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Carry out the Library Services and Literature Retrieval Course Using Blended Learning with the Intelligence Services System to Enhance Students' Literature Retrieval Knowledge and Skills

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Abstract

Background and Aim: This study focuses on exploring the implementation of library services and literature retrieval courses based on blended learning and intelligence service systems, to enhance students' knowledge and skills in literature retrieval and ensure that they can fully grasp the entire process of literature retrieval. Through practical operation and practice, stimulate students' interest and enthusiasm for learning, and improve the efficiency and accuracy of retrieval. This research aimed to compare students' literature search knowledge and skills before and after course implementation.

Materials and Methods: This study experimented with 30 first-year students from the School of Literature, Zhoukou Normal University, in the second semester of the 2024 academic year, using the cluster random sampling method. This study adopts a blended learning and intelligence service system to develop library services and literature retrieval courses, and provides students with scoring criteria for literature retrieval knowledge and skills before and after implementation. The research instruments were 1) a course document and 8 lesson plans, which were evaluated by 5 experts, revealed that the mean scores of the course document were 4.74 (SD=0.40) and the mean scores of the 8 lesson plans ranged from 4.53-4.65 (SD=0.51-0.60). 2) The test paper used to evaluate and measure students' literature retrieval knowledge showed that the Item-Objective Congruence values range from 0.6-1.00. The difficulty range for quality analysis of performance tests is 0.53-0.77, and the discrimination range is 0.44-0.75. Reliability analysis was conducted on 30 questions in the test paper, and the result was 0.866, which meets the reliability standard. 3) Scoring rubric for measuring the literature retrieval skill showed that the Item-Objective Congruence index ranges from 0.6-1.00. The reliability analysis of the scores of 30 students using seven skills resulted in 0.725, which meets the reliability standard. The data was analyzed by using mean, standard deviation, and a t-test for dependent samples.

Results: Research findings were found as follows: (1) The comparison of literature retrieval knowledge before and after implementing library services and literature retrieval courses based on blended learning and intelligence service systems revealed that the posttest scores (M=21.3, SD=2.11) were higher than pretest scores (M=18.9, SD=1.76) at the .01 level of statistical significance (t29=17.06, p=0.001). (2) The mean scores of literature retrieval skill after implementing the library services and literature retrieval course based on blended learning and the intelligence service system were 17.4 out of 21, with a standard deviation of 2.28, which was higher than the criterion of 70% at a statistical significance level of.01 (t29=6.55, p=0.001).

Conclusion: The library service and literature retrieval course based on blended learning and an intelligent service system developed has a significant impact on improving the knowledge and skills of literature retrieval for university library majors. Through this course, students learn to clarify the standardized process of "Determine the search topic → Determine the search keywords → Choose the right database → Search（ Enter keywords in the database）→ Filter the results → Read and evaluate the literature → Record and sort out the literature", avoiding the blindness of information acquisition, enabling students to accurately locate the required literature, reduce ineffective search time, and enhance search efficiency.

Keywords: Intelligence Service System; Library Services and Literature Retrieval Course; Literature Retrieval Knowledge and Skill; Blended Learning

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Introduction

With the rapid development of the Internet, more complexity and timeliness of university scientific research innovation, the knowledge required for research and researchers in demand are increasingly intense, and obtaining the required knowledge of scientific research from library resources and professional service support is an effective means to realize the scientific research innovation and one of the important ways. At present, the demand and situation of intelligent services are taking shape and will become the new direction of future development. Facing the innovation of university research, some famous university libraries at home and abroad are carrying out the theoretical exploration and practical application of intelligent service. However, in the process of developing library intelligent service, there are many problems, such as loose service connection, slow service advancement, and poor service effect. Then, with the rapid development of the Internet, the innovation activities of university researchers have also changed. This is because the main body of scientific research personnel not only needs to have the relevant knowledge in their specialty and discipline, but also needs to supplement other knowledge across majors and disciplines. In the process of scientific research innovation, it has become an important and effective way for researchers to obtain the information, knowledge, and related services needed for scientific research innovation timely and efficient manner from the library. In the face of university scientific research innovation, some university libraries at home and abroad are actively carrying out intelligent service-related theoretical research and practical application work, and have begun to develop gradually (Ministry of Education, 2012).

College students as contributing to academic development "fresh blood", in the student stage one of the most important content is the cultivation of their scientific research ability, and as the "foundation" part of academic research, literature retrieval ability has become the important students 'scientific research ability of a skill, students' learning problems are mainly focused on the literature retrieval knowledge and skills. The arrival of the digital information age, cause more and more information in people's lives, how to efficiently obtain the current information needed, is the ultimate appeal of people, people can according to their own needs, using the Internet in the search engine input you want to obtain information keywords, and then effective information screening in management, to achieve their purpose. For college students, knowing how to effectively obtain academic research information is very important. Therefore, the literature retrieval course is also a course that universities should pay attention to for the development of academic science (Yue Liang, 2018).

Integrating the teaching of the course "Literature Retrieval" with students' professional knowledge, optimizing literature teaching content that suits students' professional characteristics, and activating the teaching process are of great significance for promoting effective reform of the course "Literature Retrieval" and enhancing students' understanding and application of course knowledge. Firstly, professional learning and information literacy are closely integrated, and good information technology helps to deepen and enhance professional theoretical learning. Applying professional theoretical knowledge well to the process of information retrieval technology is an important extension of the information technology practice in "Literature Retrieval". Secondly, integrating professional theoretical knowledge into the teaching process of "Literature Retrieval" and clarifying the role of information retrieval in professional theoretical knowledge from a professional theoretical perspective will greatly enhance students' learning enthusiasm and interest, change their views on the "Literature Retrieval" course, and achieve the goal of increasing students' emphasis on the course. Thirdly, the integration of professional theoretical knowledge into teaching and practical application will promote the effective application of research students' literature retrieval, expand the depth and research connotation of research-based learning for college students, and be an important link in cultivating and improving college students' information literacy and tracking research progress in this field (Huang Yanhua, 2014).

Adopting blended learning methods to develop and improve course teaching is also a key focus of universities in China. This is mainly due to the deepening development of educational informatization and the demand for reform of traditional teaching models. This teaching model aims to combine the advantages

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of online teaching with those of traditional classroom teaching and promote students' deep learning through the organic combination of two teaching organizational forms. Blended learning is not only a learning paradigm for teaching models, but also an important field of educational research aimed at promoting educational informatization and improving teaching effectiveness. Blended learning was initially considered a mixture of multiple teaching media, including a blend of "teaching-centered" and "learning centered" teaching modes, as well as a blend of face-to-face learning and online collaborative learning. As the understanding of blended learning deepens, its definition gradually converges to "a combination of offline face-to-face and online learning", that is, blended learning. Improving knowledge and skills in literature retrieval is also an important research direction. Because the implementation of blended learning teaching requires rethinking and redesigning the relationship between teaching and learning, advocating a teacher-led and student-centered teaching model, and emphasizing students' initiative and enthusiasm in learning. By combining various teaching methods, such as group collaboration, we aim to cultivate students' innovative and collaborative abilities. At the same time, the development of information technology has also supported and promoted educational reform. The blended learning model fully leverages the advantages of information technology, combining offline teaching with online network teaching to maximize teaching effectiveness, that is, to maximize the effectiveness of college students' literature retrieval knowledge and skills. Therefore, this study is also a key research plan for many universities (Zheng Yuanyuan et al., 2017). This article focuses on the application and innovation of blended learning combined with intelligence service systems in classroom teaching. My research objective is to learn advanced library intelligence service systems and disseminate them to students, so that they can access knowledge more effectively and conveniently, and improve their learning efficiency and academic performance.

Research Question

The research question raised in this study is how the effectiveness of implementing the library service and literature retrieval course using blended learning with an intelligence services system is enhanced. Students' literature retrieval knowledge and skills?

Research Objective

To determine the effectiveness of implementing the library services and literature retrieval course using blended learning with an intelligence services system, which consisted of (1) comparing students' literature retrieval knowledge before and after implementing the library services and literature retrieval course using blended learning with an intelligence services system. (2) To compare students' literature retrieval skills after implementing the library services and literature retrieval course using blended learning with the intelligence services system, with the criterion of 70%.

Literature Review

Library services and literature retrieval courses

In February 1984, the Chinese Education Commission issued "Education High School (84) 004" and "Opinions on Establishing' University Library Services and Document Retrieval Courses ", clearly stating that library services and document retrieval courses not only help improve the current teaching quality, but also are an indispensable part of future education. The Library Services and Literature Retrieval course is a course designed for students, researchers, or others in need of literature support, aimed at helping them master how to effectively discover and use various types of academic literature. The course content usually includes topics such as search tools and techniques, literature classification, literature evaluation, and citation management. Library services and literature retrieval are important courses for cultivating students' information awareness and retrieval skills. They are information technologies for cultivating students' scientific research exploration, knowledge mining, and tracking of cutting-edge disciplines. They are methods for cultivating students' self-learning and independent research. It plays an important role in the university education system. This course is of great significance for students to absorb new knowledge,

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improve their knowledge structure, enhance their self-learning and learning abilities, and fully unleash their innovative abilities. (Geng Peng, 2012)

The literature retrieval course is a compulsory course offered by the library for all students. This course is a tool-based methodology course that focuses on information sources and related retrieval systems (Tian Zhiguang, 2013). With the development of the information society, the curriculum content continues to deepen and expand, and has become a fundamental course for cultivating students' information literacy and abilities. With the development of information technology, librarians have begun to use computer systems to search and open documents, exploring a new teaching model for literature retrieval. At present, library literature retrieval courses have become an important component of university library education. The teaching content of these courses mainly includes skills in literature retrieval, use of library databases, library network services, library introduction, and management regulations, as well as standardization of various citation formats for literature. Meanwhile, the library can also utilize online resources to provide students with online literature retrieval training and educational resources. The purpose is to improve students' information literacy, enhance their book and literature retrieval abilities, and establish correct worldviews and values through course learning. This has laid a solid foundation for the cultivation of future self-learning and lifelong learning abilities, and strives to achieve the coordinated development of students' knowledge, abilities, and qualities (Li Shengli, 2024).

The intelligent service system of the library refers to a comprehensive management platform that unifies all the resources of the library into a system platform by using network information technology to carry out comprehensive management and services (including book and literature procurement, statistics, storage, retrieval, borrowing, and other selection services), and the system is mainly used on the computer platform. The system includes the functions of collection, processing, storage, statistics, retrieval, and service of literature information, and plays a very important role in the modern information society. The system consists of three elements: books, information, and services.

Blended learning refers to the use of modern computer networks and multimedia technology to establish a cooperative learning environment, and then organize students and teachers to conduct online and face-to-face discussions, communication, and learning through small groups and other forms, to have a deeper understanding and mastery of the content of learning. It is to combine the advantages of traditional learning methods with the advantages of network learning, not only to play the leading role of teachers in guiding, inspiring, and monitoring the teaching process, but also to fully reflect the initiative, enthusiasm, and creativity of students as the main body of the learning process. It is characterized by the freedom of students to study independently, in online groups or groups, self-evaluate their academic performance, control their learning progress, and the direction of continuous efforts, without being limited by time and place.

Library services and literature retrieval course using blended learning with an **intelligence services system**

The library service and literature retrieval course strategy using blended learning and intelligent service systems refers to the learning plan that combines blended learning methods with intelligent service systems in library courses to create a more comprehensive and effective teaching method and learning environment. It is an important process from the traditional teaching way to a new teaching way. Through the network multimedia technology, students can show an integrated learning mode of face-to-face teaching and online learning. Students are required to apply their knowledge to analyze and operate intelligent service systems. The components of the draft course document include) The rationale for the course, 2) the objectives of the course, 3) the course content, 4) the teaching process, 5) the teaching materials, and 6) the assessment of learning.

Literature retrieval knowledge refers to information understanding of retrieval knowledge in the library. This information mainly includes the following aspects: 1) Search by index, which refers to the author of the book or the institution where the author belongs. These indexes are used to search by the names of authors, editors, translators, patentees, or organizations. 2) Classification search, that is, to search

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literature according to the subject classification system. 3) Subject language refers to the controlled words that express the content of the information in the literature. The subject headings should be standardized, the thesaurus is the embodiment of the subject heading language, and the words in the thesaurus are used as the identification of the content of the literature and the basis for searching the literature. 4) Keyword language refers to the keywords extracted from the content of the literature, which are used as the basis for identifying the content of the literature and searching the index. 5) Natural language, which refers to any word that appears in the literature. Wait a minute. All of this retrieval knowledge can be presented through Bloom's cognitive hierarchy, from low to high: memory, comprehension, application, analysis, evaluation, and creation. These levels represent an increasing ability of learners to absorb and apply knowledge (Wang Yan et al., 2018).

Literature retrieval skills refer to the process of scientifically searching for the required literature from a library or data center, selecting the best retrieval method, and quickly, accurately, and comprehensively finding the required literature. This is a basic ability that every student and researcher must possess. Searchers use specific search tools (search systems) and employ certain search strategies, methods, and steps to quickly, accurately, and completely search for the desired literature from a large number of sources based on their specific needs. This is a skill of purposefully searching and obtaining the required information from a literature collection. Literature retrieval is not just about simply inputting keywords into a database, but a complex process involving information acquisition, filtering, and integration. Literature retrieval includes two aspects: literature storage and literature retrieval. The organizer of the literature will first organize and store the literature information according to certain principles and methods, forming a literature information set. Then, information users can search for relevant information in the established literature information set according to their own needs. In addition, literature retrieval skills also include the ability to evaluate and utilize search results, that is, to judge the accuracy and reliability of search results, and effectively apply the retrieved literature information to practical learning, work, or research. Literature retrieval skills are crucial for researchers, students, and others who need to obtain information. They help reduce repetitive research on topics, improve research success rates, save time, and enhance work and learning efficiency (Chen Dan and Tang Sailu, 2011).

Conceptual Framework

In the context of digitalization in university education, libraries, as cultural transmission centers and knowledge exchange centers, should actively adapt to the development requirements of the times, fully play their role and value, and seek new directions for future learning and development. By elaborating on the connotation and characteristics of blended learning and information service systems, as well as their application value in library courses. The research topic "developing library services and literature retrieval courses using blended learning and intelligence service systems to improve students' literature retrieval knowledge and skills" is designed as a conceptual framework as follows:

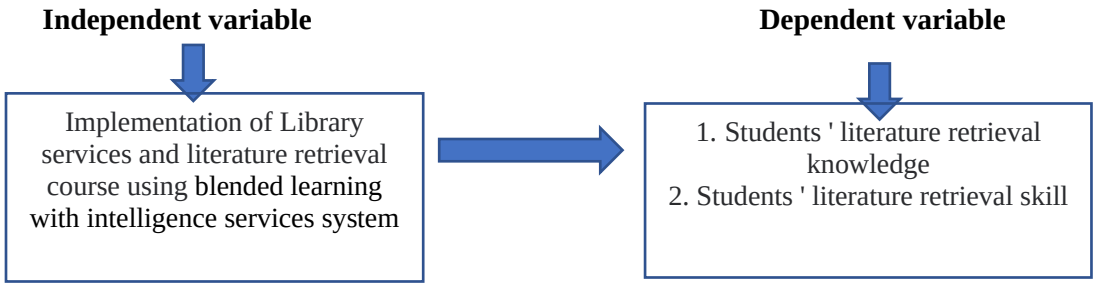

Figure 1 Conceptual Framework of the Study

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Methodology

Experimental design

The one-group pretest-posttest design was used as a procedure to investigate the effectiveness of course implementation, as shown in the following figure.

Group	Pretest	Treatment	Posttest
Experimental	O_1	X	O_2

O1 was the measurement of the students' literature retrieval knowledge and skills before class, before instruction.

X was the implementation of library services and literature retrieval course using the intelligence services system with blended learning.

O2 was the measurement of the students' literature retrieval knowledge, skills, and a Questionnaire for students' satisfaction after classroom learning after an instruction.

Population and samples: The population in this study was 180 (6 classes) first-year students of the School of Arts at Zhoukou Normal University in the second semester of academic year 2024, and the samples were 30 first-year students of the School of Arts at Zhoukou Normal University in the second semester of academic year.

Research Instrument: Research instruments were the tools for collecting data. The research instruments used in this study were:

1. Experimental instruments

The course of this study components of six components. They are course principles, course objectives, course content, teaching strategies, course materials, and course evaluation. The teaching strategy steps for developing library services and literature retrieval courses based on the design of a blended learning and intelligence service system were as follows:

Steps of teaching

Stage 1：Online learning with the intelligence service system(Outside class)

1.1) Present/pose a question

1.2) Explore the information from intelligence service system（Discuss and reflect on the issues）

1.3) Explain the operation method of the intelligence service system（Interpretation of the problem）

1.4) Conclusion

Stage 2：Face-to-face learning with the intelligence service system

2.1) Review the questions

2.2) Share and learn from others' findings

2.3) Compare based on the findings from outside the class

2.4) Discussion

Five experts evaluated the course draft based on the 11 items in the training course evaluation form. The results showed that the average score was 4.74 (SD=0.40), indicating that the development of library services and literature retrieval courses based on the design of a blended learning and intelligence service system was at a very high level of appropriateness.

1.2 Lesson Plan:

The five experts determined that the quality of the 8 lesson plans beforetheirimplementation revealed that the 8 lesson plans ranged from 4.53-4.65 (SD=0.51-0.60), indicating that the 8 lesson plans were very high level of appropriateness.

2. Instruments for data collection

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The research instrument for evaluating and improving students' literature retrieval knowledge is the test of literature retrieval knowledge. It was revealed that the Item-Objective Congruence values range from 0.6-1.00. The difficulty of tests ranged from 0.53-0.77， and the discrimination ranged from 0.44-0.75. The reliability analysis in the test paper was conducted, and the result was 0.866, which met the standard of reliability.

The research instrument for evaluating students' literature skills is the scoring rubric of literature retrieval skills. The literature retrieval skills of this study include seven types of skills: 1) Determine the search topic, 2）Determine the search keywords, 3）Choose the right database, 4）Search（Enter keywords in the database）, 5）Filter the results, 6）Read and evaluate the literature, and 7）Record and sort out the literature. Then, five experts evaluated students' literature retrieval skills, and it was revealed that the Item-Objective Congruence values ranged from 0.6-1.00. The reliability analysis of the scoring rubric of the seven skills was conducted, and the result was 0.73, which met the standard reliability.

Data Collection

The procedures of data collection during the course implementation process were as follows: (1) The samples were given a pretest for measuring literature retrieval knowledge with constructed instruments. (2) The teaching method of library services and literature retrieval course, and the classroom teaching is used for teaching. The group used the library service teaching plan and the literature retrieval teaching plan for teaching. The course is compulsory in the Library of Zhoukou Normal University. The teaching allocation time was 16 hours in total, 1 hour per week, 16 weeks per semester (Zhoukou Normal University, 2022).

During instruction through the course implementation process, the researcher observed and recorded data, including the teaching process, the learning process, classroom atmosphere, students' behavior, and teachers' behavior that occurred in the classroom. And (3) After finishing the instruction, the samples received the posttest of literature retrieval knowledge, and a scoring rubric of literature retrieval skills.

Data Analysis

In this study, quantitative data were analyzed by using the statistical program in line with the research objectives were as follows: (1) Conducted statistical methods to determine the significant difference in literature retrieval knowledge among students before and after learning library services and literature retrieval courses based on blended learning and intelligence service systems at the 01 level. (2) Conducted statistical methods to determine the different significance levels of students' literature retrieval skills at the 0.01 level after learning through the developed curriculum.

Results

According to the research objectives, the research results were as follows: using a dependent sample t-test,

1) The results of comparing the literature retrieval knowledge of students before and after learning through library services and literature retrieval courses based on blended learning and intelligence service systems.

The result of literature retrieval knowledge aimed to answer the research objective of whether the library service and literature retrieval course based on the blended learning and intelligence service system can improve students'literature retrieval knowledge by using the t-test for dependent samples

Table 1 The result of different scores of literature retrieval knowledge level among students before and after implementing library services and literature retrieval courses based on blended learning and intelligentservice systems

Group	N	Pretest scores		Posttest scores		t	p
		M	SD	M	SD		
Experimental group	30	18.9	1.76	21.3	2.11	17.06**	0.001

** p<.01

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As shown in Table 1, the mean scores of 30 students in literature retrieval knowledge before implementing the library services and literature retrieval course were 18.9 (SD = 1.76), and the mean scores of literature retrieval knowledge after implementing the library services and literature retrieval course were 21.3 (SD = 2.11).

Moreover, the comparison of pretest and posttest scores after implementing library services and literature retrieval courses based on blended learning and intelligence service systems revealed that the posttest scores were higher than pretest scores at.01 level of statistical significance (t29=17.06, p=0.001).

2) The results of comparing the literature retrieval skills of students after learning through library services and literature retrieval courses based on blended learning and intelligence service systems, with the criterion of 70%

The comparison of students' literature retrieval skills after implementing the library services and literature retrieval courses based on blended learning and intelligence service systems aimed to answer whether literature retrieval skills after implementing the course were greater than the criterion of 70% by using a t-test for one sample.

Table 2 The results of different scores of student literature retrieval skills after implementing the library services and literature retrieval courses based on blended learning and intelligence service systems, with the criterion of 70%.

Group	n	Full score	Criteria score	Mean	SD	t	p
Experimental group	30	21	14.7 (70%)	17.4	2.28	6.55**	.001

** p<.01

As shown in Table 2, the mean scores of the literature retrieval skill of 30 students after implementing the library services and literature retrieval course based on blended learning and intelligent service system were 17.4 out of 21, with a standard deviation of 2.28, which was higher than the criterion of 70% at a statistical significance level of.01 (t29=6.55, p=0.001).

Conclusion

Based on the results obtained from the above experimental study, using blended learning combined with intelligence service systems to carry out library services and literature retrieval courses can effectively enhance students' knowledge and skills in literature retrieval. The research results will play an important role in promoting the comprehensive development of university libraries.

Discussion

1. Discussion of the library services and literature retrieval courses based on blended learning and intelligence service systems enhances literature retrieval knowledge.

This type of course typically combines the advantages of intelligent service systems and blended learning teaching, playing a leading role not only in guiding and motivating teachers, but also fully reflecting the initiative of students, thus achieving the best learning effect in teaching. In the literature retrieval course, students can master the basic theory of literature information retrieval, the distribution and retrieval skills of professional information resources through blended learning, learn to use professional tools to process, organize, and standardize literature information, and proficiently apply them to the writing and submission of academic papers.

In addition, as an important component of library services, the intelligence service system can also provide students with comprehensive information retrieval and utilization activities, further improving their literature retrieval abilities. These systems typically contain abundant literature resources and advanced retrieval techniques, which can help students quickly and accurately find the required literature, improving the efficiency and accuracy of literature retrieval.

Students need to write a paper on ancient architectural styles, but they don't know how to find the necessary literature for their research. So when searching, don't just use broad vocabulary, but analyze it in conjunction with specific dynasties, and then match the search identifier with the storage tag of the literature

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(such as book B315) to determine the direction of literature search. This is a search language that belongs to a knowledge point in literature search. It plays a key role in literature retrieval, as it is used in the development and use of various retrieval tools, providing a unified, standardized, and specialized language for information exchange in retrieval systems. This lays a solid foundation for using search tools for retrieval in the future.

The core objective of this course is to cultivate students' problem-solving skills and lifelong learning abilities, with a particular emphasis on improving students' sensitivity to information and their abilities in information retrieval and comprehensive problem-solving. By combining theoretical knowledge with practical operations, students can accurately, comprehensively, and quickly retrieve and obtain the necessary information and effectively apply it to daily life, learning, and work. In terms of teaching strategy selection, the course emphasizes the combination of theoretical knowledge and practical application, ensuring that students can apply the theoretical knowledge they have learned to practice based on proficient mastery of information retrieval tools and techniques (Yuan Fan and Li Jia, 2025).

Therefore, this course can effectively enhance students' literature retrieval knowledge and provide strong support for their learning and scientific research by providing comprehensive learning resources, advanced retrieval techniques, and professional guidance services.

2. Discussion of the library services and literature retrieval courses based on blended learning and intelligence service systems enhances literature retrieval skills.

Through this course, students can master basic methods and techniques such as literature types, the use of literature retrieval software, and the acquisition of literature resources. The learning of this basic knowledge is the foundation for improving students' literature retrieval skills. The literature search course also focuses on cultivating students' practical and self-learning abilities. By combining theoretical explanations with hands-on and computer internships, students can improve their ability to access literature and utilize various library and online academic resources through hands-on practice. This practical learning approach helps students continuously improve their literature retrieval skills through practical operations. So this course not only focuses on cultivating effective information retrieval and management skills, but also on stimulating students' ability to independently think about information retrieval (Yuan Fan & Li Jia, 2025). In blended learning based online teaching, students can learn independently through online courses, instructional videos, and other resources, and flexibly adjust the learning content according to their own learning progress and understanding level. In addition, online teaching also provides rich practical opportunities, such as simulated retrieval, case analysis, etc., enabling students to continuously improve their literature retrieval skills in practical operations. This self-directed learning approach helps cultivate students' independent thinking and problem-solving abilities. Through the intelligence service system, students can access major search tools both domestically and internationally, understand their characteristics, and usage methods. For example, Chinese databases such as CNKI and Wanfang Data, as well as Western databases such as EI and Web of Science, are indispensable resources for students to conduct literature searches. Under the guidance of teachers, students can learn how to select appropriate databases based on research needs and flexibly use various retrieval methods, such as topic retrieval, keyword retrieval, etc., to quickly and accurately obtain the required literature. In addition, the intelligence service system can also provide students with real-time academic updates and cutting-edge information, helping them understand the latest developments in their subject areas. This is of great significance for cultivating students' information awareness and intelligence literacy, enabling them to better adapt to the requirements of the information society and possess the ability for lifelong learning.

For example, when students determine the search direction, they can use search strategies such as 1) determining the search topic, 2) determining the search keywords, 3) Choose the right database, 4) Search（Enter keywords in the database）, 5) Filter the results, 6) Read and evaluate the literature, 7) recording and organizing literature to search. This retrieval efficiency based on strategic steps will be very high, saving a lot of time and improving students' learning efficiency and retrieval skills. In addition, the intelligence service system can also provide students with real-time academic updates and cutting-edge information, helping them understand the latest developments in their subject areas. This is of great significance for cultivating students' information awareness and intellectual literacy, enabling them to better adapt to the requirements of the information society and have the ability for lifelong learning.

The evaluation of the development process of library services and literature retrieval courses based on the design of a learning and intelligent hybrid service system has been unanimously agreed upon by experts. Evaluation and feedback are indispensable aspects of teaching. Evaluation should include two

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aspects: teacher evaluation of students (such as homework and exam evaluation) and student evaluation of teachers (course evaluation and teacher evaluation). Both of these aspects are important means to ensure teaching quality and learning efficiency (Huang Qingshan, 2005). The evaluation and reflection on teaching effectiveness not only constitute a complete curriculum loop but also a key link in continuously improving teaching methods and enhancing student learning outcomes (Fan Wei et al., 2013).

In summary, the combination of blended learning and intelligence service systems in literature retrieval courses can significantly improve students' literature retrieval skills by imparting basic knowledge, cultivating practical and self-learning abilities, and enhancing information awareness and abilities.

Recommendations

1) In the process of teaching implementation, this course not only comprehensively enhances students' literature and information literacy, but also cultivates their independent thinking and critical analysis abilities when solving practical problems. We also need to consider enhancing students' ability to manage literature and information resources, and deepening their understanding of social responsibility and ethical issues.

2) The course has achieved significant teaching results and received positive recognition from students. The practical part of the course effectively stimulated their interest and initiative in learning, and effectively improved the effectiveness of classroom learning. It reflects the effectiveness and applicability in higher education practice.

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