

Innovation and Optimization Paths of Teaching Archives Management by Teaching Secretaries in Higher Vocational Colleges Based on Artificial Intelligence

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Abstract: With the rapid development of artificial intelligence technology, its application in the field of teaching archives management in higher vocational colleges is continuously deepening. Based on this, this paper conducts an in-depth exploration of the development trends of intelligent management and optimization of teaching archives in higher vocational colleges, as well as the application strategies for intelligent management and optimization of teaching archives in higher vocational colleges based on artificial intelligence. The purpose is to achieve better management of teaching archives and provide certain references for relevant researchers.

Keywords: Artificial intelligence; Teaching secretary; Higher vocational colleges; Intelligent management of teaching archives

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1. Introduction

With the in-depth advancement of the construction of a socialist country under the rule of law and the implementation of the newly revised Archives Law, whose supporting role has become more prominent, the development of the archives cause is in an important period of strategic opportunities. At the same time, it is also facing severe challenges, which urgently require deepening the governance of archives in accordance with the law and improving the capacity and level of archives governance. The people's living standards have been significantly improved, and their demand for archive information and archive culture is growing, which urgently requires accelerating the opening of archives, expanding the use of archives, and providing high-quality and efficient services. The wide application of a new generation of information technology has brought about tremendous changes in the working environment, objects, and content of archives, which urgently require innovating the concepts, methods, and models of archive work, and accelerating comprehensive

digital transformation and intelligent upgrading. There are conceptual obstacles, institutional defects, technical bottlenecks, and talent shortages that restrict the high-quality development of archive work. Problems such as unbalanced development between regions and industries, and insufficient archive utilization services remain prominent, and there are still weak links in grassroots work. It is necessary to improve the management system and working mechanism compatible with the implementation of the newly revised Archives Law, enhance the overall planning and guidance and coordination capabilities of archive authorities at all levels, and strengthen the capacity building of grass-roots archive institutions in performing their duties ^[1]. Teaching secretaries, as an important position in the management of grass-roots teaching archives, need to continuously align with the standards of standardized archive management, possess certain professional knowledge of archives and modern archive management skills, innovate the concepts of archive work, and empower archive management with modern information technology.

2. Development trends in intelligent management and optimization of teaching archives in higher vocational colleges

2.1. Transformation of management models

In terms of changes in management models, the traditional manual-based management model with paper archives as the carrier is gradually being replaced by intelligent and automated management models ^[2]. In the collection phase of archives, artificial intelligence technology can automatically classify, code, and label various teaching documents (such as teachers' teaching calendars, lesson plans, students' process-based assignments, and course assessment materials) through intelligent recognition technology. This enables rapid and accurate initial organization, greatly reducing the workload of teaching secretaries. In terms of storage, cloud computing and big data technologies not only provide secure and stable cloud storage space for massive teaching archives but also break the spatial and temporal limitations of traditional storage, allowing teaching archives to be accessed and retrieved anytime and anywhere. Intelligent retrieval systems, powered by natural language processing technology, enable teachers and students to find relevant content through simple descriptions and have it presented directly ^[3]. Additionally, based on the big data analysis functions of intelligent educational administration systems and online course platforms, teaching secretaries can analyze students' grade distributions, score fluctuations, the rationality of curriculum settings, and satisfaction levels. This provides a basis for teaching reforms and the formulation of talent training programs, realizing a shift from passive management to active management ^[4].

2.2. Diversification of management

On the one hand, management subjects are becoming diversified. Artificial intelligence and big data platforms can provide different presentation methods for teachers, students, and teaching management departments outside the school's archives department. Specifically, teachers can upload teaching materials in a timely manner, share teaching experiences, and participate in the evaluation and feedback of teaching archives through intelligent management systems, providing first-hand information for improving the archives of secondary colleges. Students can upload and store archives such as learning outcomes and internship reports, enabling teaching secretaries to better understand the implementation of teaching activities during this period. Teaching secretaries can also better integrate materials from teachers and students to communicate effectively with teaching management and evaluation departments. Teaching management and evaluation departments, in turn,

can conduct macro management and overall planning based on teaching archives and issues summarized by teaching secretaries, thereby ensuring the high-quality operation of teaching in higher vocational colleges ^[5]. On the other hand, management content is becoming diversified. The storage forms of teaching archives are no longer limited to traditional text materials but also include images, audio, video, and other formats. For example, teaching secretaries can use intelligent management systems to collect students' internship videos, photo materials, and materials related to vocational skills competitions, while also storing conventional teaching archives. Furthermore, diversified intelligent archive management can not only better assist teachers and school administrators in their daily work but also guide the formulation and implementation of talent training programs and teaching plans, ensuring the smooth progress of teaching work ^[6].

2.3. Systematization of management

Higher vocational colleges can gradually improve their archive management platforms and establish a teaching archive management system covering all links, including collection, organization, storage, utilization, and security assurance. In terms of system construction, a unified teaching archive management platform should be built to achieve data intercommunication and sharing between different departments and systems, break information silos, and improve the overall efficiency of archive management. At the same time, higher vocational colleges should focus on the compatibility and scalability of the system, enabling continuous upgrades and improvements in line with technological development and changes in school needs. In terms of security assurance, higher vocational colleges can adopt advanced encryption technologies, access control technologies, and other functions to ensure the confidentiality, integrity, and availability of teaching archives. They should also establish sound security management systems and emergency plans to prevent and respond effectively to potential security risks. In addition to the above aspects, higher vocational colleges need to strengthen the training and education of teaching archive management personnel, improve their professional literacy and information technology application capabilities, and enable them to proficiently master the operation and maintenance of various intelligent management platforms ^[7].

3. Application strategies for intelligent management and optimization of teaching archives in higher vocational colleges based on artificial intelligence

3.1. Intelligent collection

In traditional teaching archives management, teaching secretaries have long faced the problem of “emphasizing collection over analysis”. That is, they need to spend a lot of time dealing with basic tasks such as processing paper archives, classifying electronic documents, and updating data spreadsheets, making it difficult for them to get away from complex repetitive work, which affects the timeliness and accuracy of teaching management work. The emergence of artificial intelligence technology has freed teaching secretaries from complex mechanical operations, allowing them to shift their focus to more meaningful things. At the data collection level, the system achieves comprehensive recording of teaching activities through the in-depth integration of IoT devices and teaching platforms. For example, there is no need for manual attendance statistics; instead, student attendance reports can be automatically generated with the help of classroom access control devices and online check-in systems. Documents such as teaching plans, course syllabi, and lesson plans submitted by teachers can also be converted into structured data and corresponding course files through OCR recognition technology. Information such as course adjustments, make-up exams, and retakes can be counted and exported through the intelligent

academic affairs system. Teaching secretaries can build a three-dimensional data collection for students through various big data platforms, thereby laying the foundation for subsequent storage and analysis ^[8].

3.2. Intelligent organization

Teaching secretaries and related teaching staff can use artificial intelligence technology to empower the management of teaching process materials, and conduct in-depth analysis of the system's archive data through semantic analysis models. Firstly, through semantic analysis of various data such as course syllabi, lesson plans, and courseware, artificial intelligence can sort out the shifting direction of teachers' teaching focuses, the innovation of teaching methods, and the expansion direction of knowledge points, thereby forming dynamic student ability maps and better promoting teaching reform ^[9]. Secondly, in terms of integrating course resources, artificial intelligence can real-time monitor the updated information of course teaching versions and corresponding changes in teaching resources; that is, it can track the revision records of teaching syllabi, talent training programs, updated content of multimedia courseware, and adjustments to internship and training guidance plans. Thirdly, by analyzing students' make-up exam and retake rates, artificial intelligence enables teaching secretaries to intuitively identify which courses have consistently high make-up and retake rates due to unreasonable difficulty settings or assessment methods. Teaching secretaries also use data analysis tools to explore the hidden value information in teaching archives, thereby providing a certain scientific basis for teaching decision-making and promoting the transformation of teaching management in higher vocational colleges from experience-driven to data-driven ^[10].

3.3. Intelligent management

In terms of information security protection, traditional methods rely on static risk prevention measures such as firewalls and antivirus software, which are difficult to cope with increasingly complex network attacks and internal irregular operations. Artificial intelligence management conducts real-time monitoring and analysis of multi-source data, such as teaching secretaries' behaviors, network traffic, and system logs through the system's machine learning algorithms ^[11]. For example, when a teaching secretary attempts to access data unrelated to their work during non-working hours, artificial intelligence technology will automatically use homomorphic encryption technology to encrypt the archive content, ensuring the security of data during storage and transmission. In terms of archive repository management, teaching secretaries used to manually number and store archives, which was prone to omissions and often resulted in problems such as being unable to find required materials. With artificial intelligence technology, teaching secretaries can add a unique number, i.e., a digital tag, to the content of physical archive management. With the help of intelligent search software such as "Everything", they can retrieve the location of archives through keyword searches, facilitating better archive retrieval ^[12]. It can be seen that artificial intelligence technology has brought dual improvements in security protection and intelligent management to the intelligent management and optimization of teaching archives.

3.4. Intelligent service and utilization

The job responsibilities of teaching secretaries require them to organize and file teaching documents, manage various archive materials of the school, including teaching plans, syllabi, class schedules, student grades, and archives etc. They also need to collect, organize, and store teaching materials, and be responsible for the collection, organization, filing, and transfer of various documents generated in daily teaching management. Artificial intelligence technology enables teaching secretaries to access relevant content anytime and anywhere,

facilitating their daily work. Intelligent collection platforms can assist teaching secretaries in collecting teaching plans, syllabi, lesson plans, etc., submitted by teachers and unifying their naming formats, improving problems such as chaotic naming formats and inconsistent file formats caused by traditional collection methods, and making it easier for teaching secretaries to directly incorporate them into cloud electronic archives, thereby optimizing the teaching management process. If teachers or students need to retrieve relevant archived materials, they only need to input vague keywords, and artificial intelligence retrieval technology can automatically find relevant archive resources through semantic understanding and context analysis, solving problems such as insufficient storage space on teachers' devices. For the course scheduling and implementation of teaching plans that teaching secretaries are responsible for, artificial intelligence systems can assist in checking accuracy, ensuring that documents submitted to the academic affairs office are error-free^[13]; in terms of student employment, they can also understand the job matching rate of graduates based on real-time updated basic archives of graduates on the big data platform, thereby adjusting course settings to prevent disconnection from society^[14].

3.5. Intelligent evaluation and feedback

The intelligent management and optimization of teaching archives in higher vocational colleges based on artificial intelligence have shown great application value in the daily work of teaching secretaries, especially playing an important role in intelligent evaluation and feedback. As a key link connecting the school's teaching management and evaluation departments, as well as teachers and students, teaching secretaries undertake multiple responsibilities such as conveying teaching tasks, providing information, and managing archives, and their work efficiency directly affects the quality of teachers' teaching. Artificial intelligence technology has improved the communication efficiency between teaching secretaries and teachers/students through functions such as intelligent question-answering systems and automated scoring feedback. For example, teaching secretaries can not only import superior notification templates for reference, quickly draft and polish documents, convert the main body of notifications while conveying superior spirits, and issue notifications within the college, but also realize cloud management of archives through tools such as sync disks and cloud notes, thereby better ensuring the timely transmission and sharing of information. In archive management, the system can automatically encrypt and back up archives to prevent information leakage and ensure the security and integrity of archives^[15].

4. Conclusion

In today's era of rapid development of artificial intelligence technology, applying it to the intelligent management and optimization of teaching archives in higher vocational colleges is not only an inevitable trend in the modernization of educational management but also an important way to improve teaching quality and promote educational equity. This study adopts strategies such as intelligent collection, intelligent sorting, intelligent management, intelligent service and utilization, and intelligent evaluation and feedback to better solve the problems encountered by teaching secretaries in routine teaching archives management and promote the modernization of teaching management.

Disclosure statement

The author declares no conflict of interest.

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