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Research on Strategies to Improve College Students' Digital Literacy under the Background of Digital Economy

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Abstract: In the context of digital economy driving global growth, cultivating college students' digital literacy has become a strategic focus of digital competition among countries. In view of the problems of imperfect curriculum system, serious pan-entertainment and regional resource imbalance in China's digital literacy cultivation, this paper is based on the talent needs in the AI era. We believe that the curriculum structure should be optimized and teacher training should be strengthened, a teaching model that emphasizes both critical thinking and digital supervision ability should be constructed. At the same time, policy support should be increased to promote balanced resource allocation, providing a systematic reform plan for talent cultivation in the digital economy era.

Keywords: AI; Education; College Students' Digital Literacy

1. The Rapid Development of the Digital Economy Has Put Forward New Demands on the Talent Team

With the in-depth development of semiconductors, artificial intelligence, digital infrastructure, and communication technology, the total value of the digital economy continues to increase. In 2023, the scale of the digital economy of major countries will grow by 7.6% year-on-year, 5.4 percentage points higher than the GDP growth rate. From the perspective of growth rate, the digital economy has become a key force in boosting the global economy.

The important role of the digital economy in national economic development has been widely recognized in many countries. In order to seize the commanding heights of the digital economy, governments have also begun to increase investment and support for the digital economy, and have rushed to introduce a series of strategies for the development of the digital economy.

1.1 Current Status of China's Digital Economy Development

China's digital economy continues to lead the world, reaching a scale of 7.5 trillion US dollars in 2023, accounting for about 18.5% of the global share, ranking second. In the same year, the digital economy accounted for 42.8% of GDP, with a nominal year-on-year growth of 7.39%, and the growth rate has outperformed GDP for 11 consecutive years. The nominal growth rate of GDP in the country was 4.64% that year, and the growth rate of the digital economy was 2.76 percentage points higher, continuously strengthening the role of the economy as an "economic stabilizer" and "accelerator".

1.2 The Background of Artificial Intelligence Puts Forward the Following New Requirements for college Students to Cultivate Digital Literacy

The digital literacy of college students is a multidimensional and comprehensive concept. It not only includes the basic digital skills, critical thinking and ethical awareness that citizens should generally possess in the digital age, but also covers advanced requirements such as innovation ability and professional application[1].

The in-depth application of AI big models is driving industry change, and the cultivation of digital literacy in colleges and universities faces new requirements for intelligent transformation:

1.2.1 Enhanced Demand for Complex Skills

The AI big model has the ability to integrate cross-domain knowledge, break disciplinary boundaries, and integrate multidisciplinary knowledge to solve complex problems. The existing single-discipline education system in universities often focuses on imparting knowledge and cultivating skills in a specific field, but it is difficult to provide such an interdisciplinary and comprehensive knowledge system, which has made it difficult to meet the society's urgent need for compound talents[2].

1.2.2 Innovation and critical thinking.

AI big models can process and analyze massive amounts of data and automate a large number of routine tasks, which has a great impact on teaching and learning methods. However, when faced with scenarios that require high levels of innovation and complex decision-making, human wisdom and creativity are still irreplaceable. For college students, they need to have critical thinking, understand the limitations of AI, and apply it creatively in combination with business needs[3].

1.2.3 AI ethics and compliance awareness.

Behind the convenience of AI big models, there are huge ethical and compliance risks[4]. For example, false information generated by AI may be widely spread, misleading the public, causing social panic or adverse consequences. Another example is that AI may imitate the language style or behavioral characteristics of a specific individual, which may easily lead to potential infringement of individual personality rights[5].

2. Current Status of Digital Literacy Cultivation among Chinese College Students

2.1 Policy Support and University Practice: The Current Status of College Students' Digital Literacy Cultivation.

In recent years, China has intensively issued digital policy documents: in 2021, the Cyberspace Administration of China issued the "Action Outline for Improving National Digital Literacy", in 2023, the National Development and Reform Commission jointly launched the "Digital Economy to Promote Common Prosperity Plan", and in 2024, four departments jointly issued the "Key Points for Improving Digital Literacy" to continuously improve the talent training system in the digital age[6].

In China, university libraries mainly conduct macro reviews and analyses of digital literacy education[7]. There are few specific case studies on digital literacy education practices, and the practice forms are attached to traditional information literacy education, mostly lectures, training, general courses, etc. For example: Shanghai Jiao Tong University has built a digital literacy cultivation system for undergraduate research ability improvement in the form of training and WeChat tweets[8].

2.2 Higher Education Leans Towards Digital Economy: Professional Construction and Competition Guidance.

Chinese higher education is accelerating its embrace of the digital economy. In 2022, the Ministry of Education issued the "Catalogue of Disciplines and Majors for Postgraduate Education (2022)", and the economic category added a new member, "digital economy". As of 2024, there are 106 enrollment units that offer master's programs in digital economy, which fully demonstrates the rapid rise and wide recognition of the digital economy major in higher education.

At the same time, national innovation and entrepreneurship competitions have significantly strengthened the digital economy orientation: the 8th China International "Internet +" Competition in 2023 clearly lists "digital economy" as a key area. Projects are encouraged to develop around artificial intelligence, big data, blockchain and other directions. In terms of the Challenge Cup, the 13th "Challenge Cup" China College Students' Entrepreneurship Plan Competition in 2022 lists "digital economy" as one of the five major themes, covering smart cities, digital technology applications and other fields.

Through the dual-wheel drive of discipline construction and competition leadership, colleges and universities are accelerating the cultivation of compound talents that adapt to the digital economy era.

2.3 The Issue of Cultivating College Students' Digital Literacy under the Background of Digital Economy

China faces a series of complex problems in improving college students' digital literacy:

2.3.1 The digital literacy education system is not yet perfect.

Although digital literacy has been mentioned as an important educational goal in China, the current digital literacy courses in China's higher

education are generally insufficient and the content is single. The digital literacy courses in colleges and universities are unreasonable, lacking in systematization and coherence, and the course content is outdated, which cannot meet the new requirements for college students' digital literacy in the digital economy era.

The digital teaching staff is also not optimistic. Digital teachers are rare, and they are basically supported by teachers in economics, accounting, e-commerce and other majors that are related to digital technology. Some teachers themselves have low digital literacy and lack in-depth understanding and application capabilities of digital technology. They cannot effectively guide students to improve their digital literacy in teaching[9].

2.3.2 Pan-entertainment leads to lack of digital literacy among college students.

In the context of the rapid development of the digital economy, emerging media such as Internet social platforms and short videos have promoted the phenomenon of pan-entertainment. Chinese young people spend 50% of their free time online, which is much higher than the average level in the United States (30%) and the United Kingdom (28%). They mainly use it for entertainment and rarely spend it on learning, innovation or even creating productivity[10].

2.3.3 Digital divide and social inequality further widen.

Due to regional differences, there is a clear imbalance in the digital literacy education of Chinese college students. In some colleges and universities in poor areas or second- and third-tier cities, the lack of resources and courses makes it difficult for some college students to obtain adequate digital literacy education[11].

3. Countermeasures and Suggestions

Combined with the problems mentioned above, targeted suggestions are put forward from the aspects of education system, social environment and resource allocation.

3.1 Strengthen Teacher Development

Increase investment in digital literacy training for teachers, regularly organize teachers to participate in digital technology training and academic exchange activities, and improve teachers' digital literacy level and teaching ability. At the same time, encourage teachers to conduct digital literacy education research and explore effective teaching methods and strategies.

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3.2 Fostering Critical Thinking and Strengthening Regulation

Fostering critical thinking and strengthening regulation

In order to solve the problem of lack of digital literacy among college students caused by pan-entertainment, we can guide students to conduct critical discussions on social issues on online platforms through social media, and integrate digital literacy cultivation into participatory learning that interweaves virtual and real.

Relevant departments should strengthen supervision of the digital entertainment industry, formulate strict industry norms and standards, and regulate the production and dissemination of entertainment content. Excessively entertaining and vulgar content should be strictly reviewed and controlled to reduce the impact of bad information on college students.

3.3 Strengthen Policy Support and Promote Resource Sharing

The government should increase investment in digital education, especially in colleges and universities in underdeveloped areas, and provide more hardware support. The government should encourage and support the sharing of digital education resources, promote the flow of high-quality education resources to poor areas, and narrow the digital literacy gap between regions.

4. Conclusion

In the era of booming digital economy, college students, as the backbone of future society, have a direct impact on the high-quality development of the country's future digital economy. This article deeply analyzes the actual needs and existing problems of cultivating college students' digital literacy under the background of digital economy, and puts forward targeted countermeasures and suggestions. It is believed that the digital literacy of Chinese college students will be significantly improved in the future, so as to better adapt to the new requirements of the digital economy era and

contribute to the sustainable development of China's digital economy.

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