The Design and Education Laboratory mainly focuses on design education in primary and secondary schools in the compulsory education stage, such as "Research on Chinese Art Textbooks for Primary and Secondary Schools", "Art Education Series for Children in Difficult Situations" ("Figure 2"), etc. The "Future Design Seed Fund" and PBL teaching projects are all based on this. The "Research on Chinese Art Textbooks for Primary and Secondary Schools" project is based on the collection and research of art education documents in Chinese primary and secondary schools over the past century, the investigation of current art education in primary and secondary schools, and teaching experiments. It builds a three-dimensional teaching system suitable for today's social development and in line with the physical and mental development characteristics of primary and secondary school students, and on this basis, establishes an education resource center that serves the training objectives of normal colleges and universities, is practical and effective, and has timeliness.



Figure 2 Dean's Guided Tour Open Day: Exploring the Integration of University Art Museums and Public Aesthetic Education in Primary Schools.

3.2 Popularization of Aesthetic Education - Public Education with Design as the Content

Public education is the function of museums to embody publicizes, and it is also an important manifestation of the transformation of museums from a closed space to a public space. Museums carry out extensive and in-depth public education activities, attracting social public from different classes, different ages and different groups to enter the museum, so as to better fulfill the aesthetic education function of the museum as a public institution. Public education includes art appreciation education, art history education, aesthetic education, humanistic education, interdisciplinary education, social education, etc. Based on the theories of cutting-edge education practice, child psychology, neuroscience, etc., the project launched a cross-disciplinary dialogue on art and design learning for children and adolescents, outlining the trajectory of cognitive and creativity development of teenager from birth to the age of 18.

3.3 Integrating Education - Interdisciplinary Education with Design as the Path

Under the background of interdisciplinary integration, K12 education is facing the trend of new methods, new theories and new explorations. The "Future Integrated Education Design" and other projects focus on preschool education for innovative exploration, developing scientific and humanistic courses that integrate various basic disciplines, and designing traditional teaching environments that match them, integrating new technologies and artistic space atmosphere, so that students can carry out rational thinking learning in a beautiful and perceptual learning space. In addition, the project explores a decentralized teaching method based on guidance and inspiration, guiding and encouraging students to independently cultivate their imagination, creativity, communication, integration and artistic language expression skills. The "Research and Development and Upgrade of Youth Design Thinking Education Curriculum" project focuses on the three core competencies of design, namely "expression of design", "systematic thinking in design" and "innovation in design", and carries out research and development and upgrade of youth design thinking education curriculum, and launches a systematic cultivation of students' innovation ability. The project makes full use of the life experience of

primary and secondary school students, selects life cases, adds easily understandable multicultural perspectives, enables students to understand abstract concepts through the study of concrete cases, and apply them to real design activities.

4. PROBLEM-SOLVING PROJECT-BASED LEARNING METHOD EXPLORATION

Unlike traditional teaching, Problem-Based Learning (PBL) does not learn theoretical knowledge first and then solve problems. PBL is a learning method that takes students as the main body, takes various problems in the professional field as the starting point of learning, plans learning content around the problem, and allows students to seek solutions to the problem. The role of the teacher in this process is the proposer of the problem, the designer of the course, and the evaluator of the result. Problem-driven teaching method can improve students' learning initiative, increase students' participation in the teaching process, help stimulate students' thirst for knowledge and activate their thinking. This teaching method requires teachers to have high classroom control and guidance abilities.

4.1 Subtle Cultivation of Design Thinking and Aesthetic Literacy

The School of Future Design adopts a problem-based and project-based teaching method based on problems and topics, providing students with multi-path topic participation-based learning approaches such as teacher topics, laboratory topics, and seed fund topics. Based on the hardware conditions of the art gallery, the teacher's work experience, background composition, and the blessing of various seed fund support projects, the School of Future Design recruited current students to participate in the practical exploration of the PBL model in classroom teaching. Teachers and students jointly planned exhibition projects such as "Art • Design • Technology • Aesthetic Education • Future" and "Art and Design Innovation Future Education Expo" ("Figure 3"). At the same time, graduate students at school, in addition to studying basic and professional courses, also entered the projects of school mentors, enterprise mentors, and seed fund mentors earlier, and carried out learning while promoting the projects. While planning and following up on the projects, students can always feel the works in the

history of design and art history around them and subtly enhance their aesthetic literacy.



Figure 3 Art and Design Innovation Future Education Expo - PBL Project-based Curatorial Teaching and Student Workplace.

4.2 The Combination Trend of New Aesthetic Education Content and New Technologies in the Electronic Age

"STEDM & Project-based Learning (PBL)": Using Project-based Learning as a carrier, integration global resources, and establishing a practical teaching platform for STEAM courses that meet the actual needs of colleges, universities, primary and secondary schools in China.

Cultivating technological innovation talents is the foundation of national competitiveness in the 21st century. China is in a period of transformation and upgrading from "Made in China" to "Created in China" and the rapid disruption of "Artificial Intelligence AI". Under the national strategy of "Innovation-driven Development", STEAM education integrates science, technology, engineering, art, and mathematics, and has spread rapidly in China.

In the AI era, China needs to continuously cultivate compound and international talents with cultural confidence and heritage spirit, as well as core competencies and forward-looking abilities of the times. The original intention of the "STEDM & Project-based Learning" project is to establish a practical teaching platform for STEAM courses that meet the actual needs of colleges, universities, primary and secondary schools in China, thereby cultivating talents needed in China. The project development brings together the advantages of world-class design schools, such as Harvard Design School's artificial intelligence and algorithm design, MIT FABLAB digital intelligent manufacturing, Stanford University's design thinking, Tongji University's design creativity college, and FABO Laboratory's long-term practice in China's STEAM

education, and connects with the local resources of Beijing Normal University's School of Future Design. The curriculum uses the United Nations Sustainable Development Goals (SDGs) as the source of trending problems and challenges, and designs interdisciplinary learning scenarios and curricula for teachers and students through the integration of design, art, and technology, allowing students to activate knowledge learning and generate knowledge transfer, cultivate their sense of social responsibility for caring for others and the world, ignite their passion for lifelong learning, and empower them to become innovative leaders in the era of artificial intelligence.

The education of art and design in China has undergone an evolution from pattern education, arts and crafts education to modern art and design education, with a coherent overall development and a spiral upward trend. In the era of the fourth industrial revolution, with the speeding arrival of technologies such as 5G and artificial intelligence, and at a critical moment of the transformation and upgrading of "Made in China" towards "Designed in China" and "Intelligent Manufacturing in China", design education is catching up with a period of comprehensive growth. The discipline of design has evolved from an affiliated discipline and a single discipline to a multidisciplinary cross connection[4], gradually demonstrating the historical inheritance and responsibility of a university discipline.

Due to the large population base and prominent regional differences in our country, the foundation of contemporary design education is relatively weak, the homogenization of art and design education is serious, the structural and systematic aspects of the discipline need to be further improved, and the connection between the discipline and social production is relatively simple. Therefore, a more comprehensive discipline ecological system needs to be established. This project can continuously extend the research and practice in design education during the implementation process, take advantage of the advantages and inheritance of normal universities, benchmark the development of the Bay Area, seize the opportunities and challenges of China's international development, and establish a cradle for cultivating and transporting the next generation of innovative talents. The original intention and purpose of the project is to use the interdisciplinary advantages of university design disciplines. It take "design thinking" as the guide, use "project-based learning" as the carrier, integrate global perspective resources, and establish a practice teaching

platform for STEDM courses that meets the actual needs of colleges, universities, primary and secondary schools in our country.

4.3 Research, Investigation, Research and Practical Operation Ability Training

Art classes are an important aesthetic education course that helps students develop comprehensive abilities such as humanistic attainment, aesthetic appreciation, perceptual thinking, and practical innovation. Teachers from School of Future Design truly entered schools with established topics to investigate the current status of primary and secondary education.

In the project "Research on Art Textbooks for Primary and Secondary Schools in China", more than 2,500 kinds of documents, including textbooks, teaching aids, teaching references, teaching outlines, and curriculum standards, have been collected from the Guimao education system[5]. Among them, the art literature from the late Qing Dynasty, the early days of the Republic of China, and the early days of the People's Republic of China are very rare, and some local textbooks are even rare. By collecting the literature, educators can basically restore the path that China's basic art education has traveled over the past century.

The documentary part of this project includes: 1) collecting and organizing documents and physical objects on art education in primary and secondary schools over the past century, including textbooks, teaching aids, teaching references, interpretations, outlines, drafts, etc.; 2) examining historical documents, systematically sorting out the development context of basic art textbooks in China over the past century, and forming an investigation report; 3) investigating and carrying out practical teaching of current art teaching, forming investigation and practical reports; 4) forming a summary report based on all documents. This project held an exhibition titled "Exhibition of Centennial Primary and Secondary School Art Documents and Research Results" ("Figure 4") at the School of Future Design of Beijing Normal University. The exhibition included four units: historical documents, investigation reports, current education investigation and teaching practice materials, and summary reports. The exhibition results were electronically processed to form a never-ending cloud exhibition.



Figure 4 The art education textbooks section of Li Hongbo's exhibition at the Art Museum of the School of Future Design of Beijing Normal University.

5. EXPLORATION OF THE COMBINATION OF SOFTWARE AND HARDWARE TECHNICAL MEANS SUCH AS TEACHING MODELS

From the perspective of the historical process of artistic development, every innovation in art is closely related to the development of science and technology. Artistic innovation and technological progress are always intertwined, and almost every new art form is accompanied by the emergence of some new technology. The "Art and Technology" direction of the School is based on the comprehensive expansion brought by technology to the field of art and design, and conducts conceptual exploration and practice on cutting-edge directions involving digital media art, multimedia design, interactive design, artificial intelligence visualization design, and other aspects. The research in this field connects with international cutting-edge disciplines, strives to achieve first-class academic research results, takes cutting-edge issues as the guide, based on the technological changes in future human life patterns, adheres to sustainable innovation exploration, and cultivates innovative art and design talents with cross-border thinking, comprehensive problem-solving ability, future vision, and systematic thinking mode.

5.1 Prospects for the Integration of Arts and Sciences and Interdisciplinary in Art and Design Education in the Context of New Humanities and Interdisciplinary

In the context of the intersection of interdisciplinary and new humanities, the discipline

of "applied design" is not a complete overturn and denial of traditional design disciplines, but an expansion and extension of the boundaries of traditional art and design, design science, and art design science. So, what is the concept of "new humanities"? This concept was first proposed by the West Ramsey College in 2017. "New humanities" are discipline integration, intersection, and recombination based on traditional humanities, thereby achieving the purpose of interdisciplinary learning that integrates intersection of Arts and Sciences, integrates new technologies into the field of humanities and social sciences, and provides students with extensive scientific course accumulation to achieve a comprehensive, practical, and extensive interdisciplinary learning. Regarding the understanding of the new humanities, domestic scholars Wang Mingyu believes: "The new humanities promote the intersection and depth integration of multiple disciplines, promote the renewal and upgrading of traditional concept humanities, and shift from discipline-oriented to demand-oriented, from professional segmentation to intersectional integration, from application services to supporting and leading." [6] Professor Deng Shaogen of the School of Journalism and Communication, Renmin University of China believes: "In the new era, China should carry forward the fine traditional Chinese culture on the basis of inheriting Chinese excellent traditional culture, keep pace with the times, promote the construction of advanced culture in the new era, demonstrate the new changes in the intersection of philosophy and social science research and the new round of industrial technology revolution, cultivate high-level philosophers and social scientists, and tell Chinese stories and Chinese systems to the world." [7] The theorist Herbert Simon once stated in his important theoretical work "Artificial Science" in the 1960s: "To a considerable extent, to study human beings, we must study the science of design. It is not only an element of technical education, but also the core subject of every educated person." [8] Based on this, the "Art and Technology" major offered by the School of Future Design is based on the comprehensive expansion of technology to the field of art and design, and conducts conceptual exploration and attempts on cutting-edge directions such as multimedia design, interactive design, and artificial intelligence visualization design.

The development of mobile Internet and the popularization of smart phones have brought new opportunities for aesthetic education. The

emergence of new technologies has rejuvenated the vitality of classic works, making it possible to visit museums and galleries online and enjoy masterpieces. The continuous upgrade of information technology makes the art treasures hidden in the deep palace of the museum or art gallery accessible to the palm-sized electronic screen, making the static art, calligraphy, and sculpture flow, breaking through the space and technical limitations of traditional aesthetic education. At the same time, the impact of new technologies and the Internet, such as virtualization, has also rewritten the classification and definition of many art majors. All of these call on aesthetic education workers in the new era to constantly maintain innovation awareness and open awareness, and constantly cultivate students' aesthetic ability and artistic creativity.

5.2 The Combination Trend of New Aesthetic Education Content and New Technology in the Electronic Age

The birth of modern science and technology has played a fundamental role in promoting the diversification development of art media and the infinite expansion of the fields involved in artistic creation. The invention of new technologies and the application of new technological means in artistic creation and design have shown an exponential growth and expansion trend. Facing the future, the above issues worth further discussion.

School of Future Design has created a "design education smart classroom" ("Figure 5"), which includes a complete set of solutions including a smart education large screen, dual cameras, multi-screen interaction, and intelligent Internet of Things systems. Today's students are facing an era of advanced manufacturing technology and information physics gradually blending. In this context, the space of the classroom should not only consider its accommodating properties, but also include interactive functions in the planning. More importantly, the college hopes to break through the limitations of time and space and make teaching more free and flexible by adding more technological products to the space.



Figure 5 Design education smart classroom that supports real-time global interaction.

With the continuous iteration of science and technology, technological progress has made rapid progress in various fields. As early as the 1940s, scholars, theorists, and designers had predicted today. For design issues, Moholy-Nagy once made a prophecy in 1946. Based on his sharp thinking, he warned and enlightened contemporary design theorists.

Nagy believed: "The advent of the electronic age will push the profit system into a new era of greater challenge and conflict; in the new era, the necessity of coordination will be more urgent, and a socially responsible designer will be more meaningful than ever before." [9]"Not only does being a designer mean carefully manipulating the technology and carefully examining the production process, but it also means accepting associated social responsibilities... Therefore, the quality of design lies not only in function, science, and technology, but also in its inclusion of social consciousness." [10]"Everyone's mechanism and method of contact and experience with materials are unique, as long as they can master it, they can apply it to handling and representing other materials." [11]

Today, technology has greatly improved the efficiency of scientific and technological development, and the continuous iteration of artificial intelligence new technologies has led to rapid development of productive forces. Today, people can get rid of inefficient and repetitive labor and have more opportunities to explore new fields of practice and application. The digital education attempt of the "Design Education Smart Classroom" breaks through the boundaries and adapts to the trend of education software and hardware exploration under the background of the epidemic.

6. CONCLUSION

Moving forward, educators should further improve the school aesthetic education mechanism

for everyone, allowing all students in school to have the opportunity to receive aesthetic education, and continuously enrich and improve aesthetic education with innovative awareness. For aesthetic education courses in schools, it is necessary to offer various aesthetic education art courses such as music, art, calligraphy, dance, etc., while paying attention to fully exploring the aesthetic value contained in different courses, in order to achieve a wider and deeper educational effect of aesthetic education. For the discipline of design, under the background of new liberal arts and new engineering, the trend of interdisciplinary integration is becoming more and more obvious.

The cultivation of design talents in colleges and universities, and the integration of design thinking into aesthetic education is a topic that deserves close attention. For example, some schools have deeply explored the laws of aesthetic education teaching, broke through disciplinary barriers, integrated labor education and aesthetic education through course design such as handicraft skills; some schools have combined aesthetic education with traditional culture and intangible cultural heritage, allowing primary and secondary school students to experience the exquisite craftsmanship of China's intangible cultural heritage, and influenced the excellent traditional culture and craftsmanship spirit; some schools focus on developing art and education professions, on the basis of pedagogy and art, further increasing the comprehensive study of disciplines such as design, psychology, and engineering, cultivating new talents needed for future aesthetic education, exploring the future development direction of aesthetic education, and so on. All levels and types of schools are innovating to promote aesthetic education, forming a new situation of "one school, one brand" and "one school, multiple brands" in the development of school aesthetic education.

Aesthetic education workers need to guide students with the patience of "growing trees for ten years and educating people for a hundred years", sow the seeds of beauty in the hearts of students, in order to continuously improve students' aesthetic and humanistic literacy, thereby strengthening the effectiveness of aesthetic education, and using aesthetic education to help students pursue a better future life. The cultivation of applied design talents requires not only focusing on design itself, but also integrating aesthetic education into it. The school brings together a group of outstanding scholars and industry experts, hoping to cultivate design talents with innovative design thinking, the courage to face

the future, and influence the future here, and achieve true "educating people with beauty and culture".

AUTHORS' CONTRIBUTIONS

Dr.Xu Tengfei is an associate professor in charge of scientific research at School of Future Design, Beijing Normal University. He teaches courses thesis writing and art history for undergraduates and graduate students of the entire university. In this thesis, he was responsible for writing, submission, translation and revision.

Professor Peng Gao is a design professor at the School of Future Design, Beijing Normal University. He teaches Design Thinking courses at Beijing Normal University and supervises doctoral students. In this study, Professor Peng Gao provided rich resources and guidance.

ACKNOWLEDGMENTS

The work was supported by The Fundamental Research Funds for the Central Universities (1233200018); Zhuhai Philosophy and Social Science Planning Project (2023GJ103); Research Startup Project for Talents Introduction of Beijing Normal University (310432102); Beijing Normal University 2023 Teaching Construction and Reform Project (jx2023065).

REFERENCES

- [1] Marx, [German], 1844 Economic-Philosophical Manuscripts [M]. Beijing: People's Fine Arts Publishing House, 1979. P. 108.
- [2] Quoted from:Qin Guangguang etc. Edited. Dictionary of Culture Studies [M]. Beijing: Central University for Nationalities Press, 1988. Page 189.
- [3] Wu Yumin. Aesthetics and Modernity [M]. Beijing: People's Publishing House, 2001. P. 205.
- [4] In December 2021, in the "Catalogue of Disciplines and Specialties for the conferment of Doctoral and Master's Degrees and the Cultivation of Talents (Draft for Comment)", issued by the Academic Degrees Committee of the State Council, "Design" was listed as a

first-level discipline in the newly added interdisciplinary category.

- [5] In July 1903 (the 29th year of the Guangxu Reign of the Qing Dynasty), Zhang Baixi, Rong Qing, and Zhang Zhidong drew up the regulations for schools, which were announced in January 1904 (the 30th year of the Guangxu Reign of the Qing Dynasty), known as the "Regulations for Schools", also known as the Guimao education system.
- [6] Wang Mingyu, Zhang Tao. On the Construction of New Humanities in Colleges and Universities: Concept and Action [M]. China Social Sciences News, 2019-03-21.
- [7] Li Yongjie. Promote the Construction of New Humanities in the New Era [M]. China Social Sciences News, 2019-06-03 (001).
- [8] Herbert Simon. Artificial Science [M]. Cambridge: MIT Press, 1968. P. 83.
- [9] Moholy-Nagy, Movement in Vision, Paul Theobald Publishers, 1947, p. 55.
- [10] Moholy-Nagy, Movement in Vision, Paul Theobald Publishers, 1947, p. 56.
- [11] Moholy-Nagy, Movement in Vision, Paul Theobald Publishers, 1947, p. 35.