

# Research on the Reform of Practice Teaching System of Digital Media Technology Specialty under the Background of Engineering Education Certification

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**ABSTRACT.** *After applying the traditional teaching system reform method, the teaching system can not track the industry changes in time, and the teaching knowledge is relatively backward, which leads to the poor practical ability and employment competitiveness of students. In view of the above problems, this paper studies the reform method of practical teaching system of digital media technology specialty under the background of engineering education certification. Firstly, through the investigation and analysis, the reform direction of practice teaching system of digital media technology specialty is clarified. After constructing the new teaching system framework under the background of engineering education certification, the reform measures are put forward to complete the reform of practical teaching system. The application of the reform method of the research is verified by an example, which proves that the reform method can effectively improve students' comprehensive practical ability and enhance their employment competitiveness.*

**KEYWORDS:** *Engineering education certification, Digital media technology specialty, Practice teaching, System reform*

## 1. Introduction

The specialty of digital media technology has the characteristics of paying attention to the cultivation of compound type, applied type talents and comprehensive cross-discipline. With the accelerating growth of Internet users and the widespread popularity of digital TV and online media, the employment situation of digital media technology professionals should be good. However, the traditional mode of running a school in many colleges and universities leads to the disconnection between the teaching of digital media technology and the market, which makes it difficult for students to find jobs, and it is difficult for enterprises to

recruit satisfactory talents[1]. It fully shows that the traditional training model is no longer suitable for the emerging interdisciplinary subject of digital media technology.

Based on the analysis of the above content, this article will study the reform method of digital media technology practice teaching system under the background of engineering education certification.

## 2. Research on Practice Teaching System Reform of Digital Media Technology Specialty under the Background of Engineering Education Certification

### 2.1 Determine the Direction of Teaching System Reform

Through the investigation of students on various aspects of practical teaching, the problems and influencing factors of practical teaching of digital media technology specialty are understood, and the advantages and disadvantages of practical teaching of digital media technology specialty are analyzed, so as to determine the reform direction of practical teaching system of digital media technology specialty[2-3].

Through the practice teaching system reform direction index, invites the expert to the above appraisal index score, constructs the standardized decision matrix. In order not to lose generality, it is assumed that  $m$  indicators are to be evaluated. The expert group participating in the system evaluation has  $n$  members, and  $p$  decision attributes are selected. The weight of each attribute is  $w_l$ , and

satisfy:  $\sum_{j=1}^p w_l = 1, w_l \geq 0$ . Each expert can use the same evaluation criteria, and

expert  $i$  is evaluation of the current digital media technology practice teaching system reform direction index can be recorded as[4]:

$$A^i = \{a_{jl}^i\}, i = 1, 2, \dots, n; j = 1, 2, \dots, m \quad (1)$$

In the formula:  $a_{jl}^i$  represents the evaluation of the  $j$  index by the  $i$  expert according to the  $l$  attribute. This article uses a 100-point scoring system to assign value to  $a_{jl}^i$ . Each expert uses the same criteria and completes the evaluation according to the following steps[5]:

- 1) Normalize the decision matrix;
- 2) Determine the ideal point and the negative ideal point;
- 3) Computing generalized distance measures.

According to the size of the calculated distance, the main direction and the

secondary direction of the reform of the digital media technology practice teaching system are determined, and the new teaching system framework under the background of engineering education certification is constructed according to the determined reform direction.

### ***2.2 Construction of New Teaching System Framework under the Background of Engineering Education Certification***

The construction of the practical teaching system should not only consider the organic combination of theoretical teaching and practical links and the timing of ability training, but also follow the discipline knowledge system and the characteristics of professional courses, and pay attention to the internal connection between links. In recent years, based on the research and exploration of professional practice teaching models, in accordance with the unique laws of practice teaching from simple operation to comprehensive design, from understanding to comprehensive application, based on the general standards of professional certification and professional supplementary standards, Constructed a multi-level and systematic practical teaching framework system with quality training as the core, professional knowledge system as the main line, basic skills, professional skills, and comprehensive design as connotations. The basic skills include basic practice links, computer skills foundation, Digital media technology professional knowledge practice, mathematical practice foundation and social practice; professional skills include professional practice links, curriculum design, etc.; comprehensive design includes comprehensive practice links, comprehensive curriculum design, graduation practice and graduation thesis.

On the basis of the new teaching system framework under the background of engineering education certification constructed above, the reform measures of the new teaching system are proposed to realize the reform of the practical teaching system of digital media technology.

### ***2.3 Reform Measures of the New Teaching System***

In order to improve the pertinence, attraction and appeal of practical teaching, we should strengthen students' sense of participation and inspire them to think actively. On the one hand, discussion teaching, heuristic teaching and other practical teaching methods can be used to stimulate students' learning interest and enthusiasm, and realize the two-way benign interaction between teachers and students; through curriculum experiment, comprehensive experiment, curriculum design, enterprise cognition training, competition, comprehensive training inside and outside the school, the practice link can be penetrated into the whole talent cultivation cycle. On the other hand, with the help of practical training bases inside and outside the school, through virtual teaching methods and project-driven teaching methods, students' engineering innovation consciousness and practical ability are continuously enhanced.

According to the needs of the enterprise, taking the teacher's engineering research project or the student's innovation and entrepreneurship technology project as the carrier, relying on the school's fully open experimental training platform environment and maker space, to stimulate students' learning initiative and enhance students' engineering innovation awareness and Practical ability. At the same time, by participating in various college student competitions, training and innovation and entrepreneurship planning projects, to further train and improve students' practical ability.

Through the above steps, the reform method of practice teaching system of digital media technology specialty under the background of engineering education certification is completed.

### **3. Empirical Inquiry**

#### ***3.1 Experimental Content***

This paper proposes a reform method for the practice teaching system of digital media technology under the background of engineering education certification. In order to verify the effectiveness of this reform method in the actual teaching process, this section will select actual schools for field verification.

#### ***3.2 Experimental Process***

The experiment selected the traditional teaching system reform method as the reference group method of this experiment. The experiment randomly selected two classes A and B as the research object in the digital media technology major of the same university, and selected another class C to not participate in the experiment As a reference object. The students in the two classes A and B participating in the experiment completed the learning tasks in the reformed teaching system using the two reform methods.

The experimental data recorded in this experiment do not consider the data with strong deviation. By comparing the comprehensive ability (practical ability, innovation quality, employment rate, performance point and professional quality) of students after completing the learning task, as well as the satisfaction score of experts, teachers and enterprises in the application process of the two reform methods, we evaluate whether the two reform methods are suitable for the reform of the practical teaching system of digital media technology.

#### ***3.3 Experimental Results***

A. After completing the teaching task, the students of class B and class C participate in the comprehensive ability test. The test results are shown in the figure below. The new teaching system is used by the students after the reform of the

teaching system of class A, in which the students' teaching system is not used after the reform of a class system, and the students' teaching system of C is not used after the reform.

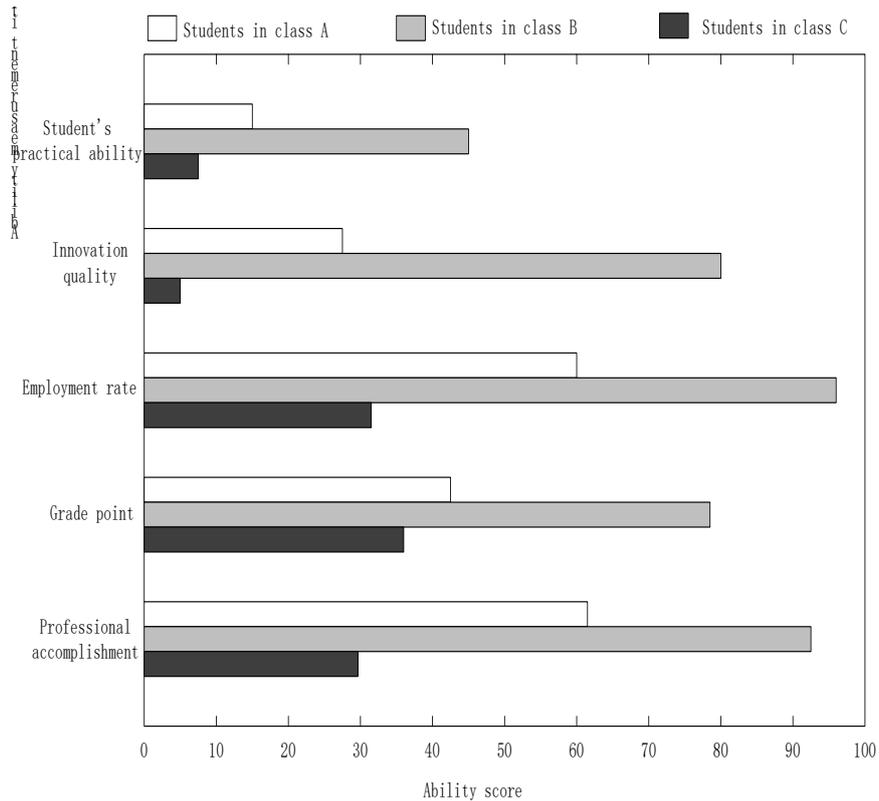


Fig.1 Comparison of Comprehensive Test Results of Student Ability

Table 1 Tripartite Satisfaction Score Results

Evaluator	This article method	traditional method
Professional education expert	7.2	5.4
Professional teachers	8.1	6.3
enterprise	7.8	4.9

From the analysis of the above figure, we can see that students' abilities in all aspects have been significantly improved after using the reformed teaching system, indicating that the two reform methods have improved the defects of the original teaching system to a certain extent. As for the traditional reform methods, the improvement of students' practical ability and professional quality is not much, which indicates that the reform direction of traditional reform methods has some deviation. And the reform method proposed in this article has obvious reform effects in the five abilities, and the students' ability is greatly improved. It shows that the reform method proposed in this paper is more suitable for the professional development of students in the direction of the reform of digital media technology practice teaching system.

Professional education experts, professional teachers and enterprises scored the satisfaction of the application of the two reform methods (full score of 10 points). The following table shows the average score of each evaluation party. The data in the table are analyzed and combined with the analysis results in Figure 1, the final experimental conclusion is obtained.

From the above table, we can see that the satisfaction scores of professional education experts, professional teachers and enterprises on the application effect of this method are higher than those of traditional methods. For the reform effect of traditional reform methods, although professional education experts and professional teachers give higher scores, enterprises, as the main demand side of students' employment, have high requirements on students' practical ability. However, the teaching system after the reform of traditional reform methods has not effectively improved students' professional practice ability.

In summary, under the background of engineering education certification proposed in this paper, the reform of digital media technology professional practice teaching system reform method has a better effect, which can effectively improve the professional ability of students and enhance the employment recognition of students.

#### **4. Conclusion**

Digital media technology major is a subject with practical ability as the main training goal. The traditional professional teaching system is no longer suitable for the current digital media industry development needs for talents. Therefore, this paper studies the reform method of digital media technology practice teaching system under the background of engineering education certification. Fully ensure that students can effectively transform the knowledge and skills learned by the school into the knowledge and skills used in the actual production work, so that students can have sufficient professional competitiveness.

### Acknowledgments

Fund projects:1)Guangxi Higher Education Undergraduate Teaching Reform Project 2019, Project Number: 2019JGA307, Project Name: Research on the training mode and method of digital media technology professionals oriented by engineering Education certification.

2) Wuzhou University Education and Teaching Reform Project 2018-2019, Project Number: Wyjg2019A028, Project Name: Discussion on the construction of digital media technology teaching and research office oriented by engineering Education certification.

3) Ministry of Education Industry-university Cooperative Education Project 2019, Project Number: 201902227004, Project Name: Research on the training mode and method of digital media technology professionals oriented by new engineering construction.

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