Artificial Intelligence for the Development of University Education Management

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Abstract: *Artificial intelligence has entered people's lives in physical or virtual forms such as intelligent assistance, robots, etc. Technologies such as deep learning, big data processing, and face recognition will make changes in the management of college education. This article uses qualitative research methods to conduct systematic research and finds that artificial intelligence will make education management more forward-looking, promote the digitalization, transparency and management rationality of education management, and reconstruct the education management supervision and correction system, but in practice there are also some problems during the operation. The article proposes that clarifying the working boundary between human and artificial intelligence in education management activities, strengthening relevant legal functions, and doing a good job in the development and application of artificial intelligence in education management talent training will promote the complementarity of artificial intelligence and university education management, and start with intelligence a new journey of modernization of university education management.*

Keywords: *artificial intelligence, education management, colleges and universities*

1. Introduction

Artificial intelligence is the product of the development of modern industry. After more than 60 years of evolution, it has attracted much attention for its excellent performance. Especially in recent years, driven by new theories and technologies such as mobile Internet, big data, supercomputing, sensor networks, and brain science, as well as the strong demand for economic and social development, the momentum of artificial intelligence development has become a new focus of international competition and economic development. The new engine of China, new opportunities for social construction[1]. The impact of artificial intelligence on society is comprehensive, but education bears the brunt. Educational management in colleges and universities is an activity process, so it is necessary to have a clear understanding of the basic links and steps of this process. Deming's "PDCA Four Links Theory" points out that any management process consists of four basic links: planning, execution, inspection, and summary [2]. On this basis, the management process of colleges and universities is also defined as the process of common activities carried out by college administrators to lead and direct the entire school's teachers, students and employees to achieve the school's educational goals. This process has gone through four aspects: planning, implementation, inspection, and summary basic link. Artificial intelligence, by its very nature, simulates the process of human thinking and information.

2. Exploration of changes in university education management in the era of artificial intelligence

2.1 Macro changes in university education management in the era of artificial intelligence

The overall planning is the starting link of educational management activities in colleges and universities, and it is also the prerequisite and guarantee for the success of educational management activities in schools. The process of plan formulation includes comprehensive information and analysis basis; mass participation, democratic discussion; multiple plans, comparative research; deliberate and decisive decision-making. In addition, a good education management plan should be dynamic and rolling. During the formulation and implementation of the plan, through real-time monitoring and feedback of information, the unreasonable aspects of the plan can be optimized and corrected in time.

Implementation is the process of school management mobilizing and using various resources to implement the school management plan. It is the central link of school management activities,

including organization, guidance, coordination and motivation. Existing studies have shown that artificial intelligence can complete multiple tasks independently or assisted, so it will promote the transformation of the management organization from a cone-shaped structure to a flat structure, and achieve the purpose of making the organization flexible, agile, elastic and creative [3]. Artificial intelligence in education management may play an important role in the organization of material and financial resources. However, the core of the education process is the combination of teachers and students. This is a relatively complex organizational process. The performance of artificial intelligence in this aspect may be stretched. But artificial intelligence can improve the efficiency of information transmission in the organization, reduce information distortion, reduce monitoring costs, and adopt more timely and targeted solutions to problems arising in teaching management.

Inspection is an activity process for school administrators to supervise and evaluate the implementation of the plan, and to discover and solve problems in the implementation of the plan. For quantifiable and objective activities, artificial intelligence will help managers set procedures and output visual inspection results during inspections, facilitating access to comprehensive information. For non-quantifiable aspects, such as teachers' creative performance in the classroom, they need to rely on the continued development of artificial intelligence technology.

Summarization is an activity process of overall analysis and comprehensive evaluation of a management cycle activity or a stage of work. In summary, we must do a good job in daily data collection. Artificial intelligence has storage capabilities that can help obtain rich data, including text, audio, video and other multimedia materials. It can automatically generate work files in the middle and end of the semester to facilitate the situation in the phase conduct comparative analysis and summary. At the same time, artificial intelligence collects data and summarizes according to specific procedures. The collected data has corresponding classification standards, which is convenient for direct comparison. At the same time, the collected data is rich and diverse, which can help school administrators to understand the entire school and even the area. The situation is summarized and judged. Such a summary method can make information and data more transparent, and it is also convenient for large-area comparisons.

2.2 The micro changes in the education management of universities in the era of artificial intelligence

The management activities of various aspects of physical work such as teaching, moral education, scientific research, personnel, finance, general affairs, and party affairs in colleges and universities are the research areas of school practice management. Studying the changes in the school management process in the era of artificial intelligence cannot bypass the school micro-practical management.

Teaching is the central task of colleges and universities. Teaching quality management is the top priority of teaching and school management. However, the quality of education is inherently latent, implicit, unmeasurable, and non-storable features [4]. Existing artificial intelligence systems can capture the teaching process through surveillance video, face recognition, etc., and record and evaluate the teaching process through emotion recognition and focus evaluation, but can such a process find the quality of teaching? The important factors are still unknown, but they provide a variety of information for education quality management analysis. There are many factors influencing the quality of teaching. Strengthening quality management and doing a good job in process supervision and guarantee will help improve the management of teaching quality. The current AI classroom intelligent system design, VIPKID's deep integration of face technology, and intelligent classroom behavior management system can identify and analyze the learning status of students. This is an attempt of artificial intelligence in the field of education quality management [5]. The teaching and learning process is non-renewable. Artificial intelligence attempts to decompose the learning process into different aspects through recognition technology, which helps to find out the key factors that affect the quality of teaching, which is of great significance for improving the quality of teaching in the future.

The school's financial management mainly includes income and expenditure, budget and final accounts, and financial supervision. For this kind of heavy, repetitive but important work, the use of big data for storage and analysis can greatly reduce the workload of management staff, improve work efficiency, and reduce school financial management costs. The school's general management is mainly about the deployment of materials. Compared with the autonomy of people, the management of materials is easier to automate. With reference to the bank's smart counter system, the general affairs of higher education stage adopts smart facilities, the process will be clearer, and it can save a lot of manpower and material resources, improve work efficiency, and provide teachers and students with a

good learning and living environment.

3. Challenges brought about by changes in university education management in the artificial intelligence era

3.1 The promotion of artificial intelligence technology

At present, the majority of college education administrators have realized that artificial intelligence is of great significance in promoting the scientific nature of educational decision-making and comprehensively improving the quality of education and teaching. However, the application cases of artificial intelligence are still relatively fragmented at this stage, and there is still a long way to go before full promotion. How does the future education management enable artificial intelligence to be widely and appropriately applied, how to maximize its intrinsic value, how to improve the ability of incumbent education managers to apply and control artificial intelligence, and how to cultivate future education managers that meet the needs of artificial intelligence technology balancing intelligent and non-intelligent lives and avoiding the negative effects of technology to the greatest extent has become a challenge facing people. How to fully "land" artificial intelligence in the field of education and whether there is a mature application model that can be promoted is still a big problem that plagues the education sector.

3.2 Double problems faced by artificial intelligence development

Artificial intelligence has deep learning capabilities. For example, machine learning can simulate or implement human learning behaviors to acquire new knowledge and skills, reorganize the existing knowledge structure to continuously improve its own performance, and use predictive learning to solve how to develop the right data exploration, use integrated learning to solve how to explore data in spatial distribution, and use instruction learning to solve how to explore the direction of data generation [6]. However, it is not feasible to treat the learning ability of artificial intelligence in a black and white attitude. As we all know, the lack of thinking consciousness is the "achilles' heel" of artificial intelligence, and its intelligence is just a kind of "Imitated Intelligence" written in advance by programmers. The diversity and variability of things, especially the uniqueness of students as growing people, highlights the limitations of this "imitate intelligence". Its cognition of reason and emotion is insufficient. How to deal with the relationship between the "fixation" of the established procedures of artificial intelligence and the "change" of everything is a thorny issue.

3.3 Privacy and ethical issues involved in the application of artificial intelligence

Artificial intelligence is based on data and programs, and the more specific the data, the more accurate its services, the more scientific the learning suggestions, the more reasonable the knowledge content, and the more significant the quality and benefits of education. However, data authorization also threatens the privacy protection of relevant personnel. For example, students' family status, academic performance, punishment records, and other personal information and data related to personal privacy, in the process of being used by artificial intelligence, there is a hidden danger of leakage. Artificial intelligence also involves ethical issues such as human rights, responsibilities, morals, and the environment [7]. For example, in education management, whether smart machines infringe the human rights of teachers and students, whether smart robots have human rights and moral status, and who is responsible for accidents caused by smart machines in education, teaching and education management are all artificial intelligence entering education management challenges.

4. Exploration of the development of college education management in the era of artificial intelligence

It is an inherent law of education that education is restricted by productivity. Productivity restricts the purpose of education, curriculum settings and part of the curriculum content, scientific research content and direction, the scale of education, the school structure, and the means of education and teaching. The emergence of artificial intelligence is the inevitable result of the development of productivity. The rapid development of artificial intelligence and the widespread application of artificial intelligence in the field of education in the future have become an unavoidable matter for every education manager. How to make full use of artificial intelligence, the fruit of the development of

productivity, how to promote the benign combination of artificial intelligence and education management, and how to make artificial intelligence develop more perfect through education, which is more conducive to human welfare and liberation, has become a key concern of all sectors of society. Constructing and implementing concrete and feasible strategies and methods in a positive, stable and targeted manner will promote the complementarity of artificial intelligence and education management, and start a new journey of modernization of education management with intelligence.

4.1 Clarify the working boundaries of artificial intelligence in education management activities

In educational management activities, although artificial intelligence will become an efficient and effective auxiliary tool, it cannot fully replace the work of human managers. Many complicated educational management, education and teaching matters that can only be done by people themselves should not be replaced by artificial intelligence. For example: the enlightenment and guidance of one life to another life produced by the interaction and communication between teachers and students; the construction of an education (such as moral education) quality monitoring or evaluation system that contains "difficult to quantify inspection indicators"; it involves "a series of work on the characteristics of "students are growing people", the differences between students, the stages of student development, and the perfection of teacher and student personality; objective laws that arise in the practice of education management; needs to be adapted to local conditions, time to change, and to people [8].

4.2 Improve relevant legal systems and strengthen relevant legal functions

Whether the modern legal system can successfully cope with the new risks and uncertainties brought about by artificial intelligence, and whether it can continue to maintain the dynamic balance between order and change, protection and innovation, value and facts in the era of artificial intelligence, is today's urgent issues that legal persons must face. At the level of education laws and regulations, it is imperative to formulate relevant regulations on the artificial intelligence of education management. Effective legislation is the key to giving full play to the effectiveness of the law: legal professionals should learn and study the relevant knowledge of artificial intelligence-only by clearly grasping the inherent logic of artificial intelligence can legislation be more targeted and clear. Relevant parties should urge artificial intelligence experts to participate in relevant legislative, judicial, and administrative work, and provide convenient channels for them to participate in such work. Law schools of various universities should start to cultivate students' innovative thinking, logical reasoning, practice and judgment abilities that are connected to the development of artificial intelligence (rather than simply imparting law and legal knowledge), so that students will not be in a position to deal with artificial intelligence matters after graduation passive state. In short, through in-depth discussions on legal issues related to artificial intelligence, a legal boundary should be drawn for the intelligent society, so that artificial intelligence can serve the human society.

4.3 Do a good job in the training of education and management talents for the development and application of artificial intelligence

High-end talent is the leader of artificial intelligence, and the high-end artificial intelligence talent team is a strong reserve force to promote the development of "artificial intelligence + education". The training of high-quality education management talents suitable for the development and application of artificial intelligence is a matter of education [9]. Education is restricted by productivity, which is the inherent law of education. Related to this, there is another law of education: education can have a counter-effect on the development of productivity-education transforms possible productivity into direct productivity, realizes the reproduction of scientific knowledge, and produces new science knowledge and new productivity [10]. Therefore, paying attention to the training of education management talents suitable for the development and application of artificial intelligence is very useful for making artificial intelligence productivity in the appropriate direction, promoting the development of education with the highest efficiency and the best effect, and improving the quality of education management to help.

5. Conclusion

"Resolutely implement the strategy of rejuvenating the country through science and education" is an important content of the report of the 19th National Congress of the Communist Party of China and a

major measure to realize the great rejuvenation of the Chinese nation. Science and education are closely integrated, unified and developed in a coordinated manner. As an emerging technology, education managers should seize opportunities and face challenges. With its powerful information processing capabilities, artificial intelligence will inevitably impact the existing university education management model, and use efficient and advanced management methods to eliminate inefficient and backward management method.

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