International Journal of Social Science and Research

Int. J. Soc. Sci. Res.
2024.2(1).1
ISSN：2960-0979
https://doi.org/10.58531/ijssr/2/1/1

Article

Joint Training of Digital Economy Undergraduate Majors, Experience from Applied Universities and Listed Companies

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Abstract: This paper focuses on the cooperative education experience of undergraduate majors in digital economy between applied universities and listed companies. The paper briefly presents the background and importance of this research area, also brings discussion of the significance of cooperative education in cultivating outstanding talents and meeting industry needs given the rapid development of the digital economy. The purpose of this paper is to summarize the practical experience of cooperative education in digital economy majors between applied universities and listed companies, and analyze the specific process and methods of cooperative education through specific cases, in order to provide references and guidance for other universities and enterprises. The main conclusion taken from the analysis is that cooperative education in undergraduate majors in digital economy is an effective educational model with multiple advantages and highlights.

Keywords: applied universities; listed companies; digital economy; undergraduate majors; cooperative education

1. Introduction

Digital economy refers to the economic form of overall planning, organization, operation and control of economic activities by using information technology and digital technical means such as the Internet. With the rapid development of information technology and the popularization and application of the Internet, the demand in the field of digital economy has been increasing, and the undergraduate program of digital economy has emerged.

With the rapid development of digital economy, the undergraduate program of digital economy, as a gradually emerging undergraduate program in recent years, is facing major

Citation: Li Y., Guo W., Li Z., Liu C., Ren Y. Joint Training of Digital Economy Undergraduate Majors, Experience from Applied Universities and Listed Companies. Int. J. Soc. Sci. Res., 2024, 2(1), doi: 10.58531/ijssr/2/1/1

challenges and adjustments in its cultivation methods and approaches. The joint cultivation mode between applied universities and listed companies has attracted much attention because of its unique cooperation methods and advantages.

For applied colleges and universities, through joint cultivation with listed companies, they can obtain rich application scenarios of professional skills, industrial projects from enterprises, dual-teacher tutors with practical working experience in enterprises, more sufficient research funding, practical cultivation environment and opportunities, providing students with rich practical scenarios.

For listed companies, cooperation with applied colleges and universities can introduce fresh blood and talent reserves for them, and in the way of "college mentor + enterprise mentor + student", it can reduce the cost investment of the enterprise in the project, and let the students have an understanding of the enterprise's culture, workflow and business earlier, which is conducive to increasing the trust between the enterprise and the students. It is conducive to increasing the trust between enterprises and students.

In addition, the rapid development of the digital economy has put forward higher requirements for the digital economy undergraduate program in higher education. As an emerging field of study, digital economy has become an increasingly burdensome task for the cultivation of undergraduate talents in the context of technological innovations and changes in market demand. However, the traditional education model is characterized by problems such as the disconnection between theory and practice, and the mismatch between talent cultivation and industry demand, which makes it difficult to meet the demand for high-quality professionals in the digital economy industry. Therefore, how to promote the innovation of joint cultivation mode and improve the quality of talent cultivation in the undergraduate specialties of digital economy has become an important topic of educational reform in the field of digital economy.

The purpose of this study is to summarize the experience of joint cultivation of digital economy majors between applied colleges and listed companies, and to explore its role and influence in the cultivation of excellent talents and industry demand.

The significance of this study is to provide higher education institutions and enterprises with an effective model of joint cultivation of undergraduate majors in digital economy, and to provide an effective way to cultivate more high-quality digital economy talents. By giving full play to the complementary advantages of applied universities and listed companies and realizing the sharing of educational resources and the combination of industry, academia and research, the practical ability and industry adaptability of students can be improved, and the in-depth cooperation between higher education institutions and enterprises is also promoted. The conclusions of this study have certain guiding significance for talent cultivation and education reform in the field of digital economy, and also have positive significance for promoting the healthy development of digital economy and promoting industrial upgrading.

This paper will take the joint cultivation of digital economy undergraduate majors of applied universities and listed companies as the research object, analyze the specific process and methods of joint cultivation through specific cases, analyze the implementation effect of the joint cultivation mode and the existing problems, and put forward the corresponding

optimization suggestions. The purpose of this paper is to summarize its practical experience and put forward optimization suggestions, to provide theoretical support and practical reference for the joint cultivation mode of digital economy undergraduate majors, and to promote the innovation and development of digital economy talent cultivation mode.

2. Analysis of the current situation of the undergraduate program of digital economy

2.1 The development trend of digital economy

The development trend of digital economy refers to the development trend and current situation of digital economy in today's society. With the rapid development of information technology and the popularization of the Internet, the digital economy has risen rapidly around the world and has had a far-reaching impact on all walks of life.

First of all, the digital economy has shown a trend of continuous growth globally. The construction of the "Digital Silk Road" has played an important role in developing the digital economy, strengthening digital governance and driving global economic growth, and is becoming a digital bridge for a new type of globalization. According to the data of "Research Report on the Development of China's Digital Economy (2023)" released by China ICT in April 2023, the scale of industrial digitization in China in 2022 reached RMB 41 trillion yuan. The added value of industrial digitization accounted for 33.9% of GDP, and promoting industrial digitization has become an important part of building a modern industrial system. Tencent Cloud and Intelligent Industry Business Group (CSIS) pointed out in the 2023 Digital Economy High Quality Development Report released in September 2023 that during the period from 2018 to 2022, the scale of China's digital economy grew from RMB 30 trillion to 50.2 trillion, with the total volume ranking second in the world, and the proportion of GDP increased to 41.5%, and the digital economy became the the digital economy has become an important engine for "stabilizing growth" and "promoting transformation". In addition to China, other governments will list the digital economy as an important strategy for national development and increase investment in the digital economy to promote sustained economic growth.

Secondly, the development of digital economy has brought great impact and change to traditional industries. Traditional industries are undergoing the process of transformation from traditional mode to digitalization under the impetus of digital economy. Take the retail industry as an example, with the rise of e-commerce, more and more consumers choose online shopping, in the manufacturing industry, the traditional business model has gradually shifted from "selling products" to "selling services", and the competitiveness of brand and quality has been gradually weakened by the competitiveness of services. The competitiveness of brand and quality is gradually weakened by the competitiveness of service, and traditional enterprises in most industries are facing the double competitive pressure from e-commerce and new business models. Enterprises gradually bring the digital economy into industrial development, which is the use of digital technology for R & D, production, management, marketing, services, industry and other aspects of the empowerment of remodeling. This also

prompts traditional industries to continuously innovate and reform to adapt to the changes in the digital economy era.

Again, the development of digital economy provides opportunities for the rise of new industries. Under the wave of the digital economy, emerging industries such as cloud computing, big data, and artificial intelligence have developed rapidly and become new engines of economic growth. These emerging industries not only inject new vitality into the economy, but also create a large number of opportunities for employment. In the digital economy, the focus of intelligent manufacturing is no longer limited to the manufacturing process, but rather realizes the whole chain of marketing, operation, manufacturing and service, realizes the transformation of data-driven instead of process-driven, contributes to the integration of business and finance, and brings a more fine, precise and accurate management dimension and manufacturing dimension compared with the mode of "informationization + automation". Compared with the "informationization + automation" model, it brings more fine, precise and accurate management dimension and manufacturing dimension, and service-oriented manufacturing becomes the future development trend of most manufacturing industries.

At the same time, the development of digital economy also brings a series of challenges and problems. For example, the rapid development of the digital economy has led to issues of information security and privacy protection that need to be addressed urgently. The development of the digital economy has also exacerbated the problem of digital divide, and many people are still unable to directly enjoy the convenience and opportunities brought by the digital economy.

The development of the digital economy has shown a trend of continuous growth and has had a profound impact on various industries. As the digital economy continues to develop, we need to actively address the challenges and problems and promote the healthy development of the digital economy in order to achieve sustainable economic growth and overall social progress.

2.2 The current situation of digital economy undergraduate specialization

In foreign developed countries, digital economy professional courses have long been integrated in the curriculum reform of business administration, MIS, industrial economics and other majors. In China, Renmin University of China, Central University of Finance and Economics, Jiangxi University of Finance and Economics and other universities established the first batch of undergraduate digital economy majors. In Fujian, China, Jimei University and Jianpan Kunlu Internet of Things Technology Research Institute (Xiamen) Co. Ltd. jointly constructed the School of Digital Industry of Jimei University in 2021, which opened the first undergraduate program of digital economy in Fujian Province.

The undergraduate program of digital economy aims to cultivate senior specialists with the theoretical foundation and practical operation ability of digital economy. The current situation of this specialty is mainly reflected in the following aspects.

(1) The curriculum is relatively perfect

The core courses of this specialty include principles of digital economy, data mining and analysis, e-commerce, artificial intelligence, Internet of Things, cloud computing and so on. These courses aim to enable students to master the basic theoretical and technical knowledge in the field of digital economy and lay a solid foundation for them to engage in related work in the future.

(2) Constant Innovation of Teaching Means

With the continuous development of information technology, the teaching means of the undergraduate program of digital economy is also constantly updated. Traditional classroom teaching has gradually changed to diversified teaching modes such as online education and distance education. Through the use of virtual laboratories, online courses and other advanced teaching means, students can better and more intuitively understand and master the relevant knowledge and skills of digital economy.

(3) Practical link has been emphasized

In order to improve students' practical skills, many universities have carried out joint training programs with listed companies and other enterprises. Students can apply the theoretical knowledge they have learned to practical work in practical activities such as internships and participation in project development in enterprises. This kind of joint training can not only improve students' practical operation ability, but also provide more opportunities for students' employment.

(4) Broader employment prospects

With the rapid development of the digital economy, the demand for related talents is also increasing. Graduates can find employment opportunities in Internet enterprises, financial institutions, big data companies and other fields. Moreover, students majoring in digital economy can also choose to start their own business, open their own digital economy company, and participate in the wave of digital economy development; they can also be employed in the national management departments at all levels, industrial and commercial enterprises, financial institutions, scientific research units and digital industry departments, engaged in data analysis, industrial digital construction, etc., or governmental enterprises and public institutions to assist in decision-making for macro-industrial development, and the formulation of industry standards, etc.,. Large and medium-sized enterprises digital transformation decision-making, decision-making deduction, enterprise data analysis and processing, auxiliary enterprise business decision-making, etc.. At present, digital economy is a national strategy, Fujian Province is committed to building "Digital Fujian", digital economy professional talent demand, employment prospects.

The digital economy undergraduate program has made certain achievements in the curriculum, teaching methods, practical aspects and employment prospects. However, with the continuous development of digital economy, the undergraduate program in digital economy also needs to be continuously adjusted and improved to meet the needs under the new situation. At the same time, colleges and universities and enterprises should strengthen cooperation to provide more practice opportunities for students and cultivate more senior specialists.

3. Joint Cultivation Model of Applied Universities and Listed Companies

Jimei University, a key university in Fujian Province, is a joint university between the Ministry of Transportation and Fujian Province, the Ministry of Natural Resources and Fujian Province, and Fujian Province and Xiamen City. It began with the Teacher Training Department of Jimei School and the Aquatic and Commercial Departments of Jimei School, which were founded by the famous patriotic Chinese leader, Mr. Chen Jiageng, with a history of more than 100 years, and enjoys a wide reputation both at home and abroad.

Xiamen Jianpan Group Co., Ltd ("Jianpan Group") is a group enterprise established on October 27, 2010, with four major business segments, namely, home furnishing industry, supply chain and supply chain finance, industrial investment and industrial park operation, and industrial Internet, positioning itself as an Internet ecological platform for home furnishing (pan-family) industry, and focusing on industry, strategic layout and investment development, investment and holding. The strategic layout and investment development, investment and holding "Gold Medal Kitchen Cabinet", "Huarui Holdings", "Detao Holdings", "Kunlu Internet of Things" and other core enterprises. Kunlu Internet of Things" and other core enterprises.

In response to the State Council's "Opinions on Deepening the Integration of Industry and Education", which elevates the integration of industry and education to the call of national education reform and development of human resources, as well as the "Opinions on Promoting the High-Quality Development of Innovation and Entrepreneurship and Creating an Upgraded Version of "Shuangchuang"", the Schools of Finance and Economics, Information Technology, Computer Science, and Science, Jimei University and Jianpan Group have established a joint venture under the "Joint Venture" program. Based on the principle of "cooperation in running schools, cooperation in educating people, cooperation in employment, cooperation in development, mutual benefit and complementarity of advantages", Jianpan Group and Jimei University aim to jointly cultivate senior specialists in program design and scenario application in the fields related to digital economy and digital transformation of enterprises and institutions, and to promote their development in the fields of curriculum, faculty development, teaching materials development, practice, laboratory construction, subject research and study. We will cooperate in curriculum development, teacher training, teaching materials development, practice, laboratory construction, research and career guidance, etc., and jointly create "Jimei University Digital Industry College".

3.1 Jimei University Digital Economy Undergraduate Program Teaching Setting

Courses of Jimei University's digital economy program include basic theories of digital economy, policies and regulations of digital economy, digital marketing, data analysis and decision-making, and introduction to digital technology and application. These courses are designed to cultivate students' basic knowledge and understanding of the digital economy industry, and to enhance their digital literacy and application ability.

The digital economy program of Jimei University also focuses on cultivating students' practical ability. Digital economy practical teaching sessions are set up, including practical

courses and practical training programs. Through these practical sessions, students can apply what they have learned to the solution of practical problems and cultivate the ability to solve practical problems and innovative thinking.

In terms of teaching methods, the Digital Economy Program of Jimei University pays more attention to cultivating students' problem-solving ability and teamwork ability, and adopts teaching methods such as case-based teaching and project-driven teaching to stimulate students' interest and initiative in learning. At the same time, they also encourage students to participate in disciplinary competitions, practical activities, etc., to cultivate students' comprehensive quality and innovation ability.

In the process of formulating the talent training program, experts from the industry sector and academia formed a steering committee, including Dr. Ren Yuheng, Senior Vice President of Xiamen Jianpan Group, Dr. Wang Zhen, Senior Engineer of Fujian Zhonghaichuang Technology Group, and Xing Dongjin, Chairman of Xiamen Cicada Feather Networks, and scholars from academia, including Prof. Zhang Minghong and Prof. Long Xiaoning of Xiamen University, and Prof. Xie Gailiang of the College of Science of Jimei University. The steering committee proposes: increasing cutting-edge course offerings, including the introduction of Internet of Things, digital transformation, new media operation, and live broadcasting economy; increasing the proportion of practical courses and adding summer internship programs; modifications to some course titles, such as digital finance changed to smart finance, digital asset assessment changed to data asset assessment, and operations research adjusted to be offered in the 5th semester; new technologies for digital economy majors The underlying logic problem of integration with economics, the systematic and logical nature of the curriculum, the organic integration problem of technology and economics, and other programs. So that students can come from the problem to learn to solve the problem, and then go to the practical application.

The teaching curriculum of the undergraduate program of digital economy has been adjusted and optimized in many aspects, aiming to cultivate students' digital literacy, practical ability and innovative consciousness. The introduction of the cooperative model and the reform of teaching methods have provided more opportunities and support for students' career development. With the continuous development of the digital economy industry and the increasing demand of enterprises for digital economy professionals, the teaching settings of the undergraduate program in digital economy will be improved and optimized to further enhance the impact of the teaching of the digital economy major in order to adapt to the industry's needs and changes.

3.2 Introduction to the Joint Cultivation Mode of Applied Colleges and Listed Companies

The joint cultivation mode of applied colleges and listed companies is a new type of education and training mode, which aims to improve students' practical ability and employment competitiveness. By combining school and enterprise resources, this mode provides students with all-round practice opportunities and professional training, so that they can better adapt to the needs of social development.

First of all, the joint cultivation mode of applied universities and listed companies focuses on the cultivation of students' practical ability. The traditional education model focuses on the teaching of theoretical knowledge and ignores the ability of students to apply this knowledge in practice. The joint cultivation mode emphasizes the cultivation of students' ability in enterprise practice, through practical operation and project practice, so that students can apply the theoretical knowledge they have learned to the actual work and improve their problem-solving and innovation ability.

Secondly, the joint cultivation model of applied universities and listed companies emphasizes the cultivation of students' professionalism. Under this model, students will have the opportunity to get in touch with the real working environment and enterprise culture, improve their problem-solving and challenge-response abilities, and understand the operation mechanism and occupational requirements of enterprises. At the same time, students will participate in various corporate projects and practical activities to develop their teamwork, communication and leadership skills, and improve their professionalism and overall quality. In terms of knowledge requirements students master including general knowledge, basic knowledge of disciplines and specialized knowledge. Specific as Table 1.

Table 1. The Table of Knowledge Education Training

General Knowledge Basic	**Knowledge of Disciplines**	**Specialized Knowledge**
Students need to have certain knowledge of humanities and social sciences in literature, sociology, psychology, history, political science, philosophy, art, etc., learn the knowledge of ideological and political theories and the spirit of Chen Jiageng, and master the knowledge of English, computers, literature retrieval and data mining.	Students need to master theoretical knowledge and methods in political economy, microeconomics, macroeconomics, econometrics, statistics, accounting, finance and fiscal science.	Master the basic theory and basic knowledge of digital economy, industrial economics, quantitative economics, data mining, artificial intelligence, Internet of Things, data visualization and analysis; master the basic methods of big data mining, big data analysis, big data modeling, etc., and have the ability to deal with the more complex professional problems; be familiar with the Internet industry, the system and rules of the digital marketing market, and understand the theoretical frontiers of the discipline and the

	development dynamics of the discipline.

In terms of competency requirements student mastery includes professional competency, public competency, and general competency. Specific as Table 2.

Table 2. The Table of Competency Development

Professional competencies	Public Competence	Comprehensive competence
Students have basic training in economics, management, and big data analysis, master the basic ability of theoretical analysis and practical operation, have the basic ability to use econometrics, statistics, financial analysis, and big data methods for digital economic analysis and research, and have strong computer application skills.	It mainly includes students' expression ability, communication ability, information acquisition ability, lifelong learning and continuous innovation ability. Students need to have good written and verbal expression ability as well as interpersonal relationship and team spirit, information acquisition ability such as literature search, relevant computer software application ability and English listening, reading and writing ability, learning to improve and knowledge conversion ability, innovative spirit and practical ability to link theory with practice, analyze and solve problems.	Students need to master the methods of economic information processing such as literature search, economic information collection and data query, have strong ability to apply computer technology, apply all kinds of knowledge comprehensively in practice, use big data technology to carry out their work, and utilize all their abilities to solve practical problems.

In the quality requirements students to improve including ideological and moral quality, humanities and scientific quality, physical and mental quality. Specific as Table 3.

Table 3. The Table of Quality Training

Ideological and moral quality	Quality of Humanities and Science	Physical and mental quality
Students need to have good moral cultivation, adhere to professional ethics and moral norms, have a sense of social responsibility and positive life ideals, pay attention to humanistic	Students need to have solid basic knowledge of culture and professional knowledge, strong ability to express themselves in writing and adapt to the modern management of	Students need to actively accept the necessary military training, participate in physical exercise, and reach the standard of college students' sports

qualities, and establish the concept of the rule of law, civic awareness and scientific attitude.	mathematical knowledge, proficiency in a foreign language and proficiency in the use of computer technology. They have the scientific quality of seeking truth and pragmatism, know science, love science, pursue truth, and have a certain understanding of the excellent traditional Chinese culture and thought.	qualification. Physical health, good psychological state, ability to correctly understand the laws of nature and social development, and correctly handle social and interpersonal relationships.

In addition to the theoretical teaching in the setting of credits, in order to highlight the advantages of joint teaching and reflect the cultivation of students' practical ability on the ground, adjustments are made in the setting of credits, relative to the national standard credit setting as shown in Table 4.

Table 4. The Table of Credit System

Course System	**National Standard**	**Requirements Specialization**
Total Credits	150	150+8
Theory Teaching	125	110
Core Courses	21	21
Practical Teaching	25	40
Others (Individualized Training)		8

In addition, the joint cultivation mode of applied universities and listed companies focuses on the enhancement of students' employment competitiveness. Under the joint cultivation mode, through the construction of joint laboratories, horizontal project cooperation and mentorship job internships, students can learn by combining theory and practice in actual projects, and can better understand the industry trends and the needs of the job market. Through cooperation with enterprises, students can acquire practical experience and skills, improve their employment competitiveness and increase employment opportunities.

In conclusion, the joint cultivation mode of applied universities and listed companies is a practical and targeted education and training mode. Through the close cooperation between schools and enterprises, students are able to obtain more practical opportunities and professional training, improve their practical ability and professionalism, and increase their employment competitiveness. It also promotes strong cooperation and development between universities and enterprises. This model helps to cultivate high-quality talents who can adapt to the needs of social development and promote the development and application of digital economy specialties.

4.The Implementation Effect, Problems and Solutions of Joint Cultivation Model between Universities and Listed Companies

4.1 Implementation Effect and Problems of Joint Cultivation Models of Colleges and Listed Companies

The joint cultivation of digital economy undergraduate majors comes from the experience of applied colleges and universities and listed companies.

The joint cultivation model of applied universities and listed companies is an innovative education model that combines university education and practical application, aiming to improve students' practical ability and employment competitiveness. This chapter will discuss this model from several aspects of implementation effects and problems.

4.1.1 Implementation Effect

(1) Improvement of Students' Practical Ability

The joint cultivation model of applied universities and listed companies focuses on cultivating students' practical ability. Through the participation in practical projects and the accumulation of practical work experience, students are able to understand what they have learned more deeply and apply it in practical work. The study shows that compared with the traditional education mode, the joint cultivation mode can significantly improve students' practical ability, so that students' practical opportunities increase, making them more competitive for employment.

(2) Docking of enterprise demand and education content

The joint training mode of applied universities and listed companies can effectively connect the needs of enterprises with the content of education, making education closer to practical application. Through the cooperation with listed companies, colleges and universities can understand the demand of enterprises for talents and adjust the education content and training objectives in time to cultivate talents more in line with the market demand. At the same time, listed companies are also able to obtain graduates with specialized knowledge and practical ability through cooperation with universities to meet the development needs of enterprises.

(3) Combination of Industry, University and Research

The joint cultivation model promotes the combination of industry, academia and research, and strengthens the cooperation and communication between academia and practical

applications, which helps researchers from university faculty and industry experts to conduct cooperative research, work together to solve practical problems, and promote the transformation and application of scientific research results. This includes aspects such as knowledge sharing, technology transfer, innovation promotion and talent training for mutual benefit.

Realize the combination of industry, academia and research, establish platforms and mechanisms for cooperation between industry, academia and research institutions, and promote exchanges and cooperation between industry, academia and research institutions. A platform for joint cooperation can be provided through the establishment of joint laboratories, research centers or cooperative projects. To develop cooperation programs, close exchanges and communications need to be maintained between industry, academia and research institutions. Academic seminars, technology exchange meetings or enterprise visits can be organized regularly to promote interaction and cooperation between the two sides. Industry-academia-research cooperation needs to establish a fair and reasonable benefit-sharing mechanism. Both sides should negotiate to determine the ownership of intellectual property rights and profit distribution of the cooperation projects to ensure the sustainability and mutual benefit of the cooperation.

Industry-university-research cooperation in the digital economy can achieve longer-term sustainability. It will provide a solid foundation for innovation and development in the field of digital economy, and at the same time bring more opportunities and benefits to academia, enterprises and all parties in society.

4.1.2 Problems

(1) Unbalanced resources

In the joint cultivation mode between applied universities and listed companies, there are some problems due to the imbalance of resources between the two sides. On the one hand, some colleges and universities are relatively scarce in educational resources, and it is difficult to provide enough practice opportunities for students; on the other hand, some listed companies also have certain deficiencies in cultivation resources, which can't satisfy the needs of students in colleges and universities. Therefore, how to solve the problem of resource imbalance and improve the implementation effect of joint cultivation mode is an urgent problem to be solved.

(2) Inconsistency of Cultivation Objectives

In the joint cultivation mode of applied colleges and listed companies, there are differences between the two sides regarding the cultivation objectives. Colleges and universities focus on cultivating students' comprehensive quality and innovation ability, while listed companies pay more attention to students' practical experience and vocational skills. This difference may cause students to face difficulties in adapting to the actual work and be unable to perform their jobs. Therefore, both sides need to strengthen communication and cooperation and clarify the cultivation objectives to ensure that students can adapt to the actual work needs.

(3) Sustainability of Cultivation Mode

The joint cultivation model of applied universities and listed companies requires long-term cooperation and support from both sides to achieve good implementation results. However, many joint cultivation programs cannot be sustained in the long run due to various reasons, including the limitations of funds, personnel and management. Therefore, how to ensure the sustainability of the joint cultivation model requires the joint efforts of universities and listed companies to establish a long-term and stable cooperation mechanism.

The joint cultivation model of applied universities and listed companies has significant effects in improving students' practical ability and employment competitiveness. However, there are still some problems in the implementation of the model, including uneven resources, inconsistent cultivation goals and sustainability. In order to further improve the implementation effect of the joint cultivation model, it is necessary for universities and listed companies to make joint efforts to strengthen cooperation and communication, solve the existing problems, and provide better support for students' employment and development.

4.2 Optimization of educational resources allocation

The rapid development of the digital economy has put forward new requirements for higher education, and it is necessary to optimize the allocation of educational resources to meet the market demand and development trend. In the era of digital economy, the experience of applied colleges and universities and listed companies can provide valuable reference for the joint cultivation of undergraduate specialties in digital economy.

Applied colleges and universities have rich experience in the allocation of educational resources. Applied colleges and universities focus on practical teaching, emphasize the combination of theory and practice, and cultivate students' practical operation ability and problem-solving ability. They usually have modernized experimental facilities and practical training bases, which can provide students with opportunities for practical operation. Applied colleges and universities emphasize school-enterprise cooperation and establish close ties with enterprises to provide students with internship and employment opportunities. This resource allocation model can effectively meet the needs of the undergraduate program in digital economy, so that students can be exposed to the real working environment and actual projects during their study.

Listed companies also have unique experience in educational resource allocation. Listed companies usually have rich industry experience and advanced technological resources, and can provide students with practical opportunities and professional guidance. They can provide actual cases and projects so that students can improve their abilities by participating in practical work. Listed companies can also provide students with internships and employment opportunities to help them transition smoothly into their careers. Through cooperation with listed companies, students majoring in the undergraduate program of digital economy can better understand the industry development trend and market demand, and enhance their competitiveness.

The key to optimizing the allocation of educational resources lies in establishing good cooperation mechanisms and communication channels. Applied colleges and universities and

listed companies should strengthen cooperation, jointly develop training programs and curriculums, and ensure the effective use of educational resources. Both sides can strengthen the cooperative relationship by signing cooperation agreements and building training bases together. At the same time, it is also necessary to establish a regular communication mechanism to keep abreast of market demand and student employment, and make adjustments and optimizations according to the situation. Only through cooperation and communication can we realize the optimal allocation of educational resources and provide better support and guarantee for the joint cultivation of undergraduate specialties in digital economy.

In the process of optimizing the allocation of educational resources, it is also necessary to pay attention to the truthfulness and accuracy of the data. When citing the content of others, academic norms should be strictly adhered to, to ensure that the source of the data is reliable, and appropriate citations and notes should be made. At the same time, it is also necessary to verify and validate the data to ensure its accuracy. Only real and accurate data can effectively support the views and conclusions of the paper and enhance its credibility and persuasiveness.

Optimizing the allocation of educational resources is an important part of the joint training of undergraduate digital economy majors. The experience of applied universities and listed companies can provide valuable reference for optimizing the allocation of educational resources. Both sides should strengthen cooperation and communication, establish good cooperation mechanisms and communication channels to ensure the optimal allocation of educational resources. At the same time, it is also necessary to pay attention to the truthfulness and accuracy of the data to ensure that the content of the paper is credible and persuasive. By optimizing the allocation of educational resources, better support and guarantee can be provided for the joint cultivation of undergraduate specialties in digital economy.

4.3 Balance of academic and business training objectives

As an application-oriented specialty, digital economy requires high practical ability of students. In order to cultivate students' ability in real work, it is especially important to strengthen the cultivation of enterprise practice ability.

Applied colleges and universities can cooperate with listed companies to establish practice bases. By cooperating with listed companies, students can have the opportunity to get in touch with the real business environment and understand the operation and business model of the industry. Students can also participate in the company's actual projects and experience first-hand the actual work processes and challenges. Such a practical environment enhances students' practical skills and combines theoretical knowledge with practical skills. The combination between academics and business can be explored through five considerations: the balance between academics and practice, the combination of knowledge and skills, the balance between academic independence and business needs, the balance between knowledge innovation and application innovation, and the balance between education quality and employment competitiveness.

Applied colleges and universities can offer practice courses for digital economy majors. Through the practical courses, students can have the opportunity to learn practical skills related to the digital economy, such as big data analysis, e-commerce platform construction and so on. The practical courses should focus on cultivating students' hands-on ability and problem-solving ability, so that students can continuously improve their skill level in practical operation.

Applied universities can also organize students to participate in practical projects or internships. By participating in practical projects or internships, students can be further exposed to real work and apply what they have learned in practice. The practical projects or internships should be related to the specialization of digital economy, which can enable students to exercise their abilities in real work and enhance their professionalism.

In the process of strengthening the cultivation of enterprise practice ability, applied colleges and universities should also focus on the guidance and assessment of students. Schools can send special tutors or teachers to guide and counsel students in their practical ability. At the same time, the school should also establish a perfect evaluation system to evaluate the students' participation in the cultivation of practical ability, so that problems can be found and solved in a timely manner.

Strengthening the cultivation of enterprise practice ability is an important link in the joint cultivation of undergraduate specialties in digital economy. Applied colleges and universities can improve students' practical ability by cooperating with listed companies, offering practical courses, and organizing practical projects or internships. Schools should also focus on the guidance and assessment of students to ensure that students can continuously improve their abilities in practice. Through the implementation of these measures, the practical ability of students can be effectively improved, laying a solid foundation for their future employment and development.

4.4 Improving the sustainability of the joint training model

The key to solving the problem of sustainability of joint training between schools and enterprises is in establishing long-term cooperative relationships.

Through the establishment of long-term and stable cooperative relationships schools and enterprises sign cooperative agreements and make long-term development plans. Through the use of resource sharing and mutual benefits, schools can provide research resources, faculty and student expertise, while enterprises can provide practice opportunities, industry insights and financial support. Through the complementarity and sharing of resources between the two sides, longer-term cooperation and joint development can be realized. With the rapid development in the field of digital economy, schools and enterprises need to maintain a continuous industry orientation and make timely adjustments to the cultivation objectives and curriculum. Schools can maintain close cooperation and communication with enterprises to understand the development trend and changes in demand in the industry, and update the teaching content and training programs in a timely manner. This helps to ensure

that graduates are equipped with knowledge and skills that are in line with the development of the industry.

Through the practice-oriented education mode, the joint cultivation between schools and enterprises specializing in digital economy can adopt the practice-oriented education mode, focusing on cultivating students' practical application ability. Schools can strengthen the practical teaching link, introduce actual cases and projects, and cultivate students' problem-solving and innovation abilities. Such an educational model can help improve students' competitiveness in employment and enhance the sustainability of the cooperation. Continuous evaluation and improvement: Schools and enterprises should establish a continuous evaluation mechanism to regularly evaluate the joint training mode and make improvements based on the evaluation results. Both sides can collect feedback from students and enterprises to understand the cultivation effect and cooperation results, and

Improvement and optimization can be made for the existing problems. Such continuous evaluation and improvement can help enhance the sustainability and effectiveness of the joint cultivation model.

Schools specializing in digital economy establish stable cooperative relationships with enterprises, realize resource sharing, maintain industry-oriented and practice-oriented education mode, and continuously evaluate and improve the joint cultivation mode to solve the problem of sustainability. The joint cultivation cooperation model helps to cultivate high-quality talents adapted to the needs of the digital economy field and supports the long-term development of schools and enterprises.

5. Conclusion

The joint cultivation of digital economy undergraduate specialties is an effective educational model of cooperation between applied universities and listed companies. The model is oriented to meet the needs of the industry, and through the close cooperation between schools and enterprises, it provides students with all-round teaching and practicing opportunities, and cultivates excellent talents with practical ability and industry literacy. This study draws the following conclusions by analyzing the joint cultivation mode between applied universities and listed companies.

The joint cultivation mode of digital economy can effectively improve the teaching quality of undergraduate specialties. Under the joint cultivation mode of applied universities and listed companies, students can be exposed to the most cutting-edge industry dynamics and practice cases, and understand the real needs of the industry. The cooperation between schools and enterprises can also provide students with better practical platforms and resource support, and cultivate students' innovative thinking and practical ability. This all-round teaching approach helps to improve students' comprehensive quality and competitiveness.

The joint cultivation model of digital economy helps to promote in-depth cooperation between schools and enterprises. By carrying out joint cultivation programs, schools and enterprises can establish a close cooperative relationship and promote cooperation in teaching, scientific research and industrial development. Schools can leverage the resources and expertise of enterprises to enhance their teaching level and scientific research capabilities;

while enterprises can also enhance their competitiveness by absorbing high-quality talents and innovations through cooperation with schools. This kind of in-depth cooperation helps promote the complementarity of advantages and resource sharing between schools and enterprises, and enhances the development level of the whole industry.

There are still some problems with the current model of joint training in the digital economy. The cooperation mechanism between schools and enterprises is not perfect, and the content and form of cooperation lack uniform standards and norms. The articulation between teaching and practice links is not close enough, and there is a large gap between the teaching content of schools and the practical needs of enterprises. The roles and division of responsibilities of teachers or enterprise tutors in joint training also need to be further clarified.

Therefore, in order to further improve the joint cultivation model of digital economy, this paper puts forward the following suggestions. First, the construction of cooperation mechanism between schools and enterprises should be strengthened, the content and form of cooperation should be clarified, and the goals and responsibilities of cooperation between the two sides should be clarified. Secondly, the articulation between teaching and practice should be strengthened, and the school should adjust the teaching content and method according to the industry demand, so that it can be combined with the enterprise practice. At the same time, the training and guidance of teachers or enterprise instructors should be strengthened to enhance their instructing and guiding ability in joint cultivation.

Future research directions could include in-depth studies on the implementation mode, effect and mechanism of joint training in digital economy, and exploring more flexible and diverse cooperation modes and teaching methods. In addition, it can also explore how to further strengthen the cooperation between schools and enterprises and promote the deep integration of teaching, research and industrial development.

The joint cultivation model of the undergraduate program of digital economy has many advantages and highlights, but it still needs to be further improved. By strengthening the construction of the cooperation mechanism between schools and enterprises and the articulation between teaching and practice, the effect and quality of the joint cultivation model can be improved and the goal of the integration of industry, academia and research can be realized. It is hoped that this study can provide lessons and references for other universities and enterprises, and promote the development and innovation of the undergraduate program of digital economy.

Acknowledgments: I would like to express my heartfelt gratitude to all those who supported and helped me in the completion of my dissertation. I am grateful to my peer scholars whose insightful discussions and constructive comments played a key role in my research. Thanks to all those who have provided me with resources and assistance, and whose generous offerings have provided invaluable support for my research.

Funding: This research received no external funding.

Conflict of interest: The authors report there are no competing interests to declare.

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