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Discussion on Diversity of Animation Teaching Methods in Universities †

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Abstract: In modern education, it has been generally believed that the most important responsibility of educators is to awaken the ability of students. It is a general goal to develop the students' comprehensive knowledge and practical skills in majoring in animation at universities. Thus, we investigated the effects of learning to understand the social significance of the academic ability and technical skills of graduates. Then, we reviewed the teaching methods in animation and analyzed the uniqueness and complexity of teaching to understand the evolutionary communication method and their complementary resources. We propose a creative method to gradually promote teaching animation. Through the experiments used in the course, the teaching effects were compared. The result of this research provides educators with a reference for developing a method of teaching animation.

Keywords: animation teaching method; complementary resources; creative ability training

1. Introduction

The purpose of this research was to analyze the problems of animation education in universities and propose an education program. According to the Undergraduate Specialty Catalogue of Higher Institutions, animation is a major offered by the Department of Drama, Film, and Television under the discipline of art. Recently, economic and technical factors have been introduced into the animation major, which has a great impact on education in both colleges and universities. Teaching methods, training of animation skills, and graduates' works have been used as corresponding measures for the future development of animation education.

Modern college education advocates for teachers to awaken the power of students and the society needs college students to have the proper knowledge and skills in physical and mental health [1]. Animation education in colleges and universities must consider the importance of professional training, and at the same time, help students to develop their self-confidence, self-esteem, independence, honesty, and enthusiasm quality, and thus, students can develop both professional skills and independent thinking. Standards for teaching quality have been established with a normative and referential significance for animation teaching. In the *National Standards for Teaching Quality of Animation, Digital Media Arts, and Digital Media Technology*, animation education has been defined as a cross-disciplinary specialty that serves social development and cultural construction, and embodies the deep integration of science and art. This document reveals the requirements for backbone courses, class hours, credits, graduation works criteria, and others, which objectively guides educators to teach the comprehensive knowledge and practical skills in the direction of talent training in both colleges and universities. At the same time, animation education in universities is different compared to those in specialized art colleges. Therefore, it is necessary to understand the situation of animation education in universities

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to implement these teaching methods and help students develop and use their practical skills and knowledge across different fields.

2. The Situation of Current Students

At present, many colleges and universities offer animation majors in addition to specialized art colleges with their resources. For example, at Tianjin University, the animation major has been set in the Intelligence and Computing Department of the faculty of engineering. In the Communication University of China and Tongji University, an animation major has been set in the faculty of information and media. At Nanjing Normal University and Northeast Normal University, an animation major is offered in the faculty of normal art education. Southeast University, Jinan University, Wuhan University of Technology, and Tan Kah Kee College, Xiamen University all offer animation majors in the faculty of art and design.

Students majoring in animation in universities are enrolled with fine art skills and graduate with a comprehensive knowledge of art, engineering, cultural communication, performance, and film with a Bachelor of Arts. Students are required to undertake an examination for drawing, color representation, sketching, and on-site creation in the animation major course. In universities, the comprehensive quality is focused on admissions with academic scores and art exam scores. The admission of students in animation majors is based on the total score calculation. Students' final score is calculated with different proportions, which differ across the universities. For example, the sum of 40% of the academic subject score and 60% of the art exam score are considered or vice versa. Several universities attach importance to the personality of candidates from different provinces and subsequently adjust the calculation proportion according to it. Different calculations by universities are related to different needs or understanding of the learning ability of science, artistic expression, culture, and others required for animation majors. This admission method may add the requirements and expectations of practical training and graduation works, which has also been reflected in the curriculum structure as shown in Table 1.

Table 1. The curriculum structure of Tan Kah Kee College, Xiamen University.

Course Category		Required Hours	Credit	Hour Ratio	Credit Ratio
Skills education	Required course	986	34	29%	22%
	Elective course	102	6	3%	4%
General education	Required course	442	22	13%	14%
	Elective course	225	12	7%	8%
Professional education	Required course	1121	58	33%	37%
	Elective course	474	23	14%	15%
Total by category	Required ourse	2549	114	76%	74%
	Elective course	801	41	24%	26%
	Specialized course	1595	81	48%	52%
	Non-specialized course	1755	74	52%	48%
	Theory section	1207	72	36%	46%
	Practice section	2113	83	64%	54%
	Total	3320	155	100%	100%

3. Diversity of Animation Teaching Methods

3.1. Inspirational Teaching and Active Learning

Inspirational teaching and emphasis on active learning must be the focus of education methods for animation majors in universities. Most high-school art students learn realistic drawing, color representation, and other related skills through traditional art training.

Repetitive art training has a significant effect on drawing skills in terms of muscle memory and visual imitation, through which students can produce stereotyped and modeled works in a short period of time. However, this repetitive and imitative learning makes training arise without interest and thinking and makes students lazy and passive in learning as a result, which cannot cultivate personality and style. Thus, few art students are interested in art theories and appreciate different artworks or stories outside the classroom, and after they enroll in the animation major at university, they lack creativity and interesting thinking. Confusion and difficulties from students can be felt, as it is hard for them to continue the simple and imitative drawing habits that they gained during their past training. They need to understand that creating animation requires script writing, planning, directing, performing, and sound editing, and they must have an interest in these topics. Animation majors in universities integrate different resources and make use of elective courses for obtaining different knowledge, such as computing, music, communication, management, and so on. Based on the knowledge of different disciplines across the university setting, animation students can gain comprehensive skills, ability, and creative thinking.

3.2. Computer-Assisted Instruction for Creation

Computer-assisted instruction (CAI) was developed in the USA in the 1960s', which has had a positive effect on animation teaching today. CAI improves guiding students' creation. As the core of animation education, teachers need to provide students with a good environment for creativity and understanding [2].Teachers need to teach and guide the creation using communication, interaction, and discussion. This teaching process includes lectures, tutorials, course exercises, technical training, and other activities. Multimedia, computer technology, hypertext, and design platforms help overcome the shortcomings of traditional indoctrination and one-sided teaching. CAI shortens the learning time and improves the teaching quality with an effective strategy. With this system, teachers can pay close attention to students' characteristics and learning habits and monitor the creation process and the final work. During tutoring, teachers can make individual customization and provide adaptive guidance based on students' cognition and ability.

3.3. Technical Teaching and Ability Training

For practical teaching, it is better to have 20 students in each class. In technical teaching, the content and progress for the average level of the class are too easy for excellent students and conversely too difficult for poor students. Therefore, it is better to instruct students to learn actively through practice. At the beginning of the teaching process, the teacher briefly demonstrates the basic steps of the technique on the computer and explains how it is used in work producing. Then, the teacher guides the students to practice their skills through creation. By this process, the teacher gradually understands the abilities and levels of different students through observation and then adjusts the way of technology demonstration. At the same time, technical teaching must emphasize the combination of skills and creations to stimulate students' interest and overcome difficulties. After the beginning stage of teaching, students can master the basic operation of technical skills through personalized learning, and then teamwork can be introduced to conduct in-depth teaching. Teachers organize complementary groups based on student characteristics so that they can learn from each other in the group and improve their creativity and ability through cooperation.

4. Relationship between the Teaching Method and Ability Training

Teaching methods and cultivating students' abilities needs to be unified as a whole and carried out for students to acquire their knowledge and skills. In ability training, which is the core of animation teaching, the year one and two courses are offered as the visual study and professional basis, while the year three and four courses are provided for professional training and the development of creative thinking, respectively. Visual representation is taught to shape characters and scenes and express ideas and thinking through images. The

professional basis is learned for story-telling and the concept of motion. Junior students need to understand the characteristics of different materials and media through the practice of artistic thinking for the creation of animation. Senior students need to develop their ability to conceive and create by finding problems, observing life, forming personal views, and creating valuable works, such as commercial projects [3].

Courses in years one and two include Animation Modeling to develop observation and analysis and Animation Representation to develop visual expression. Courses in years three and four offer Materials and Three-Dimensional practice, Principle of Motion, Performance and Sound, Scriptwriting and Storyboard, Video Shooting and Editing, CG software study, and Narrative illustration to practice the ability to observe and investigate social problems, analyze data, find solutions, propose and produce virtual projects to comprehensively organize and cooperate with others, and ultimately to achieve the ability to create animated work

Educators in animation majors must pay close attention to the trends of the creative industry, grasp and analyze the information related to animation, and discuss the dynamics of the animation education system. Teachers must keep communicating with each other and discuss the direction of teaching in courses to maintain the identity of animation education and effectively convey knowledge and new trends to students. For the effectiveness of teaching, professors in universities need to practice and carry out projects and research for guiding and training students for their professions. Furthermore, teachers must understand the difficulties at each stage of creation and evaluate different creation levels to find the optimal conditions for the equipment and management systems in teaching.

The integration of animation art with different fields of knowledge is advantageous to develop students' capabilities. The professional development model of animation majors is successful in developed countries, which involves VR design, computer-aided technology, three-dimensional technology, media art, communication design, video packaging, comics, electronic music, interaction design, and so on. Such an interdisciplinary education saves resources, and benefits universities in terms of management and the academic atmosphere of international, cutting-edge, and scientific disciplines. A flexible and diverse knowledge framework corresponds to the changes in the market demand for talent. Teachers and students across different majors need to interact and cooperate flexibly to ultimately introduce new technologies and create new ideas. On the other hand, today's We Media and other social platforms emphasize experimentation and creativity, highlighting the commercial value of personal creation into the market. Therefore, it is necessary to discuss the new value of synthesis, experiments, and creativity in animation education. It is of great significance to guide students to understand the concepts of art, culture, tradition, history, and others and react to innovative industries. We can obtain the advantages of artistic creativity and technology innovation from the university environment, which objectively urges the diversity of animation teaching.

5. Conclusions

Animation majors in universities need to make full use of the resources available. The curriculum must integrate different disciplines of knowledge so that students can develop their professionalism in a broader vision. The teaching methods must be more flexible and diverse, using new media and tools, emphasizing the communication and interaction between teachers and students, and ultimately cultivating comprehensive practical ability and creative thinking of students. On the education of animation in universities, the teaching process and methods have been proposed in this study. These proposed teaching methods need to be constantly evaluated and adjusted by educators considering both possible criticisms and suggestions.

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