Promoting the New Development of Vocational Education Through Artificial Intelligence

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Abstract

Chinese vocational colleges have carried out a series of innovative practical explorations in the application of artificial intelligence big models, the construction and teaching of artificial intelligence general courses, the digital transformation and upgrading of majors, the digitization and intelligence of practical training, the indicator system of teachers' digital literacy, and data-driven education governance and modernization, which have promoted the improvement of school management capabilities and the innovation of talent training models. In the future, vocational education can continue to apply artificial intelligence to enhance students' competitiveness in employment, promote balanced development of vocational education among regions in the era of intelligence, implement digital teaching methods for vocational education, develop a framework for cultivating digital craftsmen, and promote high-level development of vocational education in the era of artificial intelligence.

Keywords: artificial intelligence, vocational colleges, sustainable development

1. Background

In April 2024, nine departments including the Ministry of Human Resources and Social Security issued the "Action Plan for Accelerating the Cultivation of Digital Talents to Support the Development of the Digital Economy (2024-2026)", proposing to fully leverage the role of vocational colleges, promote the upgrading and digital transformation of vocational education majors, and add a number of new majors in the digital field; Promote the construction of courses, textbooks, and teaching teams related to digital technology; Deepen the integration of industry, academia and research, and support universities, research institutes and enterprises to jointly cultivate composite digital talents. With the continuous breakthroughs and rapid development of artificial intelligence technology, the application of artificial intelligence is profoundly reshaping the future of education, and the digital transformation of vocational education has become an irreversible trend of the times. The "2024 Vocational College Digital Transformation Case Collection" compiled by the Information Technology Teaching Guidance Committee of the Ministry of Education shows that vocational colleges have achieved significant results in digitalization at the three levels of curriculum, major, and school, forming a number of valuable digital teaching plans and methods, professional talent training plans, and digital promotion strategies and methods. Vocational colleges have carried out a series of innovative practical explorations in the application of artificial intelligence big models, the construction and teaching of artificial intelligence general courses, the digital transformation and upgrading of majors, the digitization and intelligence of practical training, the indicator system of teachers' digital literacy, and data-driven education governance and modernization, which have promoted the improvement of the school's educational capacity and the innovation of talent training models. The wave of artificial intelligence has not only opened up new possibilities for vocational college teaching, but also brought profound and significant impacts to its teachers and students (Lv, 2024).

2. Artificial Intelligence Technology Drives Rapid Development of Vocational Education

Artificial intelligence technology can promote the development of vocational education towards greater precision and intelligence through personalized teaching, intelligent evaluation, efficient management, and other means (Ma, 2024). This kind of change not only helps to improve teaching efficiency and learning outcomes, but also promotes the optimization and sharing of educational resources, thereby meeting the industry's demand for high skilled talents and promoting the sustainable and healthy development of the economy and society. Vocational colleges have

actively explored and practiced the application of artificial intelligence. For example, Guangdong Vocational College of Science and Technology has built a specialized vocational education model called "Mr. Zhixing", which relies on the school's intelligent computing power center to connect computing resources such as Alibaba Cloud, Huawei Cloud, and Tianqiong Cloud. It uses a domestically produced open-source large model base to connect diverse data such as industry, profession, position, and course standard libraries, knowledge bases, case libraries, task libraries, and project libraries. Through the collaborative integration of human intelligence and machine intelligence (AI+HI), it provides intelligent application innovation scenarios such as AI assisted education, AI assisted teaching, AI assisted training, and AI assisted management for teachers and students. Shandong Vocational College of Light Industry utilizes intelligent graphs and vocational ability analysis to conduct precise matching analysis between professional needs and job requirements.

The Advertising College of Tianjin Business Vocational College is exploring the integration of large model technology into professional construction, focusing on vertical small models, and paying attention to the creation and research and development of intelligent agents and workflows. It is attempting to develop human intelligence collaborative models in fields such as art design, brand IP, virtual reality, and intelligent marketing, and constructing intelligent scenes in the field of vocational education art design. Shanghai Technical Institute of Electronics & Information combines AI generated digital humans to attempt interactive teaching and after-school tutoring, providing students with more personalized guidance and richer, more accurate learning content. Zhejiang Police Vocational College is promoting the innovation of human-machine interaction training mode based on big models, applying big model technology in virtual simulation teaching of prison management. Based on real criminals and crime case big data, twin digital criminals are constructed, and through deep learning, digital criminals are formed into different forms of crimes, generating diverse training scenarios.

2.1 Construction of General and Professional Courses in Artificial Intelligence

In the process of digital upgrading in vocational colleges, the talent training plan is continuously adjusted to target digital skilled talents who are competent in industry and enterprise digital positions. On the one hand, by incorporating the general course of "Artificial Intelligence Application Literacy" into the professional talent training program of vocational colleges, we can promote the integration of general education with professional characteristics and continuously explore new models of talent training. On the basis of building digital infrastructure, equipment, and environment for talent cultivation, fully utilize artificial intelligence technology to improve the efficiency and quality of talent cultivation. In the stage of course content design, modular design is carried out based on the knowledge structure of artificial intelligence, student needs, and professional background. Artificial intelligence is deeply embedded into the teaching subject, process, and environment, and a "knowledge thinking practice" integrated education model is constructed to achieve a comprehensive intelligent transformation of teaching methods, content, and evaluation, and enhance the depth and breadth of teaching. For example, Shenzhen Vocational and Technical University integrates the concept of hierarchical classification into its curriculum design to find the optimal cross path between artificial intelligence and different majors (Han et al., 2025).

On the other hand, promoting the construction of professional courses and closely integrating with the digital development of industries. Firstly, based on the new trends and requirements of industrial development, vocational colleges should timely develop new majors and courses that match them, ensuring that the talents they cultivate can meet the specific needs of emerging industries for professional knowledge and skills. Secondly, in order to better meet the flexible talent needs of enterprises, short-term courses and professional groups that meet the needs of enterprises are established. The course content is divided and combined according to different knowledge modules and skill modules, so that the education and teaching process can be adjusted in a timely manner according to the dynamic changes of industrial development, thereby promoting the close dynamic matching relationship between education and industry at different stages of development, and achieving precise docking between professional talent supply and industrial talent demand. For example, Changzhou Vocational and Technical College of Mechanical and Electrical Engineering has developed an industry education spectrum guide, and the school has independently developed a talent training management system based on big data analysis. Through multidimensional research, modeling, and analysis of the employment market demand related to graduates of various majors at the school, a production education spectrum model has been formed.

2.2 Artificial Intelligence Empowers Vocational Education Management and Services

In terms of digital management of vocational education, utilizing digital technology to construct students' personal learning profiles, and based on this, accurately customizing personalized tutoring and feedback strategies for students, building a lifelong learning bridge for graduates, continuously promoting the evolution and improvement of personal

learning systems, so that they can maintain learning vitality and competitiveness throughout their careers. By constructing a knowledge graph, students can be provided with clear guidance on knowledge flow, which helps them quickly identify learning weaknesses and effectively improve their knowledge mastery (Yuan & Hou, 2025). By utilizing digital management platforms to optimize and reshape organizational structures and upgrade service processes, we can fully unleash the potential of digital technology empowerment and establish an orderly, efficient, and standardized digital management system, comprehensively improving the management efficiency and service quality of universities.

In terms of digital services in vocational education, the goal of precise governance, diversified subjects, and scientific decision-making can be achieved through the use of technologies such as artificial intelligence, big data, and cloud computing. Through the construction of a smart campus, various information systems and intelligent terminal devices are integrated to achieve digital management and services for people, affairs, and things on campus. Based on the National Smart Education Platform for Vocational Education, we provide high-quality resource services for rural revitalization, with a particular focus on rural workers. We offer targeted skills training courses and efficient and convenient employment matching services to promote the implementation of rural revitalization strategies, effectively narrow the gap in vocational education resources between urban and rural areas, and enhance the quality and competitiveness of rural labor force in employment.

2.3 Artificial Intelligence Promotes the Development of Vocational Education and Training

In terms of the construction of practical training bases, artificial intelligence technology is applied to build a practical field that integrates virtual and real aspects, in order to address the problem of technology life becoming detached, emphasizing the importance of personal technology experience. By combining technical experience with students' practical operation and social participation, it promotes a high degree of alignment between learning and practical vocational skills. Using virtual reality, augmented reality and other technologies to construct a virtual environment that simulates real occupational scenes (Liu & Zuo, 2024). Students can not only experience the operational process of vocational skills, but also strengthen the cultivation of their use of technical tools and decision-making abilities through interaction. By creating an immersive virtual learning platform and combining it with industry practices, vocational colleges can provide students with real-time monitoring of learning progress, skill improvement feedback, and online expert guidance, ensuring that students' career experience is more authentic and three-dimensional, thus better adapting to the needs of future technological development.

In terms of practical training teaching mode, based on the new ecology of industry education integration and school enterprise cooperation, relying on intelligent platforms to provide personalized practical training teaching plans and flexible progress management, a modular practical training teaching mode based on intelligent technology is constructed. Providing precise training and teaching support based on students' different majors and ability levels can improve the efficiency of training and further optimize the learning path through real-time data feedback and process evaluation, enhancing the effectiveness and pertinence of training. By utilizing technologies such as metaverse and virtual reality, students can engage in practical operations in virtual environments, enhancing the experiential and practical aspects of their vocational skills. The integration of virtual and real learning methods helps to achieve personalized teaching content and meet students' desire to choose learning scenarios based on their own interests and needs (Liu & Li, 2025).

2.4 Evaluation of Artificial Intelligence Innovation in Vocational Education

One is that digitization can achieve dynamic evaluation of multiple objects in vocational education. Artificial intelligence technology can deeply analyze massive evaluation data, including the extent of student skill improvement, the phased progress of teacher teaching level, and the incentive growth of overall quality in colleges and universities (Yan et al., 2025). This evaluation method emphasizes the process of individual development and changes, comprehensively considers the interests and perspectives of all parties, helps to stimulate the internal motivation and development potential of vocational education participants, and further improves the comprehensive evaluation system for "Double Qualified Teacher" teachers and students, making the evaluation results more comprehensive, objective, and fair, and accurately reflecting the diverse values and effectiveness of vocational education. For example, driven by digitalization, the internship evaluation mechanism is becoming increasingly sound. Hangzhou Vocational and Technical College of Science and Technology has built a “smart internship management brain”, forming an educational model of intelligent decision-making for internship evaluation, innovative internship evaluation management mechanisms, and diversified collaboration between school and enterprise. Vocational colleges have actively explored the construction and teaching of artificial intelligence general courses.

The second is an innovative evaluation and certification system based on blockchain technology. By leveraging the core technological features of blockchain, such as distributed ledger and immutability, we aim to build a cross school and cross disciplinary micro authentication system. Meanwhile, relying on the National Credit Bank platform, we aim to achieve precise collection and reliable authentication of learning data throughout the entire process. Based on the stage characteristics and demand differences of digital ability development between teachers and students in vocational education, a hierarchical training and certification system covering different levels from basic cognition to innovative application is formulated. Through systematic training courses and strict assessment processes, corresponding skill level certificates are awarded to teachers and students who have reached the corresponding ability level.

The third is to enhance the effectiveness and safety of evaluation. Using virtual reality and digital twin technology to provide a highly simulated evaluation environment for skill operation, promoting evaluation results that are more in line with the needs of actual work scenarios, and effectively enhancing the scientific and effective evaluation of vocational education. At the same time, fully leveraging the advantages of blockchain technology in data encryption and integrity protection, effectively improving the security and credibility of evaluation data. By utilizing intelligent recognition and desensitization technology for sensitive data, precise identification and processing of potentially sensitive information such as personal privacy and trade secrets can be achieved, thereby avoiding ethical risks that may arise during the evaluation process.

2.5 Artificial Intelligence Accelerates Deep Integration of Industry and Education

The Implementation Plan for the Integration and Empowerment of Industry and Education in Vocational Education (2023-2025) points out that it is necessary to "accelerate the formation of a deep integration development pattern of industry and education with benign interaction and complementary advantages between schools and enterprises". The integration of industry and education empowered by artificial intelligence has become an important path to promote the high-quality development of vocational education, and vocational colleges are actively participating in the construction of digital industry university research consortia. This measure effectively promotes a high degree of connection between the education chain and the industry chain, breaking down traditional barriers between education and industry, and achieving smooth flow and coordinated development of resources, information, and other elements between the two. The cooperation between schools and enterprises in the era of intelligence has promoted the widespread sharing of digital resources, enabling both schools and enterprises to fully utilize each other's advantageous resources, including educational and teaching resources of schools, practical venues of enterprises, cutting-edge technologies, etc. The digital empowerment of industry education integration has effectively promoted the innovation of educational paradigms, involving multiple dimensions such as talent cultivation models, teaching methods, and scientific research cooperation. It lays a solid foundation for accurately cultivating high-quality talents that meet the needs of the industry, and helps to enhance the pertinence and effectiveness of talent cultivation (Miao et al., 2025). For example, in response to the joint construction of digital platforms and teaching resources between schools and enterprises, Guangdong Industry Polytechnic University has collaborated with industry enterprises to build a "1+1+3" intelligent platform system in the exhibition industry, promoting the joint construction of majors, curriculum standards, teams, platforms, and certificates between schools and enterprises. In order to connect teaching projects with enterprise work through digital platforms, Guangzhou Panyu Polytechnic adopts a "work based teaching + order taking practice" model based on typical job tasks, introduces real development projects from enterprises, and achieves zero distance connection between teaching projects and enterprise development through the introduction of Revofim digital development platform.

3. Prospects and Suggestions for Vocational Education in the Intelligent Era

The "Research and Development Report on Industrial Digital Talents (2023) shows that the overall shortage of digital talents is currently over 25 million, and the gap is still widening. The shortage of talents is expected to continue for 3 to 5 years. How to adapt to the new demand for high skilled talents in the era of artificial intelligence has become a major issue that vocational education urgently needs to break through. Vocational education urgently needs to uphold the concept of "application is king", innovate digital teaching methods, introduce a high-level digital craftsman training framework, continuously enhance students' employment competitiveness, and promote balanced development of vocational education among regions in the intelligent era.

3.1 Applying Artificial Intelligence to Enhance Employment Competitiveness

Vocational education should accurately anchor the ability requirements of vocational job groups, timely integrate the latest technological developments and cutting-edge achievements of industrial upgrading into the curriculum system, effectively bridge the gap between teaching and practical application, and effectively enhance the practicality and

pertinence of teaching. At the same time, we will widely promote successful application cases of artificial intelligence technology in vocational education, helping vocational college teachers to deeply understand the unique value of multimedia technology, virtual reality, augmented reality and other technologies in optimizing teaching processes; Guide students to actively participate in various practical activities and projects, enhance their comprehensive vocational abilities through practical exercises, improve learning efficiency, and strengthen the employment competitiveness of graduates (Qin, 2024).

3.2 Promote Balanced Development of Vocational Education Among Regions in the Era of Intelligence

China has a vast territory, and there are significant differences in historical background, location conditions, capital investment, and technological foundation among regions, urban and rural areas, and universities. This difference leads to an imbalance in the allocation of digital resources, which restricts the overall improvement of the quality of vocational education. Therefore, it is urgent to optimize the balanced allocation of high-quality digital resources from multiple levels and dimensions. On the one hand, AI algorithms can be used to accurately analyze data such as education demand and teacher quality in different regions; On the other hand, through the deep integration of education with big data and cloud computing, students' learning performance can be monitored in real-time. On this basis, we will send excellent teachers to areas with weak educational resources for targeted training, formulate scientific and effective educational assistance policies, and strengthen the management of teacher mobility (Wang & Zheng, 2023). Adhere to the concept of "student-centered", ensure that students in vocational colleges across the country can equally enjoy high-quality digital education resources, and promote the balanced development of vocational education in the digital age.

3.3 Implementing Digital Teaching Method in Vocational Education

The application and impact of the new generation of intelligent technology in vocational education have led to changes in educational perspectives, including the knowledge sharing perspective of crowdsourcing, the learning perspective of intelligent connectivity construction, the curriculum perspective of integration and openness, and the teaching perspective of human-machine collaboration. Artificial intelligence technology itself cannot promote learning, but rather facilitates effective learning through support for learning activities. The use of digital technology for innovative vocational education teaching requires the basic theoretical support of digital teaching methods. Specifically, digital teaching methods include four dimensions: first, deep learning empowered by technology, guiding learners to effectively utilize digital resources and tools to improve learning outcomes; The second is a green and robust digital learning environment characterized by trustworthiness, intelligence, and integration, enhancing the learning and teaching experience; The third is evidence-based teaching practice, which practices the learner centered concept based on interpretable evidence baselines; The fourth is collaborative education based on mutual trust between humans and machines, which promotes the synergistic release of the effectiveness of human-machine cooperation and interaction in teaching. To ensure the sustainability of digital transformation in teaching, it is necessary to pay attention to the following aspects: firstly, cultivating key abilities of students in the era of intelligence, including lifelong self-learning ability, innovative ability to utilize artificial intelligence, adaptability to multiple flexible employment opportunities, ability to handle uncertain situations, and survival ability in a rich intelligent environment. The second is to reshape extracurricular internship and practical teaching. Establish and improve the internship and training system, promote the joint development of internship and training plans by schools and enterprises, and arrange internship and training content and positions reasonably (Huang et al., 2024).

3.4 Develop a Framework for Cultivating Digital Craftsmen

There is a severe shortage of composite talents in fields such as intelligent manufacturing and artificial intelligence, and some enterprises' intelligent production lines cannot operate normally due to a lack of skilled operators. With the rapid iteration of artificial intelligence, the "digital divide" will form faster. The next step is to strengthen top-level design, develop a basic digital literacy framework system suitable for China, clarify the specific dimensions and refinement capabilities of digital literacy, and improve the lifelong vocational skills training system. At the same time, focusing on the student population of vocational colleges, starting from the needs of industrial development, clarifying the key skills, specific training and talent paths required for digital craftsmen, and providing guidance for improving the job capabilities of industrial workers and the structural adjustment of talent teams through the introduction of a high-level digital craftsman training framework (Wang & Guo, 2025). Based on the stage of digital development in key industries, targeted, regional, and hierarchical efforts will be made to promote the professional digital skills improvement of vocational college students.

3.5 Enhancing the Digital Literacy of Vocational College Teachers

Vocational college teachers are the key to the effectiveness of artificial intelligence technology application, and their digital literacy and intelligent teaching ability are the prerequisites for the application of artificial intelligence in vocational education. Teachers need to fully understand the advantages and limitations of artificial intelligence applications, and empower teaching through human-machine collaboration rather than surrendering educational subjectivity to technological tools; Teaching should shift from "teacher-student interaction" to "teacher student machine" deep interaction, and promote the deep integration of information technologies such as artificial intelligence with education and teaching; Teachers should guide students to transition from "passive learning" to "self-directed learning", build smart learning spaces, create ubiquitous, personalized, and collaborative learning scenarios, and achieve large-scale, personalized, and differentiated teaching (Zhang et al., 2025).

4. Conclusion and Recommendation

In today's rapidly developing society and rapidly changing technological landscape, vocational education must keep pace with the times, perceive the trend of the times with a strategic perspective, accurately grasp the opportunities and challenges brought by the intelligent era, and scientifically analyze the favorable conditions and unfavorable environment in which it operates. The empowerment of artificial intelligence is of great significance for the high-quality development of vocational education. Through the application of artificial intelligence technology and the development and utilization of digital educational resources, vocational education can achieve optimized allocation of educational resources, injecting new vitality and innovation. The changes in digital teaching methods and approaches have provided students with more personalized and flexible learning methods, improving learning outcomes and student engagement. The empowerment of artificial intelligence can also promote the deep integration of vocational education and industry, improving students' vocational adaptability and competitiveness. However, the rapid and iterative development of artificial intelligence technology has brought enormous challenges to the development and reform of vocational education. In the future, it is necessary to conduct systematic research, development, and application from all aspects such as policies, standards, management, education, teaching, teachers, and evaluation to promote the effective and sustainable development of vocational education.

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Authors' contributions

Dr. Wang was responsible for study design, drafting the manuscript and revising it. The author read and approved the final manuscript.

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References

Han, X. B., Li, M. X., & Guo, W. X. (2025). New breakthroughs in empowering vocational education with digital strategies - New progress in research and practice of digital vocational education in 2024. *Chinese Vocational and Technical Education*, *2*, 39-48, 75. Retrieved from https://kns.cnki.net/kcms2/article/abstract?v=mtmIrHeyR2u_VCUVFVxMPcoN06sFda5yn-EVrrAbC8cYHXFPDmoI7R20T2Bv8XAWrQ7qb1T9zPty3G65mv3Atp8S4bJ8n1bdopiKZqHAOb0gsNIHyfajhVW-9jxdAD3DaflEEMiAezf93XNPbPEmxXIAQMqOPQm-Q4wzW4bdxSU83XwFwZ5l2JkOlTdi0Pqb&uniplatform=NZKPT&language=CHS

Huang, R. H., Hu, Y., Liu, M. Y., Pan, J. W., & Adarkwah, M. (2024). The basic theory of teaching reform towards the digital age: digital teaching method. *e-Education Research*, *45*(6), 14-22, 33. https://doi.org/10.13811/j.cnki.eer.2024.06.002

Liu, C. B., & Zuo, L. (2024).Innovative Application of AI in Vocational Education and Training Scenarios. *Da Zhong Wen Yi*, *19*, 156-158. https://doi.org/10.20112/j.cnki.ISSN1007-5828.2024.19.052

Liu, X. Y., & Li, J. H. (2025). The role of artificial intelligence in vocational education and practical teaching. *Shanxi Youth*, *4*, 24-26. Retrieved from https://kns.cnki.net/kcms2/article/abstract?v=mtmIrHeyR2u89J0s-6RHTNI0rIlv-JP-XKpAkU104BtRFiVcY0TLeTYJNRQ1OjkddwLeJ4Jwoi-fRj7YC__gWqh3FnAPQINj0Ne0qvzydBsjFaUnA9oSrvVgqg2S-IuGTKxQRNn5UKV1fKqrd4JGwCOX9IxsyxnC7YxAPJNMzpOEyVZef8BeItt7lpg6IHiM&uniplatform=NZKPT&language=CHS

Lv, M. Z. (2024). Exploration of the Practice of Promoting High Quality Development of Vocational Education with "Intelligence+". *Vocational Technology*, *23*(11), 17-24. https://doi.org/10.19552/j.cnki.issn1672-0601.2024.11.003

Ma, W. (2024). Generative artificial intelligence revolutionizes the development model of vocational education. *Shaanxi Education*, *9*, 43-44. Retrieved from https://kns.cnki.net/kcms2/article/abstract?v=mtmIrHeyR2uZimWwK-PrrxZHnoCYM1tNdaigaPbRStmP0lzvRO7sw6PjMPJtlIF6o31x_tWxjokrZ7m3UJnr0i1FBodKKx9gnFQA_GYqQEwifQcWV0hGw5FNlOZT5aS1LCyEetJoyw0igmmjWQ6FQnypb9rIvior-uYJh5RrdFM_3tsOAv0-JFfd2RusY9lv&uniplatform=NZKPT&language=CHS

Miao, L., Zeng, X. Y., & Zhang, X. C. (2025). Research on the Application of Artificial Intelligence Empowering the Integration of Industry and Education in Vocational Colleges for Talent Cultivation. *Journal of Vocational Education*, *41*(2), 28-35. Retrieved from https://kns.cnki.net/kcms2/article/abstract?v=mtmIrHeyR2tI_c6hfsjPtFhi-l0r1LGRhPja1JLhpoiVjZvq_nKREb95yK1P-gmfXBDB_Lf4j9Lc04GXwymC-HdSNw1oTe1-JzIXntMBscNaDOJvHhiqEA51aNLp1q6IQeA5JbnrlZyKQ7pTV9MWlM8eWTUFoR246wSiS88MGreJcdSjyIyNgsBKXvSa7zkI&uniplatform=NZKPT&language=CHS

Qin, J.T. (2024). Research on the necessity of reforming vocational education in terms of specialization and teaching in the era of artificial intelligence. *Journal of Hubei Open Vocational College*, *37*(21), 157-159. Retrieved from https://kns.cnki.net/kcms2/article/abstract?v=mtmIrHeyR2vEfcVG2ecFA-C97_Xle-m8QZEYdAT9sT43FO44w2uHIl1hlO6SoWYPco-EaKLl5UV9sHVKPzu8TpCTaomlbKe5U_T1E97_GhskhSUNF_NZ8JYErxtA90TKCHZI_PcmQT3aqV36BJ1hiiJy79PKCti57TkA0CEirpY5bkjS91OIN_RIohowFcjk&uniplatform=NZKPT&language=CHS

Wang, S. S., & Guo, Y. (2025). Strategies for cultivating innovative talents in higher vocational education in the era of artificial intelligence *The Guide of Science & Education*, 2, 4-6. https://doi.org/10.16400/j.cnki.kjdk.2025.02.002

Wang, Y. C., & Zheng, Y. (2023). The significance, problems, and practical approaches of empowering high-quality

development of rural vocational education with digital technology. *Rural Economy and Science-Technology, 34*(24), 269-271. Retrieved from https://kns.cnki.net/kcms2/article/abstract?v=mtmIrHeyR2vC1uMknsVNYaTpzOxqqFeqjJiw92wJRMrOhQ5mPCMXZhqFHjLi9TSRZ_y_9eCf03N3jwqGTLHHWdaNdtvf4iNHA3mEApoOWpGMUb5kPywpLCrUdsTdPMlRXiKPGcJAlvH5awPFpwY0vk7aR6kKpPSWOaIv7zo-XP6EQTsVthdms1WHf1lmxI7b&uniplatform=NZKPT&language=CHS

Yan, Y., Bao, D. J., Yin, L. J., & Jing, Q. W. (2025). The Classroom Revolution Driven by Artificial Intelligence: The Transformation of Teaching Quality and Evaluation System in Vocational Education. *Journal of Yangling Vocational & Technical College, 24*(1), 50-54. https://doi.org/10.19859/j.cnki.cn61-1403/G4.2025.01.013

Yuan, H. Y., & Hou, R. Z. (2025). The Application of Artificial Intelligence in Vocational Education Management: Efficiency and Ethics. *Journal of Shandong Institute of Commerce and Technology, 2*5(1), 25-29. https://doi.org/10.13396/j.cnki.jsict.2025.01.003

Zhang, W. Y., Xie, Q. S., Xu, L, Zong, X. L., & Zhao, H. (2025). Artificial Intelligence Empowering the Development of Vocational Education 4.0: Connotation, Scenarios, and Strategies. *Journal of Vocational Education, 41*(2), 20-27. Retrieved from https://kns.cnki.net/kcms2/article/abstract?v=mtmIrHeyR2u4E0mkQlrrQ39N6YSRzo6F7sF27ei6nv3WuLRKcn7kcyP0b4vGCYGqMIoESVZdh5f0WQQuo6Am42wZlU6qWkVC3xXjEyR6uoKuoW_WRcTknM64CDRV5uJEnDJJAKfvZYrEVPIkllTtk5YSSQ52jQK_iC6hY8oSs5RG28GR2PsLxZi9kq77RIak&uniplatform=NZKPT&language=CHS