

A New Path to Cultivate Talents: Innovative Teaching Methods for Digital Film, Television and Animation Majors in Chinese Universities

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The study aims to investigate the reform and innovation of teaching methodology for digital cinema and television animation majors. The rapid growth of the animation industry and the need for skilled professionals, along with the drawbacks of traditional teaching methods, emphasize the need for reform in the way animation majors are taught. This text then provides a detailed explanation of the basic principles, characteristics, and prospective benefits of the university-industry cooperation model of talent cultivation in the education of animation majors. The discussion on the education of animation students centers on the improvement of teaching materials and methods through the university-industry cooperation talent cultivation model. Emphasis is placed on developing students' practical skills. Through the analysis and evaluation of innovation strategies, recommendations for improvement and optimization are proposed. The results of the study show that the application of the university-industry cooperation talent cultivation mode in the teaching of animation majors is of great significance and promise. This approach can effectively develop students' comprehensive abilities and practical skills. This study serves as a valuable resource for animation teachers, encourages improvement and creativity in teaching animation students, and provides insights into potential future research areas.

Keywords: Teaching Innovation; University-Industry Cooperation; Practical Talent Cultivation; Undergraduate Professional Teaching.

Introduction

In 2017, China's State Council issued a set of guidelines called "Several Opinions on Deepening the Integration of Industry and Education." These guidelines aim to encourage colleges and universities to proactively engage with their local regions and industries, and align their educational programs with industry needs. The goal is to bring about a deeper reform in the way talent is cultivated by promoting a seamless connection between the education system, the talent pool, the industrial sector, and even the innovation ecosystem. Ultimately, this will facilitate the transformation and development of ordinary colleges and universities into high-level applied undergraduate institutions. Collaboratively develop specialized, highly skilled and competent individuals and teams of talent.



Fig. 1 Communication University of China, Nanjing.

The Communication University of China, Nanjing (CUCN) has 13 secondary colleges, as well as directly affiliated units such as Marxist College, General Education Center, University Foreign Language Teaching Department,

International College, and Continuing Education College. It has also been approved as the only provincial-level key industry college among private universities in Jiangsu Province - Jiangsu Live E-commerce and Digital Economy Industry College. 44 undergraduate majors, covering 5 disciplines including engineering, literature, economics, management, and art. Communication University of China, Nanjing (CUCN), with the development concept of "industry-academia cooperation and integration of industry and education", organically combines with the innovative talent cultivation mode, and promotes the construction of film and animation professional talent team through interdisciplinary research and practical cooperation with enterprises and industrial institutions, and builds an exchange platform for research and practice in the fields of art, engineering, design, and so on.

In recent years, the film and television animation industry has shown the momentum of booming development, and the demand for excellent talents with creativity, technology and practical ability is also increasing. As an important part of the training of animation professionals, the reform and innovation of the teaching mode of animation profession is particularly urgent. The traditional teaching mode has certain limitations and shortcomings in meeting the current needs of the industry and the development needs of students. Therefore, it is imperative to explore innovative teaching methods that meet the development needs of the animation industry. As a teaching mode that integrates Nanchuan education and industry practice, the university-industry cooperation talent cultivation mode is widely used in various fields, building a bridge between education and practice. In the teaching of animation majors, the adoption of university-industry cooperation talent cultivation mode can effectively improve the quality of teaching, cultivate students' practical ability and innovative thinking, and make them better adapt to the needs of industry development. The following Figure 2 shows the current development status and scale of China's animation industry from 2013 to 2023.

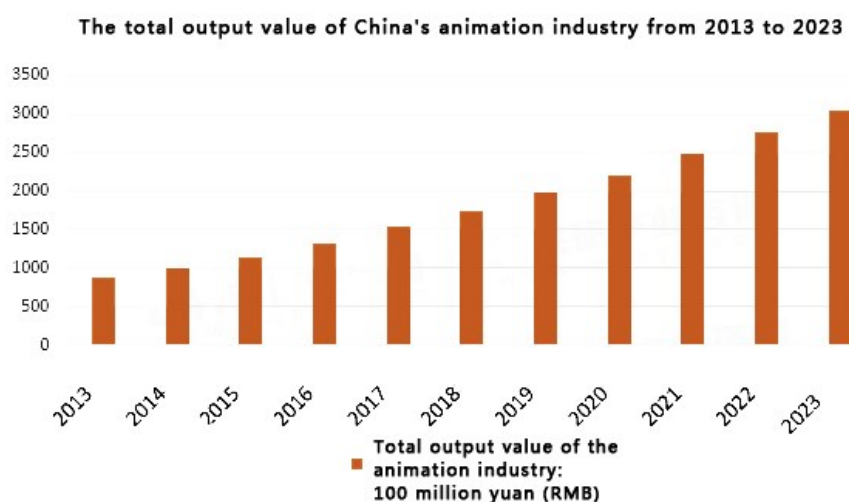


Fig. 2 The current development status and scale of China's animation industry from 2013 to 2023.

As China's animation industry continues to grow rapidly, the current focus in the field of education is on the reform and innovation of teaching methods for animation majors, especially within the industry-university cooperation talent cultivation mode.

1. Problems with the talent training approach in traditional teaching and learning

First of all, the traditional teaching mode is often difficult to fully meet the needs of animation students in software operation. In addition, with the increasing number of Chinese animation companies, the demand for talents in the film and animation industry is also increasing. The following Figure 3 shows the number of newly recognized animation companies in China from 2009 to 2020. The current talent cultivation model is no longer suitable for the development status of China's animation industry, so it is necessary to innovate in the cultivation model and path.

Number of newly recognized animation companies in China from 2009 to 2020

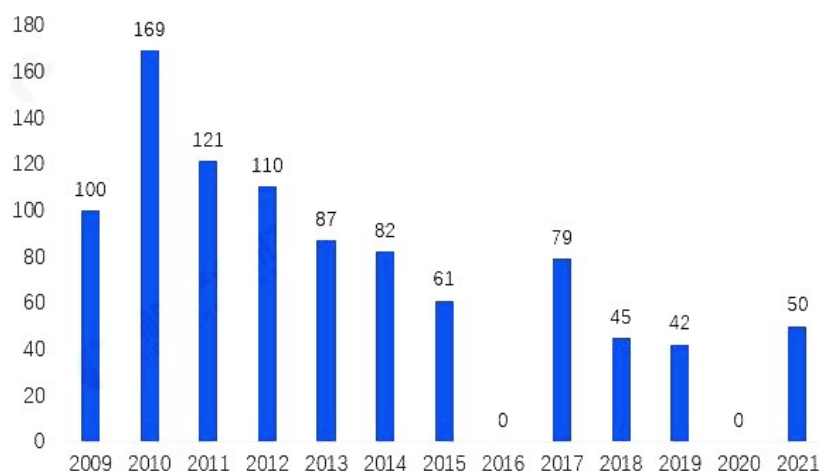


Fig. 3 The current development status and scale of China's animation industry from 2013 to 2023.

Animation production requires the use of sophisticated software and tools. However, traditional training methods typically rely on classroom demonstrations and theoretical explanations to present the basic features of the software, without providing sufficient opportunities for hands-on practice. As a result, there is a lack of both skill and practical familiarity with animation software, which prevents students from effectively using the technology to solve real-world problems. In addition, the traditional teaching approach prioritizes the teaching of theoretical knowledge while neglecting the development of practical skills. The practical aspects of animation include artistic creation, animation effect generation, and scene arrangement. However, the traditional approach to education typically fails to provide adequate practical opportunities and guidance. Students lack active involvement in real-world projects and hands-on experience, which hinders the development of problem-solving skills and the ability to produce exceptional work independently. In addition, the traditional teaching approach does not support students' innovative growth and hands-on project training. The animation industry emphasizes creativity and individualized expression. However, the traditional teaching approach overemphasizes technical instruction and neglects the importance of fostering students' independent thinking and creative growth. Under the traditional teaching approach, students often do not have the opportunity to participate in hands-on projects and showcase their work, which prevents them from fully expressing their individual creativity and aptitude. Therefore, in order to compensate for the shortcomings of the traditional teaching approach in animation education, it is imperative to adopt novel pedagogical methods and teaching materials. By integrating the industry-university cooperation model for talent development, students can gain proficiency in 3D animation software techniques and tools through hands-on experience with real projects and case studies. This approach not only improves their practical skills, but also enhances their problem-solving abilities. At the same time, kids are motivated to cultivate their ingenuity and independent production. Their originality and the development of their individual talents are promoted by presenting their creations and participating in competitions.

In summary, the traditional teaching mode has limitations and shortcomings in software operation and practical skills in teaching animation majors. Through innovative teaching methods and contents, combined with the talent cultivation mode of university-industry cooperation, it can provide more practical opportunities, focus on practical operation and creative development, so as to enhance the ability and competitiveness of students in software operation and practical ability.

2. What the University-Industry Cooperation Talent Training Model Is and How It Works

University-Industry Cooperation Talent Cultivation Mode is an educational mode that closely integrates universities and industries, aiming to promote the organic integration of education and industry, and provide students with learning and practice opportunities that are integrated with the actual work environment. In the teaching of 3D animation majors, the university-industry cooperation talent cultivation mode is widely used to provide students with an educational

experience closer to the actual needs and the opportunity to cultivate the practical ability to adapt to the industry. One of the characteristics of the university-industry cooperation talent cultivation mode is the emphasis on industry participation and support. Under the University-Industry Cooperation Talent Cultivation Mode, in recent years, NCTC has established close cooperation with relevant industry partners (such as Nanjing Force Animation Studio, film and television companies, etc.), and jointly participated in the development of the curriculum, the implementation of practical projects, and the cultivation of students. The industry provides actual work scenes and projects, so that students can gain a deeper understanding of the industry's needs, master practical skills, and enhance their professionalism through exchanges and interactions with professionals.

Second, the university-industry cooperation talent cultivation mode focuses on practice and application-oriented teaching. Compared with traditional theoretical classroom teaching, the university-industry cooperation talent cultivation mode emphasizes the combination of theoretical knowledge and practical application, and cultivates students' ability to solve practical problems and meet the challenges of real work by participating in real projects and accumulating practical experience. Through interaction with industry partners, students can understand the real workflow and master professional tools and technologies to better adapt to the development needs of the animation industry. In addition, the university-industry collaboration talent cultivation model focuses on cultivating students' comprehensive skills. In addition to the cultivation of professional knowledge and skills, the university-industry cooperation talent cultivation mode also pays attention to the cultivation of students' teamwork ability, innovative thinking and problem-solving ability. By participating in practical projects with industry partners, students can cultivate professionals with comprehensive skills through the practice of working with team members, solving practical challenges and project management.

In summary, the university-industry cooperation talent cultivation mode is an educational approach that integrates NCTC and industry, and is characterized by industry participation and support, practice-oriented teaching, and the development of students' overall skills. The implementation of the university-industry cooperation talent cultivation mode in the education of 3D animation majors can improve students' practical skills and their ability to adapt to industry requirements. This approach also meets the demand of enterprises for highly skilled professionals and contributes to the professional development of teachers. By utilizing this approach, it can effectively facilitate cooperative education between educational institutions and enterprises. In order to achieve the goal of skills-oriented undergraduate colleges, it is necessary to Improve the school's ability to effectively meet the needs of society. Build a strong foundation for their professional development.

3. Teaching the new ways to innovate in film and TV animation as part of the new way for universities and businesses to work together to find and develop talent

Collaborate with the animation industry on real-world project examples, such as character design projects or short animated film production projects with animation production companies. Students will be involved in various stages of the project from concept development, storyboarding, character modeling, and animation production to complete the project.

3.1. Introduction and design of practical projects

Throughout the course of such real-world project scenarios, students have the opportunity to apply what they have learned to solving practical problems and to gain a new understanding and perspective on their own learning methods. At the same time, students have the opportunity to improve their self-esteem and gain a sense of accomplishment and empowerment. Finally, the course objectives are met and the students' practical skills are improved. Students will practice problem solving, time management, and collaboration skills through the hands-on projects they will work on. These projects will expose students to real-world demands and constraints.

3.2. Guidance and support from industry mentors

The Communication University of China, Nanjing (CUCN) invites animation professionals with extensive industry experience to serve as industry mentors. These mentors will teach students about the latest technological advances and share their practical knowledge. The mentors will participate in the classroom and guide students through the process of solving artistic and technical problems they encounter in their projects. They will also provide individualized guidance and comments to students. Through their interactions with industry mentors, students will have the opportunity to learn about the latest advances in the industry, as well as acquire professional skills and industry standards through hands-on application.

3.3. The promotion and construction of interdisciplinary co-operation

Interdisciplinary courses are offered by the Communication University of China, Nanjing (CUCN) under the School of Animation. These courses are offered in cooperation with the School of Fine Arts, Foundation Department and other departments. The aim of these courses is to provide students with the opportunity to learn art skills, computer graphics and animation technology. In order to build interdisciplinary thinking and comprehensive skills, students will think and contribute from the perspectives of a variety of disciplines by participating in this activity.

For example, the School of Fine Arts offers classes in which students can learn drawing techniques and art theories and then apply them to the process of character design and scene drawing. Similarly, the School of Computer Science offers classes where students can learn computer graphics and animation algorithms and then apply them to the process of 3D modeling and animation rendering.

3.4. Application and Practice of Innovative Pedagogy

The course introduces case studies and problem-based learning to stimulate students' interest and spirit of exploration by analyzing the production process and technical techniques of well-known animated films. Students will learn innovative thinking and practical methods from the cases and apply them to their own projects. This case-based approach allows students to learn how to acquire knowledge, solve problems, and collaborate with others in real-world work situations. Students can develop a sense of teamwork, communication skills and creativity in the process of participation. To achieve the purpose of learning to use. Practice has proved that the teaching effect is good. Students' independent learning ability is improved.

For example, an excellent animation film can be analyzed by students in terms of plot, character design and animation performance. This allows students to learn successful creative processes and techniques that they can then apply to their own animation production projects. At the same time, they receive advice or recommendations from CUCN faculty in the form of precise guidelines. They always pay attention to cultivating students' interest in animation creation, focusing on the overall effect of animation works, attaching importance to cultivating students' practical skills, strengthening the connection between animation works and other disciplines, and improving the quality of animation education. All these things will be done while teaching an animation course.

3.5. Construction and improvement of digital repositories

CUCN students will be able to access and receive the latest learning materials and cases at any time, allowing them to draw inspiration and knowledge from them. This is made possible through the collection and regular updating of animated works, training videos and reference materials. Purchasing access to the latest 3D animation software and renderers, high-performance computers, and digital painting equipment are some examples of the advanced technical equipment and software resources made available to students. These technologies are used by faculty to dissect the problems that need to be solved throughout the course and bring them to the student's attention in a vivid and visual way. It also allows them to stay current with the application of new technologies. They should incorporate interactive communication links into the classroom teaching process. Improve communication between students and professors. The purpose of this hardware is to enhance students' technical and creative skills, while also enhancing the cultural life of the school.

3.6. Increased participation in student practice programmes

Students at CUCN participate in the production process of real projects, collaborate with film production companies or advertising agencies, and actively participate in animation projects already in progress. Taking the practical teaching of animation as an example, it elaborates on the combination of theoretical learning with practical operation, the stimulation of students' interest, the cultivation of students' independent innovation consciousness and the improvement of their practical ability through the reform of curriculum and talent cultivation methods proposed by this institute; and the enrichment of teaching content through the implementation of the second class, also known as practical classroom activities. In order to improve their work efficiency, enhance their teamwork ability and improve their problem-solving ability, students take on a variety of roles within the project. These positions include animators, modelers, and special effects artists. This allows students to truly become applied talents whose knowledge is applied to society.

Table 1. Student involvement in practical projects and curriculum content Academic Year Plans.

Grade	Practical projects (courses)	Experimental content with practical application
Grade 01	The core principles of animation production and the creation of digital film and television content.	To gain insight into the present state of the animation and digital film and television industry, and to acquire a solid foundation in animation and digital film and television production, so that students can concentrate on the industry's future growth.
Grade 04	Internships available in the fields of animation, modelling, special effects, and related areas. Internships are available for individuals specialising in animation, modelling, VFX artistry, and other related fields.	Engage in industry-academia collaboration projects with film and television businesses, assuming positions such as animator, modeller, and special effects artist. This will promote personal productivity, foster teamwork, and develop problem-solving skills.
Grade 03	Thematic design refers to the process of creating a visual or conceptual theme that is consistent throughout a project or space.	Students collaborate in teams to complete an authentic animation project, with each member assigned certain responsibilities, such as character animation, special effects production, post-production synthesis, and more.
Grade 04	Graduation design	The graduation animation production (design) has been completed, serving as a thorough recap of the four years of study and showcasing the outcomes in a centralised display.

As shown in Table 1 above, students can participate in a real animation production project and be responsible for specific tasks, such as character animation, special effects production and post-synthesis. Through the actual production process, students will face practical challenges and problems, and solve them through teamwork to continuously improve and enhance their professional skills and practical abilities.

4. Industry mentor network building and internships

The Chinese University of Cinema and Television (CUCN) conducts regular visits to animation studios, film studios, museums, art exhibitions and other industry-related activities throughout China and Jiangsu Province. The purpose of these field trips is to provide students with the opportunity to experience the atmosphere and real working environment of the film and animation industry. This will be achieved by building a joint industry-university "film and media" professional training base, cultivating high-quality applied talents to meet the needs of society, establishing a diversified talent cultivation mode that is oriented to the labor market, building a scientific and effective teaching quality evaluation system, strengthening the construction of industry tutor teams, and innovating teaching methods and tools. Students are given the opportunity to participate in internships and cooperate with enterprises in the industrial sector, so that they can directly apply the knowledge and skills acquired in the classroom to real-life situations, thus further enhancing their practical competence and professionalism (see Figure 4).

Through the above innovative teaching strategies for animation majors based on the university-industry cooperation talent cultivation mode, students will have learning experiences closer to the actual working environment, and enhance their practical ability, creativity and teamwork spirit. Students will gain in-depth understanding and experience of the requirements and challenges of the animation industry through participation in actual projects, cooperation with industry mentors, internships and visits. This will lay a solid foundation for students' career development and enable them to better adapt and respond to changes and developments in the animation industry.



Fig. 4 Students Practising in Practice Sites.

Conclusions

In today's era, the field of information technology is constantly advancing, the range of applications is expanding, and the popularity level is gradually increasing. When it comes to analyzing the teaching innovation strategy for animation majors based on the university-industry cooperation talent cultivation mode, the most important factors to consider are the implementation effect and feedback. It is possible to evaluate the effectiveness of the teaching innovation strategy for animation majors based on the university-industry cooperation talent cultivation mode by analyzing the implementation effect and feedback. This makes it possible to identify areas where the strategy could be improved.

Based on the results of the feedback, the CUCN teaching team can further optimize the teaching tactics and course design, which will ultimately lead to an improvement in the quality and efficiency of the teaching. In addition, it has the potential to successfully compensate for the shortcomings of the traditional teaching method, making it more focused and applicable to real-world situations. In order to achieve successful teaching results, it is essential to strengthen the discussion and research on the reform of teaching techniques of professional courses within the framework of "University-Industry Cooperation". This is necessary to achieve the desired results. Continue to improve the quality of talent training. Adapting to the requirements of the social development process. We have conducted an analysis of the teaching of film and television animation, film and television art, and digital media art through the lens of "University-Industry Cooperation" in qualified undergraduate colleges and universities. Our goal is to better meet the needs of both students and industry. To achieve this, we have proposed specific strategies and methods. Not only will this continue to foster the growth and improvement of professional animation education, but it will also foster the education of a greater number of exceptional film and animation professionals who are capable of both invention and practical application.

However, despite the fact that the reform and innovation of the teaching method of animation majors based on the university-industry cooperation talent cultivation mode has achieved certain achievements, there are still some issues and problems that need further investigation. In the following research, we can consider the following aspects: First and foremost, in order to meet the demand for talent in the animation industry, it is necessary to further deepen the application research of the university-industry cooperation talent cultivation mode, expand the scope and depth of cooperation with industry partners, and achieve closer integration between industry and academia. In order to improve the quality of guidance that students receive for their practical projects and innovative practices, the second step is to strengthen the training and development of the teaching team, and enhance the professionalism and practical experience of teachers. Third, make sure that the curriculum is adjusted in a timely manner, that the teaching content and methods are regularly updated, that you pay attention to the development trend and technical progress of the industry, and that you ensure that there is a close relationship between teaching and industry. In conclusion, it is essential to strengthen the establishment of teaching evaluation and quality assurance mechanisms, establish a perfect teaching evaluation index system, continuously improve teaching strategies and teaching methods through evaluation and feedback, and improve the quality of teaching as well as the learning experience of students. Therefore, the reform and innovation of the teaching method of animation majors based on the talent cultivation mode of university-industry cooperation is of great significance and potential.

We can further improve the practical ability, innovation ability and professionalism of students through continuous exploration and practice. This will enable us to cultivate high-quality animation professionals who are more in line with the requirements of the industry, and it will also contribute to the development and progress of the film and animation industry. It is also hoped that this study can serve as a reference for professionals related to the field.

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