

Research on the Dilemma and Enhancement Path of College Students' Digital Literacy under the Digital China Strategy

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Abstract: In the context of the Digital China Strategy, the enhancement of college students' digital literacy has become the key to the country's digital development. Currently, college students' digital literacy faces three major dilemmas: first, the uneven development of regional digital skills; second, the imperfection of the digital literacy education system in colleges and universities; and third, the weakness of college students' information screening and critical skills. To address these problems, it is necessary to build a multi-party collaborative enhancement path, including promoting digital resource sharing, deepening curricular reform, improving the assessment system, and strengthening digital ethics education. Through systematic initiatives, high-quality talents adapted to the digital era can be cultivated to help the construction of Digital China and the modernization of education.

1. Introduction

Driven by the digital China strategy, digital technology has become an important supporting force for national development. Digital technology not only provides a new perspective for human beings to understand the objective world and transform the subjective world, but also makes people's thinking mode and lifestyle undergo profound changes. Digital literacy has become an important indicator of the degree of social civilization, the level of national quality, and the soft power of the country. The Party and the State attach great importance to the enhancement and cultivation of digital literacy for all people, and have repeatedly promulgated and introduced digital literacy-related policies and documents, requiring the strengthening of digital literacy education for all people. The Outline of the Fourteenth Five-Year Plan for the National Economic and Social Development of the People's Republic of China and the Vision 2035 emphasizes that "education and training in digital skills for the whole population should be strengthened, and digital literacy for the whole population should be popularized and enhanced[1]. As the backbone of the country's future development, the digital literacy level of college students is directly related to the improvement of the country's digital governance capacity and the construction of an innovative country. Therefore, improving students' digital literacy and ability is the necessary way to build a strong educational country, build a strong digital country, and cultivate new people for the development of digital economy.

2. The Connotation of Digital Literacy of College Students

Domestic definition of digital literacy, the current more comprehensive definition is the Central Network Security and Informatization Committee issued the “Enhancement of Digital Literacy and Skills of the People's Action Outline” (hereinafter referred to as the ‘Outline’) pointed out that: "the digital society citizens should have the digital access to the learning and working life, production, use, evaluation, interaction, sharing, innovation, safety and security, ethics and morality, and a series of quality and ability collection". Digital literacy not only includes the skills to sensitively acquire, identify and internalize digital information, apply and innovate digital content in learning, work and life, but also includes human digital awareness, thinking, emotions, values, rule of law, etc., which is a comprehensive category with rich connotation. Digital literacy is the inevitable result of the development of digital technology, which, as a kind of digital thinking and digital values, is changing the traditional thinking mode and values, and becoming a key ability for people to adapt to changes, grasp opportunities and realize self-worth.

Digital literacy of college students is a comprehensive, dynamic and growing concept. With the iterative updating of technology, new literacy concepts spring up, and digital literacy is a comprehensive concept in the digital era. Accordingly, digital literacy is not fixed and static, but dynamic, and should be adjusted in time with the changes of technology and social environment, while cultivating the lifelong learning ability of college students and being able to maximize the use of new technologies to optimize the learning efficiency and results [2].

Combined with Chinese reality and Chinese characteristics, the connotation of college students' digital literacy mainly contains the following aspects.

First, the ability to cognize, collect, acquire and process digital information. With the rapid development of artificial intelligence, big data, cloud computing and other emerging technologies, college students should apply Marxist stance, viewpoints and methods to correctly understand and scientifically grasp the political, economic and cultural attributes of information; they should consciously filter and save relevant information, and reasonably filter and categorize relevant information when using smartphones, office software, search engines and other digital tools to retrieve and acquire information, Organize and collect relevant information skills. Second, the ability to analyze, communicate, identify and evaluate data. Data analysis is the foundation and prerequisite for the cultivation of digital literacy. It is a basic skill for college students to use digital tools to analyze and judge relevant data and information, to remove the roughness and extract the essence from the rich data, to remove the falsehoods and save the truths, to accurately grasp the relationship between different data, and to accurately grasp the scientific method of data analysis. At the same time, they should use digital information to express their reasonable demands, and continuously improve their ability to analyze, communicate, identify and evaluate digital information in the process of critical thinking about it. Third, the ability to protect digital security in solving digital problems. College students may face digital problems such as digital infringement, digital injustice, digital divide and other digital problems in the course of their daily study and life, which pose serious challenges to digital security. Timely and effective solutions to various digital issues that threaten digital security. At the same time, college students should establish digital thinking and innovation consciousness, pay close attention to the latest achievements in the field of digital technology, creatively use the cutting-edge digital technology to solve real problems, strengthen the learning of digital security related theories, take the initiative to master the digital security knowledge, and effectively safeguard the digital security[3].

The digital literacy of college students is not only related to their personal development, but also closely related to the overall progress of society, economic prosperity and the innovation of education mode. Enhancing the digital literacy of college students has far-reaching and extensive value

implications.

3. The Dilemma of College Students' Digital Literacy under the Digital China Strategy

Under the background of the Digital China Strategy, digital literacy has become a key ability for college students to adapt to the future development of society. However, at present, the digital literacy of college students in China is still facing many dilemmas, which are mainly reflected in the following aspects

3.1 Uneven Development of Digital Skills

There is a significant imbalance in the development of digital skills in China between different regions, and this difference is not only reflected in the infrastructure and the supply of resources, but also in the level of digital literacy and the structure of talents. The eastern region of China is in a leading position in the development of digital skills, with a clear advantage in the digital talent pool and the application of digital technology; while the central region is characterized by “the development of digital technology helps to alleviate the imbalance between urban and rural education” in terms of the development of digital skills, and the study shows that the central region has been able to improve its education through online education, distance learning and education informatization infrastructure. The study shows that the central region has improved the educational resources and capabilities of students and teachers through online education, distance learning and the construction of educational informatization infrastructure; the western region is in a relatively backward state in the development of digital skills, and its digital infrastructure construction, application of digital technology and digital literacy level are all lower than the national average level [4].

3.2 Digital Literacy Education System in Colleges and Universities is Lagging Behind

First of all, in terms of curriculum, the content of current digital literacy education courses in colleges and universities is relatively fragmented and lacks systematicity and coherence, mostly based on the basic content such as information retrieval, data statistics, etc., which fails to integrate digital literacy with disciplines in depth, and lacks the systematic cultivation of higher-order competencies, such as digital innovation, digital ethics, and so on. In addition, some colleges and universities treat digital literacy education as elective courses or short-term lectures, with low student participation, making it difficult to form a mechanism for continuous learning.

Secondly, insufficient faculty strength is an important problem facing digital literacy education in colleges and universities at present. At present, digital literacy education is mostly performed by librarians on a part-time basis, and the lack of teachers with professional backgrounds makes it difficult to meet the diverse learning needs of students. At the same time, the teachers' digital literacy training is single-form, shallow, and lacks hands-on training and higher-order ability cultivation, which leads to the problems of “insufficient skills, weak awareness, and lack of application” in digital teaching. In addition, the incentive mechanism and guarantee mechanism for teachers to improve digital literacy are not sound, which also affects their enthusiasm to participate in digital literacy education.

Then, the lack of practice platform further restricts the effectiveness of digital literacy education in colleges and universities. Currently, there are deficiencies in the construction of digital teaching platforms in colleges and universities, and it is difficult to effectively open up between the course management and teaching systems, and it is difficult to collaborate with the intelligent equipment in the smart classroom, so it is not possible to realize the dynamic data collection and analysis of the teaching process. At the same time, digital literacy education lacks a school-based blended teaching

platform, which is difficult to support the innovation of classroom teaching and the improvement of students' practical ability. In addition, the number of practical projects in digital literacy education is small, the cooperation between schools and enterprises is not close enough, and the cultivation of students' application ability in the real digital environment is insufficient.

Finally, the assessment mechanism of digital literacy education system in colleges and universities has obvious deficiencies, which has become an important factor restricting its effective promotion. On the one hand, the existing assessment system is mostly based on technical operational skills, neglecting the comprehensive evaluation of higher-order competencies such as information screening, critical thinking, and digital ethics in digital literacy. On the other hand, assessment methods often rely on quantitative indicators such as examination results and online tests, and lack the measurement of qualitative dimensions such as practical ability, innovation ability and cognitive ability [5].

3.3 Insufficient Information Screening and Critical Ability of College Students

College students, as the aborigines of the Internet era, the ability to acquire, process and utilize information has become one of the necessary qualities for college students. However, in the ocean of information, they do not know how to find the information they need or how to judge the authenticity and reliability of the information, which causes them to pay attention to and receive only the information that conforms to their own views and interests, thus ignoring and rejecting other information and views, resulting in the phenomenon of “Information Cocoon”, which is very important to the ability of college students to acquire, discriminate and utilize information. This leads to the phenomenon of “information cocoon”, which adversely affects college students' information acquisition ability, information discernment ability and information utilization ability. Finally, some college students lack information morality and copyright awareness, and engage in plagiarism, misappropriation and other malpractices. In the process of academic research and thesis writing, they often directly copy and paste the contents on the Internet or use other people's works without authorization from the authors. These behaviors not only violate the copyright of others' works, but also affect students' academic reputation and career development. In addition, there is an increasing amount of false information, AI-generated content and other new forms of information on social media, and college students have obvious shortcomings in identifying their authenticity and reliability, and they are easily misled and even misbelieve in rumors, which affects their judgment and the formation of their values, and makes college students fuzzy and lose their correct judgment. Under the negative influence of the “information cocoon”, due to the lack of new content and the injection of “living water”, college students build higher and higher information barriers for themselves, and become more and more immersed in homogenized information, and gradually lose their correct judgment and values [6]. This has not only weakened the rational thinking of college students, but also weakened their ability to think. This not only weakens the rational thinking ability of college students, but also negatively affects their mainstream ideological identity and the effectiveness of ideological and political education.

These dilemmas not only affect the improvement of college students' digital literacy, but also restrict the smooth implementation of the Digital China strategy. Therefore, colleges and universities must face up to these problems and take effective measures to solve them.

4. The Enhancement Path of College Students' Digital Literacy Dilemma under the Digital China Strategy

Digital literacy is a cross-field, multi-dimensional and continuously developing concept and practice system [7], so to enhance college students' digital literacy, the government, colleges and universities and enterprises need to work together to build a systematic digital literacy enhancement

path.

4.1 Promote the Sharing of Digital Resources to Build a Digital Literacy Education Ecology

Digital literacy education is a long-term project that requires the joint efforts of colleges and universities, the government, enterprises and all sectors of society. Colleges and universities should build a digital literacy education ecosystem to form a favorable atmosphere of multi-party collaboration, resource sharing and sustainable development. Digital divide is one of the important problems faced by college students in improving their digital literacy. Colleges and universities should strengthen the sharing of digital resources, and provide equal digital learning opportunities for students from different regions and economic backgrounds by building a digital resource sharing platform; introduce enterprise resources, strengthen school-enterprise cooperation, and provide students with internships and employment opportunities, so as to enhance their practical application of digital literacy; At the same time, they should actively respond to the national digital China strategy, incorporating digital literacy education into school development planning and formulating scientific and reasonable digital literacy education goals and curriculum systems.

4.2 Deepen the Curriculum Reform and Improve the Assessment System of Digital Literacy

Colleges and universities should build a curriculum system with digital literacy as the core according to the connotation and goals of digital literacy, integrate digital literacy into the teaching of various disciplines, and realize interdisciplinary integration. In addition, teachers are the key force of digital literacy education. Colleges and universities should strengthen the training of teachers' digital literacy and enhance their ability to apply digital technology and teaching innovation. At the same time, a teacher digital literacy evaluation mechanism should be established to motivate teachers to continuously improve their digital literacy skills.

At present, the evaluation of digital literacy in colleges and universities is relatively single and lacks a scientific and systematic evaluation system. Therefore, colleges and universities should establish a diversified digital literacy assessment system, combining quantitative and qualitative evaluation methods to comprehensively assess the level of students' digital literacy.

4.3 Strengthen Digital Ethics Education to Enhance Students' Digital Identity

Digital literacy not only includes technical skills, but also involves moral norms and ethical awareness. Colleges and universities should strengthen digital ethics education, guide students to establish correct digital values, and enhance their digital moral awareness and sense of responsibility. At the same time, network security education should be strengthened to enhance students' network security awareness and preventive capabilities. The enhancement of digital literacy requires the active participation and recognition of students. Colleges and universities should strengthen the publicity of digital literacy, and enhance students' awareness of digital literacy and sense of identity by organizing digital literacy lectures, digital culture festivals and other activities. At the same time, students should be encouraged to actively participate in digital literacy practice activities to enhance their practical ability and innovative consciousness of digital literacy.

5. Conclusion

Under the background of digital China strategy, the improvement of college students' digital literacy has become an important task for education reform and talent cultivation in colleges and universities. At present, college students still face many difficulties in digital literacy, such as uneven

development of digital skills, lagging behind of the digital literacy education system in colleges and universities, and insufficient information screening and critical ability of college students. For this reason, a systematic digital literacy enhancement path should be constructed to improve the digital literacy level of college students, in order to cultivate high-quality and innovative talents for the construction of digital China, and to promote the in-depth development of China's education modernization and digital transformation.

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