

## Based on the Thinking of China's Colleges and Universities Internal Teaching Management and Information Technology

Qian Wang<sup>1, a</sup>

<sup>1</sup>Lyceum of the Philippines University, Batangas, Philippines

<sup>a</sup>wangqian177@163.com

### Abstract

This article aims to explore and discuss the internal academic administration and informatization of higher education institutions in our country. Firstly, it provides an introduction to the background and importance of academic administration in higher education institutions, followed by an analysis of the current challenges faced. The basic concepts and elements of academic administration are then expounded upon. Furthermore, an analysis and evaluation of the current state of academic administration and its informatization in our country are presented. The advantages and challenges of academic information technology are discussed, including the enhancement of efficiency and resource sharing, as well as issues related to technology and acceptance. To address these challenges, corresponding strategies and methods are proposed, including the establishment of a comprehensive academic information system, strengthening training and support, and exploring the role of information technology in academic administration. Through case studies, successful practices of academic informationization in our country's higher education institutions are showcased, particularly in teacher management. Lastly, future trends and key issues in the development of academic informationization are discussed, along with suggestions for further improvement. This article seeks to promote the integration of academic administration and informatization in our country's higher education institutions, enhance the efficiency and quality of academic administration, and drive the development of educational informatization.

### Keywords

Higher education; Academic affairs management; Informatization.

### 1. Introduction

With the popularization and development of higher education in our country, the administrative management within universities has become increasingly complex and tedious. Traditional manual operations and management methods are no longer able to meet the growing teaching tasks and quality requirements. Therefore, the informatization of educational administration has become an inevitable trend and direction. In this context, the purpose of this article is to explore the integration of educational administration and informatization within Chinese universities, analyze the current situation and existing problems, discuss the advantages and challenges of educational informatization, and propose corresponding strategies and methods. Through case studies, this article aims to showcase successful applications of educational informatization. The findings of this article will contribute to a better understanding and response to the challenges of educational administration informatization, improve the efficiency and quality of educational administration, and promote the process of educational informatization.

## 2. Basic Concepts and Elements of Academic Management

### 2.1. Definition and objectives of academic management

Academic administration is one of the vital pillars within higher education institutions, responsible for the planning, coordination, and oversight of the entire educational process. The overarching goal of academic administration is to achieve a scientific, standardized, and information-driven approach to teaching, student management, and faculty management, thereby ensuring the quality and efficiency of education and instruction. The scope of academic administration encompasses various aspects of daily institutional management, including curriculum design, course selection and scheduling, teaching plans, grade management, and student evaluations, thereby involving the interests of teachers, students, different departments within the institution, and the broader society. Key elements of academic administration include teacher resources, instructional resources, student management, academic quality management, daily operations, and management systems. Among these, teacher resources serve as a vital guarantee for effective instruction, while instructional resources encompass physical materials such as classrooms, teaching facilities, and textbooks, as well as informational resources such as educational technology, teaching methods, and management systems. Student management entails tasks such as student registration, rewards and disciplinary measures, and student evaluations. Academic quality management covers faculty development, instructional assessment, and internal and external collaborations [1]. Daily operations involve the concrete implementation and coordination of various academic affairs, while the management system serves as a significant safeguard for constructing and refining the academic administration framework. In summary, academic administration is an indispensable core component within higher education institutions. Through standardized and information-driven management practices, it not only enhances the quality and efficiency of teaching, but also fosters innovation and advancement, thereby providing students with a superior educational experience and service.

### 2.2. Basic elements and processes of academic affairs management

The fundamental elements and processes of educational administration encompass curriculum development, course selection and scheduling, teaching assignment, examination and evaluation, grade management, and student records management. To begin, curriculum development stands as a pivotal aspect of educational administration. The academic affairs office formulates the curriculum based on the school's instructional objectives and curriculum requirements, while effectively communicating and coordinating with different faculties and programs to ensure a rational course arrangement and optimal utilization of teaching resources. Secondly, course selection and scheduling represent the crucial juncture where student course demands intersect with faculty course arrangements. Students utilize the course selection system to enroll in courses while the academic affairs office schedules classes, striving to address conflicts in time and allocate course resources, guaranteeing a smooth completion of necessary coursework for students. Thirdly, teaching assignment constitutes an essential arrangement concerning faculty resources in educational administration. Based on the curriculum and considering factors such as the faculty's professional background and teaching capabilities, the academic affairs office distributes teaching assignments to ensure each course is taught by a specialized faculty member while maintaining an appropriate distribution of teaching workload. Furthermore, the examination and evaluation phase constitutes a vital segment that evaluates students' learning outcomes. The academic affairs office determines examination schedules and venues, establishes examination rules and grading criteria, coordinates invigilation arrangements, and collaborates with faculty members to develop test questions based on the teaching syllabus and examination requirements [2]. They also assess

and record students' answer scripts and grades. Grade management serves as one of the core components of educational administration. The academic affairs office is responsible for collecting, organizing, and recording students' performance data, calculating grade points and credits, generating student transcripts, and carrying out academic evaluations and reward/penalty measures. Finally, student records management represents a significant aspect of educational administration. The school's academic affairs office manages students' academic records, including procedures related to registration, transfer of major, leave of absence, withdrawal, and graduation, ensuring the accuracy and completeness of students' academic information. In conclusion, the fundamental elements and processes of educational administration encompass curriculum development, course selection and scheduling, teaching assignment, examination and evaluation, grade management, and student records management. By scientifically and rationally organizing and managing these components, the smooth progress of education and teaching can be ensured, ultimately enhancing teaching quality and efficiency.

### **3. Analysis of the Current Situation of Academic Affairs Management in Chinese Universities**

#### **3.1. Traditional mode of academic affairs management: problems and challenges**

The administration of higher education in our country has long relied on manual operations and traditional management models. Under this mode, academic affairs management is subject to various constraints and challenges, primarily manifested in the following aspects. Firstly, manual operations lead to inefficiency in academic affairs management. The management involves a large amount of data processing and information exchange, and requires coordination among multiple departments and schools. In the traditional manual operation mode, work efficiency is low, prone to errors, and difficult to achieve timely and accurate information sharing and statistical analysis. Secondly, the low level of informatization affects the quality of management. Under the traditional model, there is a lack of advanced information technology and management systems, making it difficult to effectively utilize data and information resources, accurately grasp students' learning situations and teachers' teaching quality, and carry out scientific management and decision-making. Thirdly, the repeated and cross-cutting nature of academic affairs management leads to insufficient organization and coordination. Under the traditional academic affairs management model, there are multiple repetitions and intersections in teaching tasks, course selection and scheduling, examination evaluation, and grade management between the academic affairs department and other departments [3]. This easily results in information confusion and conflicts, increasing the difficulty and cost of management. In addition, there are other issues associated with the traditional model. For example, there is a lack of unified management standards and processes, resulting in non-standardized management. The focus of management work varies among different schools, departments, and teachers, leading to differing levels of management quality and efficiency. In summary, the traditional academic affairs management model is increasingly unable to adapt to the complex and ever-changing needs of modern education environment, becoming a significant hindrance to the progress of educational informatization. Therefore, it has become an important problem and challenge to break through the traditional management mode, accelerate the pace of academic affairs informatization, and improve the quality and efficiency of academic affairs management in higher education institutions.

### 3.2. Assessment of the Current Situation of Academic Affairs Management in Chinese Universities

Currently, the management of academic affairs in domestic universities is in a transformative and upgrading phase. The traditional manual operations and management mode have gradually been phased out. Against the backdrop of rapid development in information technology, digitization, intelligence, and globalization, the management of academic affairs in universities is gradually shifting towards information-based, digital, intelligent, and managerial approaches. Firstly, various universities have accelerated the pace of academic information construction, promoting innovation and upgrading of information technology and management systems. Most universities have established academic management information systems, achieving digitized management across various aspects, such as teaching plans, course selection, course scheduling, exam evaluations, grade management, and student record management. Through these management information systems, academic departments and other departments can efficiently share information and collaborate, raising the efficiency and quality of academic management. Secondly, academic affairs management is gradually shifting towards intelligent and data-based approaches. Utilizing new technologies such as artificial intelligence, cloud computing, big data, and the Internet of Things, academic affairs management in universities can more accurately assess student learning and teacher teaching quality, providing richer and more accurate data support for teaching improvements and management decisions. Furthermore, academic affairs management is also gradually transitioning towards service-oriented management with students at the center. By strengthening teacher-student communication and following the principle of "tailor-made, differentiated services," more diverse and enriched educational services can be provided, offering students a better educational experience. However, there are still some bottlenecks and challenges in China's current university academic affairs management. For example, some universities do not attach enough importance to information construction, and existing information systems have varying degrees of problems, requiring stronger digital information sharing. The application scenarios and benefits of emerging technologies are still in the exploratory stage. Additionally, management innovation and human resources construction are also facing certain challenges. These problems require active face-to-face confrontations by universities to solve. In summary, China's university academic affairs management is currently in a phase of rapid development and transformation, crossing over the traditional academic affairs management models, accelerating the informationization process, promoting digital, intelligent, managerial, and global academic affairs management, thus providing powerful support for and guaranteeing the improvement of the quality of university education and teaching.

### 3.3. Development of Informationization of Academic Affairs Management

Informationization of academic administration has become one of the important development directions in Chinese higher education administration. With the rapid development and application of information technology, academic administration has gradually entered the era of digitization, intelligence, and dataization. Firstly, some achievements have been made in the informationization of academic administration. Most universities have established academic administration information systems, realizing the digitization processing of various links such as teaching plans, course selection and scheduling, examination evaluation, grade management, and student-status management. Academic department can achieve fast and convenient management and inquiry through the information system, avoiding the inefficiency and error-prone issues of traditional manual operations. Meanwhile, the academic information system also provides accurate data support for school management departments, which contributes to scientific decision-making and fine management. Secondly, academic administration informationization has developed towards intelligence. By introducing artificial intelligence

technology, academic administration can achieve intelligent monitoring and evaluation of student learning situations and teachers' teaching quality. Through big data analysis, deeper evaluation, and prediction of teaching quality can be provided for the school, which helps improve teaching and decision-making management. In addition, academic administration informationization continues to promote dataization and openness development. School academic departments can integrate and share data through the information system, avoiding information and data isolation issues [4]. Relevant data is open to students, teachers, and other management departments, promoting the exchange and collaboration of multiple information. Meanwhile, academic administration informationization has also promoted the sharing of teaching resources and the openness and transparency of teaching evaluation standards, improving teaching quality and fairness. However, there are still some challenges and problems facing academic administration informationization. For example, the security and stability of information systems need to be strengthened to ensure the safety and reliability of academic information. The application of emerging technologies such as artificial intelligence also faces the problems of technological maturity and practical application. The interconnection of information systems between different universities needs further improvement. To cope with these challenges, it is necessary to further strengthen information technology construction and improve talent cultivation and management capabilities. In summary, academic administration informationization is promoting the modernization process of Chinese higher education administration. Through digitization, intelligence, and dataization, academic administration can improve efficiency, enhance quality, achieve scientific decision-making, and provide strong support and guarantee for the development of higher education.

## **4. Advantages and Challenges of Academic Affairs Informatization**

### **4.1. Advantages of Academic Affairs Informatization**

In promoting and applying educational informationization in Chinese universities, there are evident advantages. Firstly, educational informationization can improve the quality of teaching and administrative efficiency. Information technology enables scientific evaluation of students' learning situations, teachers' teaching capabilities and other aspects, timely identification and resolution of problems in education and teaching processes, thus enhancing the quality of education. Educational informationization also strengthens the scientific and systematic nature of teaching administration, improving management efficiency in various aspects such as teaching plan formulation, course selection and scheduling, examination evaluation and grade management. Secondly, educational informationization makes teaching administration more convenient and efficient. Information technology provides flexible, quick and accurate data processing tools for teaching administration departments, ensuring efficient completion of tasks. Such data support has a significant promotion effect on school administrative management, decision-making and teacher-student interactions. Thirdly, educational informationization promotes the sharing and collaboration of educational and teaching resources across the entire school. Information on online teaching resources, electronic literature, teaching system standards and other aspects is shared among education and teaching departments, integrating and optimizing various resources to form an educational and teaching resource system, promoting the improvement of teaching quality across the entire school. In addition, educational informationization has become an important part of school information construction. In university informationization construction, educational informationization is one of the core parts and can undertake important tasks in educational and teaching informationization construction. It is beneficial to promote comprehensive realization of the educational and teaching informationization of higher education. In summary, educational informationization has numerous advantages in promoting and applying

educational administration in Chinese universities. By improving the quality of teaching, administrative efficiency, convenience and efficiency of teaching administration, promoting the sharing of educational and teaching resources across the entire school, accelerating university informationization construction and other aspects, it promotes the development of higher education and improves the level of management.

#### **4.2. Challenges of Teaching Affairs Informatization**

The promotion and application of educational informatization also face some challenges. Firstly, it needs to overcome technical and platform issues. Different universities or departments may have different technical platforms and software applications, leading to a lack of information sharing and interoperability. Additionally, the rapid development of information technology also poses challenges for technical support and maintenance personnel. Secondly, educational informatization faces challenges in data management and security. School management systems need to handle a large amount of teaching and student data, which may contain personal privacy and sensitive information. Therefore, protecting the security and privacy of data becomes an important issue. At the same time, the accuracy and integrity of data also need to be ensured to ensure the scientific reliability of decision-making and evaluation. Thirdly, educational informatization needs to address challenges in personnel training and management. The use of educational management systems requires administrative staff and teachers to have the necessary technical and operational skills. Therefore, providing professional training and support, strengthening personnel's skills development and management, is an important part of the promotion of educational informatization. Additionally, educational informatization also needs to address the integration with educational and teaching models. The combination of traditional education and teaching models with the application of information technology requires a transformation of teaching concepts, teacher roles, and teaching processes in order to achieve effective operation of educational informatization. In conclusion, although educational informatization brings many advantages, it also faces certain challenges in its promotion and application. Efforts should be made to enhance technical support and platform unity, ensure data management and security, strengthen personnel training and management, as well as integrate with educational and teaching models. By addressing these challenges, the development and application of educational informatization can be further advanced [5].

### **5. Exploring Strategies and Methods of Informatization of Academic Affairs**

#### **5.1. Establishing a Perfect Information System for Academic Affairs**

To advance education informatization, establishing a comprehensive and sophisticated education information system is a crucial strategy and approach. Firstly, the education information system should provide comprehensive and rich functions, supporting educational planning, course selection and scheduling, examination evaluation, grade management, and student status management. The system should be flexible to meet the needs of different universities and be effectively integrated with other information systems to realize data sharing and integrated management. Secondly, the education information system should focus on user experience and ease of use. The system interface should be simple and straightforward, and the operating process should be convenient and intuitive, reducing the burden of users' learning. At the same time, customized functions and services should be provided for different user roles to ensure that different user groups, such as teachers, students, and education administrators, can easily use the system and meet their respective needs. Thirdly, the education information system should have excellent data management and security capabilities. The system should

ensure the accuracy, completeness, and timeliness of educational data, ensuring the scientificity of educational decision-making and evaluation. At the same time, multi-level security protection measures should be adopted to ensure that educational data is not accessed or tampered with by unauthorized personnel, and privacy protection should be done properly during data sharing and communication. In addition, the establishment of a complete education information system also needs to be connected with relevant policies and norms. The construction of the system should comply with national and local education and teaching policies and standards to ensure the legality and compliance of the system. At the same time, advanced technologies and standards in the industry should be actively introduced, and close cooperation with relevant organizations and professional groups should be maintained to continuously optimize and upgrade the system. Finally, personnel training and management should also be considered for the establishment of an education information system. The technical and operational capabilities of system operation and maintenance personnel and education administrators should be cultivated, and real-time training and technical support should be provided to ensure the stable and efficient operation of the system.

## **5.2. Enhance the training and support of informatization for teachers and students**

Enhancing the training and support of teachers and students in information technology is an essential strategy and approach to promote the digitalization of education management. Firstly, concerning teachers, it is crucial for them to acquire proficiency in operating the educational management information system and leveraging instructional resources effectively. Schools can organize regular training courses and seminars, offering training on system functionalities and applications. Additionally, encouraging teachers to actively participate in the development and sharing of instructional resources is vital. Furthermore, schools can establish dedicated teams to provide continuous technical support and address any concerns raised by teachers. As for students, they should be equipped with knowledge about the functionalities and usage of the educational management information system, enabling better management of courses, course selection, and grade inquiries. To accomplish this, schools can provide information technology training during the orientation phase for new students, assisting them in mastering the basics of system operation and enhancing their skills. Simultaneously, schools should offer online assistance and technical support, resolving any issues or confusion encountered by students while using the system. In addition to training, schools should strengthen the support for teachers and students in their digital endeavors. For teachers, schools can establish platforms for sharing instructional resources, encouraging the exchange of high-quality teaching materials and experiences to enhance teaching practices. For students, the educational management information system should provide learning resources and online Q&A functions, assisting students in improving their learning effectiveness and fostering self-directed learning abilities. Furthermore, schools can establish dedicated information technology support teams responsible for system operation and troubleshooting, ensuring timely response to the needs of teachers and students. Encouraging user feedback and suggestions will enable prompt adjustments and enhancements to the system, thereby improving user experience. By intensifying training and support for teachers and students in information technology, schools can enhance their digital literacy and facilitate their integration into the widespread adoption of educational management systems. Teachers will be able to flexibly utilize information technology tools to enhance teaching effectiveness, while students can conveniently manage their academic pursuits and access learning resources. These efforts will further propel the development of digital education management.

### 5.3. Utilizing the Role of Informatization in Academic Affairs Management

Digitalization plays a crucial role in the management of education. Firstly, digitalization enhances the efficiency and accuracy of educational management. Through an educational information system, schools can automate and digitize processes such as curriculum planning, course selection, scheduling, exam evaluation, and grade management. This reduces the burden of manual operations and the use of paper documents. Educational administrators can swiftly and accurately carry out their duties using the system, thereby boosting productivity. Secondly, digitalization enables centralized management and sharing of educational data. The educational information system integrates student information, teaching resources, and assessment data, creating a comprehensive educational database. Various departments and educational authorities can retrieve and utilize this data as needed for teaching quality evaluation, decision-making analysis, and policy formulation. Thirdly, digitalization promotes the sharing and collaboration of teaching resources on campus. Through the educational information system, teachers can upload and share teaching materials such as lecture slides, case studies, and exercises, facilitating the exchange and sharing of teaching experience and resources. Teachers can view and learn from each other's course designs and teaching content, thus improving teaching quality. Similarly, students can access course-related learning resources through the educational information system to enhance their learning outcomes. Moreover, digitalization allows for the standardization and scientific management of educational administration. The educational information system automatically generates scheduling plans and timetables based on a school's teaching plans and course arrangements, thereby reducing scheduling conflicts and resource wastage. The system provides an online course selection function, aiding students in choosing courses and managing credits, ensuring the rationality of teaching arrangements and accurate credit statistics for students. Additionally, the system automatically generates student transcripts and academic records, providing convenient data support.

## 6. Conclusion

Within higher education institutions in our country, the combination of educational administration and information technology has already become an irreversible trend. By establishing a sophisticated educational information system, enhancing information technology training and support for faculty and students, as well as utilizing information technology to serve educational administration, modernization and efficiency in educational administration can be achieved. The development of information technology will provide more opportunities and challenges for universities, and require active response, rational planning and utilization of information technology resources to promote the comprehensive development of educational information technology. However, we also face some challenges. For example, the construction of information technology requires a significant investment of manpower, material resources and financial resources, which require the joint support and investment of universities and governments. In addition, in the process of promoting information technology, we need to address data privacy and information security issues, ensuring the confidentiality and security of educational information. For universities, it is both an opportunity and a challenge. Through rational planning and utilization of information technology resources, we can improve the efficiency and quality of educational administration, and enhance the learning and teaching environment for faculty and students. In the meantime, universities need to constantly update their thinking and response capabilities, keep pace with the development of information technology, and be adequately prepared for the comprehensive promotion of educational information technology. Only by fully leveraging the advantages and



functions of information technology can we better promote the development of universities and improve the quality of education.

## References

- [1] R.O. M ,O. G ,J.L. M , et al.713 - Regulatory Affairs, Quality Systems, Policy, and Ethics: DEVELOPMENT OF A COST EFFECTIVE CELL THERAPY QUALITY MANAGEMENT SYSTEM INTEGRATED WITHIN AN ACADEMIC HOSPITAL [J]. *Cytotherapy*, 2023, 25(6S): S162-S162.
- [2] Jinyang D .Improving Random Forest Algorithm for University Academic Affairs Management System Platform Construction[J].*Advances in Multimedia*,2022:20-22.
- [3] Wang G .A New Approach to Improve Party and Academic Affairs Management in Schools of Private Universities in the “Internet Plus” Era [J]. *American Journal of Management Science and Engineering*, 2021,6(4):33.
- [4] Declan M .Recommending Collegiate Recovery Programs to Institutes of Higher Education in Ireland [J]. *Alcoholism Treatment Quarterly*, 2024,42(1):138-146.
- [5] Lígia N ,Faia M C ,B. C C .Towards a bright side of technostress in higher education teachers: Identifying several antecedents and outcomes of techno-eustress [J]. *Technology in Society*, 2024 (1): 22.