

Educational Reform and Innovation of Art Design Professional Group in the Digital Age

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Abstract: With the rapid development of digital technology, art and design education is experiencing an unprecedented change. This change has brought both development opportunities and challenges. The traditional education model has been difficult to adapt to the fast-changing market demand and industry development trends, and it is urgent to carry out in-depth reform and innovation. This paper focuses on the current educational situation of art design professional group in the background of digital age, and analyzes the problems and shortcomings of the current educational model, the purpose of this paper is to explore new educational models and innovative paths to meet the needs of the digital age. It is expected to provide useful reference and reference for the Reform and innovation of Art and Design Education, and promote the sustainable development and progress of Art and design education in the digital era.

Keywords: Digital Age; Art Design; Educational Reform; Educational Innovation; Educational Model.

1. Introduction

With the rapid development and wide application of digital technology, we have stepped into a new digital era. This era of change has had a profound impact on all walks of life, especially in the field of art and design. Digital technology brings infinite possibilities for art design, but also puts forward higher requirements for art design education. The traditional education mode of art and design is facing this challenge, so it is very important to reform and innovate the education of Art and Design Specialty Group.

2. The Current Situation of Art Design Education in the Digital Age

2.1. The Influence of the Development of Digital Technology on Art Design Education

With the rapid development of digital technology, the field of art design education is undergoing profound changes. Digital tools not only enrich the form of design expression, but also greatly improve the design efficiency. For example, Adobe software packages such as Photoshop, Illustrator, and InDesign have become standard for designers, making image editing, vector drawing, and layout accessible. In addition, 3D modeling technologies such as Cinema 4d and Rhinoceros are increasingly used in architecture, product design and other fields, providing students with a more intuitive and three-dimensional design experience. The impact of this technology is not limited to design practices. At the educational level, digital technology promotes the innovation of teaching methods. The rise of online courses and distance learning platforms, such as Chinese University moocs and Tencent classrooms, has greatly expanded the boundaries of education by allowing high-quality educational resources to be shared across regions, allowing students to learn anytime, anywhere.

2.2. Analysis of the Present Situation of Art Design Education at Home and Abroad

There are some differences in the present situation of art design education at home and abroad. In foreign countries, art and design education pays more attention to the development of students' individuality and innovation ability, the curriculum is richer and more diversified, and the teaching methods are more advanced and flexible. In China, although art and design education has made great progress in recent years, in foreign countries, art and design education pays more attention to students' individual development and the cultivation of innovative ability, and the curriculum is more abundant and diversified, the teaching method is also more advanced and flexible. In developed countries, art and design education system is relatively mature, comprehensive curriculum, rich in teaching resources. American design Rhode Island School of Design (RISD), for example, has world-class faculty and facilities and is a dream institution for many design students. In contrast, China's art and design education, although starting late, but the rapid development. Many universities in China have set up the major of art design, and gradually formed their own educational characteristics. However, compared with the international advanced level, there are still some problems, such as the single curriculum, the lack of practice links, the weak faculty and so on.

2.3. The Main Challenges Facing Art and Design Education

The development of digital technology has brought many opportunities for art design education, but challenges still exist. First, the pace of technological change is extremely rapid, and teachers need to constantly learn and adapt to new tools and methods in order to maintain the timeliness of education. Secondly, how to cultivate students' innovative thinking and critical thinking ability while imparting technical skills is the core issue of Art and design education. In addition, with the globalization and the intensification of market competition, how to cultivate students' international

vision and cross-cultural communication ability has become one of the important tasks of education.

3. The Necessity of Educational Reform of Art Design Specialty Group

3.1. Adapt to the Needs of the Digital Age

In the digital age, the field of art and design is experiencing unprecedented technological innovation and tool upgrading. In order to keep pace with the trend of this era, the educational reform of art design specialty group is particularly urgent. The need for such reform is first and foremost reflected in a timely adaptation to the development needs of the digital age. With the rapid development of technology, artificial intelligence (AI), big data, cloud computing, Internet of things (IoT), blockchain and other cutting-edge technologies have been gradually integrated into the field of art and design, and become a cutting-edge tool in the hands of creators. In order to enable students to master these techniques and apply them to practice, schools must keep up with the pace of the times, curriculum and teaching content to adjust accordingly. For example, a well-known design school has recently introduced AI technology courses in its environmental design program to help students better master this cutting-edge technology and apply it to future design practices. The development of digital technology has also brought about changes in design concepts. In the Digital Age, art design is no longer limited to the traditional plane performance, but towards a more diversified, interactive direction. Art design education also needs to constantly update the educational concept, guide students to expand design thinking, explore new design language and form of expression. Some colleges and universities have begun to try to introduce the cross-disciplinary design concept into the teaching of art design, encouraging students to think about problems from multiple angles and layers, and cultivating more innovative and practical design talents.

3.2. To Improve the Quality of Art and Design Education

In the current field of art design education, the quality of education cannot be ignored. The unbalanced distribution of educational resources, the lag of teaching methods and the lack of practice opportunities have become the bottlenecks restricting the development of this field. These problems not only affect students' learning effect and career development, but also damage the overall reputation of Art and design education. It is urgent to improve the quality of art design education, and educational reform is the key way to achieve this goal. In view of the uneven distribution of educational resources, educational reform can be solved by optimizing the allocation of resources. For example, in recent years, an art institute in the educational reform, efforts to integrate the campus and external resources, the establishment of a number of shared design laboratories and practice base. These initiatives not only improve the learning conditions of students but also promote the equitable distribution of educational resources. There is also much room for reform in teaching methods. The old teaching method often pays too much attention to the theory inculcation, but neglects to the student practice ability and the innovation thought raise. In order to change this situation, promote international exchange and cooperation, encourage students to participate in

international exchange programs, learn advanced foreign educational concepts and design methods, broaden the international perspective. A design institute has introduced innovative teaching methods such as project-based learning, classroom turnover, international cooperation, and so on, encouraging students to actively participate in cooperative inquiry. These new teaching methods not only stimulate students' interest in learning, but also improve their comprehensive quality and innovative ability. Adding practice links is also an important measure to improve the quality of art design education. A University of packaging planning and design professional and a number of well-known packaging enterprises to establish a cooperative relationship for students to provide a wealth of practical opportunities. By participating in real-life design projects, students are able to apply what they have learned in theory to practice, not only improving their skills, but also accumulating valuable career experience.

3.3. The Need to Cultivate Students' Creative Ability and Practical Ability

In the field of art and design, the ability of innovation and practice is a key indicator of talent evaluation. However, traditional education often overemphasizes theoretical knowledge and neglects the cultivation of innovation and practical ability. This mode can not meet the current social demand for art design talents, therefore, the education reform of art design professional group is imperative. In order to enhance students' innovation and practice ability, the school should set up innovation practice platform and encourage students to participate in practical projects. For example, a design institute has collaborated with several well-known enterprises to create a practice base that provides students with the opportunity to practice the whole process from project planning to implementation. In this way, students can apply theoretical knowledge to practice, and in the project to exercise the ability of innovation and teamwork. In order to stimulate students' creativity, the school can also hold a variety of design competitions and exhibitions. For example, an Art Institute holds a student design exhibition every year, providing a platform for students to show their works. Through these activities, students can not only get professional comments and advice, but also in the exchange of new ideas and inspiration.

3.4. The Need to Cultivate Students' Critical Thinking and Inter-Disciplinary Cooperation Ability

In order to develop students' critical thinking and cross-disciplinary cooperation ability, education reform needs to pay attention to the following aspects. First of all, the curriculum should be more diversified and integrated, so that students have the opportunity to learn knowledge of different subjects, and to apply it to art design. For example, an art institute offers an interdisciplinary course, digital packaging design, which applies computer programming, BIG DATA, and cloud computing to art design. Communicate with scholars and professionals in other disciplines to broaden their horizons and thinking.

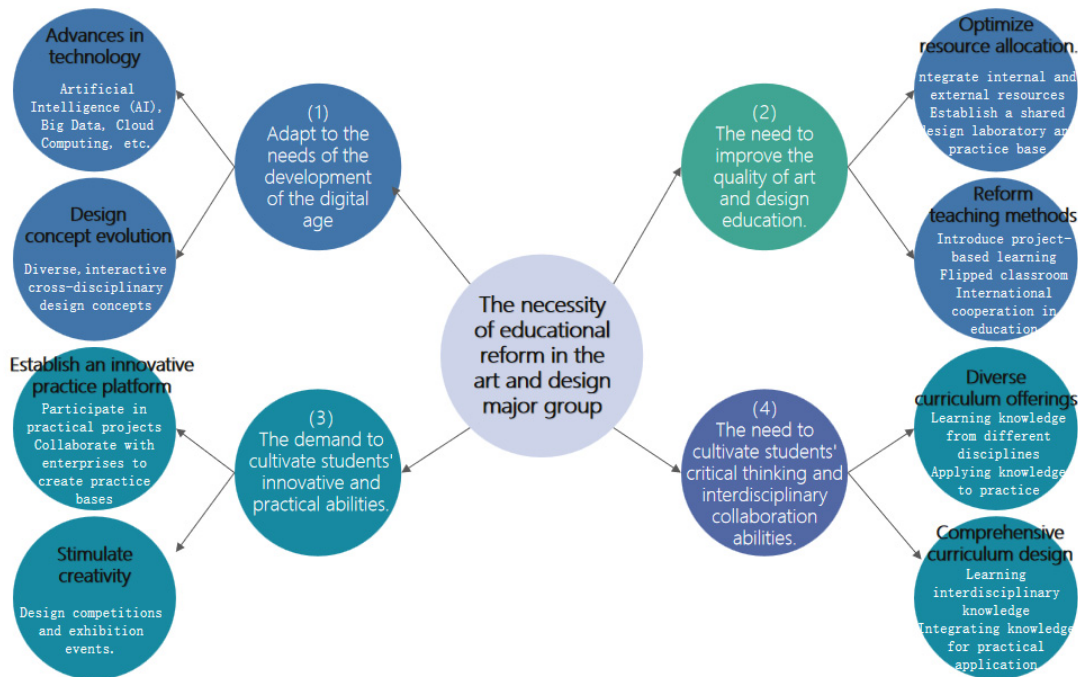


Fig 1. The necessity of educational reform of art design specialty group

4. The Path of Educational Reform of Art Design Specialty Group in Digital Age

4.1. Optimization and Reconstruction of Curriculum System

Under the background of digital age, the optimization and reconstruction of the curriculum system of art design specialty group is particularly important. In order to better adapt students to the needs of future career development, schools need to conduct a comprehensive review and adjustment of the existing curriculum system.

(1) adding courses closely related to digital technology is the key to the optimization of curriculum system. With the continuous development of science and technology, artificial intelligence, digital media art and other digital technology in the field of art and design is more and more widely used. Schools should keep up with the times and incorporate these new technologies into the curriculum. For example, in recent years, an Art Institute has offered a number of courses related to digital technology, such as “Unbounded AI technology”, “3D modeling and rendering” and so on, the aim is to train students to master the latest design tools and techniques. These courses not only improve students' digital literacy, but also lay a solid foundation for their future career development.

(2) the setting of interdisciplinary courses is very important for cultivating students' comprehensive quality and innovation ability. In the field of art and design, innovation often comes from the collision and integration of different disciplines. The school should break the discipline barrier and strengthen the communication and cooperation among different disciplines. One successful example is a design school that has developed a series of interdisciplinary courses in deep collaboration with computer science, marketing, and other disciplines. These courses not only broaden students' horizons, but also stimulate their innovative thinking. By integrating knowledge from different subject areas, students can develop more innovative and practical designs that better

meet the needs of society.

(3) paying attention to the setting of practice links is also an indispensable part of the optimization of curriculum system. Practice is the only criterion to test truth, and it is also an important way to promote students' practical ability and professional accomplishment. Therefore, schools should increase the proportion of practical courses to provide more practical opportunities for students. The art design major of a university pays much attention to the setting of practice links. They have established practice bases in cooperation with many enterprises and provided students with abundant opportunities for project practice. By participating in real design projects, students not only improve their practical skills, but also accumulate valuable career experience. This practice-oriented teaching mode not only improves the employment competitiveness of students, but also lays a solid foundation for their future career development.

4.2. Innovation of Teaching Methods and Means

Under the background of digital age, the educational reform of art design specialty group must pay attention to the innovation of teaching methods and means. The traditional teaching method is often teacher-centered, neglecting the main body status and needs of students, and has been difficult to adapt to the development of modern education. Schools should actively explore new teaching methods and means to stimulate students' interest and initiative in learning and improve teaching results.

(1) modern teaching modes such as overturn class and mixed teaching should be an important choice for the educational reform of Art Design Specialty Group. These teaching models emphasize the students' main role, encourage students to study independently before class, and deepen their understanding through discussion and practice in class. For example, a design institute in its “Innovative Design Thinking” course has adopted a reversal of the classroom teaching model, students before class through watching videos, reading materials and other ways to understand the basic concepts and

theories, in the classroom, under the guidance of teachers to conduct in-depth discussion and practice. This teaching mode not only improves students' participation, but also trains their self-regulated learning ability and critical thinking.

(2) the application of digital teaching resources is also an important aspect of the innovation of teaching methods and means. With the development of information technology, online courses, teaching platforms and other digital teaching resources are increasingly abundant. These resources are open, interactive, sharing and so on, can provide more flexible learning experience for students. An Art Institute has made full use of the information-based teaching resources, established a perfect online course system, students can learn at anytime and anywhere, greatly improving the efficiency of learning.

(3) the introduction of external resources such as enterprise tutors and industry experts are also an effective way to enhance the practicality and application of teaching. These external resources have a wealth of practical experience and industry knowledge, can provide more practical learning guidance for students. A design institute and a number of well-known design enterprises, the establishment of the enterprise mentor system. Corporate tutors not only enhance students' practical ability, but also provide strong support for their future career development by giving lectures and guiding practical projects.

4.3. Digital Integration of Educational Resources

In the educational reform of Art Design Specialty Group, the digital integration of educational resources appears to be particularly important. The purpose of this link is to construct a comprehensive and convenient digital education platform

by efficiently integrating all kinds of educational resources inside and outside the school, so as to promote the sharing and efficient utilization of high-quality educational resources, furthermore, it can alleviate the uneven distribution of educational resources and provide students with more flexible and diversified learning paths. Digital integration first means that the traditional educational resources, such as books, lesson plans, works of art, into digital form for easy storage, retrieval and dissemination. The “Digital Art Archives” project of an Art Institute is a successful case. The project fully digitizes the collection of books, periodicals and works of art in the college library, which students can access at any time and any place through the college's teaching platform, greatly improve the efficiency and convenience of learning. Digital integration also emphasizes the effective connection of educational resources inside and outside the school. A design institute has established a cooperative relationship with many art design institutions and museums to build a digital platform named “Design Resource Sharing Network”. The platform not only brings together the college's own educational resources, but also brings in quality resources from the partner institutions, such as design cases, industry trends, expert lectures, etc., provides a comprehensive, cutting-edge learning and research environment for students and teachers. The construction of digital education platform also promotes the cooperation and communication between schools. Through the platform, art and design schools in different regions can share each other's teaching resources, experience and results, and promote innovation in educational content and methods. This cross-regional and inter-institutional cooperation mode not only helps to narrow the regional differences in educational resources, but also pours new vitality into the overall development of art and design education.

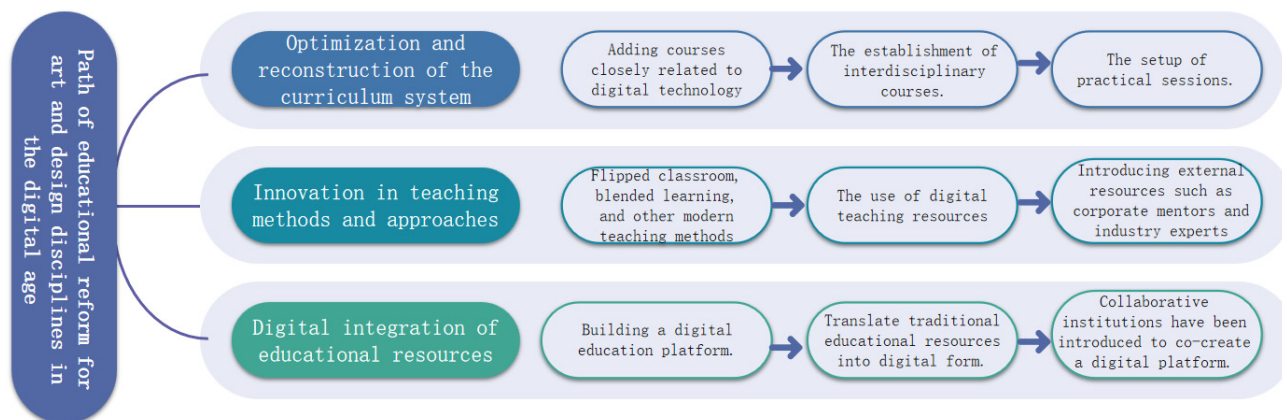


Fig 2. The path of educational reform of art design specialty group in digital age

5. Practice Exploration of Educational Innovation of Art Design Specialty Group

5.1. The Teaching Mode of Interdisciplinary Integration

In the educational innovation of Art Design Specialty Group, the teaching mode of interdisciplinary integration is gradually emerging and becoming an important force leading educational reform. This model aims to eliminate the boundary between traditional disciplines, promote the mutual penetration and integration of multi-disciplinary knowledge,

so as to cultivate a comprehensive quality and innovative spirit of the design talents. In the case of a well-known university, its School of Art and design and the School of Computer Science and technology have jointly developed an interdisciplinary course called “Computational aesthetics and interaction design”. In this course, students can not only learn the core principles and skills of art design, but also master the cutting-edge technology such as computer programming, data analysis and human-computer interaction design. This interdisciplinary approach not only makes students' designs more creative and practical, but also significantly improves their competitiveness in the job market. The interdisciplinary teaching model also plays an important role in developing

students' ability of teamwork and communication. In interdisciplinary projects, students from different academic backgrounds need to work together to tackle challenges. This kind of cooperation not only requires students to have excellent personal ability and professional quality, but also requires them to have good team spirit and communication skills. Through continuous learning and collaboration, students gradually learn how to listen to others, how to express their views, and how to establish effective cooperation with people from different backgrounds.

5.2. Project-oriented Practice Teaching

In the educational innovation of Art Design Specialty Group, project-oriented practice teaching is becoming an important way to cultivate students' practical ability and professional quality. The model focuses on the combination of theoretical knowledge and practical skills, through practical projects to enable students to understand and master the application of professional knowledge. Taking the course of packaging design in a famous art and design institute as an example, this course trains students' creative thinking and practical ability through project-oriented practice teaching. In the course of packaging design, students not only learn the basic theory of packaging design, material selection, structure design and other knowledge, but also participate in practical projects to exercise their practical ability and problem-solving ability. In this course, students participate in the design of a product package. They learn how to conduct market research and understand the needs of the target market and consumer preferences. Then, the creative ideas, design sketches and model production, and then through an iterative process to improve the design, and ultimately create a market-oriented and innovative packaging design. In the whole process, students not only learn how to apply theoretical knowledge in practice, but also develop professional qualities such as team cooperation, communication and project management. This project-oriented, hands-on approach helps students better prepare for their future careers, especially in areas such as design, product development and marketing.

5.3. Education Cooperation and Communication in the View of Internationalization

Today, with the increasing prevalence of globalization, the educational innovation of art design professional group must be considered in the context of internationalization. The international educational cooperation and exchange is not only helpful to introduce international advanced educational ideas, teaching methods and resources, but also the key to improve the overall level of China's art and Design Education and international competitiveness. Taking a well-known college of Art and design as an example, the college actively expands international cooperation and exchange channels, and has established stable cooperative relations with many famous foreign design colleges, such as Thailand, South Korea, the United Kingdom and so on. In these cooperation projects, teachers from both sides visit each other to give lectures and do joint research. Students also have the opportunity to participate in international exchange studies, such as international design competitions, short-term visits to study, double-degree programs, etc. . Through these diversified international exchange activities, students not only broaden their international horizons, but also in cross-cultural communication to enhance their professional literacy and

innovative ability. The school also collaborates with the Italian Novara School of Art and design, actively introducing international advanced educational concepts and methods, and combining the local practice of innovation. Famous foreign designers are invited to teach and guide the project, so that students can grow up quickly in an international learning environment. This international perspective of education cooperation and exchange, not only benefit students, but also promote the overall education level of the college. By adopting the international educational concept and method, the college has trained a number of design talents with international vision and innovative spirit, who have made remarkable achievements in the field of design at home and abroad.

6. The Construction of Teaching Staff in Educational Reform and Innovation

6.1. The Way to Improve Teachers' Digital Skills has Become the Key to Educational Reform and Innovation

In the digital age, digital skills in the field of art and design are becoming increasingly important. In order to adapt to this change, teachers need to improve their digital skills through a variety of ways. On the one hand, teachers can participate in a variety of digital skills training, learning the latest design software and tools, digital media art, interaction design and other fields of knowledge. On the other hand, teachers can improve teaching quality and innovation ability by combining digital skills with art design teaching through practical projects and scientific research activities. In addition, teachers can collaborate with industry enterprises to invite industry experts to attend lectures or seminars to understand the latest developments in the industry and introduce practical projects into the classroom so that students can better meet future career challenges. One normal school, for example, offered a course on "Digital packaging technology" for its faculty of Education, which provided teachers with a variety of digital teaching tools and methods through systematic theoretical study and practical operation.

6.2. The Transformation and Renewal of Teachers' Educational Concept is Also an Important Part of Educational Reform and Innovation

In the digital era, the concept of art design education needs to keep pace with the times, with the goal of cultivating innovative spirit and practical ability of talents. Teachers should step out of the traditional teaching mode, break the disciplinary boundaries, and pay attention to cross-disciplinary integration. For example, in the teaching process, teachers can guide students to pay attention to social hot issues, art design and sustainable development, social innovation and other fields of knowledge, and cultivate students' comprehensive quality. At the same time, teachers should also focus on training students' critical thinking and problem-solving ability, and encourage them to try and explore the innovative path of art design. In order to realize the transformation and renewal of teachers' educational concept, schools should take effective measures to guide and promote. Through the organization of seminars, symposiums and other forms, so that teachers understand the importance

and necessity of education reform, clear the direction of change in educational concepts and objectives. These activities can invite education reform experts, outstanding education practitioners to share their experiences and opinions, stimulate teachers' thinking and discussion, and help them realize the urgency and significance of the change of educational concept.

6.3. The Optimization of the Structure of the Teaching Staff and the Incentive Mechanism are the Key to Ensure the Smooth Progress of the Educational Reform and Innovation

To optimize the structure of teachers team needs to start from multiple dimensions. Firstly, the structure of teachers' age, educational background, professional background and professional title should be adjusted to ensure the diversity and balance of teachers. Through the introduction of outstanding personnel in different fields, form a complementary, stimulate the vitality of teaching. For example, a well-known university in recent years has increased the introduction of young teachers, through the implementation of "Young Teacher Growth Support Program", it has attracted a large number of outstanding young teachers with Doctorate degree and overseas study background to join us, effectively improving the overall quality of the teaching staff. To optimize the structure of teachers team needs to start from multiple dimensions. Firstly, the structure of teachers' age, educational background, professional background and professional title should be adjusted to ensure the diversity and balance of teachers. Through the introduction of outstanding personnel in different fields, form a complementary, stimulate the vitality of teaching. For example, a well-known university in recent years has increased the introduction of young teachers, through the implementation of "Young Teacher Growth Support Program", it has attracted a large number of outstanding young teachers with Doctorate degree and overseas study background to join us, effectively improving the overall quality of the teaching staff. Secondly, establish and improve the incentive mechanism for teachers to encourage teachers to participate in educational reform and innovation. For example, an education reform fund was set up to support teachers in carrying out teaching research, and teachers were given recognition and awards for outstanding achievements in Education Reform and innovation. In addition, we should pay attention to teachers' career development, and provide opportunities for them to exchange, further study and visit schools at home and abroad, so as to

help them constantly improve their quality and teaching ability.

7. Conclusion

This paper discusses the educational reform and innovation of Art Design Specialty Group in the digital age, and puts forward a series of innovative educational models and strategies. It not only enriches the theoretical system of art design education, but also provides beneficial guidance and reference for educational practice. Although some achievements have been made, there are still many deficiencies and problems need to be further deepened. In the future, we will continue to pay attention to the development trend of digital technology, constantly improve and optimize the art and design education system, and contribute wisdom and strength to the sustainable development and progress of Art and design education.

Acknowledgments

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