

Comparative Study on Library and Information Science under COVID-19 Epidemic

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Abstract: After the outbreak of COVID-19, Chinese university libraries have taken a series of emergency service measures, but there are still some problems, such as lack of insufficient network guarantee, single service mode, insufficient collaborative innovation and weak online reference and consultation ability. As an important supporting institution of literature and information resources, university library serves the teaching and research of universities, ensures the normal use of electronic literature resources during the epidemic, and provides sufficient information services and technical support for teachers and students' home teaching and research. It has become an important research topic to discuss the emergency service and management of university library and information resources under the prevention and control of COVID-19 epidemic. This paper analyzes library's contents, characteristics and existing problems during COVID-19 epidemic, and the corresponding countermeasures will be put forward based on domestic and overseas experiences, so as to give full play to the professional advantages of library and information institutions.

1. Introduction

At the beginning of 2020, the epidemic of pneumonia caused by New Coronavirus spread rapidly to the whole country and even the whole world [1]. The rapid spread of the epidemic has put forward a severe test to the emergency response and emergency handling ability of various fields and industries in public health emergencies. Public health emergencies not only affect people's physical and mental health, but also hinder economic development, undermine social stability, affect national security and disrupt the world order [2]. In addition to maintaining the basic social operation of people's livelihood industries, other industries are basically at a standstill, and social public cultural service institutions are temporarily closed to the public. In the covid-19 interdiction war, colleges and universities regard epidemic prevention and control as the top priority, formulate covid-19 epidemic prevention and control work plans in combination with their own characteristics, and actively carry out network teaching [3]. The library and information collection strategy under epidemic prevention and control not only reflects the emergency management ability, but also affects the retention of original information of epidemic prevention and control [4]. Therefore, it is necessary to optimize the library and information collection strategy.

University Students' learning and scientific research activities have changed from offline to online, which has brought unprecedented large-scale network teaching and scientific research practice. As an important supporting institution of literature and information resources, university library ensures the normal use of electronic literature resources during the special epidemic, and provides sufficient information services and technical support for home teaching and scientific research of teachers and students [5]. Online teaching resources are the basic elements of network teaching. How to ensure the needs of teachers and students for literature resources during the epidemic prevention and control period and meet the needs of teachers and students for teaching materials, teaching reference books, scientific research papers and other necessary literature and services in the process of online teaching is the biggest practical problem that the University Library urgently needs to solve [6]. This paper analyzes the contents, characteristics and existing problems of the activities carried out by the library and information institutions during the covid-19 epidemic, and puts forward corresponding countermeasures combined with domestic and overseas

experiences, so as to give full play to the professional advantages of the library and information institutions. It is expected to provide reference for university libraries to improve their education and information service functions and deal with public health emergencies in the future.

2. Dilemma of University Library and information utilization under epidemic prevention and control

The sudden epidemic situation has brought severe challenges to the utilization of university library and information. During the period of COVID-19 epidemic prevention and control, the demand for off-campus access to books and information is increasing day by day, and how to open up the off-campus access channels of books and information has become an urgent problem to be solved in university libraries [7]. With the in-depth development of epidemic prevention work, many libraries choose to close the library without closing the network, and carry out a series of emergency epidemic prevention measures.

As the center of literature and information, the library has accumulated a lot of literature and information resources with rich contents and various carriers in the long-term development, so the library can break the time and space constraints and provide users with scientific, accurate and comprehensive information services instantly. In order to meet the professional learning needs of the library staff during the period of fighting the epidemic, library society of china has opened and shared more than 100 special training course resources to the members and librarians free of charge through the "Reading Association Digital Sharing Reading Service Platform", and actively called on the library professionals to take action and actively serve readers during the epidemic. China's library and information institutions give full play to their resource advantages, provide readers with humanized, diversified and omni-directional online services, guarantee various information resource needs and services for scientific research and study, and provide excellent online emergency service models [8]. How to innovate university library and information service mode, improve library and information service function, stimulate teachers and students' interest in using library and information, help teachers and students improve their ability to use library and information, and help university teachers and students' teaching and scientific research work during the epidemic period. Therefore, paying attention to the utilization of books and information during the prevention and control of COVID-19 epidemic has become an important part of the current epidemic prevention and control work in university libraries.

3. Countermeasures of University Library and information emergency service under epidemic prevention and control

3.1. Carry out library and information active service

During the period of epidemic prevention and control, the access methods of books and information have changed, and the number of users' visits has increased. Teachers and students may encounter various problems in the process of using university books and information. As the center of literature and information resources in universities, libraries have many kinds of paper and digital literature resources with rich contents, and their corresponding functions are education function and information service function. University library provides powerful educational resources support for the teaching and research of university teachers and students, and its online information service meets the information needs of teachers and students during the epidemic period, which plays an important role in the university's response to the public health emergency caused by COVID-19 epidemic. Figure 1 shows the construction structure of library and information resources under the information ecology.

In order to facilitate teachers and students to clearly understand and use books, information and services during the epidemic, university libraries can give full play to the online publicity and service functions of the new media platform, and push and publish the use strategies of books and information to the teachers and students of the whole school through various ways such as WeChat

official account and document service guarantee group, so as to help teachers and students to study, research and prepare lessons online. The university library timely adjusts the service policy and content, solves the problem of overdue books that teachers and students care about, makes a detailed guide to the use of database or network platform, and offers various online lectures and seminars on knowledge sharing. Some university libraries have formulated teaching reference supply schemes to provide different levels of teaching reference support for university teachers and students.

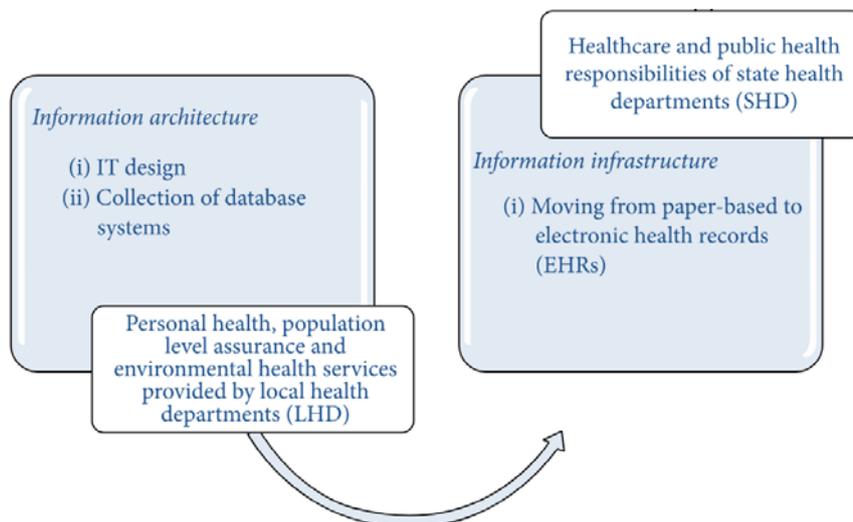


Figure 1 Library and information resource construction structure under the information ecology

3.2. Carry out library and information intelligence services

The rapid rise of new technologies, such as big data, Internet of Things, new media and artificial intelligence, has brought opportunities for university libraries to develop intelligent services of library information. The university library is the main means to realize personalized and accurate service of books and information by collecting information of teachers and students and deeply understanding their needs, setting up consultation service telephones, arranging special personnel to take charge, providing consultation services, and paying attention to and answering various problems encountered by teachers and students in the use of books and information in time. Use big data system development technology to innovate the design of accurate knowledge service system, optimize and develop library and information system services, and make the library and information service system provide more functions. The prediction of user interest can be calculated as follows:

$$P_{u,i} = \bar{R}_u + \frac{\sum_{m=1}^n (R_{m,i} - \bar{R}_m) \times \text{sim}(u,m)}{\sum_{m=1}^n \text{sim}(u,m)} \quad (1)$$

Where \bar{R}_u is the average score of user u on the resource, $R_{m,i}$ is the score of user m on item i , \bar{R}_m is the average score of user m on resources, and $\text{sim}(u,m)$ is the similarity between users u and m .

At present, the regional archives which have deployed the collection of epidemic situation books and information have included the units or organizations directly related to epidemic situation prevention and control into the collection scope, but only defined the management transfer mode of the institutions or units within the system, but did not explain how to guide and encourage the original records related to epidemic situation prevention and control formed by the public and the media on the Internet to be collected and archived. Complete system construction is a powerful guarantee for decision-making, which can ensure the effective development of follow-up practice.

Therefore, library and information institutions should pay full attention to the establishment and perfection of public health safety emergency system. During the period of COVID-19 epidemic prevention and control, the cooperation between university library and various library and information providers and publishers should be further promoted, and a comprehensive strategic partnership between university library and database providers should be established, so as to give full play to the advantages of resources, talents and technology of data providers, which is conducive to providing high-quality services for teachers and students.

4. Conclusions

The rapid spread of COVID-19 epidemic poses a severe challenge to the university library's response to public health emergencies, and it is also a test of its achievements in digital resources construction for many years. The epidemic of COVID-19 has far-reaching influence, so the university library should make up for the shortcomings of information service exposed during the epidemic, collect the feedback information of teachers and students on service in time, and further improve the existing measures of resource guarantee service. University libraries should focus on improving the service quality, and at the same time pay attention to improving the emergency service ability when dealing with public safety emergencies. In view of the diverse needs of different periods, different environments and different readers, in order to make university libraries keep lasting attraction to readers, it is also necessary for libraries to strengthen cooperation, help each other, develop together and make progress together. In the face of public health emergencies, the library still has some problems in practice, but it should be recognized that only by making full and complete emergency plans online and offline, can we cope with such incidents more calmly and provide better services. With the passage of time and the accumulation of experience, the emergency service of university library will be able to effectively deal with all kinds of public safety emergencies, provide a strong guarantee for the information service of university library, and meet the diversified and personalized information needs of university teachers and students in extraordinary times to the greatest extent.

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