

Information fragmentation and quality of the student network Education

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Abstract. With the rapid development of information technology, China has entered the era of new media, which has had a significant impact on online education for students. This article discusses the concept of information fragmentation from the perspective of big data. By analyzing the positive and negative effects of information fragmentation on the formation of student networks, we investigate the relationship between information fragmentation and the effectiveness of student network literacy education. We also use existing educational resources to explore new strategies for students' online literacy and strive to improve the quality of quality online education for students through various educational channels.

1 Overview of Big Data, Information Fragmentation, and Network Literacy

Big data refers to a new service format that uses information technology to collect and store distributed data resources, and explores their potential value by analyzing the correlation between data.

Big data, also known as massive data, refers to the vast amount of information involved that cannot be captured, managed, processed, and organized into information that helps businesses make more positive decisions within a reasonable time frame through mainstream software tools. With the advent of the cloud age, big data has also attracted more and more attention. The analyst team believes that big data is commonly used to describe the large amount of unstructured and semi-structured data created by a company, which can take too much time and money to download to relational databases for analysis. Big data analysis is often associated with cloud computing, as real-time analysis of large datasets requires frameworks like MapReduce to allocate work to dozens, hundreds, or even thousands of computers. The development of data technology is accompanied by the evolution of data application requirements, which affects the way and scale of data input production. Data has gradually become a key factor in promoting production in the corresponding technological and industrial background evolution. Therefore, the term "data element" refers to the digital economy and emphasizes the value of data in promoting production in the context of discussing productivity and production relations. Data elements refer to computer data and its derivative forms that are aggregated, organized, and processed according to specific production needs. The original dataset, standardized dataset, various data products, and systems, information, and knowledge generated based on data that are input

into production can all be included in the scope of data element discussion.

Big data requires distributed architecture, distributed processing, and cloud virtualization technology to extract data resources in a distributed manner from big data. "Fragment" in information fragmentation, also known as "fragmentation", refers to dividing complete information into multiple empty blocks. In the information age, when reading information on online media, people often encounter a large amount of scattered content in a short period of time, which leads to an easy to read phenomenon and affects the formation of deep reading habits. Scientists have conducted various analyses on the reasons for information fragmentation. Researchers point out that, for example, due to the explosive growth of online information, the exchange value of fragmented information exceeds its usage value, which helps to develop complete information into fragmented information with high commercial attributes. In addition, some scientists have proposed that information fragments can be divided into factual information fragments and viewpoint based information fragments. The fragmentation of information is closely related to social diversity.

The new business environment originates from a completely new social form, where people understand the world through fast food media, comfort their minds through consumption, release pressure through ubiquitous entertainment, establish real connections with the world through virtual networks, and collide and blend with tradition and modernity, global and local, virtual and reality, making everything in the entire business environment so fragmented. The Internet has made people's lives more fragmented and their attention more dispersed, but it has also changed the way young people pay attention to public topics. For social networking sites, many young people do not rely on

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opinion leaders, such as media, scholars, officials, etc., to follow public topics, but on friends on social networks. The Internet can quickly stimulate emotions, and young people's enthusiasm for participating in social activities will also be high. This kind of emotionalization makes online comments somewhat false.

Network literacy, also known as digital literacy, refers to the ability of people to use computers to combine, understand, and analyze existing network resources to identify information. [1]In the context of rapid development of information technology, network ability is a fundamental skill that everyone must possess. It requires people to have a systematic understanding of internet tools, understand engines, resource classification, and integration operation methods, and be able to independently conduct their own behavior in accordance with relevant laws and regulations and personal moral cultivation.

Digital Literacy, also known as Digital Literacy. It is the ability to use computer and network resources to locate, organize, understand, evaluate, and analyze information. The overall planning and knowledge of network literacy education, including the ability to distinguish network information, network norms, and moral cultivation that minors should also possess. At the 2010 National People's Congress and Chinese People's Political Consultative Conference (CPPCC), 15 members jointly proposed to vigorously strengthen the education of online literacy for minors, actively promote the integration of online literacy education into schools and classrooms, make online literacy education a compulsory education curriculum teaching content, and comprehensively improve the network application ability and network moral standards of primary and secondary school students. So, we need to deepen the project of striving to be a good internet user in China, solidly carry out internet literacy education for netizens, guide billions of netizens to use the internet in a civilized manner, and continue to carry out a series of themed activities such as campus and youth good internet users with the Ministry of Education, the Central Committee of the Communist Youth League, etc., focusing on improving the internet literacy of young people, guiding them to develop network behavior habits of morality and goodness, and civilized and law-abiding network behavior norms.

2 The Impact of Information Fragmentation on Network Literacy Education for College Students

Firstly, it has a positive impact:

One of them is beneficial for broadening students' horizons. With the advent of the explosive information age, every subject responsible for disseminating scattered information is influenced by their intellectual perspectives and personal experiences. They have different opinions on explaining the same complete information and choose to share scattered information that they believe has great dissemination value. When students read scattered information shared on different communication topics, they can use text systems to

understand society, enrich knowledge, and effectively broaden their horizons.

The online learning resources are extremely abundant, and students can obtain various types of learning materials, such as text, images, videos, audio, etc., through search engines, educational websites, online libraries, and other channels. This allows students to no longer be limited by traditional textbooks and classroom education, and to choose learning content and methods that suit them more freely. [2]The internet provides students with a platform to understand the cutting-edge dynamics of the subject. Students can learn about the latest scientific research achievements, academic trends, and disciplinary development trends through academic websites, professional forums, scholar blogs, and other channels, thereby expanding their horizons and stimulating innovative thinking.

Secondly, it is beneficial for college students to use online learning to acquire professional knowledge. College students have mature thinking development, good self thinking ability, and a strong sense of exploration for certain professional knowledge. In the past, due to the low level of information technology and the lack of online learning resources, college students who wanted to learn a skill or new knowledge in their spare time needed to consult books in the library or consult teachers in person. [3]The learning efficiency was low, and the cost of obtaining information was high, which could easily affect the enthusiasm of college students for self-directed learning. In the current information age, online learning resources are diverse and rich in content. College students can directly learn relevant knowledge on professional websites through computers, and the cost of information acquisition is relatively low.

Students need to choose resources and platforms that are suitable for themselves based on their learning goals and needs. For example, if you need to learn specific subject knowledge, you can choose to register for an online course platform for learning; If you need to discuss and exchange ideas with classmates and teachers, you can join academic forums or social learning groups. And high-quality resources are usually provided by well-known academic institutions, professional educational institutions, or authoritative experts, with high-quality learning content and teaching resources. A reliable platform usually has a good reputation and positive user feedback, providing a reliable learning environment and communication platform. College students can choose trustworthy resources and platforms by consulting evaluations, recommendations, and consulting professionals.

Next is the negative impact:

One is the impact on student learning efficiency. Lack of completeness, low application value, and requiring college students to spend a lot of time on information integration. When college students integrate fragmented information in the system, they are prone to passively reading useless and harmful information, which not only distracts their attention but also leads to their addiction to harmful information, thus wasting their personal time. For example, when college students are

searching for professional knowledge, some learning websites fail to effectively filter out small videos and advertising information, making students easily influenced by images and videos in advertising information during the process of organizing fragmented professional knowledge information, thus opening relevant links and immersing themselves in information unrelated to professional knowledge for a long time, which affects learning efficiency.

Secondly, it affects the information judgment of college students. Although information fragmentation can bring a large amount of information, similar information can be affected by secondary processing in the process of dissemination through different channels, which can easily lead to information distortion and bring erroneous guidance to the network literacy education of college students. [4]This will cause some students to lose confidence in their ability to filter and process personal information, and even lead to a lack of trust in them when reading real information, thereby affecting the accuracy of information judgment among college students, leading to irrational behavior in the later stage and hindering the improvement of their network literacy.

3 The Importance of Conducting Network Literacy Education for College Students from the Perspective of Big Data

One is that the internet has transformed the mode of obtaining fragmented information for college students. Since the rapid development of big data and online media, the channels for college students to obtain information have gradually increased. This situation provides college students with more autonomy, allowing them to flexibly choose relevant channels to search for fragmented information according to their personal reading needs, and the information acquisition mode shifts from offline to online. However, due to the more open nature of the internet, it has greatly transformed the fragmented information acquisition mode of college students, leading to an increase in the probability of college students being exposed to harmful information. If college students have poor information interpretation ability, they are prone to forming erroneous thinking and cognition in fragmented information with poor reading quality, which is not conducive to the physical and mental health growth of college students. Therefore, universities should vigorously cultivate the network literacy of college students, analyze the harmful and fragmented information types that can easily affect their physical and mental health through big data technology, enhance the cultivation of their information discrimination ability, ensure that every student can always adhere to mainstream values, and strengthen their network literacy.

Secondly, the influence of online media is significant. Through big data analysis, it has been found that college students have become one of the important groups in online media. Compared to traditional media, online media is prone to have a profound impact on the

ideological consciousness and behavior of college students. At present, many college students in various universities are accustomed to relying on online media to obtain fragmented information. However, due to the impact of fragmented information quality, the network literacy of college students has not improved with the increase of online time. It is necessary for universities to increase the education of network literacy for college students, so that they can form a correct understanding of fragmented information and avoid misleading negative information.

4 Strategies for Improving the Effectiveness of Network Literacy Education for College Students from the Perspective of Big Data

One is to vigorously promote and educate on the fragmentation of online information. Universities should vigorously carry out propaganda and education on the fragmentation of online information in the process of cultivating the network literacy of college students, actively utilize online and offline communication channels to enrich publicity models, enhance students' awareness of information fragmentation, and enable them to flexibly apply big data technology to search for relevant fragmented information according to their personal reading needs in the future, continuously strengthening the network literacy of college students. For example, colleges and universities can use WeChat official account, Tiktok, Sina Weibo and other platforms to explain the professional knowledge of information fragmentation in a combination of images and text, so that students can be responsible for the operation of accounts and provide opportunities for students to exercise their personal ability to integrate fragmented information. [5]At the same time, colleges and universities can also promote information fragmentation in the form of video on Tiktok, so that students in charge of operations can regularly interview different students' perceptions of fragmented information, and compile them into sitcoms and send them to the Tiktok platform, and encourage our students to actively watch Tiktok videos and express their personal opinions through topic guidance. This can not only create a good atmosphere for fragmented information learning on campus, but also enhance the fun of network literacy education, enabling students to independently learn knowledge related to information fragmentation with a positive attitude, further enhancing the effectiveness of network literacy education for college students.

The second is to strengthen the cultivation of network literacy among college students. From the perspective of big data, with the development of media, the law of information dissemination presents dynamic changes. The fragmented information dissemination channels in different periods are different, resulting in completely different ways of information retrieval and identification. Only through professional course teaching and sharing platforms cannot help college students form good network literacy. Therefore, universities should

actively explore new educational channels based on the actual situation, strengthen the cultivation of students' network literacy, comprehensively cultivate their network literacy through professional lectures and elective courses, and strive to improve the effectiveness of network literacy education for college students in a short period of time. When conducting professional lectures, universities can organize teachers in computer science and journalism to explain knowledge points related to network literacy. Teachers are required to explain the connotation, dissemination characteristics, and retrieval methods of fragmented information in the new era through a combination of theory and case studies, allowing students from different majors to take turns listening at different time periods. If college students have different opinions during the lecture process, they can communicate with teachers in the interactive section. [6] This not only deepens their understanding of information fragmentation, but also ensures that they can instantly grasp the reading methods of cutting-edge fragmented information, gradually enhancing their network literacy.

The third is to build a curriculum system for network information literacy education. From the perspective of big data, with the explosive growth of fragmented information, college students should develop a good network information literacy in combination with the development of the times, systematically understand the use of modern tools and the identification methods of fragmented information. In order to meet the learning and development needs of college students, universities should actively construct a network information literacy education curriculum system and develop a comprehensive curriculum system based on the characteristics of information fragmentation.

The fourth is to design a university resource sharing platform. Information fragmentation is a new type of information sharing model that emerged after the maturity of internet technology. Given that massive amounts of information are prone to low-quality issues after secondary or multiple processing, universities should actively use big data technology to regulate student online usage behavior in education. By designing university sharing platforms, students should be guided to search for fragmented information on the platforms offered by universities in a standardized manner. This can effectively help students filter out a large amount of useless information. Although some universities can now achieve teaching resource sharing, some learning materials are only open to teachers due to download permission restrictions. Universities should allow information technology personnel to open resource download permissions according to the number of students, and require information management personnel to classify and organize fragmented information with high download rates and high value, eliminate fragmented information with duplicate content, so that students can quickly retrieve fragmented information that meets their personal needs and is complete when downloading information on university resource sharing platforms. At the same time, in order to avoid the leakage of valuable literature or learning videos,

universities should encrypt the login method of the resource platform.

From the perspective of big data, information fragmentation has both positive and negative impacts on the effectiveness of student electronic literacy. In the process of organizing education and teaching, universities should explore reasonable educational strategies based on the actual performance of students, build an information literacy education system, and design a university cloud disk resource sharing platform. Strengthen students' internet skills and culture, vigorously promote the fragmentation of online information, improve online education through various means, and involve students in promoting good internet literacy through education.

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