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The Construction and Practice of the Undergraduate Teaching System of the Major of New Media Technology

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Abstract: With the rapid development of new technologies such as mobile internet, big data, and artificial intelligence, new media has become an important force in the communication field. It is imperative to build a complete undergraduate teaching system of new media technology and cultivate versatile talents to meet the needs of industry development. Taking the majors of new media technology and new media (big data news communication direction) at Qilu University of Technology as an example, this study analyzes the issues in talent training objectives, curriculum setting, teaching content and teaching methods through literature review, questionnaires and interviews. It is proposed to build a modularized and flexible curriculum system oriented to ability training, increase cutting-edge new media technology courses, and strengthen the cultivation of software and hardware platform application abilities. In terms of teaching methods, project-driven teaching methods are implemented, distinctive project training courses are set up to promote knowledge application and comprehensive ability training. The research shows that building an open, flexible undergraduate teaching system of new media technology that emphasizes cross integration will help improve the quality of talent cultivation and enable talents to better meet the needs of new media industry development. This study provides theoretical support and practical approaches for promoting the teaching reform of the new media technology major.

Keywords: Major of New Media Technology, Teaching system, Curriculum setting, Teaching content, Teaching method

Introduction

With the rapid development of new media technologies like mobile internet, big data, and AI, new media has become an important force in communication. However, there are problems in the construction of new media technology teaching systems in universities, such as unclear training goals, outdated curricula, and lagging teaching content. This affects talent cultivation quality and makes it difficult for graduates to meet industry needs. Therefore, it is imperative to reform the new media technology teaching system to adapt to industry development trends.

This study takes the majors of new media technology and new media at Qilu University of Technology as examples. Through literature review, surveys, and interviews, it analyzes issues in aspects like training objectives, course settings, content, and teaching methods. The research shows problems like vague goals, insufficient new technology courses, outdated content, and lack of project teaching.

Based on this analysis, the study proposes building a modular, flexible teaching system oriented towards cultivating practical abilities. It suggests increasing cutting-edge courses, strengthening software/hardware platforms, and adopting project-driven teaching methods. This highlights the importance of integrating theory and practice.

The research provides useful theoretical support and practical approaches for promoting teaching reforms in new media technology majors. Constructing an open, flexible undergraduate teaching system with cross-disciplinary integration is critical to improving talent cultivation quality and enabling graduates to better meet industry needs.

Literature Review

The construction of new media technology teaching systems in Chinese universities has become a key focus of education research in recent years. Scholars have conducted studies on talent training objectives, curriculum settings, teaching content, and teaching methods of new media majors. This literature review summarizes the overall concepts from these studies, with a focus on citing references published after 2018.

Training Objectives

Recent Chinese studies have focused on clarifying talent cultivation orientations for new media technology programs. Li, Chen, and Liu stated that applied universities should nurture graduates with strong practical abilities and an innovation mindset [1]. The ideal graduate profile combines new media operations knowledge, new media technology application skills, and creative thinking. Chen [2] echoed this perspective, proposing that new media majors should foster versatile talents with humanistic literacy, social responsibility, and technical capabilities. Zhang conducted surveys showing that

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media convergence requires cross-disciplinary thinking [3]. He advocated training objectives integrating computer science, data analytics, communication theory and creative design. In general, scholars agree objectives should emphasize applied skills and creative thinking while covering diverse fields.

Curriculum Settings

Scholars concur that new media curricula should increase cutting-edge technology courses. Xu, Chen and Yang suggested strengthening big data, cloud computing, artificial intelligence (AI) and other emerging subjects [4]. Zhang designed a curriculum model incorporating data visualization, machine learning, social media mining, 5G networks and the Internet of Things [5]. Yang and Chen advised adding entrepreneurship courses to stimulate innovative thinking [6]. Liu et al. developed a blended curriculum combining data science, digital media, computer science and business [7]. The integration of technical courses and creative thinking is a key trend.

Teaching Content

Studies consistently emphasize timely content updates to match industry advancements. Sun, Tang and Zhou redesigned writing courses to cover new media integration practices [8]. Zhang updated the learning objectives of a social media course to data analytics and content optimization [9]. Chen recommended strengthening instruction in data journalism, new media operations and user experiences [10]. Yang developed synthetic media production courses incorporating VR, AR and AI. Constructing agile teaching content is critical [11].

Teaching Methods

Project-driven learning has emerged as an effective new media pedagogy. Wang, Li and Chen proposed cultivating teamwork abilities via project-based courses [12]. Tang and Li designed project teaching methods for new media editing [13]. Liu et al. implemented studio-based project learning to stimulate collaboration. Zhang noted that project courses enable students to gain practical experience. [14-15]

Blending theory and practice is key.

In summary, constructing specialized new media teaching systems requires clarifying talent cultivation goals, optimizing curricula, updating content, and adopting progressive teaching methods. An integrated approach combining technical knowledge, creative thinking and practical experience is essential to produce graduates suited for new media industry needs. Continued research is needed to identify optimal frameworks for integrating emerging technologies into new media curricula and teaching content..

Description of the Study Area

This article takes the new media technology major and the new media (big data news communication direction) major of Qilu University of Technology as the research object. The new media (big data news communication direction) major is a school-enterprise cooperation major, referred to as new media (school-enterprise). Since enrollment in 2019, a total of 569 undergraduates have been trained, including 329 new media technology majors, 240 new media (school-enterprise) students, and 97 graduates. There are 40 teachers in new media technology and new media (school-enterprise), including 11 full-time teachers and 29 external teachers. Through literature research, surveys, interviews, etc., the current status of the profession is analyzed and ideas for building a teaching system are proposed. Focus on explaining the framework of the teaching system.

Methodology

Estimation and Analysis

In order to fully understand the training situation and existing problems of the new media technology major at Qilu University of Technology, this study adopted literature research, interviews with professional teachers, student surveys and other methods.

1. Literature research method

By reviewing 30 papers on new media technology teaching in recent three years, this study has summarized that the current research hotspots in the construction of new media technology teaching system are mainly concentrated in several aspects including training objectives, curriculum settings, teaching content and teaching methods. Research shows that the new media technology major should establish training objectives emphasizing both application skills and innovation and entrepreneurship literacy, build a modular curriculum system containing new media cutting-edge technology courses, timely update teaching content, and reform teaching through project-driven methods. This provides important references for our research on professional teaching system construction.

2. Interview with professional teachers

This study conducted individual interviews with 8 teachers in the major. The interviews lasted 30-60 minutes, covering issues and improvement suggestions regarding the training objectives, curriculum settings, teaching content, teaching methods and other aspects of the major.

In order to understand the current situation and problems of the major in terms of talent training objectives, curriculum settings, teaching content and teaching methods, this study conducted individual interviews with 8 teachers in the major.

3. Student survey method

In order to fully understand students' opinions and suggestions on the current professional training, this study conducted a survey research through online questionnaires.

Results and Discussion

Literature research

The literature emphasizes optimizing new media teaching systems by clarifying training goals, integrating emerging technology curricula, upgrading content, and adopting progressive teaching methods. An integrated approach is advocated to produce graduates with strong technical capabilities and creative thinking. The studies provide valuable frameworks to guide new media teaching reform practices.

Interview with professional teachers

The results of teacher interviews are shown in Table 1.

Table 1 Summary of Professional Teacher Interview Results

PROBLEMS	TEACHER OPINIONS SUMMARY
TRAINING OBJECTIVES	Unclear, insufficient reflection of industry needs; application skill training should be strengthened
CURRICULUM SETTINGS	Low proportion of new media technology courses; new technology courses like big data and AI should be added
TEACHING CONTENT	Update is not timely; new media operation, user experience and other content should be strengthened
TEACHING METHODS	More theoretical teaching, no project operation mechanism formed; project teaching method should be implemented

The interview research shows that teachers generally reflect that: the current training objectives of the major are not clear enough and do not fully reflect the latest needs of the new media industry; the curriculum settings are relatively traditional, with insufficient cutting-edge new media technology courses, and all are professional courses without expansion in other areas; the updating of teaching content cannot keep up with the pace of new media technological development, and some content no longer meets industry needs; teaching methods are mainly theoretical teaching without forming a project-based teaching mechanism. Teachers suggest: professional training objectives emphasizing the cultivation of application skills and innovative spirit should be clearly defined; new technology courses related to new media such as big data and artificial intelligence should be added; teaching content construction like new media operation and user experience should be strengthened; project-driven teaching should be implemented to increase actual project development processes to cultivate students' ability to apply knowledge to solve practical problems. Through the interviews, this study gained further understanding of the main problems of the major and teachers' views on the reform, which provided important basis for proposing reform countermeasures for the professional teaching system.

The main contents of the questionnaire survey include opinions on major settings, course content, teaching methods, etc.

Student survey

The respondents of this survey are current students of the major. By distributing the questionnaire link through class groups, 120 questionnaires were distributed and 115 valid questionnaires were collected, with a recovery rate of 95.8%.The survey results are shown in Table 2.

Table 2 Summary of Student Survey Results

QUESTIONS	STUDENT OPINION SUMMARY	PERCENTAGE
OPINIONS ON PROFESSIONAL COURSE SETTINGS	Students believe the number of new media technology courses is insufficient and more courses should be added	61.7%
OPINIONS ON TEACHING CONTENT	Students believe teaching content should keep up with technology development and be updated in a timely manner	68.7%
OPINIONS ON TEACHING METHODS	Students expect more project training, internships and other practical teaching links	74.8%

The main survey results are as follows:

61.7% of students believe the number of professional courses is low and the proportion of new media technology courses is low;

83.5% of students believe the software and hardware conditions of the major are acceptable but there is still room for improvement;

78.3% of students believe the updating of teaching content is not timely enough and some content is out of sync with industry development;

68.7% of students hope to increase cutting-edge technology courses like new media data analysis and artificial intelligence;

74.8% of students hope to increase practical teaching links like training, internships and project development.

The survey shows that students generally hope the major will increase cutting-edge new media technology courses to keep teaching content up to date with industry development; at the same time, they also expect teaching methods to be updated, increasing project training, internships and other theoretical contact with actual teaching links. This is highly consistent with the results of teacher interviews. The results of this questionnaire survey reflect students' opinions and suggestions on the existing teaching system, providing important basis for us to further improve the professional teaching system. This

study will absorb students' opinions in aspects like deepening curriculum content reform and updating teaching methods to improve teaching quality and enable talent cultivation to better meet the needs of new media industry development.

In summary, through the above research analysis, the major has some problems in aspects like talent training objective positioning, curriculum setting, teaching content and teaching methods, which will affect the quality of talent cultivation in the major. Therefore, it is necessary to reform and improve the existing professional teaching system to better adapt to the development needs of the new media industry. On this basis, this study will further construct a professional teaching system framework oriented towards ability training, and provide specific reform ideas in aspects like curriculum content and teaching methods.

Proposed Specific Measures for Constructing the Teaching System

Including formulating talent training programs, optimizing curriculum systems, deepening curriculum content reforms, updating teaching methods, and strengthening practical teaching. The key points are to highlight the interdisciplinary features of curriculum settings and the project-driven teaching model reforms.

With the rapid development of new technologies such as mobile internet, big data, and artificial intelligence, new media has become an important force in the communication field. In order to adapt to the development needs of the new media industry, it is imperative to build a complete undergraduate teaching system of new media technology and cultivate versatile talents. Through literature research and interview surveys, this study have analyzed the problems of a certain university's new media technology major in aspects such as talent training objective positioning, curriculum setting, teaching content and teaching methods. The main problems include:

Unclear training objectives that do not fully reflect the latest needs of the new media industry;

Relatively traditional curriculum settings, insufficient cutting-edge new media technology courses;

Teaching content updates are not timely enough, and some content is out of sync with industry developments;

Single teaching methods that fail to effectively cultivate students' comprehensive application capabilities.

To solve these problems, this study propose the following teaching system construction countermeasures:

Update the talent training program, clearly emphasizing the cultivation of application technology capabilities and innovation and entrepreneurship literacy;

Construct a modularized and flexible curriculum system, increase cutting-edge new media technology courses such as data analysis, artificial intelligence, and virtual reality;

Strengthen software and hardware platform construction to cultivate students' ability to comprehensively use technical tools;

Implement project-driven teaching methods and set up professional comprehensive project training courses to cultivate students' ability to solve complex problems by promoting knowledge application and teamwork.

Actively carry out school-enterprise cooperation and invite industry experts to participate in curriculum development.

Conclusion

Summarize the positive impact of teaching system reforms on improving talent cultivation quality. Analyze the effectiveness, existing problems and improvement ideas of the reforms. Look forward to the development prospects of the new media technology teaching system construction.

This study shows that building an open, flexible undergraduate teaching system of new media technology that emphasizes cross integration will help improve the quality of talent cultivation and enable talents to better meet the needs of new media industry development. Although the reforms have achieved certain results, there is still a need to further strengthen professional software and hardware construction, enrich teaching content, and innovate teaching methods to continuously optimize the professional teaching system. This research provides useful references for promoting the teaching reform of new media technology majors.

Through investigation and analysis of the new media technology major in a certain university, this study found that the major has the following problems in aspects such as talent training objective positioning, curriculum setting, teaching content and teaching methods:

First, the talent training objectives are not clear enough and do not fully meet the development needs of the new media industry. The existing training objectives are too vague to accurately position the knowledge structure and capability requirements of new media technology talents, resulting in insufficient consistency between talent cultivation and industry needs.

Second, the curriculum settings are relatively traditional, with insufficient cutting-edge interdisciplinary courses such as data science, artificial intelligence, 5G communications, and virtual reality. New media technologies are emerging rapidly, and traditional courses alone cannot meet industry needs.

Third, the teaching content updates are not timely enough, and some content is disconnected from industry developments. Teaching content such as network security, new media operations, and user experience need to be updated in time to reflect the latest developments in technology and industry. The existing teaching content needs further optimization.

Fourth, the teaching methods are singular, without forming effective project operation and teamwork mechanisms. New media projects require multidisciplinary collaboration, while current teaching methods mainly rely on classroom teaching and have not effectively cultivated students' comprehensive application abilities.

In response to the above problems, this study propose the following countermeasures:

First, update the talent training programs, clearly emphasizing the cultivation of application technology capabilities and innovation and entrepreneurship literacy. Formulate flexible training programs to strengthen the cultivation of capabilities in new media content production, project operation, data analysis, etc.
Second, construct a modularized and flexible curriculum system, increase cutting-edge new media technology courses such as data analysis, artificial intelligence, and virtual reality to form an intersecting curriculum setting. At the same time, encourage the offering of entrepreneurship and management courses to cultivate students' innovative spirit.
Third, strengthen software and hardware platform construction, and add professional training platforms such as new media content production training rooms and data processing training rooms. Comprehensive application abilities can be cultivated through platform construction.
Fourth, implement project-driven teaching methods, set up professional comprehensive project training courses, adopt studio-style teaching, encourage teamwork and project operation to cultivate students' ability to solve complex problems.
Fifth, actively carry out school-enterprise cooperation, invite industry experts to participate in curriculum development, and strengthen collaborative education with industry-academia-research cooperation.
Through the practical reforms in the teaching system, a new media talent training model emphasizing both application technology capabilities and innovation literacy as well as integrating theoretical and practical teaching has initially taken shape. Our surveys show that employers' satisfaction with graduates of this major is relatively high, reflecting the initial effectiveness of teaching reforms. However, the construction of the teaching system still faces problems like insufficient software and hardware construction and slow teaching content updates. Further strengthening of professional construction, enriching teaching content and innovating teaching methods is needed to continuously optimize the new media technology teaching system.
This study shows that building an open, flexible undergraduate teaching system of new media technology that emphasizes cross integration will help improve the quality of talent cultivation and enable talents to better meet the needs of new media industry development. This study provides useful references and practical approaches for promoting the teaching reform of new media technology majors. Future research may continue to deeply explore the specific application of project-driven methods in new media teaching, and guide the construction of professional teaching systems based on cognitive science and other theories.

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APPENDIX A

Survey Questionnaire by Professional Teachers

The interviews were controlled within 30-60 minutes, with main contents including:

1. Questions about training objectives

(1) Do you think the current positioning of the major's talent training objectives is clear and reasonable?

(2) What other deficiencies are there in reflecting the needs of the new media industry in the training objectives of the major?

(3) How do you think the talent training objectives of new media majors should be established?

2. Questions about curriculum settings

(1) Do you think the current curriculum settings of the major are reasonable and sufficient?

(2) What other new media cutting-edge technology related courses should be added in curriculum settings?

(3) In addition to professional courses, should curriculum settings in other areas be strengthened?

3. Questions about teaching content

(1) Does the teaching content of existing courses in the major meet the needs of industry development?

(2) What problems exist in updating teaching content?

(3) What aspects of teaching content should be strengthened in the future?

4. Questions about teaching methods

(1) What are the main teaching methods for current professional courses?

(2) What deficiencies remain in the application of teaching methods?

(3) How do you think the teaching methods of the major should be improved?

APPENDIX B

Survey Questionnaire by Student

The questionnaire mainly includes the following questions:

1. Opinions on the overall setting of the major

Do you think the overall setting of the major is reasonable? Do the hardware equipment conditions of the major meet the learning needs? How about the teacher configuration of the major?

2. Opinions on professional courses

Do you think the number of professional courses is sufficient? Can the professional courses meet the needs for learning new media technologies? In your opinion, what aspects have lower proportions in professional courses?

3. Opinions on teaching content

Does the teaching content of the major keep up with the development trend of the new media industry? Where do you think the teaching content update needs further improvement? What knowledge do you expect the teaching content to include?

4. Opinions on teaching methods

What do you think is the main teaching method currently? What problems remain in the application of teaching methods? What kind of teaching methods do you prefer?