On the Innovation of Teaching Mode in the Course of "Information Retrieval"

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ABSTRACT

In the context of the new era, the reform of the teaching mode of "Information Literacy" course is imperative. This article mainly discusses from four aspects. The first is to discuss information literacy and the teaching of Information Retrieval; The second is to analyze the current situation of teaching Information Retrieval, including two aspects: outdated course content and outdated teaching methods; The third is to analyze the problems and challenges faced by the teaching of "Information Retrieval," including three aspects: 1, it is the outdated course content and lack of timeliness; 2, the teaching methods are single and lack interactivity; 3, there is a lack of practical experience, resulting in a disconnect between theory and practice; The fourth is to give strategies for innovating the teaching mode of the "Information Retrieval" course are proposed, which mainly include five aspects: updating the course content to enhance timeliness, reforming teaching methods and improving interactivity, establishing a practical teaching system and strengthening the combination of theory and practice, strengthening the construction of the teaching staff and improving the teaching level, and improving the evaluation system and focusing on process evaluation.

Keywords: Information literacy, Information retrieval, Teaching reform, Teaching mode, Innovation.

1. INTRODUCTION

Information retrieval is an indispensable skill in modern society, especially in today's rapidly developing information technology. The ability to acquire, analyze, and utilize information is of great significance for individuals' learning, work, and even life. As an important base for cultivating high-quality talents, universities bear significant responsibilities in information retrieval teaching. However, the current information retrieval teaching mode generally has problems such as single teaching content and outdated teaching methods, which are difficult to meet the needs of modern students. Therefore, it is particularly important to construct a scientific and reasonable information retrieval teaching model that adapts to the characteristics of modern students.

2. INFORMATION LITERACY AND TEACHING OF INFORMATION RETRIEVAL

Information literacy is one of the essential key qualities for contemporary college students to adapt to the needs of economic construction and social harmony in the 21st century, laying the foundation for future curriculum learning and work. The so-called information literacy ability refers to a series of comprehensive abilities in retrieving, analyzing, and utilizing information, specifically including various information source identification, information retrieval, evaluation, and use. A person's information literacy is mainly reflected in three aspects: information awareness, information ability, and information ethics. The course of information retrieval is an important platform for universities in China to carry out information literacy education, and it has unique advantages in carrying out information literacy education through the course of information retrieval. The teaching objectives of literature retrieval course should be reflected in four aspects: firstly, to enhance

students' awareness of literature information; The second is to equip students with the skill of searching literature; The third is to enable students to have the ability to analyze, process, evaluate, and utilize literature; The fourth is to cultivate students' self-learning ability and independent research ability. At present, the main problems faced by the information retrieval course in universities are the single teaching content and outdated teaching methods. These problems make it difficult for students to effectively apply retrieval knowledge, exercise retrieval skills, and improve their information literacy. Therefore, it is urgent to flexibly design teaching modes and adjust teaching content based on the cognitive characteristics of current college students.

3. ANALYSIS OF THE CURRENT TEACHING SITUATION OF INFORMATION RETRIEVAL

3.1 The Course Content Cannot Fully Meet the Requirements of Modern Students

At present, students in higher education institutions already have certain search abilities before studying the course of information retrieval, and tend to prefer free online information resources such as Baidu, Google, etc. Their user-friendly interface and easy operation make them the preferred search methods for students. However, teachers of the course information retrieval always tend to focus on literature and academic retrieval teaching, but students lack information needs in this area. In addition, there is a lack of practical application content, which increases the difficulty for students to understand theoretical knowledge, and at the same time creates a disconnect from practical application, resulting in students being unable to effectively apply retrieval knowledge and exercise retrieval skills. In addition to the dullness of theoretical knowledge, an important aspect of students' lack of interest in learning is their lack of information needs. The acquisition of information is based on one's own needs, and learning is a self-directed process of students' information needs. One of the criteria for students to choose knowledge nowadays is pragmatism. If the knowledge taught in the classroom is not immediately applicable, students will quickly lose interest, and relying solely on self-discipline is difficult to ensure learning effectiveness.

3.2 Relatively Outdated Teaching Methods

The current teaching method of the course Information Retrieval is the same as most other courses, which adopts the traditional teacher oriented, classroom cramming centered, and textbook knowledge based teaching mode. Students only passively receive knowledge, and their control over the learning process is insufficient, resulting in unsatisfactory teaching effects. The assessment method for the general information retrieval course is still the traditional form of regular grades plus paper exams, which leads to students' last-minute cramming. Moreover, the written questions and answers on the paper are difficult to reflect whether students have the necessary information literacy ability, and rote memorization is a major misunderstanding of this course by students. A suitable assessment method will greatly stimulate students' enthusiasm and enable them to have a correct understanding of the course objectives.

4. THE PROBLEMS IN TRADITIONAL TEACHING OF INFORMATION RETRIEVAL

4.1 Course Content Is Outdated and Lacks Timeliness

Traditional Information Retrieval courses often focus on introducing the usage methods of traditional retrieval tools such as library catalogs, indexes, and abstracts, while lacking an introduction to modern information retrieval technologies, tools, and platforms. With the development of digital, networked, and intelligent technologies, new information sources such as search engines, databases, and social media have become the main ways for people to obtain information. With the rapid development of information technology, new information retrieval technologies and tools continue to emerge. This makes it difficult for teaching content to keep up with the pace of technological updates, posing certain challenges to teaching. To cope with this challenge, teachers need to constantly learn and update their knowledge system, while also paying attention to industry trends and technological developments, and adjusting teaching content and methods in a timely manner. Therefore, traditional curriculum content is no longer sufficient to meet the needs of modern information retrieval education, resulting in a disconnect between what students have learned and practical applications.

4.2 Single Teaching Methods and Lack of Interactivity

The traditional course of Information Retrieval usually adopts lecture based teaching, where teachers act as knowledge transmitters and students passively receive knowledge. This teaching method lacks interactivity and is difficult to stimulate students' interest and enthusiasm for learning. Meanwhile, due to the lack of practical operation, students find it difficult to apply the knowledge they have learned to solve practical problems, resulting in poor learning outcomes. Due to the significant differences in students' information literacy, this poses certain difficulties for teaching. Some students may lack understanding of the basic concepts and methods of information retrieval, while others may have already mastered more in-depth information retrieval techniques. Therefore, differentiated teaching is needed for students at different levels in the teaching process to meet their learning needs.

4.3 Lack of Practical Experience and Disconnect Between Theory and Practice

Traditional Information Retrieval courses often overlook the importance of practical aspects, resulting in students lacking practical operational and problem-solving abilities. Although some courses may arrange laboratory classes or internships, it is often difficult to achieve the expected teaching results due to limited experimental conditions and insufficient internship opportunities. In addition, due to the disconnect between theory and practice, students often find it difficult to flexibly apply their learned knowledge to solve practical problems. Practical teaching is an important part of the information retrieval teaching system. However, due to limited practical teaching resources such as experimental equipment and internship bases, it is difficult to meet the needs of all students. This has brought certain difficulties to students' practical learning. To address this challenge, it is necessary to actively seek external cooperation opportunities, establish cooperative relationships with enterprises, libraries and other institutions, and jointly carry out practical teaching activities.

5. INNOVATIVE STRATEGIES FOR THE TEACHING SYSTEM OF INFORMATION RETRIEVAL

5.1 Updating the Course Content to Enhance Timeliiness

In response to the problem of outdated content in traditional information retrieval courses, the course content should be continuously updated to enhance timeliness. Specifically, modern information retrieval technologies, tools, and platforms related to search engine optimization, data mining, natural language processing, etc. can be introduced. At the same time, teaching cases and exercises with timeliness and practicality can be designed based on current hot issues and practical needs. By continuously updating course content, students can timely understand and master the latest information retrieval technologies and methods, and improve their information literacy and competitiveness. When updating course content, it is also possible to consider introducing interdisciplinary knowledge elements. Information retrieval is not just a technical course, it involves knowledge from multiple disciplines such as computer science, library science, information science, communication science, etc. By introducing interdisciplinary knowledge elements, students' horizons and knowledge can be broadened, and their comprehensive qualities and innovation abilities can be improved. For example, application cases of information retrieval in fields such as big data analysis, artificial intelligence, and social media monitoring can be introduced to help students understand the broad application prospects and potential value of information retrieval technology.

5.2 Reforming Teaching Methods and Improving Interactivity

In response to the problem of single teaching methods in traditional information retrieval, teaching methods should be reformed to improve interactivity. Specifically, diverse teaching methods such as case-based, discussion based, and project-based approaches can be used to stimulate students' interest and enthusiasm for learning. Meanwhile, modern information technology tools such as online teaching platforms and virtual laboratories can also be utilized to achieve remote teaching and online interaction. By reforming teaching methods, students can be more actively involved in the

learning process, improving their learning outcomes and innovation abilities. When reforming teaching methods, attention should also be paid to cultivating students' self-learning ability and critical thinking ability. Self-directed learning ability refers to the ability of students to independently acquire knowledge, solve problems, and conduct self-evaluation. In the information retrieval course, students' self-learning ability can be cultivated through setting self-learning tasks, providing learning resources, and learning support. Critical thinking ability refers to the ability of students to analyze, evaluate, and apply information rationally. In information retrieval courses, students' critical thinking skills can be developed by guiding them to critically analyze search results, evaluate the quality and credibility of information, and other methods. To address the issue of significant differences in students' information literacy, differentiated teaching can be implemented to meet the needs of students at different levels. Personalized teaching plans and strategies can be developed based on students' learning situations and interests. At the same time, targeted guidance and assistance can be provided to students at different levels through group cooperation, individual tutoring, and other methods. By implementing these measures, students' learning outcomes and satisfaction can be improved

5.3 Building a Practical Teaching System and Strengthening the Combination of Theory and Practice

In response to the lack of practical elements in traditional teaching of Information Retrieval, a practical teaching system should be constructed to strengthen the combination of theory and practice. Specifically, a series of experimental and project-based courses can be designed to enable students to master the application of information retrieval technology and methods in practice. At the same time, we can also cooperate with enterprises, libraries and other institutions to establish off campus internship bases, providing students with more practical opportunities and employment channels. By constructing a practical teaching system, students can apply their learned knowledge to solve practical problems, improving their practical and innovative abilities. When constructing a practical teaching system, attention should also be paid to cultivating students' teamwork and communication skills. Information retrieval often requires collaboration among multiple people, so teamwork ability is essential. In

practical teaching, students' teamwork ability can be cultivated through group cooperation, role-playing, and other methods. At the same time, students' communication and expression skills can be developed through organizing activities such as discussions and speeches. To address the issue of limited practical teaching resources, we can actively expand practical teaching resources and strengthen school enterprise cooperation. We can establish cooperative relationships with enterprises, libraries, and other institutions to jointly carry out practical teaching activities. At the same time, resources such as laboratories and research centers on campus can also be utilized to provide students with more practical opportunities and platforms. By implementing these measures, students' practical abilities and professional qualities can be improved.

5.4 Strengthening the Construction of the Teaching Staff and Improving the Teaching Level

Teachers are the core and key of the teaching system. In response to the problems existing in traditional information retrieval teaching, it is necessary to strengthen the construction of the teaching staff and improve the teaching level. Specifically, the following measures can be taken: firstly, strengthen teacher training to enhance their professional competence and teaching ability; The second is to introduce outstanding talents and enrich the teaching staff; Thirdly, establish incentive mechanisms to encourage teachers to actively participate in teaching reform and scientific research activities. By strengthening the construction of the teaching staff, we can provide students with higher quality teaching resources and a better learning environment. When strengthening the construction of the teaching staff, attention should also be paid to cultivating teachers' innovative consciousness and practical ability. Innovation consciousness refers to the ability of teachers to keenly capture new teaching concepts and methods and apply them to teaching practice. In the construction of the teaching staff, organizing teachers to participate in academic exchanges, seminars and other activities can broaden their horizons and ideas, stimulate their innovative consciousness and practical ability. At the same time, teachers can also be encouraged to participate in teaching reform projects and conduct teaching experiments to cultivate their practical abilities and innovative spirit. In response to the rapid technological updates, teacher training should be strengthened to improve their teaching level.

Teachers can be organized to participate in academic seminars, technical exchange meetings, and other activities to learn about the latest technological trends and teaching concepts. At the same time, industry experts or scholars can be invited to give lectures or lectures at the school, providing teachers with opportunities for learning and communication. By implementing these measures, the teaching level and professional competence of teachers can be improved.

5.5 *Improving the Evaluation System and Focusing on Process Evaluation*

The evaluation system is an important criterion for measuring teaching effectiveness and student learning outcomes. In response to the problems existing in the traditional teaching evaluation system of Information Retrieval, the evaluation system should be improved and focus on process evaluation. Specifically, a diversified evaluation system can be established, including classroom performance, homework completion, experimental reports, project outcomes, and other aspects. At the same time, a combination of student self-evaluation, peer evaluation, and teacher evaluation can be used to comprehensively reflect students' learning situation and progress. By improving the evaluation system, students' learning outcomes and teaching effectiveness can be evaluated more objectively, providing strong support for teaching improvement. When improving the evaluation system, attention should also be paid to cultivating students' reflective and self-adjustment abilities. Reflective ability refers to the ability of students to objectively analyze and evaluate their learning process and outcomes. In the information retrieval course, students can be guided to reflect and summarize the retrieval process, cultivating their reflective ability. At the same time, feedback mechanisms can be set up and personalized learning suggestions can be provided to help students make self-adjustments and improvements. These abilities are of great significance for students' future career development and personal growth.

6. CONCLUSION

The innovation of the teaching system for Information Retrieval is an important measure to meet the needs of the times and improve the quality of talent cultivation. The implementation of measures such as updating course content, reforming teaching methods, constructing a practical teaching system, strengthening the construction of the teaching staff, and improving the evaluation system can significantly improve the teaching effectiveness of information retrieval courses and students' learning outcomes. However, in practical operation, there are still some challenges and problems that need to be continuously explored and practiced. In the future, we will continue to deepen teaching reform and innovative practices, making greater contributions to cultivating high-quality talents with information literacy and innovation capabilities.

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