



The Upgrade Form and Innovation Path of Vocational Education Talent Training Under the Background of Artificial Intelligence

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Abstract

Promoting the development of artificial intelligence application technology has become a national strategy. My country's vocational education personnel training faces new opportunities and new challenges, and "smart +" education emerges as the times require. The change of artificial intelligence to vocational education is a systematic, pictorial, and overall change, which accelerates the transformation and upgrading of vocational education personnel training goals, forms, and learning methods. In the era of artificial intelligence, human-machine coupled education represents a new form of future vocational education, and moving towards an intelligent education environment and education model has become the theme of my country's vocational education innovation in the new era. This paper first expounds on the background of artificial intelligence, vocational education, and talent training, and then studies the current status of vocational education and the impact of artificial intelligence on vocational education talents. Influence analyzes the upgrading form of vocational education personnel training in the era of artificial intelligence and the principle of innovation of training paths, and finally puts forward the innovative path of vocational education personnel training in the era of artificial intelligence. Therefore, this paper improves the theoretical basis for the upgrading form and innovative path of vocational education personnel training under the background of artificial intelligence, which can help vocational colleges to keep pace with the times, forge ahead, and build high-level occupations that are compatible with the intelligent economy and society. Colleges and professional groups realize the deepening, breakthrough, and innovation in the reform of education and teaching modes.

Keywords

Artificial intelligence; Vocational education; Talent training; Upgrade form; Innovation path

1. Introduction

Driven by the "Internet +", the development of artificial intelligence continues to mature and plays an important role in the education industry [1]. Artificial intelligence has gradually penetrated into all fields of society, causing profound changes in economic structure, social life, and working methods, and reshaping a new pattern of world economic development. Artificial intelligence is a branch of computer science. It mainly explores the simulation of intelligent behavior with computers and the ability of machines to imitate intelligent human behavior. Using digital computers or machines controlled by digital computers to simulate, extend and expand human intelligence is the process of perceiving the environment, acquiring theories, methods, technologies and application systems that use

knowledge to obtain the best results, the core connotation of which is to enable machines or robots (machines or robots with artificial intelligence) to perform complex tasks that require human intelligence in traditional industries [2].

The ideological roots of artificial intelligence can be traced back to the 1940s. Alan Turing, the pioneer of artificial intelligence, published his famous article "Computing Machines and Intelligence" in 1950, which mentioned: Can machines think? After that, Turing proposed the famous "Turing test": the test is carried out in the case of human-machine separation. If more than 30% of the testers cannot determine whether the subject is a human or a machine, then the machine has passed the test, and is considered to have artificial intelligence. The Turing Test ushered in the first wave of artificial intelligence [3]. However, in the early days of electronic computers, the limited computing speed severely restricted the development of artificial intelligence [4]. It was McCarthy, Minsky, Rochester, and Shannon who really promoted the birth of artificial intelligence, who co-authored the Dartmouth Artificial Intelligence Summer Research Project Proposal in August 1955, and conjectured that every aspect of learning, or any characteristic of intelligence, can in principle be precisely described so that it can be simulated by machines. In August 1956, computer science researchers from the United States gathered at Dartmouth College to discuss this pioneering idea, which announced the official birth of artificial intelligence. In the 1980s, artificial intelligence was on the rise again. The traditional symbolism school has developed slowly. Some researchers have boldly tried new methods based on probability and statistical models. Significant progress has been made in speech recognition and machine translation, and artificial neural networks have begun to emerge in areas such as pattern recognition. However, artificial intelligence in this period was limited by the amount of data and the testing environment, and was still in academic research and laboratories, and did not have practical value in the general sense. The third wave of artificial intelligence originated from the deep learning technology proposed by Hinton et al. The ImageNet competition represents the most advanced level of development in the field of computer-intelligent image recognition. In 2015, the artificial intelligence algorithm based on deep learning surpassed the human eye for the first time in image recognition accuracy, and artificial intelligence achieved a leap forward. With breakthroughs in machine vision research, deep learning has made breakthroughs in different research fields such as speech recognition, data mining, and natural language processing. In 2016, Microsoft lowered the English speech recognition word error rate to 5.9%, which is comparable to that of humans [5]. Today, artificial intelligence has moved from the laboratory to the market, and applications such as unmanned driving, intelligent assistants, news recommendation and writing, search engines, and robots have entered social life. Therefore, 2017 is also known as the first year of artificial intelligence industrialization. As the technological engine of the fourth industrial revolution, artificial intelligence is not only a simulation of human brain intelligence with the help of algorithms, but also a transcendence of some functional limitations of the human brain. With the help of cloud technology, big data, deep learning image recognition, and other technologies, artificial intelligence will be the mainstay of future world technology, industry, and society [6].

Artificial intelligence is to make machines "think like people" and "act like people". The impact of artificial intelligence on education has received widespread attention. A number of related studies have emerged in the field of educational technology, which are concentrated on the overview of the connotation, technology, and application of artificial intelligence, explored the application of machine learning in education, analyzed the integration of artificial intelligence and STEM courses, and built an artificial intelligence + education ecosystem. Some scholars also believe that education is the industry that artificial intelligence has the most impact on. It is not an adjustment of a discipline or a link, but a new and all-round challenge. One is the challenge to the goal of talent training. Artificial intelligence is triggering a drastic adjustment of the social division of labor. The "standardized talents" cultivated by traditional education are not as competitive as machines. It is necessary to "put the social and emotional education of people at the height of responding to the new industrial revolution." The second is the challenge to the way of education. At present, intelligent robots can already achieve good results in the college entrance examination. This reflects on one side that the traditional teaching method based on rote memorization and passive acceptance is encountering a major crisis. The third is the challenge of educational content. The rise of a new generation of artificial intelligence benefits from the cross-integration of multiple disciplines and fields. Today's education puts too much emphasis on subject-based learning, and it is easy to turn knowledge into "knowledge points", dig deep into the specific details of knowledge, separate the links between subjects, and make students "see only the trees but not the forest". The fourth is the challenge to the role of teachers. As "human-machine co-teaching" becomes an educational norm, the role of teachers will change dramatically. Most of the knowledge-based teaching is undertaken by artificial intelligence, and teachers are more responsible for the design, supervision, motivation, companionship, and emotional communication

with students. In the future, artificial intelligence will focus on "teaching", while teachers will focus on "educating people" [7-10] (Figure 1).

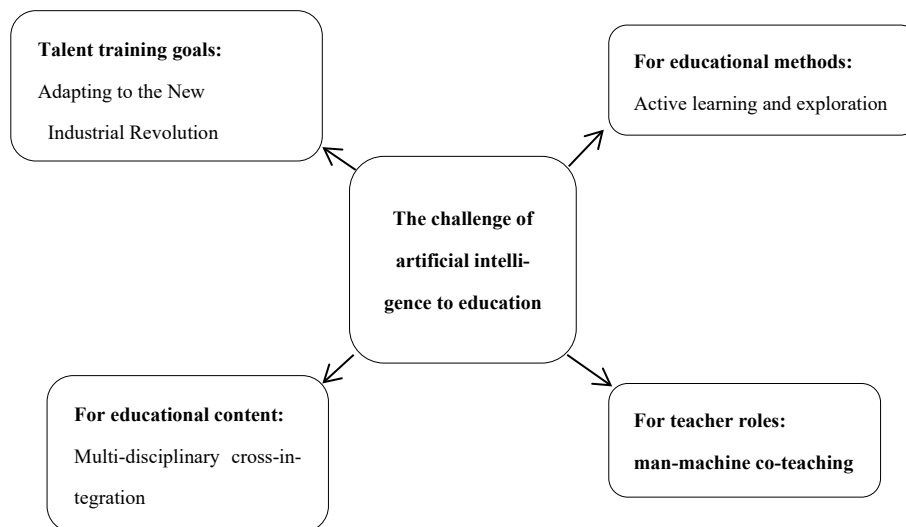


Figure 1. Challenges brought by artificial intelligence to education.

2. The Upgraded Form of Vocational Education Personnel Training in the Era of Artificial Intelligence

2.1 The impact of artificial intelligence on vocational education talents

2.1.1 Changes in artificial intelligence's demand for vocational education talents

Occupation is the product of the social division of labor. The advancement of technology has both negative and positive effects on the employment of workers. The new industrial structure based on artificial intelligence will inevitably lead to the reconstruction and drastic changes of my country's occupational groups. The emergence of artificial intelligence will inevitably lead to the abdication of low-intelligence occupations, the value-added occupations of high-intelligence occupations, and the birth of artificial intelligence-assisted occupations, which will lead to profound changes in the connotation of human innovation education. More and more work tends to be automated and intelligent, especially in some fields that require repeated and precise operations of machinery. The "machine problem" brought about by artificial intelligence is making a comeback, once again triggering all walks of life to pay close attention to machine intelligence. According to a study by Carl Benedict Frey and Michael Osborne of Oxford University, 47% of jobs in the United States belong to high-risk jobs that are about to be replaced by "computer capital" [11]. Kai-Fu Lee believes that "50% of human work will be replaced with the rapid explosion of artificial intelligence" [12]. Yet while AI is in some ways "smarter" than humans, it will neither surpass nor replace humans, but will create more jobs. This means that most future occupations for human beings will be innovative occupations in "robot-oriented services or industries". For example, "speech recognition engineer" and "visual recognition engineer" have been recognized by the industry, there are also many unheard-of occupations, such as "artificial intelligence product manager", and there may even be innovative occupations such as "robot moral assessor". Although many mechanical and routine jobs in human society will be replaced by machines, the impact of artificial intelligence on workers with innovative skills will be different in different industries. Vocational colleges should seize the opportunity of change in the era of artificial intelligence, accelerate the evaluation and control of related risks for innovative talents who adapt to the era of artificial intelligence.

2.1.2 Innovative integration of "human-technology-environment" in vocational education

Digital existence is inherently empowering, and this quality will lead to positive social change. Vocational education shoulders the important task of cultivating high-quality workers and high-level skilled talents for economic and social development, and plays an irreplaceable role in the process of economic and social development and industrial transformation and upgrading. The artificial intelligence of the Internet, big data, intelligent technology, and other elements promote the development of the economy and society from digitalization and networking to intelligence, improve the knowledge productivity of human beings, and promote the reform of vocational education as a new medium [13]. Just as the phenomenology of technology emphasizes that the existence of "technology" in real life is the holistic existence of "human-technology-environment", it opposes the practice of separating technology from people and the world like traditional philosophy, and emphasizes the seamless integration of people, technology and the world reflects the inseparability of people, technology and the world. This inseparability is particularly evident in vocational education. In the teaching field composed of teachers, students, teaching venues, training laboratories, and other elements, technology as a carrier spreads in every corner, playing multiple roles such as knowledge content, learning tools, method paths, and even teaching environment, connecting the Teachers, students, knowledge, educational situations, and the real world. The essence of the teaching process of vocational education is the process of "dialogue" between students and technology, playing different roles. The "dialogue" at different levels finally achieves the educational goals of vocational education at different stages [14]. The various intelligent, intelligent and customized products spawned by artificial intelligence technology have two major impacts on vocational education: one is the impact of artificial intelligence on teaching, which will focus on classroom practice, teachers Collaboration and multiple applications of technology; the second is the impact of artificial intelligence on learning, which will be integrated into students' daily lives and support students' social practice, cultural acquisition, goal achievement, and community integration. In the primary education stage of vocational education, students are exposed to explicit knowledge at the level of vocational theory. In the intermediate education stage of vocational education, on the basis of mastering vocational skills, students further perceive the "social" role of vocational skills, learn language expression and communication, knowledge integration and transfer, team combination and collaboration, and even social norms and regulations. Tacit knowledge is required for innovation aspects, such as needs. In the intermediate stage of vocational education, the vocational knowledge contained in it begins to spread and transfer, and the learner's sense of responsibility and ethical system begin to be established and strengthened. At this time, students can touch the implicit "ethical" role of occupation, transition from simply learning professional knowledge to reflecting on occupational skills, and finally understand the value pursuit, innovative spirit, humanistic feelings, professional ethics, and aesthetics behind the occupational cover [15]. Awareness and other cultural knowledge are in Figure 2.

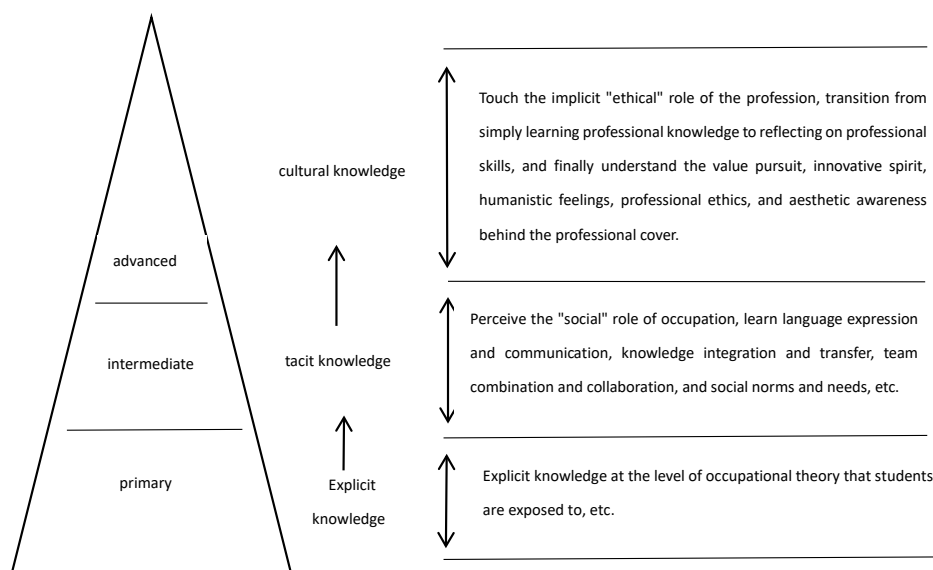


Figure 2. Vocational education innovation fusion of "human-technology-environment".

From the perspective of technical phenomenology, vocational education gradually emerges as a complete picture of the fusion of "human-technology-environment", and its education and teaching process is that students gradually transition from mastering the tool attributes of occupations to comprehending the social attributes and social attributes of occupations. The development process of ethical attributes and the shaping of its educational goals also follow the law of continuous transition from a single value appeal that focuses on practical skills training to a multiple value appeal that pays equal attention to practical skills, innovation ability, and professionalism.

2.2 The upgraded form of professional talent training in the era of artificial intelligence

As a representative of advanced productivity in the 21st century, artificial intelligence will become an important driving force for the development of vocational education: through the scientific allocation, co-construction and sharing of vocational education resources, artificial intelligence has changed the way of knowledge production and dissemination; the application of artificial intelligence technology directly Changed the teaching form of vocational education. This requires colleges and universities to rethink the concepts, goals, and models of vocational talent training and make corresponding adjustments using the advantages of artificial intelligence technology to promote positive changes in vocational education talent training. The upgraded form of vocational education talent training in the era of artificial intelligence is as follows.

2.2.1 Artificial intelligence boosts the upgrading of vocational education personnel training goals

In the era of artificial intelligence, new forms of business, new industries, and new technologies are emerging one after another, and innovation has become the key to improving national competitiveness. Vocational education should pay more attention to the cultivation of students' innovative thinking and innovative ability, and cultivate students' ability to discover problems, think deeply, and solve problems by hand. Vocational education personnel training goals emphasize a high degree of compounding. The era of artificial intelligence emphasizes "technical skills + technology research and development", focusing on the comprehensive application of multidisciplinary knowledge, such as professional courses, computer science, programming, industrial design, etc., highly compound professional talents have become the intermediate force of social production, professional The goal of educational talent training should be changed from cultivating general technical skill-based talents to cultivating compound technical-skilled innovative talents. Vocational education personnel training goals also emphasize the humanities. In the era of artificial intelligence, humanistic literacy will become the basic goal of vocational education personnel training [16]. To cope with the challenges of the age of intelligence, individuals no longer work alone, but focus on the application of technical knowledge, teamwork spirit, innovation and entrepreneurship, individual spiritual realm, and the ability to communicate and collaborate with machines, culture, emotion, etc., can cultivate creative professional practitioners who can surpass advanced intelligent machines (Figure 3).

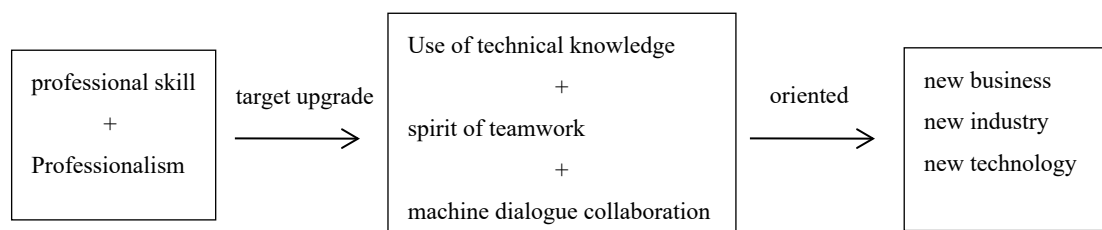


Figure 3. The upgrade form of talent training goals in the era of artificial intelligence.

2.2.2 Artificial intelligence enables the realization of personalized learning forms for vocational education talents

"Learning" is personal, and "education" is large-scale. How to achieve personalized learning goals in large-scale education has become an educational problem that we need to solve. Learning involves core issues such as "what to learn", "how to learn", "where to learn", and "when to learn". Correspondingly, the realization of large-scale personalized learning also depends on whether time, space, goals, resources, and paths can be addressed. etc., personalization issues. The emergence of artificial intelligence technology provides a favorable opportunity for the realization of large-scale personalized learning at the practical level. The AI-supported learning process involves multimodal data such as behavior, psychology, and physiology, enabling students' multidimensional performance and learning process to be recorded and presented in a fine-grained and traceable manner, which facilitates the personalization of

learning resources and learning paths. The goal is achieved; the data mining process supported by artificial intelligence strictly follows the processes of data collection, problem diagnosis, precise intervention, and comprehensive evaluation, and provides multiple evidence for formative evaluation and predictive analysis. Processes such as diagnostic reports and personalized learning path recommendations can construct an intelligently adaptive education ecosystem of "determining teaching based on learning - teaching based on talents - promoting teaching based on evaluation". In this process, the intelligent data, knowledge map, etc., are embedded in the online learning system, and by recording the dynamic data of the learners in the whole process, personalized learning resources and learning paths are recommended for each learner in time. At the same time, use artificial intelligence technology to record learners' multi-modal behavior data, such as expressions, text, dynamic, etc., and through data cleaning and processing procedures, explore the advanced laws of learners' cognitive occurrence, and provide active intervention and training, this optimizes the learner's personalized learning experience and enhances the well-being and effectiveness of the learning process [17]. At the same time, with the help of intelligent resource push and activity organization, the teaching burden of teachers is effectively reduced (Figure 4).

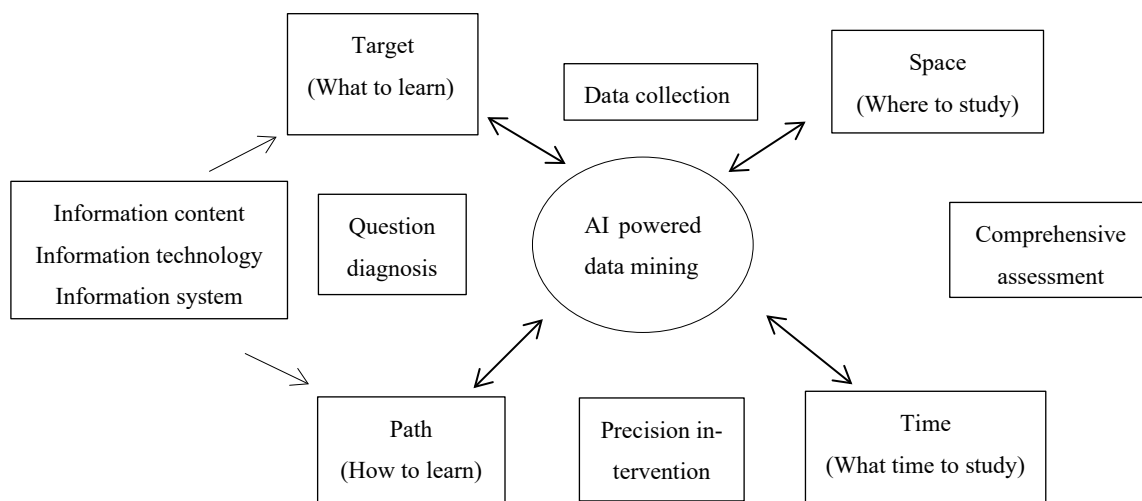


Figure 4. Personalized learning model of artificial.

2.2.3 Artificial intelligence promotes the cultivation of high-efficiency and high-quality vocational education talents

With the development and support of informatization and intelligent technology, the talent training methods of vocational colleges will be more intelligent. First of all, in terms of talent training management, artificial intelligence makes the education and teaching management of vocational colleges more standardized, refined, efficient, and scientific. The application of various intelligent facilities to monitor, identify, acquire, and analyze student management information in all aspects, processes, and fields is helpful for analyzing students' study habits, discovering students' psychological abnormalities in advance, and preventing and controlling security incidents. Artificial intelligence technology is applied to campus life, class scheduling, library management, etc., to build a more convenient and efficient learning space for students, which is more conducive to personality development. Secondly, in the talent training and evaluation process, big data and intelligent technology support make the intelligent evaluation system replace the single evaluation system. The evaluation system can track students' study life in the whole process, in real time and continuously, collect, store, and analyze the data of students' learning performance, activity participation, and other aspects, so as to realize the comprehensive whole process evaluation and objective and accurate results of students' comprehensive quality and development potential. At the same time, it can also conduct scientific and comprehensive evaluations of teachers' teaching, including comprehensive evaluations of teachers' teaching design, teaching links, on-site teaching, etc., so that teachers can better carry out smart teaching. Finally, for the talent training environment, student-centered intelligent vocational colleges will no longer be far away [19]. A learning resource system supported by big data and cloud platforms, mobile terminals for seamless access to learning services, and rich knowledge construction tools will be built, and a smart learning space with interconnected systems and seamless information flow will be formed. The ubiquitous network ubiquitous learning, transparent and efficient network school affairs management, integrated and innovative network technology research area, colorful network campus culture, convenient

and thoughtful network campus life can be seen everywhere, all of which provide students with all-round smart learning and living environment, promote the growth of students and achieve "teaching according to their talents".

2.2.4 Artificial intelligence boosts the interaction of vocational education talent training models

With the development of artificial intelligence technology, human-computer interaction will usher in a new era. People can not only communicate directly with machines, but also cooperate with machines to complete tasks together. The way people interact with machines will continue to innovate and refine. change. In the age of tools, education focuses on "teaching"; while in the age of artificial intelligence, education focuses on "interaction", that is, finding the best fit between teaching and learning to maximize the effect of teaching. In the era of artificial intelligence, technology and teaching are fully integrated, and the interaction between teachers, students, and machines has become common and necessary, and teaching efficiency and effectiveness have been greatly improved. At the same time, students, teachers, and students communicate, share, cooperate, and question each other in the process of exploration to build a "learning community". Teaching is no longer the transfer of knowledge, but the processing and transformation of knowledge. In the future, vocational education will gradually enter the era of "teaching interaction". In this context, on the one hand, intelligent technology is used to accelerate the reform of vocational education talent training mode, build an interactive learning education system, form a teacher-student learning community, stimulate students' curiosity, and enable students to actively participate in learning activities. Realize equal communication and interactive exploration between teachers and students, students and students, so as to achieve efficient internalization of knowledge and skills and provide students with a flexible and interactive, innovative learning environment [20]. On the other hand, human-computer interaction in the core link of vocational education can break through the time and space limitations of teaching and learning and simulate various occupational scenarios through various information technologies and artificial intelligence technologies, so that students can experience a more realistic and immersive experience. Learning in intelligent experience scenarios and accepting vocational scenario training in advance will help to fully mobilize students' interest in learning and improve students' autonomous learning ability. In addition, in some practical training activities, students can cooperate with machines to complete projects, and improve human-machine collaboration capabilities while accurately receiving more professional training and exercise (Figure 5).

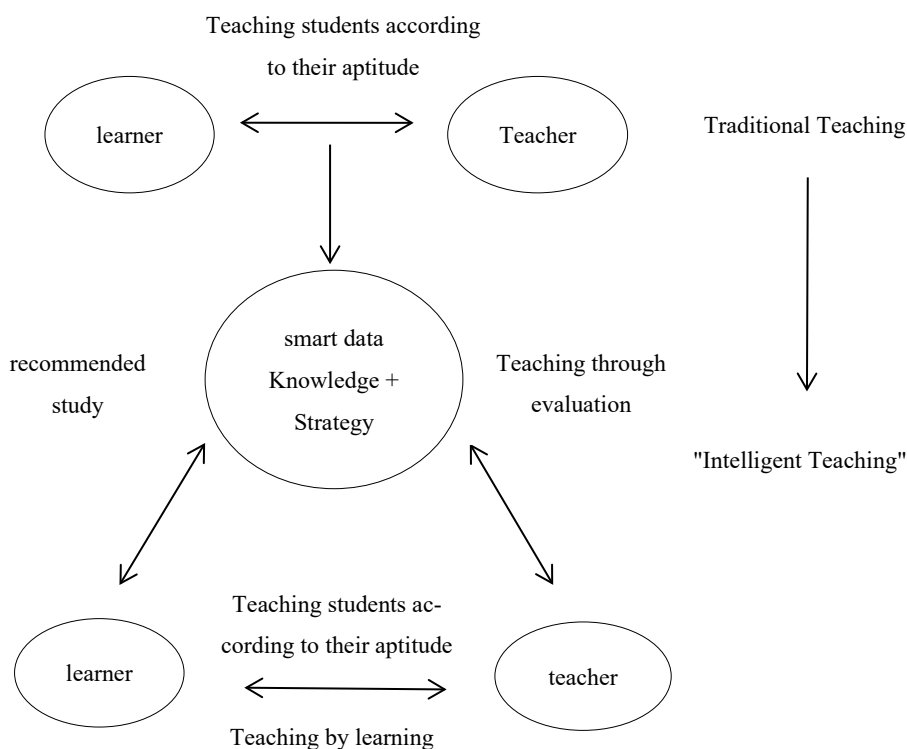


Figure 5. Subversion from "traditional teaching" to "intelligent teaching".

3. Innovative Principles and Paths of Vocational Education Talent Training in the Era of Artificial Intelligence

3.1 Innovation principles

3.1.1 Leading the development direction of education informatization with data-driven

The in-depth application of artificial intelligence technology in the field of education promotes the integrated and innovative development of information technology and education. Throughout the application and development of artificial intelligence in the field of education, from the early rule-based knowledge representation and reasoning to today's deep learning-based natural language processing, speech recognition, and image recognition, the acquisition of "intelligence" has been given by early experts. Evolved into machine-active learning acquisition. In addition to significant improvements in algorithmic models, as a training dataset for models, big data has added a lot of power to artificial intelligence. Big data intelligence takes data-driven and cognitive computing as the core method, discovers knowledge from big data, and then makes intelligent decisions based on that knowledge. Data has become the focus of competition in the industry, and data-driven intelligent decision-making and services have become a research hotspot in academia. In the field of education, data can explain educational phenomena, reveal educational laws, and predict future trends [21]. The data-driven approach has pushed educational research from empiricism to dadaism and positivism. Therefore, data-driven artificial intelligence will lead the new direction of educational informatization development.

3.1.2 Promote the reform of education and teaching mode by deepening the application

The emergence of artificial intelligence technology has had a subversive impact on the fields of society, economy, culture, etc., especially in the service organization of education. Artificial intelligence is changing the connotation, production method, and dissemination method of knowledge, and then promotes the reform of the education model. The application of artificial intelligence technology in the field of education has a strong scene, that is to say, this application is developed for specific problems in educational practice activities, with a clear problem space and goal orientation. This application-driven integration of technology and education is an in-depth application of technology in the field of education. For example, in the automatic oral language evaluation, for specific language and speech objects, based on the speech recognition technology, the speech evaluation technology is applied to realize the automatic evaluation of the students' oral language [22]. The deepening application of artificial intelligence technology in the field of education has created a strong perception, high interaction, and ubiquitous learning environment, which provides good conditions for students' knowledge construction activities, and provides space for the discovery and application of innovative teaching models.

3.1.3 Optimizing the supply of education services through integration and innovation

Artificial intelligence and neuroscience, cognitive science, psychology, mathematics, and other related basic disciplines have achieved cross-disciplinary, cross-field, and cross-media integration and innovation, promoting the development and application of educational artificial intelligence technology. Under the important support of big data and deep learning, and other technologies, breakthroughs in key artificial intelligence technologies have promoted the diversified application forms of artificial intelligence in the field of education, and provided more intelligent learning services and experiences, showing intelligent Characteristics and trends of automation, personalization, diversification, and synergy. The multi-level integration of artificial intelligence technology with teaching content, teaching media, and knowledge dissemination paths breaks through the limitations of traditional education methods and provides a cross-disciplinary, cross-media, cross-time, and space intelligent education service supply. Can learn, can learn from time to time," effective way of learning in society.

3.2 Innovation path

3.2.1 Based on the social ecology, positioning the talent training strategy driven by artificial intelligence education

With the continuous development of artificial intelligence, social, economic, and cultural fields have been severely impacted. The continuous upgrading of intelligent technology and data algorithms has gradually replaced simple mechanical work with machines, and social development has further improved the quality of workers with innovative

skills. The development of artificial intelligence has brought about all-around changes in society, and it has also put forward new requirements for vocational education to cultivate innovative talents. Facing this situation, what kind of innovative talents can be cultivated to cope with the drastic changes in the future society is the primary problem that education needs to solve urgently [23]. From the typical evidence-based decision-making practice of the Institute of Artificial Intelligence Dynamic Systems, it can be found that the cultivation of innovative talents in the era of artificial intelligence not only relies on basic conditions such as intelligent resources and intrinsic value recognition, but also requires strong support from the social ecology and innovation environment.

3.2.2 Return to the essence of learning and explore the large-scale personalized learning revolution enabled by artificial intelligence

Every technological development will redefine the role of the learner, and new forms of learning, such as self-adaptation and personalization based on human-machine collaboration, are developing in the current educational environment. The educational activities and organizational forms integrated with artificial intelligence technology make it possible to personalize learning spaces, goals, resources, and paths, which will certainly have a subversive reshaping effect on future learning methods. The artificial intelligence-enhanced educational context releases the mechanical learning time of learners, and at the same time, based on technical support, it can collect large-scale data of the whole process of learners, so as to scientifically intervene in the occurrence mechanism of effective learning, and improve the learning experience and deep learning of learners. For example, the collection of multi-modal data streams such as learner dialogue, eyesight, facial expressions, gestures, etc., through artificial intelligence virtual assistants can trigger the innovative ability and lifestyle of teacher-student collaborative interaction [24]. Therefore, future learning will be more towards personalized learning based on self-adaptation, and the future school will be a smart incubation base that pays attention to individuality and respects students' development. At that time, the question that the education sector needs to think about is how to fully use the advantages of artificial intelligence technology to return to the essence of learning and promote the transformation of large-scale personalized learning.

3.2.3 Aiming at educational innovation, exploring knowledge creation and intelligent ways of educational innovation and reform

In the era of artificial intelligence, with the application of educational big data collection and artificial intelligence, it is possible to realize the whole-scenario and procedural data collection of students' learning process, life process, and education process, and analyze and complete the image of the collected data, so as to provide students with intelligent information. Recommend and provide personalized service, personalized instruction, personalized tutoring, and personalized learning. The continuous development of technology has created more possibilities to explore the nature of knowledge, and also provided realistic conditions and connected resources for knowledge creation. Non-knowledge data collection for students can also help teachers determine how to innovate teaching. With the help of artificial intelligence technology, educational knowledge dissemination and production channels are showing a multi-source and multi-directional integration trend. For example, at the level of educational knowledge dissemination, the popularization of the Internet has led to the personalized recommendation method in the intelligent age, which has made great contributions to lifelong and fair education. At the level of educational knowledge production, with the support of the interaction between technology and social ecology, informal, niche, subversive, and even unpopular knowledge can be brought into the field of vocational education research at any time, and open and inclusive knowledge will take shape and be created. The method also provides a feasible direction and an accelerating effect for the profound reform of the vocational education system [25].

3.2.4 Integrate artificial intelligence technology to create a vocational education talent training platform that integrates production and education

Colleges and universities are the main carriers for supplying various types of vocational education talents to society. Enterprises play an important role in the development of the artificial intelligence industry. In the face of the social changes brought about by artificial intelligence, the two must learn from each other and cooperate comprehensively. On the one hand, enterprises can use artificial intelligence to help with the reform of vocational education talent training. Enterprises can establish "experimental fields" for comprehensive artificial intelligence application scenarios on campus, which can not only accelerate the transformation of vocational education and teaching methods in colleges and universities, form a new campus innovation ecology by establishing a smart environment, and expand artificial intelligence applications to a wider field. On the other hand, colleges and universities should strengthen

basic research on artificial intelligence, apply theoretical research results to the research and development of artificial intelligence products, and adopt a school-enterprise "dual employment system" when appointing teachers in the field of artificial intelligence, allowing relevant teachers to take temporary positions in enterprises Or leave the post to start a business, create a good external environment for talent sharing, and help companies and universities to jointly educate people.

3.2.5 Facing the current situation of education, reconstructing the technical path of vocational education ecology in the era of artificial intelligence

Artificial intelligence has already had a violent impact on society. With its extension in the field of vocational education, artificial intelligence will inevitably have a revolutionary impact on future vocational education. In this situation, how to face the complex and changing development of the vocational education system, how to actively intervene in the integration of curriculum resources, teaching services, management evaluation and other aspects with artificial intelligence technology, and try to build an adaptive school intelligent education practice model and The service system, how to avoid security and ethical risks in the AI vocational education ecosystem, and how to break through the inflexible state of the technology ecosystem are exactly what we need to face up to and treat with caution [26]. In fact, we can find a breakthrough path from three aspects: First, starting from the field of intelligent learning, and analyzing the connotation and extension of the field of intelligent learning by discussing the effect of artificial intelligence on the field of learning, so as to clarify the intelligent learning field. The shape and characteristics of education define the possible developmental pattern and functional orientation of future learning [27]. The second is to analyze the path and method of deep integration with artificial intelligence according to the laws, characteristics, and purposes of different stages and types of education, and build an intelligent vocational education system that conforms to China's national conditions and promotes Chinese characteristics from the perspective of the overall education system. The third is to attach importance to the transformation of artificial intelligence technology application research results and create an integrated intelligent development trend, such as "production-learning-research" and "home-school-community". In a word, based on a rational and objective perception attitude, with the advantage of the alliance of multiple synergies, it provides support for the technological and educational innovation that is taking place and will continue to take place, so as to form a future vocational education ecology based on artificial intelligence [28].

4. Conclusion

Artificial intelligence has changed the way human cognition, thinking, production, and way of life, and enhanced the key ability of humans to transform the world. The dependence of industrial technological transformation and optimization, and upgrading on innovative, compound, and technically skilled professional talents has also increased. Higher and higher. Undoubtedly, "the in-depth application of artificial intelligence technology in the field of vocational education has created a strong perception, high interaction, and ubiquitous learning environment, which provides good conditions for students' knowledge construction activities". Correspondingly, vocational education should focus on seizing the opportunity, taking the initiative to respond, adjusting the professional setting and talent training direction, and striving to create a new educational form that is most suitable for the contemporary economy and society. In terms of talent training, vocational education must break the professional boundaries, cross the boundaries of schools and enterprises, and realize the intelligentization of education and teaching methods, the higher level of talent training, the individualization of talent training goals, the interaction of talent training models, and the realization of talent training. Synergy of the process; In terms of governance methods, to achieve modernization and high-quality development of vocational education, it must keep pace with the times and develop intelligent educational services and new models of educational governance. In the context of artificial intelligence and vocational education personnel training, this paper makes an in-depth study of artificial intelligence and the training of vocational education personnel. Judging from the current situation, artificial intelligence has had a great impact on the training of vocational education talents, especially in the changes in the demand for vocational education talents and the integration of vocational education innovation of "human-technology-environment". From the perspective of the upgrade form, artificial intelligence will become an important driving force for the development of vocational education. Through the scientific allocation, co-construction, and sharing of vocational education resources, artificial intelligence has changed the way of knowledge production and dissemination; the application of artificial intelligence technology has directly changed the teaching form of vocational education. This requires colleges and universities to rethink the concepts, goals, and models of vocational talent training, and make corresponding adjustments using the

advantages of artificial intelligence technology to promote positive changes in vocational education talent training. On the innovative path of vocational education personnel training in the era of artificial intelligence, vocational education personnel training must be based on the social ecology, positioning the talent training strategy driven by artificial intelligence education, returning to the essence of learning, and excavating large-scale personalized learning enabled by artificial intelligence. Reform, aim at educational innovation, explore intelligent ways of knowledge creation and educational innovation and reform, integrate artificial intelligence technology, create a vocational education talent training platform that integrates production and education, face the current situation of education, and reconstruct the technical path of vocational education ecology in the era of artificial intelligence, etc. Ways to innovate educational models. Facing the era of artificial intelligence, vocational education urgently needs system reconstruction, method update, model change, and an urgent need to improve platform construction, professional construction, management level, and teacher level. Only in this way can vocational colleges keep pace with the times and forge ahead, build high-level vocational colleges and professional groups that are compatible with the intelligent economy and society, and achieve deepening, breakthroughs, and innovations in the reform of education and teaching models.

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