



Research on Information Literacy Education Model of College Students under the Background of New Liberal Arts

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Abstract

This study clarifies the connotation of new liberal arts and information literacy, analyzes the current situation and existing problems of college students' information literacy, and establishes a "four-in-one" college students' information literacy model under the background of new liberal arts, which takes training objectives as guidance, innovative teaching mode as path, integration platform as a guarantee and strengthening teachers as support. It aims to help the industry to better popularize and deepen students' information literacy and improve students' comprehensive information literacy level.

Subject Areas

Library and Information Science

Keywords

Literacy of New Liberal Arts, Colleges and Universities, Information Literacy

1. Introduction

With the development of information technology and the comprehensive coverage of 5G, people's study, work and life are inseparable from information technology. Coupled with the proposal of the new liberal arts, it puts forward new requirements and heights for the cultivation of information literacy in colleges and universities. The cultivation of information literacy has attracted the attention of many scholars at home and abroad. This paper analyzes the current situation and existing problems of college students' information literacy, and establishes a new information literacy training mode to provide a reference for the

improvement of college students' information literacy.

2. The Meaning of New Liberal Arts and Information Literacy

2.1. The Proposal of New Liberal Arts

The new liberal arts are a major measure of discipline construction proposed by the Ministry of education according to the characteristics of current discipline development. In 2019, it was called the “start year of new liberal arts construction” by Wu Yan, director of the Department of higher education of the Ministry of education. He proposed that the construction of new liberal arts needs three steps: accelerating the innovation of theoretical system, strengthening the connotation construction of traditional liberal arts and increasing classroom revolution [1]. In 2021, the Ministry of Education issued the notice of the general office of the Ministry of education on recommending new liberal arts research and reform practice projects and the guide to new liberal arts research and reform practice projects [2], which put forward the line and policy of new liberal arts construction. From the above point of view, under the current new liberal arts background, the ability training education of college students needs to pay attention to the intersection and integration of disciplines.

2.2. Definition of Information Literacy

Information literacy was first proposed by Paul Zurkowski, President of the American Information Industry Association (AIAA). He defined information literacy as “the technology and skill of using a large number of information tools and main information resources to solve problems” [3]. In 1992, Christina S. Doyle adopted the method of Delphi cycle questionnaire and combined the opinions of 136 respondents in the United States, Redefined Information Literacy: “People with information literacy can identify their own information needs, understand that accurate information is the premise of making reasonable decisions, form problems based on information needs, identify potential information resources, formulate successful search, judgment and inductive information retrieval strategies, and integrate new information into their existing information database. They can use information to make judgments and solve practical problems in learning and life” [4]. At the expert meeting on Information Literacy in 2003, The National Information Forum (UNESCO) and the American Council of Library and Information Sciences (NCLIS) announced: “Information literacy is an ability that can determine the demand for information, find, evaluate, organize and effectively use, create and exchange information, and use it to solve practical problems. Information literacy is a prerequisite for people to effectively participate in the information society and a basic human right for lifelong learning. Without information literacy, the information society will not realize its full potential” [5]. Ni C. reconstructs the design in the aspects of basic knowledge, professional quality, application of statistical tools, practical innova-

tion and cross-cultural cooperation, forming a training path framework, enabling students to form the ability to match the professional core quality in the new liberal arts era. Then the fuzzy comprehensive evaluation matrix is further constructed, and the index evaluation system based on the development of core literacy is established [6]. In China, Ma Haiqun, Zhong Zhixian, Zhang Yibing and others have respectively defined the broad information literacy and ability Division [7] [8] [9].

Based on the understanding and views of scholars at home and abroad on information literacy, information literacy can be roughly divided into three aspects: first, the search, utilization and diffusion of information; second, the selection and utilization of useful information; third, the screening and elimination of invalid information.

3. Research on Information Literacy in Colleges and Universities

The retrieval formula “WC = information literature” is used to search in the foreign language database WOS (web of Science). The result is a total of 24,629 relevant data. The retrieval time is February 25, 2022. The specific data of each year are shown in **Figure 1**.

Import these data into Cite-Space (version 5.7.r5w). CiteSpace is a software developed by Chaomei Chen, Drexel University. This is a software used in scientific literature to identify and display new trends and trends of scientific development.

The node type is “reference”, the time zone span (slice) is 1 year, and the data filtering is set to Top50. The path finding network algorithm is used to cut the network as a whole, and the knowledge map with $n = 98$ and $E = 342$ is obtained; then cluster analysis is carried out on the network. The clustered tags are extracted from the keywords of the cited literature, and the tag word extraction method is LLR. Through keyword clustering, it is found that foreign research on information literacy mainly focuses on Information Literacy Education of university libraries; evaluation criteria of information literacy, information literacy, health literacy, social media, reading ability, etc. (see **Figure 2**). Generally speaking, foreign countries mostly use the combination of quantitative and qualitative methods for research, including experimental method, questionnaire survey method, observation method, interview method and so on.

In China, the Ministry of Education issued the code for the construction of digital campuses in colleges and universities (Trial) in march2021 to promote the education informatization 2.0 action plan, actively develop “Internet + education”, promote the deep integration of information technology and education and teaching, improve the informatization construction and application level of colleges and universities, and support the high-quality development of education [10]. In the specification, the concept, constituent elements and training methods of information literacy are described.

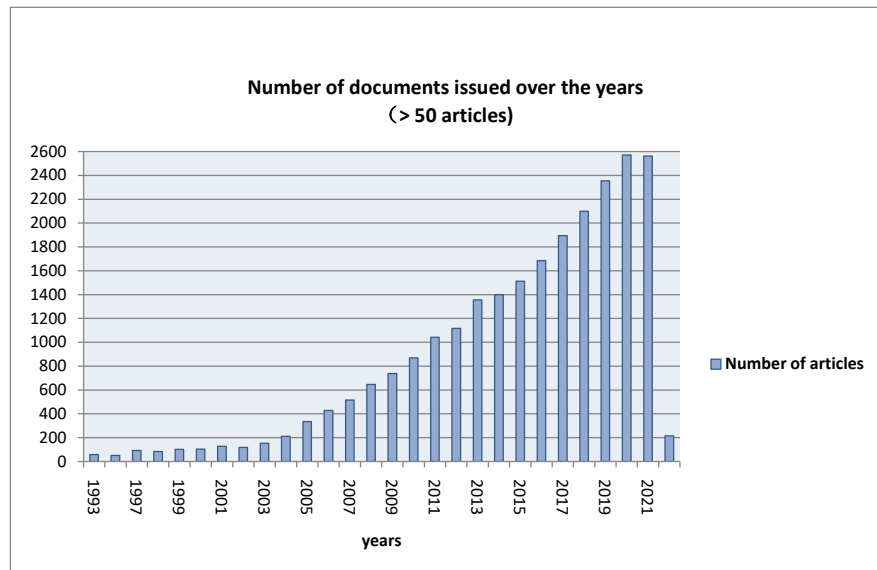


Figure 1. Number of documents published in foreign information literacy related research over the years.

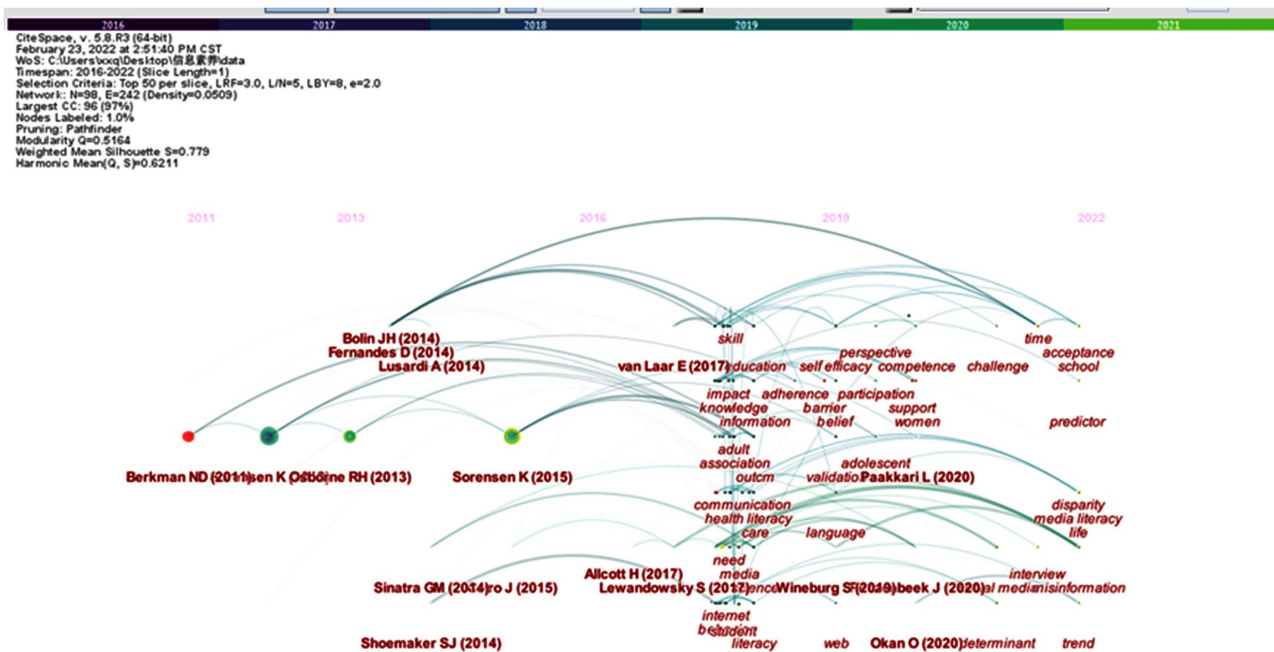


Figure 2. Foreign information literacy research keyword cluster analysis.

Using “information literacy” as the theme word, 38,100 relevant documents (since 1986) have been retrieved on the CNKI, including 3417 degree papers and 794 conference papers. From Figure 3, we can see the research trend of information literacy in China. These documents are mainly concentrated in more than ten years after 2006. From Figure 4, we can find the distribution of domestic research topics on information literacy.

Domestic research on University Information Literacy mainly starts from the conditions affecting the formation of university students’ information literacy,

focusing on the construction of University Library and the role of library, the role of university literature retrieval course, computer network and subject courses. Compared with foreign countries, there are relatively few standards on the evaluation of information literacy in China. Domestic research methods include literature method and investigation method.

To sum up, there have been many achievements in the research on college students' information literacy at home and abroad, but there are still deficiencies in the research between theory and practice. The research results are not comprehensive enough and have certain limitations. This paper is mainly to establish the information literacy education model of college students under the background of new liberal arts; help people in the industry better popularize and deepen students' information literacy, and improve students' comprehensive information literacy level.

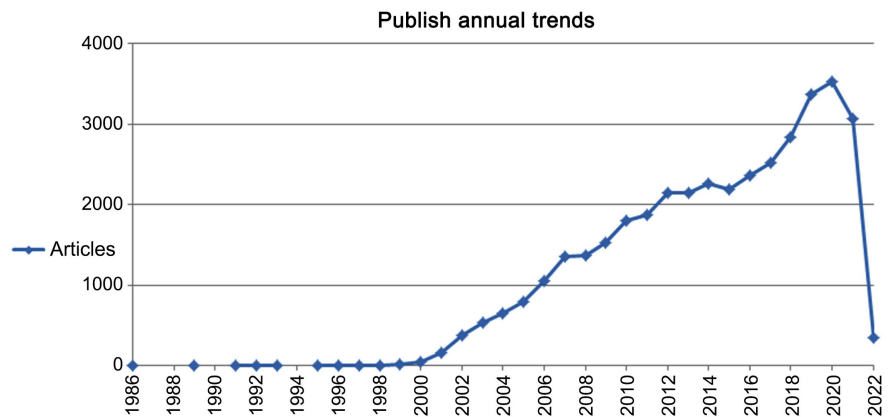


Figure 3. Analysis on the research trend of information literacy in China.

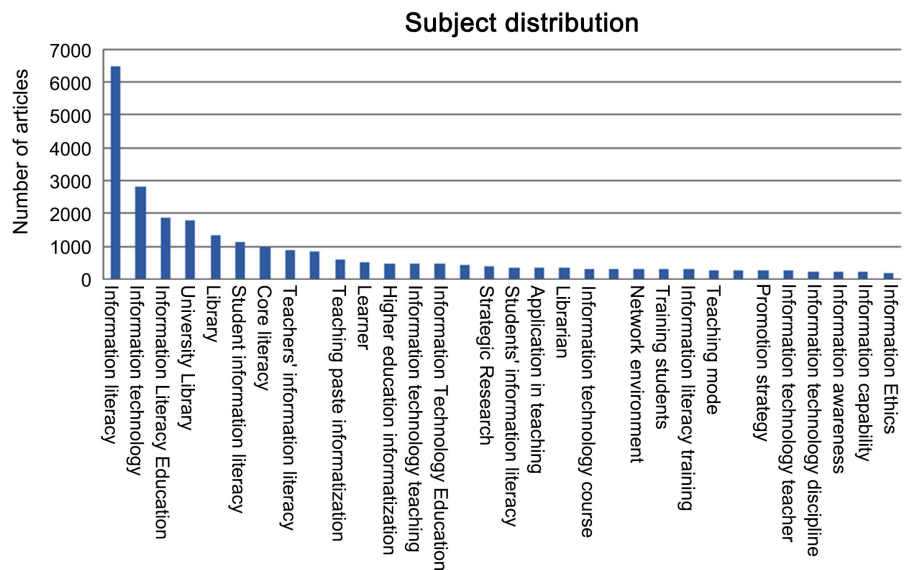


Figure 4. Analysis on the theme of information literacy in China.

4. Current Situation and Problems of College Students' Information Literacy and Its Training under the Background of New Liberal Arts

4.1. Current Situation and Problems of College Students' Information Literacy under the Background of New Liberal Arts

Under the background of the new liberal arts, information literacy education has the characteristics of interdisciplinary, comprehensive and comprehensive. The current situation of information literacy education of college students includes two aspects: information literacy ability and information literacy consciousness.

4.1.1. Current Situation of College Students' Information Literacy Ability under the Background of New Liberal Arts

Information ability refers to the ability of students to retrieve, screen, sort, absorb and spread information according to their needs, as well as the ability to process and innovative information. Through the survey (as shown in **Figure 5**), 2.8% of students are not very good at using browsers and search engines to retrieve information; 9.6% of students are unwilling to share information with others; another 20.5% of the students cannot make good use of the information obtained to solve problems in study or life.

Some students in colleges and universities are lack of information retrieval, analysis, screening, utilization and evaluation, and their information literacy ability needs to be improved. Therefore, colleges and universities need to establish a new information literacy training mode, change teaching methods, and stimulate students' enthusiasm to improve their information literacy ability.

4.1.2. Current Situation of College Students' Awareness of Information Literacy under the Background of New Liberal Arts

Information awareness refers to the awareness of information acquisition and collection, as well as the awareness of information updating and discrimination. With the information explosion, the society puts forward higher requirements for the information consciousness of college students. Only by strengthening the information consciousness can we better become the new liberal arts compound talents in the emerging information age. College students' response to information awareness is weak, lack of attention to information and their related majors, and the utilization rate of China Academic Journal Network (CNKI) is low.

4.2. Problems in the Cultivation of College Students' Information Literacy under the Background of New Liberal Arts

Through investigation, it is found that there are still some problems in the cultivation of college students' information literacy:

- 1) The relevant departments of colleges and universities lack attention to the cultivation of information literacy: in some schools, the teaching method of information literacy is monotonous, and the teaching process lacks students' subjective initiative; the teaching content of information literacy is somewhat old,

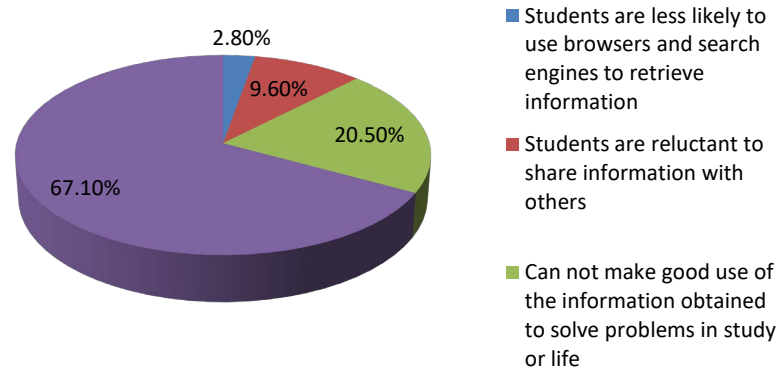


Figure 5. Current situation of college students' information literacy ability.

which is limited to the basic computer ability and literature retrieval course; some schools do not offer literature retrieval courses and information literacy related courses.

2) Lack of sufficient attention to the information infrastructure of University Libraries: as an important department of information literacy training, domestic university libraries have idle space and insufficient purchasing power of electronic resources.

3) The current situation of information literacy curriculum is not ideal: some colleges and universities do not offer information retrieval courses, or in the form of elective courses, lectures and so on; in addition, although colleges and universities have set up information retrieval courses or information literacy courses, they have not integrated professional courses; or the information literacy courses offered in colleges and universities adopt the "one size fits all" approach, and there are no hierarchical information literacy courses for different academic stages, so the teaching and training effect is not good.

5. Information Literacy Model of College Students under the Background of New Liberal Arts

The construction of new liberal arts emphasizes breaking the traditional thinking mode of liberal arts, aiming at the intersection and integration of multiple disciplines and aiming at cultivating comprehensive talents. In this context, the cultivation of college students' information literacy needs to establish a "four in one" model with training objectives as the guidance, teaching mode as the path, platform as the guarantee and teachers as the support, as shown in **Figure 6**.

5.1. Keep Pace with the Times and Formulate the Objectives of Information Literacy Training

Under the background of the new liberal arts, colleges and universities need to be based on the new era, comply with the rapid development of society, establish a new concept of talent training, form a general pattern of interdisciplinary and new educational concept, and strive to cultivate compound talents with new theories, new technologies and new methods.

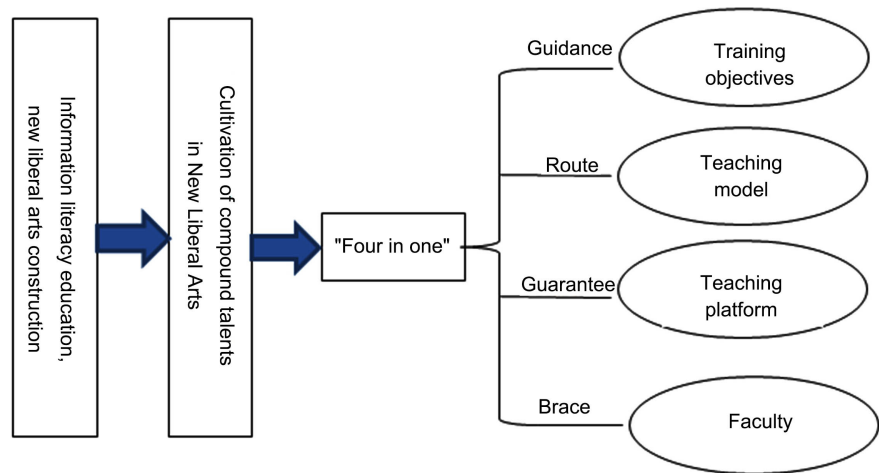


Figure 6. Information literacy model of college students under the background of new liberal arts.

5.2. People Oriented, Innovative Teaching Mode as the Path

Colleges and universities should innovate the teaching mode when carrying out information literacy teaching activities. Firstly, colleges and universities need to set up professional information literacy courses, integrate information literacy into professional courses, and comprehensively cultivate college students' information literacy. Secondly, through practical problem analysis, case simulation teaching and other modes, guide students to carry out embedded and subjective learning, and improve teaching quality and teaching effect. Finally, colleges and universities can carry out targeted information literacy teaching according to the information needs of different grades and different learning stages, improve students' attention to information, enhance their access to and utilization of information, and cultivate their information awareness.

5.3. Deeply Rooted and Guaranteed by Integrating Various Platforms

Firstly, the university can increase the construction of information infrastructure, establish an educational virtual simulation training base, build and improve the digital teaching platform, integrate the relevant professional courses of various colleges and departments, establish a resource sharing system of colleges and universities, accelerate the construction of information technology of higher education, promote the construction of scientific research cooperation and knowledge sharing platform of colleges and universities, and provide students with the resources needed for graduation design, information retrieval, training simulation and so on, Build a good learning atmosphere.

Secondly, colleges and universities need to speed up the construction of library informatization. Further increase the investment and optimization of traditional paper resources in the library, and reduce the idle space of the library. Establish an efficient library digital service system and increase and improve

standardized multimedia reading rooms. Expand the digital resource database of university library, increase the publicity of the use of resources, and meet the needs of students for information resources.

5.4. Brainstorming and Strengthening Teachers as Support

Teachers are the locomotive of information literacy education. From the perspective of teachers' strength, colleges and universities need to do the following to strengthen teachers' strength: first, colleges and universities need to take teachers' information literacy as the basic ability of teachers, carry out long-term continuing education for teachers, and ensure the continuity and normalization of the improvement of teachers' information literacy; secondly, to improve students' information literacy ability, colleges and universities need to establish a reasonable team of information literacy teachers and form a "double teacher" team with professional teachers to provide all-round information literacy education for college students.

6. Conclusion

To sum up, under the background of the new liberal arts, the information literacy education of college students has encountered new challenges and opportunities. Therefore, when cultivating college students' actual information literacy, relevant departments need to fully consider the background factors of the new liberal arts and carry out practical and effective training modes.

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Conflicts of Interest

The authors declare no conflicts of interest.

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