

Research on the Quality Improvement of Digital Economy Major under the Background of New Arts

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Abstract

In the new era, the development of digital economy has become an important driving force for China to build a modernized economic system. It is of great significance to train high-quality digital talents to meet the development requirements of the times. Based on the questionnaire research, we found that : (1) For the course arrangement, in addition to the necessary basic theoretical knowledge, the vast majority of students are more inclined to learn the economic big data statistical analysis, big data application analysis and other skills under the background of digital economy, to improve their data analysis ability. (2) The majority of students accept the teaching model, which emphasizes both "teaching" and "learning" and emphasizes the strengthening of students' practical operation. (3) As for the teaching team, most students prefer to choose professors or young and middle-aged teachers with certain teaching experience as teachers, which can effectively enhance the teaching effect and improve the quality of talent cultivation. (4) Pay attention to the practical teaching of digital economy major, and increase the practical training activities related to big data and social and economic survey, which is more conducive to cultivating digital talents to meet the needs of economic and social development. Therefore, suggestions are put forward to optimize the team of lecturers, innovate teaching methods and means, and deepen practical teaching, so as to improve the quality of digital economy major and cultivate high-quality digital talents.

Keywords

Digital Economy; Teaching quality; Digital talent.

1. Introduction

According to the White Paper on China's Digital Economy Development and Employment (2019), in 2018, the scale of China's digital economy reached 31.3 trillion yuan, with a nominal growth of 20.9%, accounting for 34.8% of GDP. There were 191 million jobs in the field of digital economy, accounting for 24.6% of the total employment in that year. According to the Employment and Talent Research Report in the Digital Economy, those who get middle and high-end jobs tend to have special skills (especially digital skills), and the report also predicts that China's overall digital economy will be close to \$16 trillion in 2035, with a total employment capacity of 415 million, which could lead to a huge talent gap if effective talent strategies are not implemented. On September 21, 2020, the Chinese government website published the " China (Anhui) Pilot Free Trade Zone Overall Plan", this marks the official approval of Anhui Pilot Free Trade Zone, the establishment of Anhui Pilot Free Trade Zone will promote the digital economy of our province to a new level.

The digital economy major of our university is approved by the Ministry of Education in 2020, which is the first time that the Ministry of Education has approved the establishment of the

digital economy major. As the university with the strongest comprehensive strength in economics and management among the first four universities to set up the digital economy major, our university will face great opportunities for development. The digital economy major of our college will seize the historical development opportunity, give full play to its advantages to improve the quality of education, accelerate the training of applied and compound talents to adapt to the digital economy era, and provide strong talent support for the development of digital economy in China and Anhui Province.

The following structure of this paper is arranged as follows: the second part is a literature review, the third part is a study on the quality improvement of digital economy specialty -- based on questionnaire analysis, and the fourth part is a summary.

2. Literature Review

On the construction of educational quality evaluation system index, Honglong Li et al. (2020) constructed scientific evaluation indexes of education quality from seven dimensions: teaching method, teaching attitude, teaching organization, teaching content, teaching ability, teaching norm and teaching effect. Each dimension also included specific operational evaluation indexes to comprehensively evaluate teaching quality [1]. Wan Xiao et al. (2018), took China University of Geosciences as an example, constructed an education quality evaluation index system based on the connotation construction of majors from seven levels: specialty orientation, teaching staff, specialty running conditions, teaching construction and reform, teaching management, talent cultivation quality and specialty characteristics [2]. Cuifeng Li et al. (2020) selected three first-level indicators, including teaching quality, curriculum design and teaching environment, and decomposed several second-level indicators on the basis of first-level indicators, thus establishing an evaluation index system for the quality of online course education [3]. Zejiang Zhou et al. (2020) selected indicators from four dimensions, including universities, government, students and enterprises and institutions, and constructed a quality evaluation index system for innovation and entrepreneurship education of finance and economics majors in colleges and universities [4].

In order to improve the teaching quality, Haizhu Yang et al. (2020) believed that the teaching mode of "Integration of curriculum and certificate" can effectively improve the teaching efficiency and teaching quality of teachers [5]. Xiangrong Feng (2021) believed that the teaching model of laying a solid foundation, strengthening practice, deepening the integration of production and teaching, and at the same time emphasizing the combination of classroom experiments, in-school practical training and off-campus practice, it is conducive to the training of comprehensive and innovative talents to adapt to social development [6]. Yonghong Gu et al. (2020) carried out the thought of "Based on the essence" under the background of new liberal arts, cultivating students' initiative consciousness, guiding students to study independently, and improving students' comprehensive quality through practical teaching, this kind of teaching mode is helpful to improve the teaching quality and students' ability [7]. Meng Zhang (2020) thought that the teaching model of economic management is a new teaching model integrating theory, practice and research [8]. Yongjun Ma et al. (2020) thought that based on the new liberal arts idea, the university classroom should construct the wisdom teaching mode which more conforms to the current university student characteristic [9]. Bangqi Liu (2020) believed that it is of great practical value to establish the teaching model of "teaching students in accordance with their aptitude" in the context of the intelligent age, which is conducive to the cultivation of innovative talents and the acceleration of the development of diversified and individualized education and teaching [10].

The practice teaching system needs to be further perfected to cultivate high-quality talents, Yingkui Zhang et al. (2014) believed that further innovation and improvement of the practical

teaching system on the basis of theoretical teaching and narration could better meet the demand of the society for economic management talents [11]. Yantong Gao (2020) believed that the implementation of the in-school practical teaching mode can improve the quality of students majoring in economics and management to put what they have learned into practice, which is conducive to cultivating students' innovative spirit and broadening their horizons [12]. Wei Yang (2020) believed that economic management majors in universities should build a practical teaching system that closely connects theory and practice teaching, innovates the practical teaching mode, and improves teachers' practical teaching ability [13]. Qiangjun Kuang (2019) believed that to cultivate students' practical ability in economic management, it is necessary to set up a reasonable curriculum system, build a practical teaching platform, and adopt diversified practical teaching methods [14]. Xiaoming Liu et al. (2020) believed that in the context of the wide application of big data technology, the construction of a practice teaching system that organically combines theory with practice is conducive to improving the level and level of practice teaching, and to meet the demand for economic professionals to a greater extent in the new era of economic and social development [15].

3. Research on the Quality Improvement of Digital Economy Specialty Based on the Questionnaire Analysis

3.1. Basic Information of the Questionnaire

In order to improve the teaching quality of digital economy major in our university, we designed the digital economy major teaching questionnaire. Questionnaire survey was conducted on freshmen in our school, in order to understand students' ideas and opinions on the curriculum setting, teaching methods, teachers and other aspects of digital economy major. A total of 196 valid questionnaires were collected.

3.2. Analysis of Questionnaire Results

3.2.1. Curriculum

Table 1. Course arrangement

Q: Which of the following courses would you like to study in the major of digital economy? (Select all the options and sort)	
Options	Average composite score
Cloud computing and big data	10.59
Big data analytics for business	9.91
Database principle	9.5
Big Data Finance	9.22
Business and economic statistics	8.42
Electronic Commerce	7.93
Internet + Operations Management	7.74
The principle and application of blockchain	7.72
Artificial intelligence	7.4
Blockchain and electronic money	7.37
computer programming	6.77
Data mining technology	5.62
Digital Media Management	5.32
Others	1.49

The major of digital economy is based on economics and integrates multiple disciplines such as management science, mathematics and computer science. Through the use of digital technology to study the operation law of digital economy, measure the scale of digital economy, planning the development of digital economy. Digital economy talents not only need to master solid knowledge of basic economic theory, but also need to be familiar with the relevant digital skills, skilled in using data analysis technology to analyze and interpret the laws of economic development, in this way, we can become a high-quality compound digital talents in line with the needs of economic and social development.

Table 1 shows the curriculum arrangement of students majoring in digital economy. The average comprehensive score reflects the overall ranking of the options, the higher the score means the higher the comprehensive ranking. As can be seen from the table above, the average comprehensive score of most courses, such as cloud computing and big data, business big data analytics, database principles, big data finance, business and economic statistics, and E commerce, is above 6. Among them, the average comprehensive score of cloud computing and big data, business big data analysis, database principle and big data finance is above 9, which indicates that the vast majority of students want to learn relevant basic theories and techniques, master the application of big data analysis skills, improve their own big data analysis capabilities, so as to grow up to meet the economic and social development of high-quality digital talent.

3.2.2. Teaching methods

The teaching method includes both "teaching" and "learning", but the traditional teaching method is often the teacher only to pass knowledge to the students, the lack of inspiration to the students' thinking, is not conducive to mobilize the students' initiative. Modern teaching theory holds that the teaching process should pay attention to the beneficial interaction between teachers and students, emphasizing both "Teaching" and "Learning", so that students can "Learn" well. Therefore, the new era must innovate teaching methods, so as to cultivate students' autonomous learning ability, and better promote students' all-round development.

Table 2. Teaching methods

Options	Subtotal	Proportion
Project-based approach (Teachers make project plans and students study independently)	132	67.35%
Teaching method of integrating theory and practice (Integrating theory, practical teaching and technical services)	125	63.78%
Action oriented teaching method (Students' independent learning, teachers' guidance, flexible adjustment of teaching methods)	118	60.20%
Cooperative learning method (Teachers assign tasks, students study and discuss in groups)	101	51.53%
Traditional teaching method (Based on the content of the textbook, the teacher imparts knowledge in one direction)	72	36.73%
Problem teaching method (The teacher gives lessons according to the questions raised by the students)	58	29.59%
Others	6	3.06%

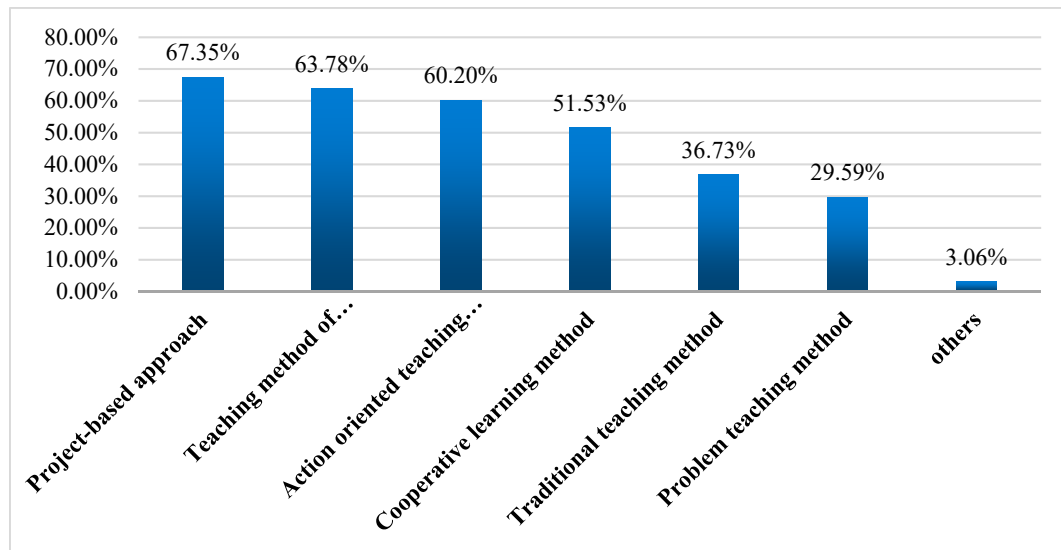


Figure 1. Students' thoughts on teaching methods

Table 2 and Figure 1 show the statistics of students' ideas on teaching methods. We can see that there are more than 100 students who choose project-based approach, teaching method of integrating theory and practice, action oriented teaching method and cooperative learning method, and the proportion is over 50%, while only a few choose traditional teaching method, accounting for 36.73%, this shows that most students believe that there is room for improvement in the traditional teaching methods. Colleges and universities in the new era should innovate their teaching methods, break the shackles of traditional teaching, and give priority to students and teachers, focus on cultivating students' subjective initiative, so that students in the classroom can really "Learn", inspire students to experience and practice, in order to better complete the task of teaching.

3.2.3. Teaching staff

A scientific and rational team of teachers can effectively promote the improvement of the strength of teachers and the quality of personnel training, with professors and Principal investigator with rich teaching experience as the backbone, and young and middle-aged teachers with high academic qualifications as the main body, it will help to better train innovative professionals who meet the requirements of economic development.

Table 3. Statistics on student demand for teachers

Q1: What is your requirement for the teaching experience of digital economy teachers?					
Options	Under 3 years	3-5 years	5-10 years	10-15 years	Over 15 years
Proportion	2.04%	27.55%	43.37%	17.35%	9.69%
Q2: What is your need for a professional title for the digital economy teachers?					
Options	Professor		Associate Professor		Lecturers
Proportion	64.29%		23.98%		11.73%

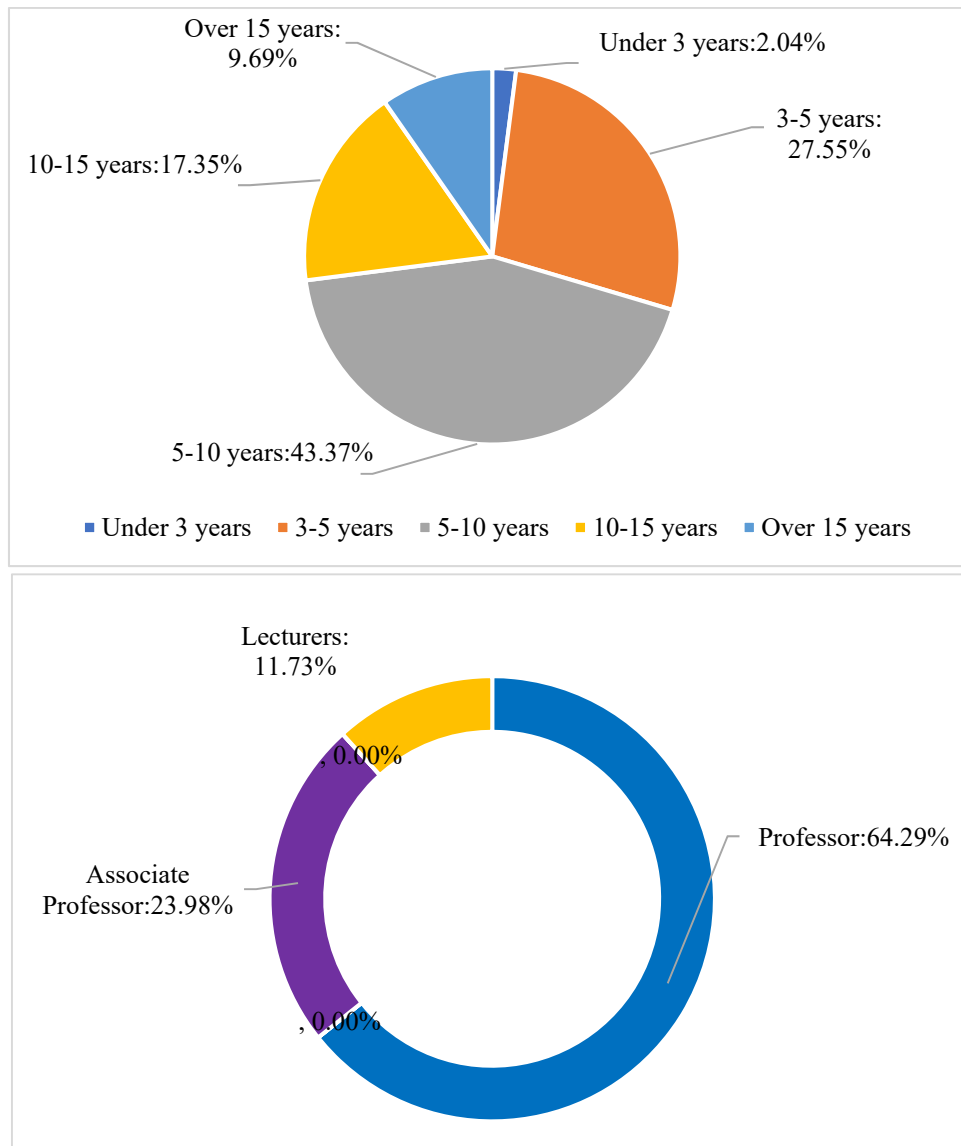


Figure 2. Statistics on student demand for teachers

Table 3 and Figure 2 show the student demand for the faculty. We can see that with regard to the length of service of teachers, nearly half of the students choose teachers with 5-10 years of teaching experience, 27.55% choose teachers with 3-5 years of teaching experience, but only 9.69% choose teachers with more than 15 years of teaching experience. This shows that compared with young and old teachers, the vast majority of students are more appreciative of young and middle-aged teachers, who not only have certain teaching experience, but also can keep pace with the times in teaching ideas and concepts, conform to the development of the times and the requirements of society. With regard to the professional title requirement of teachers, more than 60% of students chose professors to teach their courses, and only 11.73% chose lecturers to teach their courses. This means that most students tend to choose teachers with higher qualifications, they have higher academic attainments, can effectively enhance the teaching effect, promote the construction of professional talents.

3.2.4. Practical teaching

Practice teaching is an important means to consolidate theoretical knowledge. Zhangqing Wei (2019) believed that under the current educational background, people pay more and more attention to the construction of practical teaching system in talent cultivation [16]. Jingquan Jia (2011) believes that practical teaching and theoretical teaching are both relatively independent

and closely linked, and talent training in colleges and universities cannot be separated from practical teaching. Improving the practical teaching system integrating experiment, practical training and practice is helpful to cultivate students' innovative spirit and build professional talents [17]. Students majoring in digital economy need to flexibly use economic methods and technical means to analyze and solve practical problems in economic activities.

Table 4. Statistics on student demand for hands-on instruction

Q1: In the course of your current study, have you participated in any practical training activities organized by Your School or college?		
Options		Proportion
Yes, I have		12.24%
No, I haven't		87.76%
Q2: What are the practical training activities related to the digital economy that you would like to add?		
Options		Average composite score
Comprehensive Practical Training of economic analysis based on big data		5.94
Social and economic investigation training		5.12
Block chain finance training		4.54
Comprehensive statistical simulation training		4.43
Digital marketing experiment		3.9
Production practice		2.83
Others		1.24

Table 4 shows the statistics of students' demand for practical teaching. As for question 1 87.76% of the students have not participated in the practical training activities, which indicates that our school has a certain degree of deficiency in the practical teaching, and does not attach enough importance to the students' practical learning, it needs to be corrected and adjusted in the future subject construction. As for Question 2, we can see that the average comprehensive scores of the comprehensive training of economic analysis and the practical training of social economic survey based on big data are above 5 points, this shows that most of the students prefer to take part in practical activities related to big data and social economy, through practical study and practice, to achieve a true sense of "Applied mastery" of knowledge, to become a solid theoretical knowledge, professional skills to meet the needs of the development of the digital era of complex digital talent.

4. Conclusion

Digital economy is a new engine to drive economic growth and attract employment. The development of digital economy has become an important driving force for the construction of modern economic system in the new era. The establishment of Anhui Free Trade Pilot Zone also provides a good development platform for the professional development of digital economy. In addition, our university is the one with the strongest comprehensive strength in economics and management among the four universities first set up the digital economy major by the Ministry of Education, which has a significant development advantage. Therefore, in the context of the rapid development of China's digital economy and the establishment of Anhui Pilot Free Trade Zone, it is of great significance to train high-quality digital talents to meet the development requirements of the times. Based on this, through the design of the "Digital Economy Discipline Teaching Questionnaire", to further improve the teaching quality of our school's digital

economy major, we found that: (1) For the digital economy professional curriculum, in addition to master the necessary such as economics, management science and computer science basic theory knowledge, the vast majority of students prefer learning digital economy under the background of big data statistical analysis, analysis of big data applications such as skills, so as to improve their ability of data analysis. (2) The teaching mode of "student-centered, teacher-assisted", emphasizing the equal importance of "teaching" and "learning", and emphasizing the strengthening of students' practical operation is the teaching mode of colleges and universities in the new era, which is accepted by the vast majority of students. (3) As for the teaching resources of digital economy major construction, most students prefer to choose professors or young and middle-aged teachers with certain teaching experience as teachers, which can effectively enhance the teaching effect and further promote talent cultivation. (4) Pay attention to the practical teaching in the construction of digital economy major, and increase the practical training activities related to big data and social and economic survey, which is more conducive to cultivating digital talents to meet the needs of economic and social development.

Based on the above investigation and analysis, the following suggestions are put forward: Firstly, optimize the team of course lecturers. Through independent training and the introduction of a combination of, constantly optimize the structure of curriculum on teachers' title, efforts to improve teacher education level, can carry out various forms of teaching competition and public education activities, improve curriculum on teachers' teaching level, further improve the comprehensive quality of the professional teachers, professional construction comprehensive power digital economy. Secondly, innovate teaching methods and means. It emphasizes heuristic and interactive teaching to cultivate students' subjective initiative and guide students' positive thinking. In addition, it emphasizes synchronous theory and case teaching to complement each other, and the combination of teacher teaching and students' independent practice to further improve students' practical ability. Thirdly, deepen practical teaching. Increase the investment of capital and manpower, update and improve the teaching hardware and software of the digital economy laboratory in the university, strengthen the construction of off-campus practice base and teaching management, so as to provide guarantee for the practical teaching of digital economy, further promote the cultivation of digital economy talents and improve the teaching quality of digital economy specialty.

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