Animation Course of Education Revolution Research under Multiple－subjects Backgrounds

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Abstract：fusion of subjects is one of the most important topics of Contemporary higher education studies, this research base on necessaries and meanings of multiple－subjects to compare the Chinese animation education models with foreign animation education models, to provide how to create more new elements on the animation studies, such as, build multiple teaching team, set up reasonable courses, for providing high quality animator to the industry.

Keywords：multiple－subjects, animation, study revolution

1. Research status and significance at home and abroad

1.1 Research status abroad

First, Interdisciplinary research is in line with the development of the times, which has meanings of innovation. The term "interdisciplinary" was first used by the American Social Science Research Council at its meetings in the 1920s. In the late 1960s and early 1970s, the research and discussion on "interdisciplinary" reached its peak. " Interdisciplinary: Problems of Education and Research in universities", published in France in 1972, defined the concept of interdisciplinary.[1]

Second, in interdisciplinary research, the cultural integration among disciplines is a complicated and necessary stage, which is worth researchers conquer. Oberg[2] divides the process into four stages: honeymoon, hostility, recovery, and adaptation. In different stages, each discipline is eliminated and continuously integrated, and finally, the integration of different disciplines is realized. In terms of education reform, Stanford University achieves interdisciplinary research－based teaching, curriculum integration, and optimization, and diversified practical projects through in－depth interdisciplinary research, also an educational reform model for foreign universities to learn from.

Third, animation education was the emphasis on workshop－style teaching and Project－driven integration of industry－university－research. For example, Canada, which has the world′s leading 3D animation production technology, emphasizes joint training with high－quality animation education companies to provide talents for enterprises. In addition to training skills, Japanese animation education pays attention to the cultivation of aes-

thetic cultivation. In the United States, students majoring in animation should study computer graphics and fine arts. South Korea pays attention to the integrated teaching and practical teaching of neighboring majors.

1.2 Domestic research status

Firstly, with "animation specialty curriculum reform" as the keyword, a total of 149,738 pieces of literature were retrieved in CNKI full—text database. It began to rise rapidly in 1999 and reached a peak of 13,500 articles in 2017. However, the number of papers involving interdisciplinary concepts was less than 700. The main research points are as follows. First of all, relevant departments have issued documents to promote the construction of interdisciplinary specialties in colleges and universities across the country and the development of interdisciplinary teaching, pointing out that "cultivating interdisciplinary and cross—field innovation teams." It shows that the introduction of the interdisciplinary concept in teaching reform is an important breakthrough. Its research focus has gradually developed from interdisciplinary boundary—crossing to interdisciplinary overall rules and characteristics as the research object, emphasizing a specialized research field integrating the knowledge of different disciplines (Liu Xiaobao, 2012). [3]

Secondly, the relationship between animation major and digital media art and digital media technology is established, laying the foundation for the interdisciplinary development of animation major. The Teaching Guidance Committee for Animation and Digital Media major of Higher education institutions of the Ministry of Education, established in September 2013, provides teaching guidance for animation, digital media art, and digital media technology, reflecting that the combination of art and engineering realizes the crossover between the humanities and natural sciences of animation major.

Thirdly, the teaching reform mode of animation specialty is innovated continuously, and the diversified development of interdisciplinary forms is also restricted by objective conditions. At present, the interdisciplinary teaching of animation major in China is mainly carried out in the first—level interdisciplinary education under the category of art, mostly through art history and other related courses. However, due to the constraints of the evaluation system of teachers and the cross—disciplinary cultivation of teachers in colleges and universities, the achievements of the interdisciplinary teaching reform of animation major in Chinese colleges and universities were not outstanding.

1.3 Research significance

First, fully implement the national requirements to provide a reference for the development of colleges and universities. The State Council and the Ministry of Education put forward "the fostering of interdisciplinary innovation teams" and "animation reflects deeply integrated science and art characteristic of interdisciplinary professional," this topic through the professional animation characteristics and the characteristics of interdisciplinary education literature analysis, put forward animation in three levels of interdisciplinary professional reform path, the path can be used as the important basis curriculum. [4]

Second, promote the development of China's animation industry and close the gap with the world's leading level. [5] Through case analysis of the cultivation methods of animation professionals in foreign colleges and universities, this project puts forward a training program in line with China's national conditions, which is conducive to the realization of the responsibility of colleges and universities to the society and has enlightenment value to the development planning of colleges and universities, teachers, students, and parents.

2. Current situation and problems of interdis-

ciplinary education development

2.1 Organizational structure

Interdisciplinary teaching is conducive to establishing a complete animation teaching system and conducive to the cultivation of innovative animation talents. Due to the development of digital media, the animation major is in the process of interdisciplinary. Animation involves image, music, aesthetics, technology, etc., and it has good interdisciplinary conditions. Animation majors have opportunities at all three levels across disciplines. However, at present, the functional departments of university organizations are independent of each other. The work mode formed for a long time leads to clear rights and responsibilities, and transparent work boundaries, which hinders discipline integration. Universities and colleges are independent of each other, offering only a few elective courses as an outlet for students to get in touch with other majors. In the requirements of interdisciplinary integration, it is not only necessary to learn knowledge of other professional disciplines but also requires deep integration: integrating five aspects of disciplinary knowledge, disciplinary thinking, disciplinary method, disciplinary ethics, and disciplinary spirit. [6] Under the current organizational structure, it is not conducive to the sharing of teaching resources and restricts the development of interdisciplinary integration.

2.2 Educational concepts

Despite the publicity of quality—oriented education and elementary courses in multi—type, but for historical factors, most students in our country are faced with pressure of college entrance exam As a result, schools, teachers, parents, and students are difficult to avoid the traditional force—feeding teaching mode, long—term lack for the cultivation of independent thinking and practical ability. [7] Under this social background, although colleges and universities advocate improving students' innovative thinking and practical skills, the education model that students have accepted for a long time and their parents' educational concept has restricted the comprehensive development of most students. Undergraduate teaching adopts a class teaching system, which relies more on teachers to transfer knowledge in the teaching process. Teachers' setting of courses determines the direction of students' learning. At present, the teaching of animation specialty is mainly theory course and software practice course, and the two kinds of courses are taken charge of by different teachers. Required by the teacher evaluation system for a long time, teachers are more eager to pursue specialization and refinement in the professional field, thus ignoring the exploration of integration between other areas and their specialty. Therefore, in the course of teaching, the introduction of interdisciplinary content is absent or superficial due to the limitations of teachers.

2.3 Course evaluation

Students' courses are divided into general education courses and specialized courses. General education courses are taught in large classes. That is, one class may contain students of different majors. Taking Zhongnan University of Economics and Law as an example, students majoring in animation should learn the three major courses of General Education: Legal Basis, General Theory of Management and General Theory of Economics. A class consists of students majoring in animation and other majors. In the class, teachers of general education basically follow the teaching methods of their majors, but do not introduce the characteristic contents of animation majors. The development of the above three courses reflects the thought of interdisciplinary education, but it has not achieved integration. Most homework is independently done, on the other hand, and assessed though taking exams or writing papers. However, evaluation

score form includes performance at ordinary times, but more people in the class of accurate for examination and assessment of student performance at ordinary times more difficult. The curriculum teaching methods and evaluation standards for the cultivation of the students' comprehensive quality and the cultivation of interdisciplinary thinking are set in a certain way.

3. Strategies for the development of interdisciplinary education

3.1 Strengthen the construction of specialized courses

The course setting of animation major in colleges and universities worldwide is comprehensively investigated. Interdisciplinary thinking courses are added to the existing courses, such as the general theory of art management instead of management, the general idea of law instead of intellectual property law, and the general theory of economics instead of film and TV market economy. In this way, students can be encouraged to expand their thinking, and the above courses can also help students improve the framework of professional learning. At the same time, make full use of network resources and strengthen students' associative thinking through the MOOC platform. In the period of the novel Coronavirus epidemic in 2020, many online courses were launched at home and abroad, among which there are many exquisite courses. At meanwhile, there are courses of comprehensive subjects via various MOOC platforms, such as cultural and creative courses, which can be applied to the teaching of animation majors. Teachers need to develop ideas to break professional barriers and contribute to the construction of professional courses. Colleges and universities can launch demonstrative professional courses and implement incentive measures to encourage college teachers to participate in the interdisciplinary development of professional courses. In addition,

students are encouraged to communicate between different majors and colleges. For example, the University of Cambridge adopts the "college system" student management mode, which promotes student communication by arranging students from different disciplines in dormitories and dormitories, organizing dances, etc., to enhance the all－round development of students' thinking through the integration of external environment.

3.2 To practice the tutorial system for undergraduate students

As the principal teaching mode of undergraduate education is the class teaching system, which lacks individualized and refined cultivation of students, the tutorial system can effectively solve this problem. At present, college students' management is divided into comprehensive management and academic management. Most counselors undertake comprehensive management of students and give guidance to students' life needs, thoughts control, employment guidance, and other issues by the counselors. And academic management depends on professional course teachers to complete through classroom teaching and after－class tutoring answering questions. Under this model, students who actively seek help can be provided with practical help and play a role in student management. In contrast, more passive students cannot achieve good results. To solve this problem, many schools take the class tutor system, which is equipped with a professional teacher in each class as a class teacher, solve the problems of the classes in the students' academic performance, and counselors to work together. The move is an exploration of tutorial system, but due to differences in class sizes and the teacher's professional direction, it also has some limitation in the process of practice. In the author's opinion, the system of one－to－one assistance can be set up while the counselor and class tutor are managing together. A support team will

be formed for doctoral, masters' teachers of the university. Students can choose a mentor from the support team of different majors, promoting two—way communication and collision of ideas between teachers and students. At the same time, the flow of personnel can promote college students to make full use of educational resources for self—improvement and achieve a good effect of interdisciplinary integration.

3. 3 Establishing the inter — college joint training system

The upper level of the university should break professional barriers, open channels of inter—college cooperation, and promote inter — college cultural exchange programs and a joint training system of high—quality talents. Animation involves preliminary investigation, professional design, production, release, derivative development, and other links. At present, animation courses in colleges and universities focus on mid — term professional design and production. There is a lack of training in the preliminary investigation, late release, and derivative development. The curriculum cooperation between colleges can achieve the effect of cultivating professional talents with excellent quality. Collaboration with information technology professionals, for example, can help broaden the avenues of animation production and speed up the development of animation into its derivative animation games. In cooperation with statistics major, many market surveys on character design, scene design, and story plot design are required in the early stage of animation production. Survey data is an important reference for the promotion of animation projects. Therefore, strengthening mathematical training for artistic talents is conducive to the development of their future career path. In the late animation release and derivative development, students are required to have basic economic knowledge. And marketing and other professional

training are particularly important. At present, colleges and universities have begun to carry out joint training between colleges, more in the form of students willing to participate in the double degree. Some colleges and universities carry out interdisciplinary attempts by carrying out elite courses to select high—quality talents for individualized course selection and stride forward to the direction of compound talents. As for the art discipline in comprehensive universities, there are differences between the admission assessment standards of students and other majors, so it is more challenging to cultivate interdisciplinary students. The cultivation of colleges and universities should respect the individual characteristics of students and achieve the purpose of developing talents for society. Therefore, colleges and schools can actively create the possibility of joint cultivation.

3. 4 Build a practice platform for school — enterprise cooperation

Animation major is characterized by strong practicality, and students should not ignore market demand orientation in skill learning. Therefore, in interdisciplinary integration, strengthening school—enterprise cooperative education plays a vital role in animation specialty teaching. Under the requirement of interdisciplinary integration, the breadth and depth of school—enterprise cooperation can be strengthened. Colleges and universities can establish internship bases with advantageous local enterprises for students to conduct an internship. During the internship, I had a deep understanding of the talent demand in the industry and determined my learning direction after returning to school to make sure that I could think and use what I learned. At the same time, the college can invite representatives from various departments of the industry to the campus for sharing and symposiums and lectures to provide students with new industry information with first — hand materials, broaden

their horizons, and lay a solid foundation for entering the society in advance.

At the same time, the classroom teaching can be carried out project simulation, that is, using a workshop－style teaching method, students in the classroom to work in a team. In the process of co-operation, the working method of IDEO can be used. That is, a wide range of personnel recruitment can be carried out based on the academic background of students participating in the research project without restriction, and various problems arising in the project can be solved through brainstorming to complete the project jointly. [8] This can effectively train students' ability of teamwork and multi－direction thinking.

Interdisciplinary research is the development trend of higher education and the only way for Chinese colleges and universities to become the first－class universities globally. Because of the increasing complexity of social problems, it is difficult to solve complex problems with single thinking, so colleges and universities need to cultivate complex thinking talents. The establishment of an effective interdisciplinary teaching system is particularly important under this training goal. In the social reality with the increasing spiritual needs of the people, the reform of art majors is typical and exemplary. From the interdisciplinary perspective, this paper proposes a path for the curriculum reform and development of animation specialty. It constructs a strategy for the interdisciplinary integration of animation specialty. Society's demand for high－quality talents is increasing gradually. As the cradle of talent cultivation, colleges and universities should continue to explore interdisciplinary fields.

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