

Research on the Innovation of Student Education and Management in Colleges and Universities under Network Environment

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Abstract: *With the rapid advancement of information technology, the online environment has become an integral part of contemporary society. Institutions of higher learning, as cradles for nurturing talent, face unprecedented challenges and opportunities in educational administration. The management of education in the online environment not only alters traditional approaches but also equips educational administrators with additional tools and resources. However, this transformation also introduces new issues such as information overload, cybersecurity, and declining student self-discipline. Therefore, exploring innovations in managing higher education students in the online environment and seeking new administrative pathways have become crucial topics in current educational administration. By examining the new opportunities and challenges in online educational management, the impact of the online environment on managing higher education students, and innovative approaches in educational administration, new perspectives and methods can be proposed to better adapt to and address the changes of the digital age.*

Keywords: *Network environment; college students; education management; work innovation*

1. Introduction

In the rapid development of information technology today, the network environment profoundly impacts every aspect of higher education management. Traditional educational management models appear increasingly outdated and inadequate under the influence of the Internet, urgently requiring innovation and transformation. The Internet has not only changed the speed and manner of information dissemination but has also redefined the interaction modes between teachers and students and the learning environment. College students, as "natives" of the Internet age, are deeply influenced in their lives and studies by the network. Therefore, how to conduct efficient educational management in a networked environment has become an urgent issue for universities. The network environment brings unprecedented opportunities for higher education management. The convenience of information retrieval enables educational managers to more timely grasp students' dynamics and needs, and to conduct personalized management and guidance. The diversity of learning methods provides students with more choices and autonomy, promoting enthusiasm and creativity in learning. The extensive nature of communication breaks the restrictions of time and space, making communication between teachers and students, and among students, smoother and cooperation closer. However, behind these opportunities lie many challenges, such as information overload, Internet addiction, and undesirable behaviors in virtual environments, which pose higher demands on higher education management. To address these challenges, universities must explore and innovate in information technology construction, innovation in management mechanisms, enhancement of educational managers' information literacy, and network moral education. Information technology construction serves as the foundation; through establishing a sophisticated information platform, educational management can be made intelligent and efficient. Innovation in management mechanisms is crucial; flexible and adaptive management methods can better cope with the complexity and variability of the network environment. The enhancement of educational managers' information literacy is a guarantee; only with high information literacy can managers effectively utilize network tools for educational management. Network moral education is fundamental; through strengthening network moral education, students can be guided to use the Internet correctly and develop good online behavior habits.

2. New Opportunities and Challenges of Educational Management in Network Environment

Amidst the rapid evolution of the digital realm, higher education administration confronts unprecedented novel opportunities and challenges. The extensive integration of cyber technologies has catalyzed profound transformations in educational governance, furnishing administrators with more expedient and efficacious tools. Leveraging online platforms for student oversight not only ensures real-time information updates and sharing but also furnishes scientific grounds for managerial decisions through extensive data analytics, thereby enhancing the precision and efficacy of administrative tasks. In this cyber milieu, educational administration transcends temporal and spatial constraints, achieving comprehensive digitization and informatization. Through online mediums, students gain unhindered access to educational resources and administrative insights, vastly facilitating communication and interaction between students and institutions. Administrators harness network technologies to comprehensively track and analyze students' academic, personal, and psychological profiles, thereby promptly addressing issues and elevating the overall standard of student governance. Nonetheless, the cyber environment also presents novel challenges [1]. Primarily, the issue of information security looms large; the storage and transmission of data via online platforms are susceptible to cyber-attacks and data breaches, necessitating heightened measures for safeguarding student privacy. Universities must bolster cybersecurity protocols to ensure the security and confidentiality of student information. Secondly, the normative dimensions of cyber management pose concerns; the dissemination and exchange of information on digital platforms demand adherence to established norms and regulations, lest confusion and misinformation ensue. Universities ought to establish robust cyber management frameworks, standardizing information dissemination and communication practices to ensure orderly cyber governance. Furthermore, educational administration in the digital realm grapples with adaptability issues among faculty and students. Insufficient proficiency in cyber technologies impedes the seamless execution of educational management tasks. Universities should intensify training and guidance for faculty and students, enhancing their proficiency in cyber technologies to better navigate educational management in the digital age.

3. The influence of network environment on the education management of college students

3.1 Convenience of information acquisition

The cyber milieu has wrought significant transformations upon the educational stewardship of university students, particularly through the expediency of information acquisition. Within the confines of traditional educational administration, information dissemination often relied on physical documents and face-to-face interactions, a process both time-consuming and laborious, potentially resulting in inefficiencies due to the lag in information transmission. However, within the cyber realm, a fundamental shift in information acquisition has occurred. University students now have instantaneous access to a myriad of learning, lifestyle, and employment-related information via the internet, ranging from course schedules and academic resources to daily amenities and campus events, all at their fingertips. This convenience not only enhances students' autonomy in learning but also significantly augments the transparency and interactivity of educational administration. The accessibility of information empowers students to actively engage in educational management. For instance, through online platforms, students can readily check grades, select courses, provide feedback, and maintain real-time communication with educators and administrators. This real-time interaction not only bridges the gap between administrators and students but also enhances the efficiency and precision of educational administration. Furthermore, convenient information retrieval also furnishes universities with copious data support. Through big data analysis, educational administrators can gain a more accurate understanding of students' needs and behavioral patterns, thus formulating more scientifically sound management and educational policies. However, the ease of information acquisition also presents challenges. Information overload may render students incapable of discerning the authenticity of information, and excessive reliance on online information may impede students' critical thinking abilities. Therefore, while leveraging the cyber environment to enhance the efficiency of educational administration, universities must also reinforce information literacy education, guiding students to judiciously utilize online resources and cultivate discerning information evaluation skills and independent learning habits. In conclusion, the convenience of information acquisition in the cyber environment presents unprecedented opportunities and challenges for the educational stewardship of university students. Balancing efficiency with literacy will be a pivotal issue in future educational management endeavors [2].

3.2 Diversity of learning styles

The continual evolution of the online landscape has engendered an unprecedented diversity in the learning methodologies of university students. The proliferation of digital resources and the ubiquity of online educational platforms have catalyzed the emergence of autonomous learning among students. Through the digital realm, students can access the latest learning materials and information anytime, anywhere, shattering the confines of traditional classroom teaching in both temporal and spatial dimensions. Novel learning modalities such as online discussion forums, live-streamed courses, and virtual laboratories have significantly enhanced interactivity and engagement. Students now have the autonomy to select learning content and pace according to their interests and needs, better catering to the exigencies of personalized development. Moreover, the online environment has facilitated the sharing and collaboration of learning resources, enabling students to engage with peers worldwide and expand the breadth and depth of their learning experiences through various online tools. The application of emerging technologies like artificial intelligence and big data holds the promise of further customizing the learning process, thereby enhancing its efficiency and efficacy. Nevertheless, the diversification of learning methodologies in the online environment also presents new challenges for educational management in universities, particularly in effectively supervising and guiding students' online learning behaviors, a matter demanding urgent attention.

3.3 Wideness of communication and interaction

In the realm of cyberspace, the expansive nature of communication has profoundly influenced the educational administration of university students. Through internet platforms, students are afforded the opportunity to engage with teachers and peers anytime, anywhere, transcending the constraints of time and space. This mode of communication dismantles the insularity of traditional classrooms, fostering openness and flexibility in the educational process, while facilitating the sharing of learning resources and dissemination of knowledge. Platforms such as online discussion forums, social media, and instant messaging tools empower students to swiftly seek assistance and feedback when encountering academic challenges, thereby enhancing both learning efficiency and autonomy. Moreover, the online environment fosters diverse forms of interaction, including video conferences, online tutoring, and virtual learning communities, enriching students' learning experiences and bolstering their sense of engagement and belonging. However, the pervasive interactivity of the internet also poses new managerial challenges, necessitating educators to pay closer attention to students' online behavior and mental well-being, and to implement effective measures to ensure the positivity and constructiveness of online discourse. This interactivity presents both opportunities and demands for innovation in university educational administration, urging administrators to adapt to the changes brought forth by new technologies and to cultivate a more open and inclusive educational environment [3].

4. Innovative Path of Student Education and Management in Colleges and Universities

4.1 Strengthening Informatization Construction

In the realm of cyberspace, the stewardship of higher education confronts unprecedented challenges alongside boundless prospects. Fortifying the infrastructure of digitalization has emerged as a pivotal avenue for fostering innovation in educational administration. Digital infrastructure not only augments administrative efficiency but also furnishes students with more personalized and interactive learning experiences. Within this endeavor lies the imperative of erecting a comprehensive digital campus, encompassing the establishment of streamlined information management systems and intelligent pedagogical platforms. The information management system stands as the linchpin of digitalization. By integrating cutting-edge data analytics, real-time monitoring and analysis of students' learning behaviors and performances become achievable, thereby furnishing educational administrators with precise data support. This not only aids in promptly identifying and addressing students' learning impediments but also facilitates the refinement of pedagogical strategies based on data feedback, thereby elevating the quality of education. The advent of intelligent teaching platforms represents another pivotal facet of digitalization. Through the construction of online learning hubs, students gain unfettered access to educational resources, partake in online discussions, and engage in collaborative learning anytime, anywhere. Such platforms not only dismantle the temporal and spatial constraints of traditional classrooms but also, through multimedia and virtual reality technologies, proffer students with more vivid and immersive learning experiences. Concurrently, online learning platforms can tailor

personalized learning materials based on students' progress and interests, aiding them in acquiring knowledge more effectively. To ensure the smooth advancement of digitalization, due emphasis must be placed on information security and privacy protection. During the construction of information systems and teaching platforms, strict adherence to pertinent laws and regulations is imperative, alongside the adoption of advanced encryption technologies and security measures, safeguarding students' personal information against breaches and misuse. Strengthening digital infrastructure is not merely an innovative trajectory for higher education administration but also an inevitable choice in consonance with the zeitgeist. Through continual enhancements to information management systems and intelligent teaching platforms, educational management efficiency and teaching quality can be effectively bolstered, thereby furnishing students with superior educational services and empowering their growth and development.

4.2 Innovative management mechanism

In the realm of cyberspace, the realm of educational administration for university students encounters myriad challenges and opportunities. Pioneering novel mechanisms of governance stands as a pivotal avenue towards addressing these quandaries. The evolution of contemporary information technology furnishes formidable support for university educational administration, rendering the establishment of flexible and efficient governance mechanisms feasible. Universities ought to initially harness the potential of big data technology to apprehend students' learning dynamics and behavioral patterns through data analysis [4]. By means of intelligent data analytics platforms, administrators can promptly access students' learning progress, psychological states, and other pertinent information, thereby furnishing a scientific basis for personalized education. For instance, by recording students' class attendance, assignment completion, exam scores, and other data via learning management systems, a comprehensive assessment model can be formulated, aiding instructors in promptly adjusting teaching strategies and enhancing the specificity and efficacy of educational administration. The application of artificial intelligence technology also represents a pivotal frontier for innovation in university educational administration. The introduction of intelligent tutoring systems and virtual teaching assistants can furnish students with round-the-clock learning support and consultation services. This not only alleviates teachers' workload but also ensures timely assistance for students encountering difficulties. AI technology also holds significance in psychological health management, enabling the timely detection and intervention of students' psychological issues through emotional analysis and psychological assessments, thereby safeguarding students' physical and mental well-being. The hybrid management model integrating online and offline approaches assumes particular importance in the cyberspace environment. Traditional offline management methods exhibit limitations in information dissemination and response speed, while over-reliance on online management may result in the loss of interpersonal interaction. By constructing an integrated online and offline management system, universities can fully leverage the strengths of both approaches, enhancing management efficiency and student satisfaction. For instance, online platforms can be utilized for disseminating notifications, submitting assignments, and providing feedback, while offline activities serve to bolster interaction and communication between teachers and students, fostering teamwork and social skills among students. Cultivating a culture of education management with full participation from all stakeholders constitutes a vital component of innovative governance mechanisms. In the era of informatization, educational management should not solely be the responsibility of administrators but should also encourage participation from students, teachers, parents, and other stakeholders. Through the establishment of an open communication platform and feedback mechanism, we can promote the positive interaction between stakeholders, build consensus, and jointly promote the innovative development of education management. Administrators need to encourage and support teachers in boldly innovating education management, exploring new management models and methods, and continuously optimizing and improving governance mechanisms. In the cyberspace environment, the innovative mechanisms of educational administration for university students need to be approached from various perspectives including data analysis, artificial intelligence, hybrid management models, and full stakeholder participation. This not only enhances the efficiency and effectiveness of educational administration but also creates a more conducive learning and growth environment for students, ultimately realizing the comprehensive upgrade and innovative development of university educational administration [5].

4.3 Enhancing the informatization literacy of education administrators

In the realm of cyberspace, higher education administrators are confronted with unprecedented challenges and opportunities. Elevating the digital literacy of educational leaders emerges as a pivotal

pathway for driving innovation in educational management. Digital literacy is not only a fundamental capability for educational administrators to adapt to the modern information society, but also a crucial determinant for achieving efficient management and innovative educational models. The digital literacy of educational administrators is primarily manifested in their comprehension and application of information technology. Proficiently mastering and flexibly utilizing various information technology tools, such as online learning platforms, data analytics software, and communication collaboration applications, not only enhances work efficiency but also provides scientific foundations for decision-making. In the era of data-driven insights, educational administrators can gain more precise understanding of student needs and behaviors through big data analysis, thereby formulating more targeted management measures and educational strategies. For instance, by analyzing student learning data, common issues can be identified and corresponding measures taken to enhance overall teaching quality. Digital literacy also encompasses a profound understanding of network security and practical capabilities. In the process of information-based educational management, students' personal information and learning data are stored online, making safeguarding this information security an imperative concern for administrators. Possessing a high level of information security awareness, being able to identify and mitigate various network security threats, and establishing sound information security management systems are crucial safeguards to ensure the smooth progress of educational management work. Furthermore, enhancing digital literacy facilitates the innovation of educational management models. Traditional management approaches often rely excessively on experience and intuition, while digitalized management places greater emphasis on data and technological support. For example, by constructing a smart campus system, educational administrators can achieve comprehensive management and optimized allocation of campus resources, including classroom usage, library borrowing, and dormitory management. Smart campuses not only enhance management efficiency but also provide a more convenient and intelligent learning environment for students and faculty. Continuously learning and training are also essential for enhancing digital literacy. Given the rapid advancement of information technology, educational administrators must maintain a progressive learning attitude and continually update their knowledge base. Participating in professional training, engaging in academic exchanges, and self-learning through online courses all contribute to enhancing administrators' digital literacy. Schools should also establish systematic training mechanisms to provide necessary learning resources and support for educational administrators. In summary, elevating the digital literacy of educational administrators is a critical pathway for innovation in higher education student management. It not only improves management efficiency and optimizes educational resource allocation but also provides robust support for scientifically informed decision-making in educational management. In the context of digitization, only by continuously enhancing their digital literacy can educational administrators better cope with various challenges in educational management and achieve sustained innovation and development.

4.4 Strengthening Network Ethics Education

In the realm of cyberspace, the realm of educational management for university students faces unprecedented challenges and opportunities. The ubiquity of the internet diversifies students' channels for information access, yet accompanying this are increasingly conspicuous issues of cyber ethics. The significance of cyber ethics education in university student management is increasingly prominent, becoming a pivotal direction for educational management innovation. At its core, cyber ethics education aims to cultivate students' digital literacy and moral self-discipline. The cyber realm, though virtual, is as real as any public domain, demanding behavioral norms and ethical standards no less rigorous than those in the physical world. Universities should enhance students' awareness of cyber ethics through various means, establishing a robust cyber ethics education system. Firstly, integrating cyber ethics education into the curriculum is essential. Through professional courses, electives, and seminars, students gain comprehensive knowledge of cyber ethical norms, cybersecurity, and relevant laws and regulations. Interactive teaching methods such as case studies, discussions, and simulated cyber scenarios enhance students' engagement and practical skills, thus improving their moral judgment and behavioral control in the cyber environment. The cultivation of campus cyber culture is another crucial aspect of cyber ethics education. Universities should utilize internal network platforms such as campus networks and official WeChat accounts to propagate a healthy and uplifting cyber culture actively. By organizing hybrid online and offline cyber ethics-themed activities, like Cyber Civility Weeks and cybersecurity knowledge competitions, universities foster a rich atmosphere for cyber ethics education. Student associations and organizations can play an active role in cyber ethics education. Student-led cyber ethics advocacy activities resonate more deeply with peers and elicit a more positive response. Collaborative education involving families and society is vital for strengthening cyber ethics

education. Universities should enhance communication and cooperation with students' parents through parent-teacher meetings, family education seminars, etc., to engage parents in their children's cyber ethics education. Broad participation and support from various sectors of society, especially internet enterprises, community organizations, and the media, can generate a formidable educational synergy, collectively fostering a conducive cyber ethical environment. The establishment of an evaluation mechanism is crucial for implementing and improving cyber ethics education. Universities should develop a scientifically sound evaluation system to comprehensively track and assess students' online behavior. Through methods like questionnaires, behavioral observations, and data analysis, timely understanding and mastery of students' cyber ethical levels and educational effectiveness are ensured. Addressing existing issues and adjusting and improving educational strategies promptly are vital to ensure the effectiveness and sustainability of cyber ethics education. In conclusion, in the cyber environment, attention to cyber ethics education in university student management is imperative. Through curriculum design, campus cultural construction, family-social collaboration, and evaluation mechanisms, students' cyber ethical literacy is comprehensively enhanced, safeguarding their healthy growth in the digital world. This is not only an inevitable choice for addressing challenges in the internet age but also a crucial approach to nurturing well-rounded talents.

5. Conclusion

In the realm of cyberspace, the educational administration of universities is confronting unprecedented upheaval and challenges. The pathways to enhancing the efficacy of educational management encompass the realms of informatization, innovation in administrative mechanisms, elevation of the digital literacy of educational administrators, and the cultivation of cyber ethics. Only through relentless innovation and exploration can we forge a more efficient, intelligent, and humane educational management system within the backdrop of the digital age. University educational administrators should enthusiastically embrace change, daringly experiment with novel methodologies and technologies, comprehensively elevate the level of educational management, and furnish steadfast support for the holistic development of students. Looking ahead, with the incessant advancement of information technology, university educational administration will encounter a plethora of novel situations and challenges. However, it is certain that educational management in the digital milieu will continue to evolve towards a more personalized, intelligent, and humane trajectory. Universities should actively explore management models and methodologies that adapt to this trend, fully leverage the advantages of the cyber environment, surmount its challenges, and cultivate a favorable environment for the growth and success of students. Only thus can we genuinely achieve the modernization of educational management and propel the sustainable development of university education endeavors.

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