



Digital Media Industry Development Planning and Realistic Teaching

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ABSTRACT

This article explores the relationship between the development planning of the digital media industry and real-life teaching. With the continuous development of digital technology, the media industry is also undergoing unprecedented changes. Therefore, how to adapt to this trend, formulate reasonable development plans, and combine them with real-life teaching to improve teaching quality and effectiveness has become a topic of great concern. The use of digital media technology can innovate teaching methods, achieve diversified teaching, and enhance students' interest and participation in learning. Secondly, digital media technology can provide rich teaching resources, help students better master knowledge, and improve teaching effectiveness. Finally, digital media technology can provide students with a more realistic practical environment and improve their practical abilities and comprehensive qualities.

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1. Introduction

With the rapid development of information technology, the information industry has become the backbone for the rapid and stable development of the global economy. The rapid development of information technology has spawned the enrichment and refinement of digital products, and digital media has gradually been separated, and a separate emerging industry has formed [1]. In the popular sense, the digital media industry is one of the emerging creative industries, which mainly undertakes the cultural products or services that are related to digital and new media; its industry scope not only includes the radio and television industry but also involves the animation, games, educational publication, design, advertising, visual display, entertainment, music, performance, software and even fashion services and other industries [2]. The development of the digital media industry is inseparable from the countries' efforts in terms of development policies and

financial support. According to the relevant survey, it can be known that from 1997 to 2001, the economic value achieved by the global digital media industry increased from 15.7 billion dollars to 35.4 billion dollars [3]. The rapid development of an industry will inevitably put forward a higher demand for the quantity and quality of relevant professionals, which will continue to grow for a certain period.

2. State of the Art

University talent training planning often sets the disciplines and majors based on the school's educational advantages and conditions [4]. Currently, China's university cultivation model is divided into two categories: Arts and Sciences. Science and engineering colleges and universities often focus on software and information engineering, as well as digital media technology teaching and practice, while the arts are supplementary discipline [5]. The majors in the Institute of Technology centrally set up animation, games, film and television works and web design; such types of majors have a strong practicality, which meets the social practice development requirements. While the liberal arts institutions are mainly art institutions, which are mostly concentrated in the Academy of Fine Arts, the majors established have a solid artistic characteristic, which is mainly art-oriented and supplemented by technology and practice [6]. The students in digital media majors trained by such institutions often have a deep artistic appreciation, which basically masters the basic knowledge of digital media and can produce simple digital media products [7]. The American film Shrek is an animation adapted from the classic fairy tale; its film box office and related product marketing activities created a miracle – a new record that was close to 900 million dollars [8]. In Japan, at least 100,000 people are engaged in work related to image editing, and the number of people who learn digital animation also reaches 300,000 people each year [9]. According to incomplete statistics, there is a relatively big gap in the talent and product demands in this industry in China. Only about 300 companies specialise in multimedia product development, production, and sales, more than 400 enterprises develop and operate the games, and more than 2,000 companies design and produce animation products [10]. Thus, the digital media industry's market prospect is very impressive, almost reaching more than 20 billion yuan annually [11].

3. Methodology

3.1. The Process and Method of Investigation of Talent Demand

Professional digital media talents must have a wealth of disciplinary knowledge and practical ability, which is also the basic premise of the university curriculum setting and teaching system planning. The digital media industry covers a very wide technical level, which not only needs to be familiar with the traditional film and television production technology but the emerging mathematical media technology should also be integrated into various new media-related industries. Multiple questionnaires are devised under different research directions to ensure the accuracy and relevance of the actual survey. The survey in this paper was divided into four different survey directions: art, games, film and television, and animation [12]. The survey data adopted the core research results about the digital media curriculum design: the curriculum studies completed by Tsinghua University and Huazhong Normal University jointly

Major	Number Of Questionnaires Recovered	Proportion
Digital Art Design	72	32.3%
Anime Direction	52	23.3%
Online Game Direction	52	23.3%
Video Technology Company	42	21.1%

Table 1. Questionnaire recovery

[13]. The survey covered 250 companies specialising in digital media operations, each receiving a questionnaire; eventually, 223 copies were withdrawn. According to the four categories mentioned above, art film and television received 72 copies and 42 copies respectively, and animation and network recovered 52 questionnaires. After the reliability test, the number of truly valid questionnaires was 218. 23 questions were set up in the questionnaire. Ultimately, the statistical software used SPSS for data processing.

3.2. Teaching Mode Method and Process Analysis

The core curriculum analysis data of the digital media major that needs to be set comes from the national college teaching plan, and then, the main courses that have been set up in this subject can be obtained by comparing and analyzing these plans. A total of 86 colleges and universities participated in the survey. The earlier research in this paper took the core curriculum of the digital media major at Beijing Normal University and Zhejiang University as the reference basis. The two schools are also some of the earliest schools in China to set up the digital media major, so the selected curriculum settings have some authority [14].

The digital media major at Beijing Normal University opened about 60 teaching courses, and the school platform, the department platform, and the profession platform opened 16,18,25 courses respectively. The courses offered by the faculties and professions cover the basic knowledge and professional knowledge of disciplines, roughly divided into literacy training, professional basic knowledge teaching and professional direction teaching. Its ultimate goal is to cultivate and enhance the methods and means for students to solve practical problems. Literacy training courses mainly carry out artistic appreciation, writing aesthetics and other knowledge teaching. In addition to various appreciation classes, art, communication, and foreign language learning courses are usually set up. Professional basic knowledge teaching is usually the basic theory courses of digital media, such as the related theory of film and television, shooting practice theory, image and animation theory, new media art and design theory, creative technology, etc. Then, the professional direction module is the core of the whole course, which covers a series of network design and operation technology, such as 3D animation, dynamic production, role scene setting, modeling special effects, game design, post-production, film and television planning and interface management, etc.

Professional basic modules include the introduction to film and television, video language, photography practice, digital media introduction, image processing, film and television production, animation foundation, new media design, sound creation, digital media art, and digital media technology. From the emphasis of the curriculum setting at Beijing Normal University, it can be seen that the school pays more attention to film and television technology teaching and training. Zhejiang University's curriculum system is divided into basic knowledge, professional knowledge and quality and humanities and social science knowledge. Firstly,

Digital media technology		
Basic knowledge of digital media (including media art basic courses in art and Design)	Basic knowledge of digital media (including media art, art design, and complex structures)	Humanities, social sciences and quality education
Probability theory Computational theory Subject introduction Introduction to Art Chinese and foreign design history...	Operating system principle Object-oriented programming computer graphics Principles of database systems Human-computer interaction technology...	Scientific invention and patent Creative thinking and creativity development leadership development Public relations and communication skills Cross-cultural communication...

Table 2. Curriculum provision of digital media in Zhejiang University

the basic knowledge part is mainly to learn and master the most basic knowledge related to digital media; then, the professional knowledge focuses on centrally opening the media technology, digital design composite structure function and other skills. In addition, the auxiliary part is the humanities and social sciences and college student quality training courses [15], as shown in the table below.

4. Result Analysis and Discussion

4.1. Questionnaire Survey and Analysis

Digital art: To achieve the accuracy of the survey results, here, based on the different responsibilities of employees in practice, the digital media professionals are divided into five parts: Copy planning and writing, creative production, post-art, marketing and operation. The actual survey results show that the marketing operation talents are lacking; about 18.1% of the companies lacked talent in this area. Furthermore, the satisfaction degree when recruiting talents was only 44.4%, and the consistency degree of the supply and demand sides were low. Post-production and art talents were more prominent in the talent market relative to marketing talents. However, the enterprise's satisfaction with such talent was also not high, especially the production talents, its satisfaction was only 51.8%. The satisfaction of the other three categories of talent did not reach half. Thus, it can be seen that there was a big demand for digital media professionals, which put forward higher requirements on the personnel training model in colleges and universities. Here, the requirements of enterprises for digital media professional talents are shown in Table 3 below.

The main reason for the deviation is that the level of satisfaction is not good enough					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employees are not very clear about the industry and ignore market terminals (game planning and marketing)	34	18.1	19.7	19.7
	Employees do not receive formal learning and training, and the starting point is relatively low	80	43.1	47.0	66.7
	Staff direction, professional skills, and quality is not high, and hands-on and practical abilities is not strong	47	25.0	27.3	93.9
	Other suggestions	10	5.6	6.1	100.0
	Total	180	91.7	100.0	
Missing	System	15	8.3		
Total		186	100.0		

Table 3. Findings of company dissatisfaction with employees

People need to grasp the enterprises with the greatest demand in the digital media industry and understand the scarcest type of industrial talent. Moreover, schools must pay attention to cultivating scarce talent and then further determine the training system in accordance with the characteristics of talents.

Network games: In view of the need characteristics of the network game talents, the places where the enterprises are not satisfied with are investigated and analyzed. Table 4 below is the analysis results for the reasons why enterprises are dissatisfied with the talents, which are obtained in accordance with the survey, and then, trying to find out the deviations between enterprise requirements and employee characteristics.

The main reason for the deviation is that the level of satisfaction is not good enough					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employees are not very clear about the industry and ignore market terminals (game planning and marketing)	32	61.5	61.5	61.5
	Employees do not receive formal learning and training; the starting point is relatively low	12	23.1	23.1	84.6
	Staff direction, professional skills, and quality is not high, and hands-on and practical abilities is not strong	4	7.7	7.7	92.3
	Other suggestions	4	7.7	7.7	100.0
	Total	52	100.0	100.0	

Table 4. Findings of company dissatisfaction with employees

From the results obtained from this survey, it can be seen that the game companies were not satisfied with the professionals employed because the staff themselves did not understand the industry requirements. The focus deviated from the terminal sales. In addition, nearly a quarter of the companies considered that employees employed didn't accept professional education and learning, and the professional degree was low. Thus, the same problems emerged, and the professional talents who really came out of the major colleges and universities were very lacking.

To grasp the characteristics of the talent demand in online game enterprises, this point is studied and analyzed in the investigation process. Then, it is found that the attributes of talents centrally concerned by such type enterprises are the professional quality and ability to develop and make games; meanwhile, social responsibility and teamwork are involved. As can be seen from Table 5 below, the two parts accounted for 61.5% and 69.1% respectively. Thus, it can be seen that the research and development production capacity becomes the primary characteristic of the game talents. In addition, the enterprise pays attention to the staff's responsibility to the team and society. Because the network games are usually designed by a multiplayer squad, a single person can't complete such a complex project independently within a limited time. Therefore, coordination, cooperation and responsibility in the team coordination process are very important features.

The professional skills and qualities that an employee should possess	Option percentage
Knowledge of game-related basic theories	23.1%
Ability to develop and write games	61.5%
Having the art foundation of painting, color, composition, etc.	30.8%
Master the core technology of game design and development	53.8%
Comprehensive knowledge and skills in the production of game products	30.8%
It has the concept of updating knowledge, life-long learning and strong ability of independent innovation	53.8%
High sense of social responsibility and teamwork spirit	69.1%

Table 5. Professional skills and qualities of employees of online game companies

In the seven options set, the enterprise also considered the mastery degree of the core technology, the late software update, and the ability to innovate when hiring talents. Thus, when setting up digital media professional courses, colleges and universities must strengthen the training of independent research and development and independent innovation capability, the core technology required by network game development. After determining enterprises' recruitment requirements for network game talents, a more specific and detailed analysis was carried out in this direction. The results are shown in Table 6.

What do you think are the most talented people in this industry?					
		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Creative game planning	6	15.4	15.4	15.4
	Game choreographer	3	7.7	7.7	23.1
	Game production	21	53.8	53.8	76.9
	Art Designer	9	23.1	23.1	100.0
	Total	52	100.0	100.0	

Table 6. User needs for online game directions (1)

From the above analysis, it can be known that the personnel types with the largest online game demands were the research and development production staff, followed by pre-planning and later art. The survey's findings were consistent with a realistic situation. In general, large network games need to set up a professional and large development team to work together to complete the game development and operation.

Animation direction class: the shooting script production and the entire work post-production talents in the employed animation talents are relatively easy to obtain in the human capital market, and the relative satisfaction of enterprises is also relatively high. The satisfaction degrees of the two were 57.3% and 51.5% respectively. According to the nine options set by the questionnaire, the satisfaction degree ranked last was the animation editor, the original painting creative and marketing. Thus, it can be seen that the animation enterprises had very big demands for the original painting creative production, editing and post-marketing planning talents. Colleges and universities should set necessary core courses based on these areas of talent shortage and then cultivate their professional counterparts' talents for enterprises. In addition, for the places where the animation business is not satisfied, it is necessary to carry out the reasons investigation, deeply dig into the key reason for the deviation between enterprise demand and talent status and further refine the demand level of the animation business talents. The final analysis results are shown in Table 7 below.

Professional skills and qualities	Option percentage
With animation work planning and creative ability	57.7%
Having the art foundation of painting, colour, composition, etc.	55.8%
The role design and content directing ability of animation works	34.6%
Comprehensive knowledge and skills in making comic and animation works	42.3%
Familiar with the use of computer-related software	44.2%
It has the concept of updating knowledge, life-long learning and a strong ability for independent innovation	28.8%
High sense of social responsibility and teamwork spirit	30.81%

Table 7. Professional skills and qualities of employees in an animation company

It can be seen from the above table that, at present, the ability and quality of education in colleges and universities are lacking. Art skills and practical skills must be the focus of professional personnel training, the corresponding courses must serve the training objectives, and the relevant courses of artistic quality and production technology should be opened centrally.

4.2. Construction of an Efficient and Rigorous Teaching Mode

The years for the undergraduate educational system of the digital media major opened in colleges and universities are four years. In these four years of teaching planning, the following major parts must be included: the basic education knowledge opened by the school, the basic knowledge of the digital media major, the core knowledge of the digital media central, the digital media core skills knowledge, graduation practice, thesis design and elective parts, as shown in Table 8 below. From the credit design, before graduation, students must get 150 credits. These credits are assigned to various parts, which are respectively the basic education knowledge opened by the school (62 credits), basic understanding of the digital media major (22 credits), core knowledge of the digital media primary (40 credits), digital media core skills knowledge (20 credits), graduation thesis and internship (22 credits), elective courses (20 credits).

Course category		Course nature	credit	Percentage of credits in curriculum system (%)
Basic courses in general education		Required	56	33.7
		Required	6	3.6
Digital media, discipline, core curriculum system	Required	Required	22	12.3
	Required	Required	40	19.2
	Required	Required	20	12.0
	Required		22	13.2
Total			166	

Table 8. Credits of curriculum system

Graduation practice usually takes different forms, such as the practice before graduation, the thesis design, and so on. However, because this paper focused on discussing the training model of digital media professionals, the focus shifted to the digital media core curriculum setting and learning aspects. The practice teaching link's learning cycle and credit settings were analyzed and discussed.

Practice teaching link name	Course nature	Weeks / Credits	Percentage of credits in practice teaching (%)
Sketch practice	Required	2/2	9.1
Color practice	Required	2/2	9.1
Modeling practice	Required	1/1	4.5
Animation design practice	Required	2/2	9.1
Post synthesis practice	Required	2/2	9.1
Creative design practice	Required	1/1	4.5
Graduation Training	Required	2/2	9.1
Graduation thesis	Required	10/10	45.5
Total		22/22	

Table 9. Professional practice credits

The training system of the digital media core course mainly includes the first four modules. Among them, the differences among the general educational curriculums offered by various colleges and universities are basically small; the purpose is mainly to cultivate students to develop good moral quality, and the purpose of opening the digital media basic course is to allow students to initially grasp the basic knowledge of digital media, understand the required basic literacy, this is the most basic and core course in the whole professional curriculum system. Afterwards, the digital media professional course focuses on cultivating professional skills; its goal is to cultivate and enhance students' operational capabilities to translate the book knowledge into productive forces. Meanwhile, this is also the ultimate goal: that all digital media majors train qualified personnel for society, which embodies the actual requirements of social practice in the education of digital media majors in colleges and universities.

5. Conclusions

Faced with the rapid development of the digital media industry, the industry talent gap has gradually increased, which has brought a training boom to education in colleges and universities; at the same time, the industry demand diversification and variability have also brought greater challenges to college education. This paper focused on the analysis of the current overall requirements of the digital media industry in China and studied the training mode of digital media professionals in colleges and universities. According to the on-site investigation and comparative analysis, the conclusion of a lack of professional talents in the digital media industry in China was obtained, and the gap between the training mode and the practice needs was widened constantly, which caused the appearance of a serious imbalance between supply and demand in the process of employment. At the same time, the contradictions between employers and employees in an enterprise deepened, staff mobility increased, and enterprises lost momentum for development due to the lack of creative ability. Therefore, the training mode of colleges and universities should develop to the direction of practical education to add the skills and literacy course teaching based on the original curriculum, eliminate the irrational curriculum design, achieve the targeted teaching and effectively meet the development needs of the digital media industry. It can be seen that with the development of social practice, the professional training system of colleges and universities should be constantly updated and adjusted to meet the new requirements of social development from a broader and more professional educational perspective.

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