

Comparative Analysis of School Training and Industry Demand Differences in Game Music and Sound Industry

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ABSTRACT

At present, the state and universities attach great importance to innovation and entrepreneurship education. It is clearly pointed out that deepening innovation and entrepreneurship education is an urgent need for the state to implement innovation-driven development strategy and promote the quality, efficiency and upgrading of the economy. It is also an important measure to promote the comprehensive reform of higher education and promote higher quality entrepreneurship and employment of college graduates. Combined with my major, the author specially collects and sorts out the teaching mode and content information of existing relevant schools and relevant majors, and at the same time, has a targeted understanding of the requirements of relevant industries for practitioners.

The author hopes that the summary of this survey can provide some basis and foundation for the improvement of school education mode in the future.

Keywords: *game, music and sound, school, industry, demand difference*

1. THE REQUIREMENTS OF THE STATE FOR INNOVATION AND ENTREPRENEURSHIP EDUCATION IN COLLEGES AND UNIVERSITIES

On May 4, 2015, the General Office of the State Council issued the Opinions on Deepening the Reform of Innovation and Entrepreneurship Education in Institutions of Higher Learning (hereinafter referred to as the Opinions), making a comprehensive plan for deepening the reform of innovation and entrepreneurship education in universities and colleges. The Opinions make it clear that we should focus on nine tasks, the first five of which are centered on the standards, models and teaching of personnel training. They are respectively: 1. Improve the quality standard of personnel training. To formulate and revise the national standards for teaching quality for undergraduate majors, the teaching standards for higher vocational colleges and the basic requirements for doctor's and master's degrees, and define the objectives and requirements for innovation and entrepreneurship education[1].2. Innovate the talent training mechanism. We should establish a new mechanism for adjusting the structure of demand-oriented discipline and specialty structure, a new mechanism for school-school, school-enterprise, school-place, school-institute and international cooperation in collaborative education, and a new mechanism for cross-school, cross-discipline and cross-specialty cross-training of innovative and entrepreneurial talents[2].3. Improve the curriculum system of innovation and entrepreneurship education. According to the goal of innovation and entrepreneurship education, the

curriculum setting of major should be adjusted, and the compulsory courses should be developed and set up.4. Reform teaching methods and assessment methods. We will carry out heuristic, discussion and participatory teaching to expand the coverage of small-class teaching. Reform examination examination content and way, pay attention to examine student analysis, the ability that solves a problem.5. Strengthen the practice of innovation and entrepreneurship. Promote sharing of experimental teaching platform. Various resources are utilized to construct university science and technology park, undergraduate pioneering park, entrepreneurship incubator base and small and micro enterprise pioneering base. A number of off-campus innovation and entrepreneurship practice bases will be established for college students, and national innovation and Entrepreneurship Competition for college students will be held[3].

Thus it can be seen that the country has promoted the innovative concept of talent training to an unprecedented height. School training mode must be able to meet the needs of the society for talents, in order to enable all kinds of school graduates at all levels to integrate into the society as soon as possible, as soon as possible to adapt to the unit and the social needs for talents[4].

2. GAME MUSIC PRODUCTION AND SOUND DESIGN INDUSTRY OVERVIEW

Game music production and sound design belong to two different categories in the game production industry. In many production companies, they belong to two different

departments or production centers. These two different aspects will be discussed below.

2.1 Sound design

The design of game sound is mainly divided into three parts: audio design, application of middleware, and analysis of game competing products.

First of all, in terms of audio design, practitioners should have rich production experience, which includes music, sound effects and characters' voice. What is considered is the practitioners' ability to produce audio samples, aesthetic ability and post-production sound processing ability. Students need to know clearly what kind of works are good and conform to the aesthetic of The Times. What kind of works are of high quality and can reach the market level.

Secondly, in terms of the application of middleware. As a practitioner in the Internet era, he must master the application of game middleware in order to better serve the game audio. There are two commonly used middleware in the market: Fmod series (including FmodDesigner and FmodStudio) and Wwise series, whose tutorials and resources are very rich on the Internet. But in schools and related courses, this part of the content is very rare. It is understood that at present, Xinghai Conservatory of Music is opened a relevant course to explain the game middleware. By giving students access to the technology while they are in college, it is easier for them to enter the game industry and gain more job opportunities.

Thirdly, the analysis of game competing products is mainly to analyze and summarize the audio of the most popular games, dramas and network dramas including Chinese comics, and to make tables or PPT as output resources.

2.2 Music production

Game music production is mainly divided into two parts: 1. Game soundtrack and theme song; 2. Game promotion song. These music making is to cooperate game scenario, create immersive game experience, so as to improve the user experience players and tailor-made products of art, is the game composer will own emotional and unique understanding of pouring into the cold silent game world, which makes the game world business and become a miniature of the refraction of the real world.

Table 1: Curriculum setting table of relevant major in domestic universities

Comprehensive Institution A (Sound System direction)	Comprehensive Institution B (Sound System direction)	Professional Institution A (Music Communication direction)	Professional Institution B (Recording Art)
Computer sequence Production (2)	MIDI sequence Production (1)	Sound Design (2)	Digital Audio Technology (2)
Composition (2)	Composition (4)	Fundamentals of Music Creation (2)	Electronic Music Composition (6)

Learning music theory knowledge and mastering DAW software are the foundation of game music production. On this basis, the performance method and timbre characteristics of most Musical Instruments (including electroacoustic instruments) should be studied and studied in depth.

It is especially important to watch and listen as much as possible to improve your musical sense and aesthetic appreciation if you want to make audio music arrangements. Only by constantly improving their own aesthetic height can they have a deeper understanding of the characteristics of excellent works and have a more accurate understanding of their commercial value.

3. SCHOOL EDUCATION AND TRAINING

In China, the game music and sound major started late, and its development is not very rapid. The music production major of the author is a relatively cutting-edge professional direction, which is the combination of teaching technology and music creation, and belongs to a brand new media art. This major takes computer high technology as the auxiliary means, devotes to the training to have the innovation artistic thinking ability, has the music production, the editing, the planning and the dissemination ability compound talented person. The game music and sound industry investigated in this paper is one of the important employment directions for music production majors[5].

According to the urgent need of the country for the innovation of education reform and the actual situation of this major, the author specially collects and collates the existing relevant school teaching mode and content and other information. At the same time, targeted understanding of the industry's requirements for practitioners. It is hoped that through the understanding, summary and comparison in this stage, the differences between school education and social needs in this professional field can be clarified in a timely manner, and it is expected to provide the basis and basis for further pointing out specific improvement measures in school education in the later stage.

After several months of data collection, the author has learned about the curriculum setting of relevant majors in several domestic universities (including professional art colleges and art majors in comprehensive universities). The following table:

Playing Method of Electronic Musical Instruments (2)			
Computer Audio Editing (2)	Audio Basics and Audio Editing (1)	Digital Audio Production (2)	Timbre synthesis and Audio Processing (2)
Introduction to Computer Music (1)	Music acoustics (1)	Music acoustics (1)	Acoustics and Law of Music (2)
			Music Creation and Production (2)
Orchestra method and Electronic Matching Method (3)	Application of Timbre and Effect Plug-ins (1)		
Fundamentals of Recording (1)	Recording Sampling and Mixing Technology (1)	Music Mixing Technology (1) Recording Technology (1)	Recording Art (2) Sound pickup and amplification Technology Application (4)
Nonlinear Editing (1)	Electronic Music Works Analysis and Audio Writing (1)		Electronic Music Works Analysis (1)
Cultural Industry Management (1)		Music Marketing (1)	
Foundation of Director (1)		Music Director (2)	
Film music (1)	Film music (1)		
	Animated Soundtrack (1)		
	Arrangement of Pop Music (1)	Analysis of Pop Music Style (2)	
		Principles of Communication (2)	
		Arts Laws and Regulations (1)	
			Fundamentals of Electronic Circuits(1)

Note: All the courses listed in this table are the main courses in music and sound effects. The number in brackets after the course indicates the total number of semesters taught. Basic courses of music major, such as music theory, solfeggio, Chinese and Western music history, national folk music, harmony, form, polyphony, orchestration, etc., are not included. Such courses are generally the same in all universities. The number in brackets after the course indicates the total number of semesters taught.

As can be seen from the above table, all schools attach great importance to courses such as audio basis and audio editing, music acoustics, recording technology and mixing technology, composition method. However, only a few schools offer similar courses in music marketing and cultural industry management, and most of the schools offering such courses have majors related to media.

4. SURVEY ON THE DEMANDS OF GAME MUSIC AND SOUND IN

After sorting out the courses of these universities in China, we selectively surveyed and interviewed employees in relevant industries. The objects of the survey are netease cloud game audio group members, Shanghai jika culture media company audio group members, former Tencent audio planning employee mentor, founder of yuqi.com, founder of Cosmo music studio, Beijing monster studio cultural communication company, Beijing xiaoxu music culture co., LTD., etc.

Q1: According to your working experience, which courses are reasonable in some colleges and universities? Which courses are not in-depth enough and should be further developed?

All the respondents agreed that the curriculum arrangement of colleges and universities is reasonable and comprehensive. However, if you want to make a commercial product, these courses are not enough to enable students to complete a product independently during the school period. The first is the lack of proficiency in DAW software (digital music workstation), the shallow mastery of music theory knowledge (harmony, form, polyphony, orchestration), and the relatively shallow understanding of the application of effectors and acoustic knowledge. The most important thing is the lack of practical experience. Due to the above reasons, many students cannot finish a complete work independently before graduation. Relevant people give the following suggestions:

1. In-depth study of music theory is very necessary (usually harmony, form, polyphony and orchestration), which is the cornerstone of music production and sound design. For music production, this part of the theoretical knowledge and application ability is particularly important.
2. There are many kinds of DAW software. It is hoped that students can master at least one or two DAW software during their study in school, which is the basic premise for students to be able to carry out practical operation practice, try creative practice, and finally be able to independently create complete music works.
3. Want to sound concept, a large number of listen to the audio library most of the sound all have their own English names, have to be very familiar with sound kind of name (such as magic, punch, hit, whoosh, etc.).
4. To understand the types and functions of the Compressor (such as EQ, REVERB, REVERB, etc., and the knobs of the Compressor: Attack, Release, Level, etc.), we must understand the difference between software Compressor and hardware Compressor, and apply the mixing knowledge in our practices and works.

Q2: If possible, what courses should the school supplement to meet the current needs of the industry to a certain extent?

For the game industry only, all schools in this curriculum lack a class of courses, which is about the application of game middleware (game audio engine). This technology is a branch of the game music industry. If students have the preliminary understanding and basic application ability of this technology, they will have a huge advantage in the talent competition in the game music industry. In addition, schools and colleges in the conditional case should be made for music professional students self marketing and culture industry copyright (copyright law) of related courses, help students get the self-image, and promote their own work, and to protect their work can bring economic benefits, it is very necessary.

Commercial sound production currently the main products for: film and television, animation, games. Film and television sound effects pay more attention to the authenticity of sound, mainly to Foley, in the production process will use the mixing technology. Animation sound effects pay more attention to sound creativity, and game sound effects pay more attention to sound friendliness. Therefore, in terms of sound effects, some courses can be further subdivided.

5. ADVICE

1. In terms of curriculum and teaching tasks, the major colleges and universities offering music production majors are generally reasonable and appropriate. However, there are still some problems such as derailment of the market and some differences between the talent training plan and the market demand for talents. So schools should focus on the cultivation of students' professional skills, in the teaching

task and course arrangement, as far as possible reflect professional employment direction of the corresponding requirements (e.g., set the audio middleware classes), and increase the proportion of professional practice courses in the curriculum, as far as possible for students to create more practice opportunities, and provide students with employment for a series of supporting course[6]. The school can also offer optional courses on game engine to help students who are interested in game sound and music get exposed to this technology during the school period, so that they can enter the game industry more easily and get more employment opportunities.

2. Students majoring in music production should strengthen their English study and have strong English reading and writing skills. In particular, professional English is not involved in ordinary college English classes. The DAW and sound effects described in this paper, the operating interface of the effector are mostly in English, and most of the cutting-edge information is also in English literature. Most of the music production equipment instructions and professional theory books are also in English, so a strong English level can ensure that students understand and grasp the forefront information of the industry, so that their own level to the industry high standards.

3. Implement the penetration and integration of multi-disciplines, and expand the fields of cross-disciplines. Almost all universities in developed countries offer art majors, which provides an essential environment for the mutual penetration and influence between art disciplines and non-art disciplines. Its advantage lies in that it can better promote the improvement of students' comprehensive quality and all-round development. Take American universities as an example. Art departments offer many elective courses for non-art students, such as piano group class, opera class, etc. The arts department also requires students to take courses in natural and social sciences for several credits. Which will help improve students' comprehensive quality, cultivate innovative ability and interdisciplinary talents, and create cross-disciplines and new majors[7]. Break the traditional, single training goal and training mode, provide students with a full range of curriculum Settings. Music professionally produced has good foundation of interdisciplinarity, as with the computer, automation and other professional form interdisciplinary, (for example can be opened: Python language, Max language courses etc)

6. CONCLUSION

Based on the feedback of our respondents and our own professional learning experience, from the perspective of students, the author believes that the game music and sound industry is an industry with a high degree of marketization and a high demand for professional talents. It is also one of the most important employment directions for students majoring in music production. As students, they must pay close attention to the trend of relevant market and try their best to move towards marketization. In school, we will consolidate the basic music theory knowledge, at the same

time, we should pay more attention to practice, as soon as possible to maximize the knowledge in the actual operation and creation, do not talk on paper. In music major and game music industry docking between colleges, schools should focus on the cultivation of students' professional skills, in the teaching syllabus and curriculum manifests with the cohesion of the market, this is reflected in increasing the proportion of professional practice courses in the curriculum, as far as possible for students to create more practice opportunities, and provide students with employment for a series of supporting course, this a series of targeted orientation training mode will drastically enhance market competitiveness for students majoring in music production, improve the professional employment. In this way, students will get more job opportunities, gain initiative in the fierce talent competition, and the school will also accumulate the training experience of professional and technical talents, so as to achieve a win-win situation between students and the school.

ACKNOWLEDGMENT

Supported by Teaching Research Project in 2016 of China University of Geosciences (Wuhan)

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