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Optimization Strategies for the Cultivation of Animation Majors in Colleges and Universities Under the Employment-Oriented Approach

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Abstract: With the vigorous development of the digital content industry, the demand for talents in the animation industry has become increasingly diversified and professionalized. However, there is still a certain disconnect between the talent cultivation of animation majors in colleges and universities and industrial needs, leading to intense employment competition for graduates. Guided by the employment-oriented approach, this paper first analyzes the core competencies required of animation talents and examines the main problems existing in the current talent cultivation of animation majors in colleges and universities. On this basis, it proposes optimization strategies such as industry demand-oriented curriculum reform, deepening the integration of production and education, building a "double-qualified" teaching team, and improving the employment service system. The aim is to enhance the employment competitiveness of animation professionals and promote effective connection between talent cultivation and industry development.

Keywords: Employment orientation; Animation major; Talent cultivation; Integration of production and education; Curriculum reform

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1. Requirements for the cultivation of animation majors in colleges and universities under the employment-oriented approach

1.1. The core competency requirements for talents in the animation industry are increasingly diversified

At the technical level, students need to master professional skills such as 2D and 3D animation production, character design, scene construction, and special effects compositing, as well as be familiar with mainstream industry software tools. At the artistic level, they must possess solid artistic fundamentals, creative design capabilities, and aesthetic literacy to transform artistic concepts into visual expressions. In addition, with the cross-integration of animation with film and television, games, virtual reality and other fields, interdisciplinary knowledge and compound capabilities have become key to employment competition [1]. Therefore, the cultivation

of animation majors in colleges and universities needs to keep up with technological development trends and industry dynamics, and build a multi-dimensional competency system covering art, technology, management and other aspects.

1.2. The employment-oriented approach requires combining practice and innovation in animation talent cultivation

Animation is a highly applied major. Enterprises not only pay attention to students' theoretical knowledge but also attach great importance to their project experience and ability to solve practical problems. Many employers report that graduates often lack complete project practice experience and find it difficult to quickly adapt to job requirements. Therefore, colleges and universities need to strengthen practical teaching links. Through studio systems, project-driven teaching, school-enterprise cooperation, and other methods, students can participate in real or simulated animation projects, cultivating their full-process capabilities from planning and design to production and compositing. At the same time, innovative thinking is the driving force for the development of the animation industry. Colleges and universities should encourage students to explore new technologies and forms, such as motion graphics and immersive storytelling, to adapt to the continuously upgrading needs of the industry [2–4].

1.3. The cultivation of animation talents needs to strengthen professional literacy and teamwork capabilities

Animation production is usually a collective collaborative process, involving multiple links such as screenwriting, original painting, modeling, rigging, animation, and post-production. It requires practitioners to have good communication skills, a sense of responsibility, and team spirit. However, current college education often focuses on individual skill training, lacking systematic training in team project collaboration. In addition, professional qualities such as professional ethics, copyright awareness, and pressure resistance are also indispensable soft skills in the job market [5]. Colleges and universities should integrate professional norm education into courses, and simulate industry working environments through group projects, interdisciplinary cooperation and other methods to improve students' comprehensive professional qualities.

2. Problems existing in the cultivation of animation majors in colleges and universities

2.1. The curriculum system is disconnected from industry development, and content updates are lagging behind

The curriculum setting of animation majors in many colleges and universities still follows the traditional model, focusing on artistic fundamentals and software operations, and lacks the introduction of emerging technologies such as real-time rendering, virtual production, and AI-assisted design. Some course contents are outdated and disconnected from current mainstream industry tools and workflows, making it difficult for students to directly apply the knowledge they have learned to jobs. In addition, the curriculum structure often emphasizes theoretical teaching, with insufficient practical class hours, and the connection between different courses is not close enough, failing to form a systematic competency training chain [6]. This disconnect weakens the employment competitiveness of graduates, leaving them facing skill gaps when job hunting.

2.2. Weak practical teaching links and insufficient depth of integration of production and education

Although more and more colleges and universities have realized the importance of practice, limited by factors such as funds, equipment, and teachers, practical teaching still remains at the level of simple experiments or short-term training [7]. The equipment in on-campus animation laboratories is outdated, and software versions are updated slowly, failing to meet the needs of high-quality production. In terms of school-enterprise cooperation, most collaborations are superficial forms such as lectures and visits, lacking long-term and stable project cooperation and talent cultivation mechanisms. Students find it difficult to access core projects through enterprise internships, resulting in fragmented practical experience. In addition, some colleges and universities have insufficient research on industry needs, and there is a deviation between practical teaching content and the actual workflows of enterprises [8].

2.3. Single structure of the teaching team and lack of industry experience

Although most animation teachers in colleges and universities have high academic qualifications and research backgrounds, they rarely have the opportunity to directly participate in industry work, so their understanding of new technologies and processes is insufficient. As a result, teaching mostly stays at the knowledge level and cannot guide students to solve practical problems in work. Secondly, the introduction of corporate experts by schools is restricted by policies, and part-time teachers lack motivation, making it difficult to effectively make up for the shortcomings of practical education. Moreover, limited by teachers' skill levels, the construction of course content and the reform of teaching models are also restricted, which in turn affects the effect of talent cultivation.

2.4. The evaluation mechanism emphasizes academic achievements and ignores the employment capacity orientation

At present, the evaluation methods for animation majors in colleges and universities mainly focus on usual homework scores, exam scores, or graduation creation scores, emphasizing artistic expression and technical implementation, while weakening the assessment of students' comprehensive collaboration capabilities, innovative capabilities, and professional qualities. However, the requirements for graduation design works often lack connection with enterprises, deviating from market application needs to a certain extent, leading some works to focus on form rather than function [9-11] and may not have commercial value. Secondly, the data tracking of graduates' employment quality is not sound, and the training program cannot be adjusted according to employment status. This evaluation orientation makes students study to complete their studies rather than to find jobs.

3. Optimization strategies for the cultivation of animation majors in colleges and universities under the employment-oriented approach

3.1. Reconstruct a modular curriculum system guided by industry needs

To break the established teaching system of animation majors in colleges and universities and establish a curriculum update mechanism that reflects the industry in real time, colleges and universities need to set up a "curriculum development team" composed of professional teachers, corporate experts, and industry association personnel. An industry-wide research and analysis should be conducted every year, including not only current job skill requirements but also predictions of technological development and personnel changes. Research methods

include enterprise visits, graduate tracking, and recruitment information data analysis, forming the "Annual Report on the Development of Animation Industry Capabilities" as a compass for curriculum optimization. A three-stage modular curriculum system of "basic general education + specific paths + cross-disciplinary extension" is a feasible curriculum setting plan. Among them, general education courses are mainly to cultivate students' basic literacy and core competitiveness.

In addition to traditional artistic fundamentals, relevant content such as shape design, digital painting, sound and image expression, and animation composition needs to be supplemented, while focusing on the cultivation of aesthetic appreciation and creative thinking capabilities. Specialized directions should be closely linked to specific segmented industries, such as setting up segmented directions, such as "film and television animation", "game original painting", "cartoon image and peripheral development", and "digital media motion graphics". Each direction should have a supporting course group, from creativity to practice and from software to projects. For example, for students in the game art direction, the core courses include character modeling, scene design, engine animation design, TAD basics, etc.; in the extended courses, students' adaptability and interdisciplinary collaboration capabilities are strengthened, adding content such as an overview of interaction design, introduction to Python programming, project management, and an introduction to marketing [12]. Students are encouraged to take elective or make-up courses from related majors. The updated curriculum plan should be forward-looking and flexible. A "frontier technology workshop" system can be considered to introduce regular special training on emerging technologies such as virtual production, real-time ray tracing, and AI creative assistants. At the same time, certification cooperation with well-known software enterprises and industry associations should be strengthened. Integrate international general technical certificate assessments into the curriculum assessment system to achieve seamless connection between what students learn and the professional capabilities required by real enterprise positions; conduct teaching design with projects as the carrier rather than knowledge units, focusing on allowing students to comprehensively apply the knowledge of each module in a simulated or real project task environment to build a systematic work capability.

3.2. Deepen the integration of production and education and build a multi-level practical platform

The integration of production and education should not be limited to the contractual level, but a practical teaching community that runs through the entire process of talent cultivation should be established. Colleges and universities should take the initiative to co-build "animation industry colleges" and "collaborative innovation centers" with enterprises to realize a cooperative model of collaborative talent cultivation, process co-management, and resource sharing. In the industry college, a project-based teaching model of "double-teacher guidance" can be adopted. Enterprises introduce actual production processes or development tasks into classrooms, and organize student groups to complete work tasks under the joint guidance of on-campus teachers and off-campus mentors, allowing them to experience the complete process from demand analysis to scheme design and product delivery [13]. In terms of the construction of on-campus training bases, real working environments and workflows should be simulated. An "animation workshop" or "studio" with a complete production process can be established, equipped with first-class industry software facilities and introducing enterprise project management systems, encouraging students to form cross-grade and interdisciplinary teams to undertake actual projects inside and outside the school or participate in competitions and creations. Only in this way can their application capabilities, collaboration capabilities, and project-based work capabilities be enhanced; at the same time, a stable group of off-campus training bases should be established, and a phased

internship plan should be formulated in conjunction with enterprises: from cognitive internship → follow-up internship → independent internship, ensuring a seamless connection for students to grow into professionals. Actively advocate the practice teaching model of "promoting innovation through competitions" and "combining performances and exhibitions". Encourage students to participate in various important international competitions and integrate competition content into course assignments; fund and assist students in exhibiting their works in large-scale domestic and foreign animation exhibitions to broaden their professional horizons and accumulate network resources. In addition, activities such as "enterprise study tours", "technology forums", and "project exhibitions" can be held regularly to create a strong corporate culture atmosphere and allow students to feel the industry vibe on campus.

3.3. Strengthen the construction of a "double-qualified" teaching team and improve teaching effectiveness

Teachers are the link between enterprises and classrooms. Colleges and universities should reform the teacher recruitment and assessment system, strengthen the factors of work experience and performance in employment standards, and set up positions such as "industry mentors" and "visiting professors" to absorb project managers and technical directors with rich project experience into the teaching team. For existing teachers, a clear enterprise internship plan should be formulated, requiring full-time teachers to conduct on-the-job internships in enterprises for at least half of the year every year, and transform the results into teaching resources or update existing course content; establish a standardized appointment and management mechanism for part-time enterprise teachers; build a complete "enterprise mentor database". In addition to lectures or short-term workshops, external technical talents or art masters should also participate in the formulation of teaching syllabuses, project guidance, graduation design evaluation and other work to form a regular educational community; at the same time, improve the communication mechanism among on-campus faculty and staff, encourage teachers to participate in technical consulting or innovation support work in enterprises, and allow enterprise experts to participate in school seminars. Enhance mutual understanding and realize knowledge updates in the process of co-compiling textbooks and joint development; also build a long-term professional development support system, regularly organize teachers to participate in advanced industry skill training, international academic conferences and business forums, and allow teachers to obtain high-level professional qualifications. Establish a special college on campus for curriculum research and technical exchange, and encourage teachers to promptly incorporate new technologies, new processes, and new norms into teaching. Finally, form a diversified teaching team that understands educational and teaching laws, understands industry development trends, can impart knowledge and solve doubts, and can work practically, ensuring that teaching content is always advanced and effective [14].

3.4. Improve the employment service and evaluation system and promote students' career development

An employment-oriented teaching model needs to form an employment service system that runs through the entire process, and focuses on result evaluation and feedback. In teaching, career guidance should be integrated into various links: helping students establish professional cognition and career planning in the first year; designing career plans according to students' development directions in the second year; focusing on their technical capabilities and productive skills in the third year; and focusing on job hunting and job matching in the fourth year. The guidance methods should be diversified, and a "career counselor system" should be established, with each student assigned a dedicated counselor; in the reform of the evaluation system, attention should be paid

to capability cultivation and multi-subject participation. Reduce the proportion of final exam scores, increase the proportion of usual assessments, project achievement scores, and group mutual evaluations, and take the initiative to introduce industry evaluation standards. Invite enterprise personnel to participate in course assessments, project acceptance, and graduation defenses, and examine students' work results and innovative thinking capabilities from an enterprise perspective. In terms of graduation design, it is recommended to select topics oriented to practical applications and combine these topics with enterprise projects, competition propositions, or scientific research experiments as much as possible, focusing on assessing problem-solving capabilities and innovative capabilities; finally, the school's alumni network is an effective way to promote students' employment. Schools should establish an information center to collect contact information of alumni, classify graduates by industry and career development stage, and regularly organize alumni meetings for alumni to communicate with each other; in addition, encourage them to participate in recruitment and mentoring programs or share their experiences, thereby forming a dynamically developing network of contacts. At the same time, a circular feedback mechanism should be established to understand graduates' employment status, development paths, and employers' satisfaction, and provide corresponding statistical data and regularly form research reports. This report serves as an important basis for revising training programs, optimizing teaching content, and improving teaching methods, realizing a spiral upward and dynamic improvement of talent cultivation quality, and meeting the effective response of educational supply to demand[15].

4. Conclusion

Against the background of the rapid transformation of the animation industry, the cultivation of animation majors in colleges and universities needs to adhere to the employment-oriented approach and face up to the disconnect between industry needs and education. By reconstructing the curriculum system, deepening the integration of production and education, strengthening teacher team construction, and improving the evaluation mechanism, the professional capabilities and employment competitiveness of students can be effectively enhanced. In the future, colleges and universities should further pay attention to technological trends and market changes, dynamically adjust training programs, promote the coordinated development of animation education and industry, and transport more high-quality, applied innovative talents to the industry.

Disclosure statement

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