Research on Information Literacy Education of University Libraries under MOOC Environment

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Abstract: MOOC is a brand-new education mode with rapid development in recent years, and information literacy has become an indispensable basic ability in the era of big data. MOOC brings opportunities and challenges to the cultivation of information literacy in University libraries. Based on the analysis of the relationship between MOOC and information literacy education in University libraries, this paper constructs an information literacy education model of University Libraries under MOOC environment, and puts forward some countermeasures and suggestions for improving information literacy education in University libraries.

Keywords: MOOC; University Library; Information Literacy Education

After years of hard work, the university's information literacy education has made great progress, accumulated rich teaching experience, and formed an independent teaching system and teaching mode. However, while affirming the results, we must also clearly understand that university information literacy education also faces many problems such as lack of teaching resources, single teaching form, poor teaching effect, limited coverage and so on[1].MOOC (Massive Open Online Courses) is the abbreviation of large-scale online open courses. It is rapidly emerging around the world with the help of internationally renowned universities and their best teachers. It has successfully enabled tens of millions of learners from all over the world. They desire to learn the essence of knowledge and share cutting-edge educational resources from internationally renowned universities. As a new teaching mode, MOOC integrates the advantages of providing free teaching resources, realizing a complete learning experience and timely interaction. Its existence has effectively promoted the transformation of traditional higher education and brought about new opportunities of the development of information literacy education in university libraries. What is the relationship between information literacy education and MOOC? How to make full use of MOOC concept to improve the effectiveness of information literacy education in university libraries is an attempt to answer this question.

1.   The Relationship between MOOC and Information Literacy Education in University Libraries

The concept of information literacy was first proposed by Paul Zecos, president of the American Information Industry Association, based on 1974. Information literacy is the basic literacy and comprehensive ability formed by the different educational channels to meet the needs of the information society for learning, work, and life.

The information literacy education carried out by domestic universities is mainly done by libraries, which is inseparable from the information resources advantages of university libraries. At present, major universities mainly carry out information literacy education for school learners in three ways. The first is to open a separate

information literacy course by the library, which mainly teaches the search of various search tools, reference books and related databases of the library. This type of course is a non-professional general education course. The second is to conduct user lectures and train how to use library resources to help learners master the basic methods and techniques needed for information retrieval. Common forms include freshmen entrance education and various series of lectures, both of which are traditional information literacy education models[2]. With the introduction of the MOOC concept, more university libraries are exploring the third way to carry out information literacy education, mainly based on the cooperation between librarians and teachers, embedding information literacy education into the teaching of professional courses in the department, and integrating with the professional curriculum system. That is, timely embedding information literacy education content in the professional course teaching, aiming at the professional course learning, and effectively improving the learner's information literacy level.

Some scholars believe that the teaching content of information literacy in the MOOC environment mainly presents the following characteristics: (1) Diversification of teaching content. In MOOC teaching, the main body of information literacy is the students in the school, but the off-campus learners can also enjoy the convenience of large-scale online education. Therefore, the content of information literacy teaching presents diverse and multi-layered features according to the needs of learners at different levels. Some scholars believe that the corresponding content modules should be designed in consideration of different education levels and different industries of learners. For example, in the information retrieval MOOC, a public-facing module and a module for teachers, learners and researchers, and a module for business applications are designed. Each module has a great difference in the content of teaching for the needs of specific groups of people, and learners can formulate corresponding modules according to their needs[3]. (2) Fragmentation of teaching content. MOOC teaching is based on the form of online video. It consists of a series of 10 minutes of fragmented lecture videos. Several videos form a knowledge point. The content of the course is related but not coupled, which is convenient for learners to the actual situation is self-learning, and there is no need to worry about the subsequent content without the relevant leading knowledge. Therefore, the curriculum that adapts to MOOC teaching should organize its content system in a unitized form, which is essentially thematic teaching, which is different from the courses taught in our traditional colleges and universities, and helps the learners to learn and understand. (3) Unstructured teaching content. The current MOOC teaching on information literacy is mostly based on the relevance learning model, and the course content presents unstructured features. Each week, the course organizes learning resources in a specific learning theme. It can be network resources, courseware provided by teachers, or resources shared by learners. The content of each topic is rich, without boundaries and constantly updated[4].

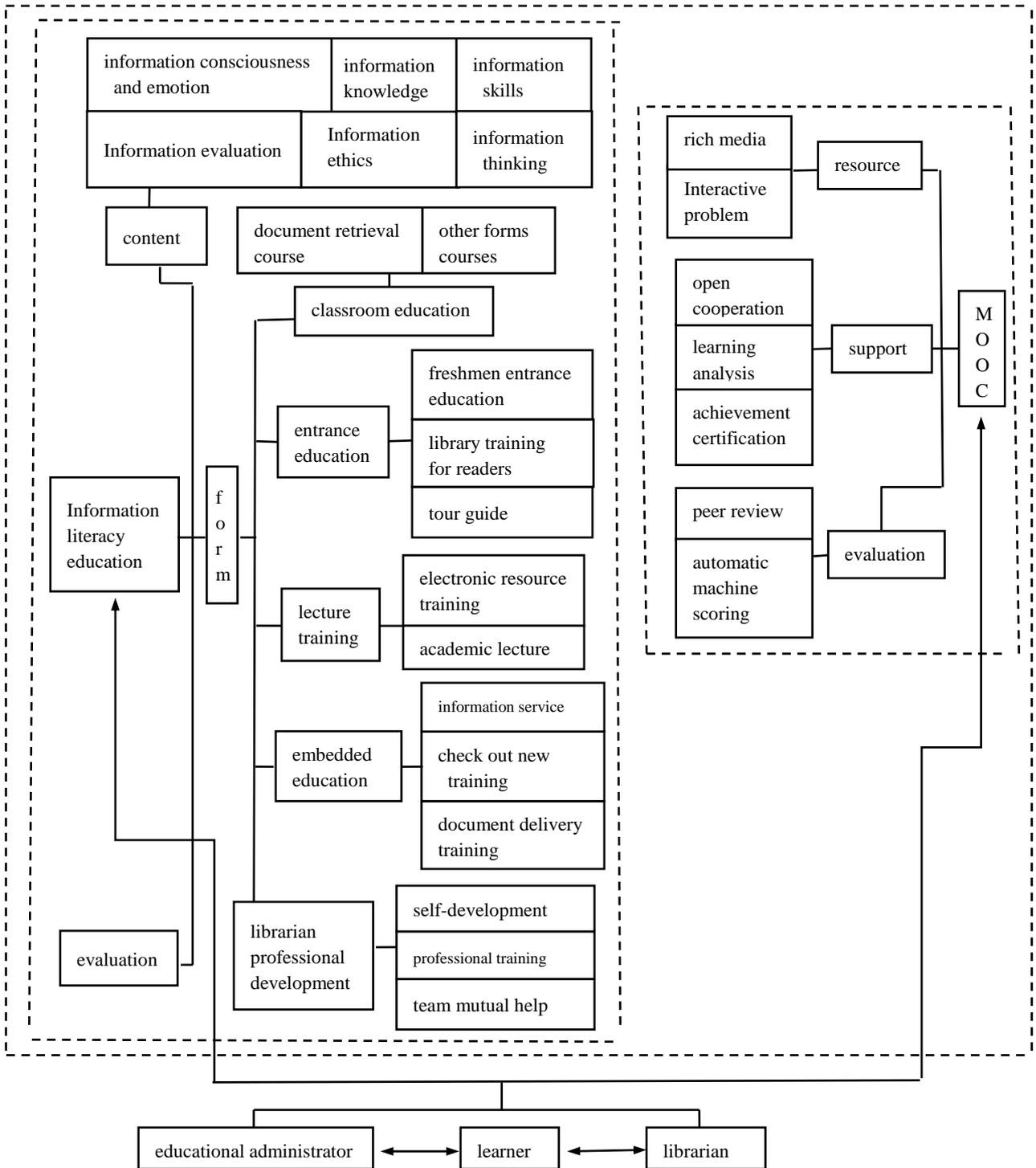2. **Construction of information literacy education model of university libraries under MOOC environment**

Figure 1 Information Literacy Education Model of University Library under MOOC Environment

The model consists of two modules and a set of stakeholders, as shown in Figure 1.The first module is MOOC. MOOC uses rich media and interactive questions as resources, open cooperation, learning analysis and results certification as learning guarantees. Peer mutual evaluation and machine automatic scoring are the main methods of learning evaluation, which constitutes strong support for various forms of information literacy education[5].The second module is information literacy education. First of all, information literacy education is an

educational activity aimed at improving people's information literacy. Information literacy includes information consciousness and emotion, information knowledge, information skills, information evaluation, information ethics and information thinking. These contents are presented to learners with rich media information, which is convenient for learners to "anytime, anywhere". Secondly, from the formal point of view, classroom education, entrance education, lecture training, embedded education, and librarian professional development can all use the MOOC concept to carry out educational activities. Such as classroom education including document retrieval courses and other forms of courses; Entrance education includes freshmen entrance education, library training for readers and tour guide; Lecture training includes electronic resource training and academic lectures; embedded education includes information services, check out new training and document delivery training; Librarian professional development includes self-development, professional training and team mutual help. Finally, from the perspective of educational evaluation, MOOC learning management and security functions have brought vitality to information literacy education. In short, MOOC has a good support for the content, form and evaluation of information literacy education. Stakeholders in information literacy education include learners, librarians, and education administrators. The learner's subject is a student at school and a part of the learner outside the school. The main activities of the learner are watching videos, completing homework, participating in peer review, and interacting. Compared with traditional learners, information literate learners in the MOOC environment will gain the advantages that traditional classroom learners does not have. For example, they can freely choose the learning time. The learning of the lecture content (teaching video) can be adjusted according to their own situation. Learning progress, more freedom in the choice of learning content, you can skip some of the already understood content, focusing on new content that has not yet been mastered. Librarians are designers and executors of information literacy education and also serve as teachers. Librarians participate in the production of video, building a curriculum platform, organizing and guiding learning, conducting personalized education, answering questions, and performing results certification. Librarians can grasp the learner's problems according to the learner's learning progress and online assessment, and then continuously adjust the learning module and improve the course content. The manager is mainly at the macro level to escort the smooth development of MOOC resources, security and evaluation. Learners, librarians and managers together constitute the main body of information literacy education in university libraries under the MOOC environment, and integrate information literacy education and MOOC to achieve organic integration [5].

3.   Countermeasures and suggestions for improving the information literacy education of university libraries under the MOOC environment

3.1 In terms of concept, strengthen the emphasis

At the level of consciousness, university libraries should fully realize the great potential of a new teaching model of MOOC, and try to promote it in practice. At the policy level, from the national to the local to the school,

all levels should pay full attention to and provide policy support. At the fund level, relevant departments of the Education Ministry to strengthen the emphasis on MOOCs and increase financial support, strive for the injection of corporate and financial capital, and establish a long-term financial support mechanism [3].

3.2 Creating Information Literacy MOOC Courses

At present, domestic universities have compulsory courses and elective courses in information literacy education. However, due to the limited number of teachers, the single form of teaching, and the poor teaching effect, most of the courses cannot effectively cover the learners who have the needs of the whole school. Based on these characteristics, a powerful university library can try to open a library's information literacy MOOC course at the right time. This model is based on librarians. The librarians who are responsible for the teaching of the curriculum lead the teaching assistants to form the curriculum construction team. On the basis of the original curriculum, the curriculum outline, teaching objectives, teaching content, teaching methods are re-selected, designed and adjusted according to the needs of the object. As an independent construction course for the library requires a lot of manpower, capital and technical support to complete the work of recording, updating and online interactive questions. In addition, according to the content of the course and the specific needs of the learners, it can try to complete the teaching tasks through the physical course and the MOOC course, and arrange the exercises and tests in a unified manner, which is beneficial to gradually transition the course teaching process to the MOOC platform, and gradually adapt to the teaching methods, and effectively enhance the participation and initiative of learners in course learning[6]. For example, on the MOOC platform of Chinese universities, three courses related to information literacy are currently open, namely: "Information Retrieval", "Document Management and Information Analysis", and "network literacy". The above MOOC courses have learned from the experience of open courses abroad and successfully explored the localized information literacy MOOC course.

3.3 Leverage the advantages of librarians and integrate with professional courses

Librarians have always been the main bearers of information literacy education in colleges and universities, and are responsible for the lectures of relevant public elective courses. In the MOOC environment, librarians must work closely with professional teachers and school teaching administrators in various disciplines. In addition to providing learners with rich learning resources and diverse information methods, they must also undertake Break the boundaries between professional teaching and information literacy education, realize the mutual penetration and integration of professional teaching and information literacy, and develop the main responsibility of embedded courses[7]. Supported by the concept of information literacy, information literacy teaching should be closely integrated with professional teaching in various disciplines. It can not only help learners to use information technology to better grasp knowledge and improve their self-learning ability, but also enable learners to master information retrieval, utilization, processing and communication skills in unconscious learning.

After the 1990s, developed countries such as the United States and Canada have implemented this model of

integrating information literacy with professional courses, effectively promoting the comprehensive innovation of teaching objectives, content, methods, and evaluation. The University of Iowa Library Librarian collaborates with subject teachers to integrate information literacy into the TWIST (Teaching with Innovative style and Technology) program in the professional curriculum, setting an example for the integration of information literacy and professional courses, while learners is fully appreciated that this integrated education model can promote the learning of professional knowledge and the cultivation of information capabilities. In China, the "Introduction to Ship Structure Design" course of South China University of Technology is a professional course for juniors in shipbuilding. Professional teachers and librarians work together to try integrated information literacy teaching. The course is mainly taught through three modules, and the content of information literacy education is inserted into the professional teaching. For example, the information literacy summary is introduced by using marine news, and the learner information literacy standard is introduced by questioning; through watching games, demonstrating the acquisition methods of professional information resources, and building retrieval strategies with the theme of "ship structure accident" and so on. These attempts embedded information literacy education into professional courses from three aspects of theory, practice and application, which made the dull content lively and interesting, deepened the impression of learners, and better achieved the teaching objectives [8].

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