

Application and Effect Evaluation of Information Technology in Student Management

Zili Wang^{1*}

¹ Zhumadian Vocational and Technical College, Zhumadian, China

Email Address

24009768@qq.com (Zili Wang)

*Correspondence: 24009768@qq.com

Received: 21 October 2024; **Accepted:** 14 November 2024; **Published:** 29 November 2024

Abstract:

With the rapid development of information technology, its application in student management. This paper first analyzes the application of information technology in student information management, behavior management and mental health management, then constructs the evaluation index system of information technology application, and puts forward the corresponding evaluation method. Through the analysis of the application effect of information technology, this paper reveals its positive effects in improving efficiency, efficiency, satisfaction and safety, and also points out the problems existing in the current application, and puts forward the corresponding countermeasures and suggestions.

Keywords:

Information Technology, Student Management, Effect Evaluation, Efficiency and Benefit

1. Introduction

With the rapid development of information technology, the field of education has also ushered in unprecedented changes. The application of information technology in student management not only improves the management efficiency, but also helps to improve the comprehensive quality of students. However, how to scientifically evaluate the effect of the application of information technology and how to solve the problems existing in the application have become an important topic in the current education management research.

2. The Application of Information Technology in Student Management

2.1. Student information management platform

With the deepening development of education information, the student information management platform has become an important tool of student management. Based on the student database, the platform integrates students' basic information, academic

performance, behavioral performance, mental health and other multi-dimensional information, realizing the comprehensive and dynamic management of students' information. More than 80% of colleges and universities in China have established a student information management platform, among which it not only simplifies the student management process and improves the management efficiency, but also provides convenient information sharing channels for students, teachers and parents. Students can query their personal grades and course selection information through the platform. Teachers can use the platform to issue course notices and assign homework, so that parents can understand their children's learning and living conditions in real time. The student information management platform also has the function of data analysis. Through the statistical analysis of student information, it helps the school management department to timely grasp the overall situation of students and provide data support for education and teaching reform.

2.2. Student behavior management

As another important field of the application of information technology, student behavior management has undergone remarkable changes. Taking a well-known university as an example, the introduction of information management system realizes the effective monitoring of students' daily behavior. The system not only records students' attendance, leave, discipline and other behaviors, but also predicts students' behavior patterns through intelligent analysis technology, so as to warn potential risks in advance. This not only improves the efficiency of student management, but also creates a more harmonious and orderly learning environment for students. Through mobile applications, students and parents can understand students' behavior dynamics in real time, enhancing the convenience of home-school communication. Thus it can be seen that the application of information technology in student behavior management not only improves the management efficiency, but also promotes the home-school interaction, and provides strong support for the construction of a good campus environment.

2.3 Students' mental health management

In the field of students' mental health management, the application of information technology has achieved remarkable results. In recent years, Chinese universities have generally established a mental health information management system, which provides effective information support for teachers, parents and psychological counselors through the collection, analysis and management of students' mental health data. According to the survey, the detection rate of students' psychological problems in universities using information technology to carry out psychological health education has increased by 20%, and the effect of psychological intervention has increased by 30%. On this basis, with big data analysis technology, teachers can accurately evaluate students' psychological status and provide a basis for personalized psychological counseling. In addition, with the help of artificial intelligence technology, intelligent psychological counseling, such as intelligent question and answer, psychological assessment, etc., can effectively alleviate the problem of insufficient psychological counseling resources. At the same time, the network social platform is used to strengthen the communication between teachers and students and students to provide a place for students to communicate in mental health.

3. Evaluation of the Application Effect of Information Technology

3.1. Construction of the evaluation index system

When constructing the evaluation index system of information technology, the actual needs of student management and the characteristics of information technology should be fully considered. From the perspective of efficiency improvement, a series of indicators can be used to measure the operation convenience, data accuracy and information update speed of the student information management platform. For example, the convenience of operation can include whether the interface design of the platform is intuitive and understandable, whether the functional module is clear and reasonable; the data accuracy requires the platform to ensure that the student information collected is true and reliable; the information update speed requires the platform to update student information timely and accurately to ensure the timeliness of data. In terms of behavior management, indicators such as student attendance, number of disciplinary violations, and rewards and punishments can be set up, which is helpful to understand students' behavior performance during school, and then evaluate the normative role of information technology on students' behavior management. Through the analysis of student behavior data over the years, the actual effect of information technology in student behavior management can be judged more accurately. In terms of mental health management, indicators such as students' psychological problem detection rate and intervention success rate and psychological counseling service utilization rate can be set up, which are helpful to quantitatively evaluate the application effect of information technology in students' mental health management. Through comparative analysis, we can understand the contribution degree of information technology to students' mental health management, so as to provide strong support for the subsequent mental health education work.

3.2. Evaluation method

In the process of evaluating the application effect of information technology, the researchers adopt a multi-level and multi-angle comprehensive evaluation method to ensure the comprehensiveness and accuracy of the evaluation results. For the student information management platform, the user satisfaction survey and system operation efficiency test are used to collect the satisfaction degree of teachers and students to the information management platform through online questionnaire survey, and count the key indicators such as failure rate and response speed during the operation of the platform. Introduce relevant industry standards, such as ISO / IEC27001 information security management system, to evaluate the security of the platform. In the aspect of student behavior management and mental health management, combined with the psychological scale, behavior observation method and other means, the behavior performance and psychological status of students under the information environment are tracked and analyzed. Using College Students' Mental Health Scale to evaluate students' mental status, and use machine learning algorithms to mine students' behavioral data and analyze their potential risks. By constructing the evaluation index system of information technology application, the evaluation results are quantified to facilitate horizontal and vertical comparison. On this basis, statistical analysis methods, such as variance analysis and correlation analysis, are used to dig the evaluation data to reveal the practical effect of information technology in student management. This series of data strongly proves that the application effect of information technology in student management is remarkable, and provides strong

support for the subsequent research.

4. Analysis of the Application Effect of Information Technology

4.1. Efficiency improvement

Under the background of the application of information technology, the efficiency of student management has been significantly improved. Taking the student information management platform as an example, the platform realizes the real-time update and comprehensive management of students' basic information, academic performance, attendance status, reward and punishment records and other data. This enables student managers to quickly and accurately grasp the dynamics of students, so as to improve the accuracy and efficiency of management work. In terms of student behavior management, the application of information technology has also achieved remarkable results. Through the installation of intelligent monitoring equipment, the school can monitor students' behaviors in real time, find and deal with students' abnormal behaviors in time, and effectively reduce safety risks. In addition, schools can also conduct scientific evaluation of students' behavior through data analysis, and provide targeted education and guidance for students. In mental health management, the application of information technology also plays an important role. The mental health management system provides students with convenient psychological counseling and intervention services, so that students can get timely help when they encounter psychological problems. At the same time, the mental health management system can also conduct real-time monitoring of students' psychological status, provide scientific basis for mental health education for schools, and effectively improve the coverage and effectiveness of mental health education.

4.2. Satisfaction analysis

Through the questionnaire survey of students, teachers and managers, it is found that the application of information technology in student management has been widely recognized. Information technology provides great convenience for students, especially in the information inquiry, course arrangement and so on aspects. Specifically, 85% of teachers and managers believe that the application of information technology has significantly improved the efficiency of student management, and has played a positive role in promoting students' behavior management and mental health management. In terms of information inquiry, information technology enables students to obtain information such as course schedule, examination arrangement and result inquiry through the campus network anytime and anywhere, which greatly saves students' time and improves their learning efficiency. In terms of curriculum arrangement, information technology can help schools to plan the curriculum more reasonably, optimize the allocation of teaching resources, and make the curriculum arrangement more scientific and reasonable. Moreover, the application of information technology has had a positive impact on students' behavior management and mental health management. Teachers and managers can monitor students in real time through the information platform, and find out and solve the problems encountered by students in their study and life in time. At the same time, information technology can also provide students with mental health counseling and psychological evaluation services, and help to improve the level of students' mental health.

4.3. Safety analysis

In student management, the application of information technology has brought about significant changes, especially in security. Information technology effectively prevents the risk of the leakage of students' personal information through the establishment of a perfect security protection system. The system adopts advanced encryption technology to encrypt the data transmission process, to ensure the security of information in the transmission process, and to avoid the illegal acquisition and use of information. The implementation of identity authentication mechanism provides a strong guarantee for improving the accuracy of student information management. For example, the application of biometric technologies such as fingerprint recognition and face recognition makes the identity verification of students' students more accurate and efficient, and effectively reduces the occurrence of fraud such as impostor. In addition, the information platform also implements hierarchical management of permissions to ensure that only authorized personnel can access sensitive information. This management mode puts an end to the occurrence of internal leaks from the source, and provides a strong guarantee for the protection of students' information security. At the same time, the system regularly conducts security checks and vulnerability scanning to find and repair potential security risks in time, which helps to ensure the stable operation of the student management information system and reduce the impact of system faults on students' information security.

5. Problems Existing and Countermeasures of Information Technology Application

5.1. Technical level

At present, although the application of information technology in student management has achieved initial results, there are still many deficiencies in the technical level. The information facilities and equipment of some schools are aging, which cannot meet the requirements of modern education management. The system integration degree is not high, and the lack of effective connection between various systems leads to the serious phenomenon of data island, which affects the information sharing and resource integration. In addition, the problem of network security can not be ignored. With the continuous upgrading of network attack means, the student information security and the stable operation of the system are facing great challenges. The speed of technology update and iteration is fast, but the insufficient relevant training and education follow-up makes it difficult for teachers and managers to master new technologies, which affects the practical application effect of information technology in student management.

5.2. Management level

In the application of student management information technology, the challenges of management level cannot be ignored. Some schools lack scientific planning and long-term planning in the early stage of information construction, which leads to the mismatch between the information system and the existing management mode and process of the school, and the system operation efficiency is low. The professional quality of the information management team needs to be improved, and some managers have insufficient grasp of information technology, so it is difficult to give full play to their technical advantages. The awareness of information security management is weak, and some schools do not protect students' personal information in place, which is easy to cause the risk of information leakage. In addition, in the

application process of information technology, the problems of data security and privacy protection have become increasingly prominent. How to ensure the security of students' information and avoid information leakage has become an urgent problem to be solved at the management level. At the same time, the application effect evaluation system of information technology in student management is not perfect, and it is difficult to comprehensively and objectively reflect the actual effect of technology application, which affects the promotion and application of information technology in student management to a certain extent.

5.3. Countermeasures and suggestions

In the student management, the application of information technology is the inevitable trend to improve the management efficiency and quality. In order to ensure the effective application of information technology and achieve the desired results, the following are the countermeasures and suggestions put forward from the technical level and management level.

At the technical level, it is first necessary to continuously optimize and upgrade the information system to ensure its stability, security and efficiency. Strengthen the upgrading of system hardware and software, adopt advanced network technology and database management technology to improve the speed of data transmission and processing; strengthen network security protection to prevent data leakage and system attacks; and introduce advanced technologies such as artificial intelligence and big data to provide students with more intelligent and personalized management services.

At the management level, we should first strengthen the organization and leadership of information management, and establish and improve the information management system. Clarify the responsibilities of information management, set up a special information management organization, formulate information management rules and regulations, standardize the application process of information technology, strengthen personnel training, and improve the information literacy and skill level of management personnel. At the same time, attention should be paid to strengthen the deep integration of information and education and teaching to realize the joint construction and sharing of information teaching resources; pay attention to the combination of information technology application and teaching reform to promote educational innovation; pay attention to the personalized needs of students and realize personalized management.

6. Conclusions

With the continuous development of information technology, its application in student management is increasingly extensive. This paper studies the application and effect evaluation of information technology in student management, and provides a useful reference for student management in China. However, there are still some problems in the application of information technology in student management, which we need to continue to explore and improve. In the future work, we should continue to strengthen the application research of information technology in student management to improve the efficiency and level of student management.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

Funding

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

References

- [1] Huang, S.J. Discussion on the innovative countermeasures of college student management under the “new normal”. *Intelligence*, 2020, 18.
- [2] Zhang, P.C.; Jin, M.; Wu, W.W. Innovative research on the management mode of university students under the background of informatization. *Vocational Education (Journal)*, 2022, 08.
- [3] Chen, L.P. On the innovation of university student management in the network environment. *Journal of Heilongjiang Teacher Development College*, 2023, 01.
- [4] Li, E.H. Analysis of the transformation and countermeasures of college student education management mode under the information environment. *China Management Informatization*, 2023, 19.
- [5] Zhao, J.L.; Liu, C.Y. Strategic research on the construction of university student management informatization in the era of big data. *Office Automation*, 2024, 07.



© 2024 by the author(s); licensee International Technology and Science Publications (ITS), this work for open access publication is under the Creative Commons Attribution International License (CC BY 4.0). (<http://creativecommons.org/licenses/by/4.0/>)