



# The Curriculum Reform of Digital Media Technology Major Under “1 + X” Certificate System

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**Abstract.** Under the strategic goal of building a powerful cultural country, the digital creative industry has become a pillar industry of the national economy. With the continuous development of 5G, 8K and other media technologies, the era of all-media and media convergence has entered a stage of in-depth development, and the digital cultural industry is facing high-level transformation and upgrading, which has put forward new demands for higher vocational digital media technical personnel. The implementation of the “1 + X” certificate system has pointed out the development direction for the digital media technology major and provided a new perspective for the training of digital media technology professionals in higher vocational colleges. In order to implement the “1 + X” certificate system and adapt to the development of new media technology, the digital media technology major needs to further improve the professional curriculum setting and actively carry out reforms in terms of curriculum system, practical teaching mode, teaching staff, and course and certificate integration.

**Keywords:** “1 + X” certificate system · Higher vocational education · Digital media application technology

## 1 Introduction

The Implementation Plan of National Vocational Education Reform proposes a “1 + X” certificate vocational skill level training system, which points out the development direction for the training of vocational personnel in higher vocational colleges. The implementation of the “1 + X” certificate system should be specific to the reform of education and teaching, and the curriculum reform is the core of the reform of education and teaching. As a popular major in recent years, the digital media technology major of higher vocational education should seize the opportunity, actively construct and improve the specialized course system based on the characteristics of major development, and explore and promote the reform and construction of specialized courses [1].

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## 2 The Connotation of the “1 + X” Certificate System

As for the 1 + X certificate system, “1” refers to the academic certificate obtained, which represents the learning certificate obtained after completing the learning tasks within the school system. “X” refers to the vocational skill level certificate, which is a valid certificate of the social vocational skill level recognized by the training evaluation organization. The specific connotation of the 1 + X certificate system includes the following aspects:

### 2.1 Close Integration of Academic Education and Work Domain

From the perspectives involved of “1” and “X”, “1” points to academic education, and “X” points to work domain. “1 + X” needs to open up the internal channels of academic education and work domain, being industrial needs-oriented and guided by industry positions, effectively meeting the development needs of the work domain. Special emphasis is placed on the integration of “X”, so as to timely supplement new technologies and new requirements involved in the work domain, effectively strengthen specific work methods and work knacks, expand the professional quality and professionalism in the work domain, promote higher vocational education to abandon the drawback of disconnection of traditional academic education and the work domain, and promote the close connection between the professional setting, course content, teaching process and the work domain.

### 2.2 Credit Integration of Academic Education and Non-academic Education

From the educational forms of “1” and “X”, “1” points to academic education, and “X” points to non-academic education. “1 + X” requires breaking the barriers between academic education and non-academic education and integrating the two forms of education with credits. The “1 + X” certificate system needs to build an “overpass” for talent training and establish a credit bank, so that those who obtain academic certificates can have the qualifications for exemption from relevant content. And those who have obtained the “X” certificate can obtain the right to exempt from relevant courses when they carry out advanced academic education. Through the integration of credits between the two forms of education, the social effects of the two types of education can be guaranteed, and the achievements of non-academic education can gain practical utility.

### 2.3 Coordinated Development of Higher Vocational Colleges and Enterprises

From the perspective of the undertakers of “1” and “X”, “1” is undertaken by vocational colleges, and “X” is undertaken by enterprises. “1 + X” requires deepening school-enterprise cooperation and actively promoting the coordinated development of vocational colleges and enterprises. Through the integration of “X”, the “1 + X” certificate system further strengthens school-enterprise cooperation, allowing more enterprises to connect with higher vocational colleges and seek common interests, promote the school-enterprise co-construction, sharing, symbiosis, and win-win ecosystem, and realize the multi-dimensional coordinated development of the school and the enterprise.

## **2.4 General Knowledge and Professional Skills Go Hand in Hand**

According to the ability orientation of “1” and “X”, “1” refers to general knowledge, and “X” refers to professional skills. “1 + X” requires academic education to break through the training goals of “proficiency in one particular skill” and “one person for one post”, and through “X” to build a training system of “proficiency in one particular skill with multiple abilities” and “one person with multiple positions”, by cultivating compound technical skills personnel, to realize the parallel training of talents’ general knowledge and professional skills.

## **3 The Current Teaching Status of Digital Media Technology Major**

The digital media technology major is an emerging applied interdisciplinary subject that combines computer science and art. It focuses on cultivating talents with artistic literacy and technical literacy and a high perception of digital media. In recent years, with the rapid rise of new media, the digital media technology major has also developed rapidly, the number of students majoring in it has increased year by year, and the professional development momentum has been strong. However, due to the rapid update and iteration speed of new media technology, the professional development of digital media technology in most vocational colleges lags behind social needs. After sorting out and summarizing, the following problems commonly exist in the teaching of digital media technology [2].

### **3.1 The Professional Curriculum System is Not Connected Enough with the “1 + X” Certificate**

At present, the “1 + X” vocational skill level certificates that can be obtained for the digital media technology major include Digital Video Special Effect Production, Digital Media Interaction Design, Interface Design, Virtual Reality Application Development, etc. However, in the talent training program for the digital media technology major, the construction of the curriculum system is not closely linked with the “1 + X” vocational skill level certificate, the degree of differentiation of the course modules is not high, and the curriculum construction intensity under the guidance of the “1 + X” certificate is insufficient.

### **3.2 The Practical Curriculum Setting is Not Well Suited to the Needs of the Industry**

The curriculum setting of the digital media technology major involves the content of two disciplines, computer and art. The current practical curriculum setting more considers the integrity of the major and the industry is not very targeted, so it cannot accurately serve the regional economic development. In addition, the experimental course arrangement of digital media technology major is still mainly based on the replication experiment in the traditional teaching mode. Teachers mainly carry out experiments according to the experimental teaching materials. The experimental content is single and solidified,

the experimental process lacks interaction, and the students' learning enthusiasm and interest are not high, so it is difficult to effectively stimulate and cultivate students' creative thinking.

### **3.3 Insufficient Training of Professional Course Teachers of “1 + X” Certificate**

The implementation of the “1 + X” certificate system for the digital media technology major requires a team of professional teachers with strong theoretical teaching capabilities and enterprise practical experience as support. However, at present, on the one hand, the teachers of the digital media technology major are mainly based on the original teacher structure. Such teachers are basically graduated from academic education with strong theoretical teaching ability and lack of practical experience in enterprises. On the other hand, teachers don't have a strong sense of self-development, have no relevant assessment pressure, lack motivation, and don't understand the “1 + X” certificate in place; in addition, the number of teachers sent to participate in the “1 + X” certificate training each time is limited, resulting in serious formalization of training, and the training effect is not obvious.

### **3.4 The “X” Certificate is Not Well Recognized by Enterprises, Students and Parents**

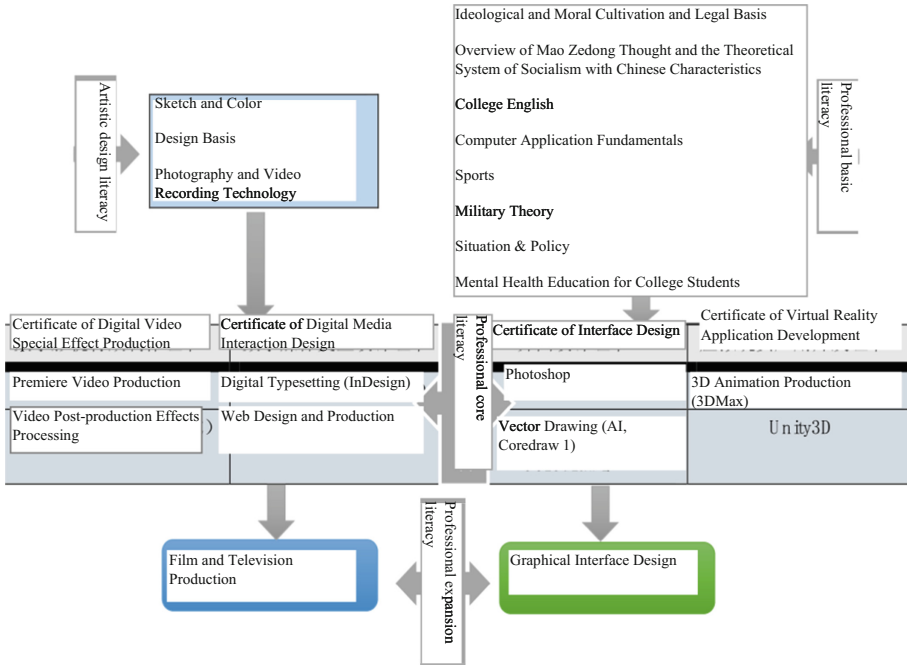
Whether the “X” certificate can improve the employment advantage is the focus of students and parents, and whether the students with the “X” certificate have true talents is the focus of enterprises. At present, counterpart enterprises fail to take the “X” certificate as an entry requirement for entering the counterpart industry when recruiting. Therefore, for students and parents, the “X” certificate is of little significance, which also squeezes academic education time, and the students' initiative and enthusiasm are greatly reduced.

## **4 Curriculum Reform Measures for Digital Media Technology Professional Courses**

In recent years, with the rapid rise of new media and the rapid development of the digital media industry, the number of students enrolled in the digital media technology major has increased year by year, and professional building is bound to adapt to the diversity of new media industry forms. The digital media technology major is relatively comprehensive, and to cultivate digital media technical talents suitable for society, enterprises and industries, professional curriculum reform is imperative [3].

### **4.1 Building a Four-in-One Structured Curriculum System**

In the 13th Five-Year Plan for the Development of National Strategic Emerging Industries, the digital creative industry has been included in the five strategic emerging industries and has become a pillar industry of the national economy. With the advent of the era of 5G transmission + 8K ultra-high-definition video technology, the demand for talents in digital media technology positions has undergone tremendous changes.



**Fig. 1.** “Four-in-one” curriculum system for digital media technology major.

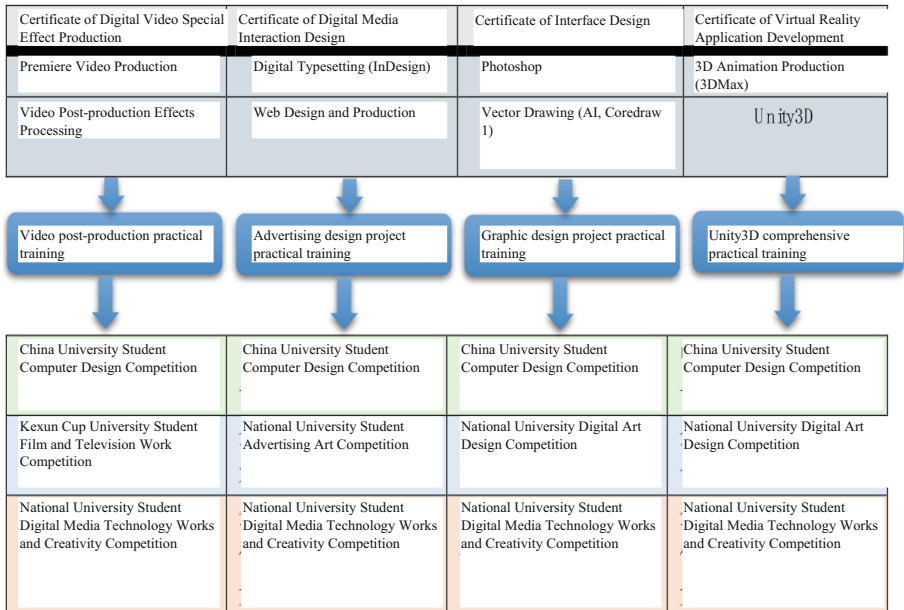
The digital media technology major is an interdisciplinary major that combines computer and art. Some students with computer technology are not artistically talented and some students with artistic skills are not proficient in computer operation. Therefore, attention should be paid to the integration of the two in the course setting process. Among the “1 + X” vocational skill level certificates available for the digital media technology major, the curriculum system of the digital media technology major can be divided into four modules centering on certificate requirements such as Digital Video Special Effect Production, Digital Media Interaction Design, Interface Design, and Virtual Reality Application Development, which should be crossed and integrated with “artistic design literacy”, “professional basic literacy”, “professional core literacy” and “professional expansion literacy” to build a “four-in-one” curriculum system framework, as shown in “Fig. 1”.

#### 4.2 Implementing the Practical Teaching Mode of “Course, Competition and Certificate” Integration

According to the changes of digital media technology positions against the background of iterative update of digital technology, efforts should be made to focus on typical position requirements in the digital media technology field of the digital creative industry as the core goal, and build a practical teaching model that integrates the three dimensions of “curriculum practice”, “professional competition” and “certificate examination”.

The teaching concept of “course, competition and certificate” integration can effectively improve students’ comprehensive quality and professional skills [4].

In the practical teaching link, the application of the teaching mode of “course, competition and certificate” integration can better play the guiding role of market demand and cultivate talents who meet the development needs of enterprises with the “integration of skill and artistry” [5]. The “course, competition and certificate” integration refers to the integration of courses and skill competitions, and the integration of courses and “1 + X” vocational skill level certificates. In the practical teaching link of the digital media technology major, on the one hand, the vocational skill competition should be regarded as the “wind vane” of practical teaching. By promoting “promoting learning by competition” and “promoting teaching by competition”, teachers can more accurately and clearly recognize new technologies, new processes, and new methods in the professional field, personally feel the ability and quality requirements of industry development and enterprise positions for professional and technical personnel, and lead the direction of practical teaching with “competition”. On the other hand, a practical teaching mode can be designed in accordance with the assessment requirements of the “X” vocational qualification certificate, and students can conduct integrated learning through the integration of theory and practice, and certificate and classroom. Figure 2 shows the practical teaching mode of “course, competition and certificate” integration for the digital media technology major.



**Fig. 2.** The practical teaching mode of “course, competition and certificate” integration for the digital media technology major.

### 4.3 Attaching Importance to the Construction of the “Dual-Qualified” Team, and Continuing to Monitor the Quality of Teaching

The rapid development of new formats in the digital industry has put forward new standards and requirements for the teaching staff under the “1 + X” certificate system. “1” in “1 + X” is the basic quality of teachers, and “X” refers to the professional characteristics and the orientation in running school. Based on its own professional characteristics and school-running orientation, the digital media technology major should build a high-level “dual-qualified” teaching team that adapts to the “X” certificate, draw a systematic overall plan for the quality improvement of professional teachers, and improve the process supervision and assessment.

First, it is necessary to strictly implement the requirements of the Ministry of Education’s Regulations on Vocational School Teachers Practice in Business, and choose professional teachers to the “X” certificate docking enterprises to receive practical training.

Second, teachers choose appropriate practice methods according to their own professional characteristics, actively participate in enterprise projects, actively learn and know about new technologies, new operations, new processes, understand the latest development trends and skill requirements of the industry, and strengthen cooperation with enterprises in curriculum development, textbook compilation, and teaching achievements. Promotion, etc. [8].

Third, schools also need to strengthen the training of professional leaders, professional backbone teachers, and off-campus part-time teachers. Professional leaders should strengthen their studies, accurately grasp the background, meaning, connotation and requirements of vocational skill level certificates, lead the professional team to do a good job in the pilot work of vocational skill level, and improve the ability of professional backbone teachers to implement teaching, training and assessment by organizing teachers’ quality improvement plan projects and training. Besides, it’s necessary to introduce and train evaluation organization training teachers or part-time teachers of industry and enterprises, optimize the structure of the teacher-training team, and comprehensively improve the professional teacher team and training ability [6].

Fourth, it’s needed to establish a teaching quality assessment, supervision and evaluation mechanism. The teaching effectiveness should be taken as an important indicator for the performance evaluation of the department, the leading body and the teachers, and effective punishment should be given to improve the quality of the “dual-qualified” team.

### 4.4 Integrating Course and Certificate to Improve Students’ Learning Initiative

The digital media technology major covers a wide range of fields, and the skill level certificates of “Digital Video Special Effect Production”, “Interface Design”, “Virtual Reality Application Development”, and “Digital Media Interaction Design” correspond to vocational skills in different directions. Teachers should guide students to plan their own career development routes, and encourage students to participate in the “X” vocational skill training corresponding to their majors to strengthen professional knowledge and skills [7]. It’s necessary to implement the “credit bank” exchange of professional

courses, so that the learning results can be reflected in the form of credits, and the results of the “X” certificate can be searchable, traceable, and convertible, timely reflecting the comprehensive ability of personal career development. Through practical advancement, from the perspective of students, the “credit bank” system of course and certificate integration can break through the original limitations of professional learning, help students improve their technical skills, and enhance their enthusiasm for independent learning.

#### **4.4.1 Doing a Good Job in the Connection Between Professional Courses and “1 + X” Certificates**

Efforts should be made to optimize the professional courses and practical courses in academic education, and connect the curriculum standards to the “X” vocational skill level certificate standards.

#### **4.4.2 The “Credit Bank” and “Course and Certificate Integration” Should Be Implemented**

It’s necessary to establish a conversion path between course study and “X” certificate, explore the credit exchange system, and establish a convenient credit exchange channel for students with energy to spare to ensure that students’ learning results can meet the national qualification framework standards [9].

#### **4.4.3 Teachers Need to Explore the Learning Outcome Evaluation Mechanism**

It’s possible to establish an evaluation standard that combines the three parties of institutions, “X certificate” training certification institutions, and enterprises, so as to improve the matching degree of the curriculum system and occupation and improve the social recognition of learning outcomes.

## **5 Conclusion**

The digital cultural industry is an important force to promote China’s realization of a cultural industry power. The course teaching of the digital media technology major must conform to the digital development trend of the cultural industry, seize the opportunity of the transformation of the digital cultural industry, and realize the upgrading of the talent supply structure. Under the “1 + X” certificate system, the curriculum reform of the digital media technology major should give full play to the leading role and value of the “X” certificate, thoroughly improve the comprehensive quality of students, and improve the quality of professional personnel training, so as to cultivate more strong-ability and high-quality talents for the society.

**Authors’ Contributions.** Jinrong Zhou revised the talent training program and wrote the paper; Tianguo Tang planned the curriculum; Haibo Zhang participated in the curriculum planning; Zhen Hu revised the paper; and Juan Yang participated in the revision of the talent training program and editing.



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