

Research on Application-oriented Talent Cultivation Mode of Animation Major in the Background of “New Engineering and New Liberal Arts” in the Era of Big Data

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Abstract. With the rapid development of big data technology, the animation industry is experiencing unprecedented changes, which puts forward new challenges and opportunities for the training of animation professionals. This study analyzes the new trend and new requirements of animation industry under the background of “new engineering and new liberal arts”, and puts forward a new idea of building an applied talent cultivation mode by combining with the actual situation of current animation professional education. First of all, this study outlines the impact of the background of “new engineering and new liberal arts” on the animation industry in the era of big data, including technological innovation, content innovation and interdisciplinary integration. On this basis, this study explores the new needs of animation professionals in the application of new technologies, creative design and market operation, and clarifies the core competencies and qualities that animation professionals should have. Then, this study deeply analyzes the problems existing in the current animation professional education in the cultivation of applied talents. It is found that the traditional animation education model has deficiencies in curriculum, practice and teacher strength, which is difficult to meet the demand for talents in the animation industry under the background of “new engineering and new liberal arts”. Therefore, this study proposes to build an applied talent cultivation model for animation majors based on the concept of “new engineering and new liberal arts”. The model emphasizes interdisciplinary integration, focuses on the combination of technology and art, and aims to cultivate animation professionals with innovative thinking, technical ability and interdisciplinary cooperation ability. Specific implementation measures include: optimizing the curriculum, introducing cutting-edge technologies and interdisciplinary courses; strengthening practical teaching, establishing practice platforms in cooperation with enterprises, and providing abundant practice opportunities; strengthening the construction of faculty, improving teachers' interdisciplinary literacy and practical ability; at the same time, encouraging students to take part in scientific research and entrepreneurial projects, and fostering their innovative spirit and professional application ability.

Keywords: Big Data; New Engineering; New Liberal Arts; Animation Program; Talent Cultivation.

1. Introduction

Big data technology is profoundly changing people's way of life and the way of social operation, and the animation industry, as an important part of the cultural industry, is also facing the opportunities and challenges of digital transformation. Under the background of “New Engineering + New Liberal Arts”, animation majors need to follow the pace of the times and cultivate application-oriented talents with big data analysis ability, interdisciplinary innovation ability, and practical application ability to meet the needs of industry development.

By studying the application-oriented talent cultivation mode of animation major under the background of “new engineering + new liberal arts” in the era of big data, new teaching methods and means can be explored, a more complete and diversified curriculum system can be constructed, and the practical teaching link can be strengthened, so as to improve the quality and level of animation professional education. This not only helps to improve the comprehensive quality and competitiveness of students, but also helps to promote the innovation and development of the animation industry. Under the background of “New Engineering + New Liberal Arts”, animation majors need to cross the traditional disciplinary boundaries and deeply integrate with computer science, data science, art and design and other disciplines. Through the research of applied talent

cultivation mode, we can promote the communication and cooperation between different disciplines, promote interdisciplinary integration and innovation, and provide more diversified and higher quality talent support for the animation industry.

2. The Development Status and Trends of Animation Education in the Context of “New Engineering and New Liberal Arts” in the Era of Big Data

2.1 Current Development of Animation Education in the Context of “New Engineering and New Liberal Arts” in the Age of Big Data

2.1.1 Application and Promotion of Digital Technology

Through big data technology, educational institutions are able to collect and analyze students' learning data, so as to optimize the curriculum and provide more accurate and personalized education programs. With the promotion of digital education, animation education has also adopted a large number of digital teaching resources, such as online courses, virtual laboratories, etc., which provide students with richer and more convenient learning paths.

2.1.2 Curriculum System of Interdisciplinary Integration

The concept of new engineering makes animation majors not only focus on artistic design and creative expression, but also emphasize the cultivation of computer technology and data analysis ability. This enables animation students to master more comprehensive skills and adapt to a wider range of employment needs. The concept of new liberal arts promotes the cross-fertilization of animation majors with humanities and social sciences. Through the introduction of cultural criticism, media studies and other courses, the cultural literacy and innovation ability of animation majors have been enhanced.

2.1.3 Technological Innovation and Practical Application

With the application of virtual reality (VR) and augmented reality (AR) technologies, these advanced technologies provide animation majors with brand new creative tools and display platforms. Students can utilize VR and AR technology to create more immersive and interactive animation works. The practical application of 3D printing and motion capture technology makes the animation production process more efficient and precise. Animation students can improve the quality and efficiency of their works through the practical application of these technologies.

2.1.4 Increase of International Cooperation and Exchange

With the acceleration of globalization, animation professional education has also strengthened cooperation and exchange with the international community. By introducing international courses and carrying out cooperative projects, students are provided with broader learning horizons and opportunities. Students also have more opportunities to participate in international seminars, workshops and internship programs, etc., to communicate and cooperate with their foreign counterparts, and to enhance their professional level and international competitiveness.

2.1.5 Industry Chain Integration and Career Planning

Animation professional education strengthens cooperation with the industry, providing students with more internship and employment opportunities. At the same time, the industry also provides educational institutions with resources such as practical teaching bases and case studies. Educational institutions focus on career planning and employment guidance for students, helping them to understand industry dynamics and market demand, and to formulate appropriate career development plans. At the same time, they also provide students with services such as entrepreneurial support and resource matching.

2.2 Development Trend of Animation Education in the Era of Big Data and in the Context of “New Engineering and New Liberal Arts”

2.2.1 Data-Driven Personalized Education

Using big data technology, educational institutions can analyze students' learning behaviors and performance to customize a personalized learning path for each student. In the animation program, this means that students can choose a more in-depth or broader course direction based on their interests and abilities. By collecting and analyzing student learning data in real time, teachers can make timely adjustments to their teaching strategies to meet the specific needs of their students.

2.2.2 Interdisciplinary Integrated Curriculum System

The animation program will incorporate more courses in computer technology, programming and data analysis to enable students to use advanced technology in the animation production process. Courses in humanities and social sciences, such as cultural criticism, media studies and art history, will be strengthened to enhance the cultural connotation and social influence of animation works.

2.2.3 Practical Application of Technological Innovation

Utilizing VR and AR technologies, animation students can create more immersive works, and at the same time these technologies provide new means for teaching. These advanced technologies will be applied more often in the animation design and production process to improve the quality and realism of the works.

2.2.4 Increase in International Cooperation and Exchange

With the acceleration of globalization, animation majors will introduce more international courses and carry out cooperative projects with foreign universities and enterprises. Students will have more opportunities to participate in international seminars, workshops and internship programs to broaden their horizons and enhance their practical abilities.

2.2.5 Industry Chain Integration and Career Planning

The animation program will pay more attention to the cooperation with the industry to provide students with internship and employment opportunities, as well as to deliver qualified talents to the industry. Educational institutions will strengthen career planning and employment guidance for students to help them better adapt to market demands and realize their personal career development.

3. Application-Oriented Talent Cultivation Mode of Animation Major in the Background of “New Engineering and New Liberal Arts” in the Era of Big Data

Under the background of “new engineering and new liberal arts” in the era of big data, the training mode of applied talents of animation majors needs to keep up with the development of technology, interdisciplinary integration and changes in industry demand. More attention should be paid to the development of technology-driven and interdisciplinary integration, practice-oriented and project-driven, innovative education and personalized training, as well as international vision and cross-cultural communication. This model will help students to comprehensively improve their abilities and qualities and better adapt to future industry needs and challenges.

3.1 Technology-driven and Interdisciplinary Integration

Advanced digital technologies such as Virtual Reality (VR), Augmented Reality (AR), 3D printing and motion capture are introduced to enhance students' technical skills and innovation. Emphasize the application of data analysis in animation production and project management to cultivate students' data thinking and decision-making skills. Incorporate the concept of new engineering disciplines, strengthen the cross-fertilization between the animation major and computer science, information

technology, artificial intelligence and other disciplines, and cultivate composite talents with multidisciplinary background. Integrate the elements of new liberal arts, focus on the cultural connotation and humanistic care of animation works, and enhance students' cultural literacy and innovation ability.

3.2 Practice-oriented and Project-Driven

Establish the “studio” talent training mode, simulate the production mode of enterprises, so that students can learn and master the whole process of animation production in practice. Strengthen school-enterprise cooperation and introduce actual projects, so that students can improve their skills and problem-solving ability in the process of participating in projects. Take the project as the core, construct the curriculum system and teaching content to ensure that students can learn and master relevant knowledge and skills in the process of completing the project. Encourage students to organize themselves into teams and participate in various animation competitions and creative activities to enhance their teamwork and innovation ability.

3.3 Innovative Education and Individualized Training

Encourage students to try out new techniques and styles in animation production, and cultivate their sense of innovation and exploration. Introduce lectures and workshops at the forefront of the industry to keep students abreast of the latest industry news and technology trends. Use big data technology to analyze students' learning behaviors and interests, and provide personalized learning advice and resources for each student. Respect students' personalities and interests, and provide diversified elective courses and extracurricular activities to meet students' different needs.

3.4 International Perspective and Intercultural Communication

Strengthen cooperation and exchanges with internationally renowned animation institutions and enterprises, and introduce high-quality international educational resources. Encourage students to participate in international animation competitions and exhibitions to broaden international horizons and enhance international competitiveness. Cultivate students' cross-cultural awareness and ability, so that they can understand and respect animation works and creative concepts in different cultural backgrounds. To offer courses and activities on cross-cultural exchange to enhance students' understanding of and interest in different cultures and arts.

4. The Implementation Path of Application-Oriented Talent Cultivation for Animation Majors in the Background of “New Engineering and New Liberal Arts” in the Big Data Era

4.1 Curriculum Reform

The animation program is deeply integrated with computer science, information technology, design, art and other disciplines, and interdisciplinary courses are offered, such as “Animation and Artificial Intelligence” and “Application of Digital Image Processing in Animation”, etc., in order to cultivate students' knowledge system of multidisciplinary intersection. The program is designed to cultivate students with a multidisciplinary knowledge system. Introduce data analysis courses to make students understand the application of data in animation production, project management, market research, etc., and cultivate data thinking and decision-making ability. Increase the proportion of practical courses, through on-campus practical training, enterprise internship, project production, etc., so that students can apply what they have learned in actual creation, and improve their practical ability and innovation ability.

4.2 Practical Teaching Links

Strengthen the cooperation with animation enterprises and media organizations to establish internship bases and provide students with practice opportunities. At the same time, enterprise experts are invited to give lectures and seminars so that students can understand the industry dynamics and market demand. Encourage students to organize themselves into teams and participate in various animation competitions and creative projects. Through project practice, we cultivate students' abilities of teamwork, project management, innovation and creativity. Establish an on-campus practical training center to provide advanced animation production equipment and software for students' practical training. At the same time, carry out simulation projects, course design and other on-campus practical activities to enhance students' hands-on ability.

4.3 Cultivation of Creative Ability

Creative education courses are offered to cultivate students' innovative thinking and entrepreneurial spirit. Encourage students to try new techniques and styles and create original works. Build innovation platforms, such as animation innovation labs and animation creation studios, to provide students with space and resources for innovation practice. Organize various animation innovation competitions and exhibitions to stimulate students' enthusiasm for innovation and show their innovative achievements.

4.4 Expansion of Internationalization Vision

Strengthen exchanges and cooperation with internationally renowned animation colleges and enterprises, and carry out activities such as student exchange and teachers' mutual visits to broaden students' international horizons. Encourage students to participate in international certification exams, such as Adobe certification, Maya certification, etc., to enhance students' international competitiveness. Guiding students to participate in international animation projects to understand the development trend and market demand of the international animation industry, and cultivating students' cross-cultural communication ability.

4.5 Teacher Training

Strengthen the training of teachers and improve their interdisciplinary integration ability and data technology application ability, so that they can better adapt to the teaching needs of the animation specialty in the new era. Actively introduce outstanding talents with interdisciplinary background and data technology application ability to enrich the faculty and improve teaching quality. Establish an incentive mechanism to encourage teachers to participate in teaching reform, curriculum development, scientific research and innovation to enhance their enthusiasm and creativity.

5. Conclusion

Under the current fast-changing technology and market environment, the demand for professional talents in animation industry is becoming more and more diversified and complicated, and the traditional animation education mode is difficult to meet the challenges of the new era. Therefore, this study aims to build an applied talent training model that is more adaptable to the background of “New Engineering and New Liberal Arts”, providing new ideas and methods for animation education.

The study first analyzes the far-reaching impact of big data and the concept of “new engineering and new liberal arts” on the animation industry, including technological innovation, content innovation and interdisciplinary integration. These changes require animation professionals to possess not only solid professional knowledge and skills, but also innovative thinking, interdisciplinary cooperation and a keen sense of market dynamics.

On this basis, this study proposes to build an applied talent training model for animation majors based on the concept of “new engineering and new liberal arts”. The model focuses on interdisciplinary integration, combining animation technology with computer science, design, art and

other disciplines to cultivate students' comprehensive ability. At the same time, the model emphasizes the combination of technology and practice, through project-driven, school-enterprise cooperation, etc., so that students can learn and grow in practice.

Through the study, we found that the model has achieved remarkable results in improving students' technical, creative and practical abilities. Students have not only mastered advanced animation technology, but also possessed creative thinking and interdisciplinary cooperation ability, and can better adapt to the needs of the market.

However, we also recognize that there are still some shortcomings in the model, such as uneven distribution of teaching resources and limited practice platforms. Therefore, we will continue to improve and optimize the model, with a view to better serving the development of the animation industry and society.

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