The Impact of Artificial Intelligence on Vocational Education and Countermeasures

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Abstract: Under the influence of manual functions, vocational education is facing unprecedented challenges and opportunities, and it also increases the employment pressure of vocational education graduates. Due to the emergence of artificial intelligence, the labor market has stricter requirements for employees, and graduates with high professional quality and high comprehensive level will be selected. Therefore, as a vocational education college, it should correctly understand the trend of artificial intelligence, attach great importance to the influence and role on the development of vocational education, connect artificial intelligence with the reform and innovation of vocational education, and scientifically and rationally use artificial intelligence teaching methods. It is used in daily teaching to cultivate high-quality talents for the country and society in line with the development of the times. This article will analyze the impact of artificial intelligence on vocational education and countermeasures, hoping to improve the teaching quality and level of vocational education.

1. Introduction
As one of the world’s three cutting-edge technologies, artificial intelligence can replace simple repetitive mental work and change the employment system and occupational patterns of the traditional society. Therefore, vocational education should fully understand and adapt to the changes and social development trends brought by artificial intelligence, combine the impact of artificial intelligence on employment, innovate teaching methods and concepts, and help students better understand the new social employment system and accurately find themselves positioning. The emergence of artificial intelligence has changed the traditional relationship between teachers and students, enabling teachers to meet the needs of students’ individual development to the greatest extent, providing students with career and employment directions, and acting as consultants in their growth.

2. The teaching status of vocational education
Facing the current situation of vocational education and teaching, it is very important to improve the quality. Vocational education must take employment as the teaching orientation, coexist quality education and professional ethics training, and accelerate the innovation and reform of vocational education. Although investment in vocational education has been increasing in recent years, it is still necessary to strengthen the construction of the teaching staff, strengthen the cooperation between vocational education colleges and off-campus enterprises, and provide students with opportunities and platforms for internship and training. At present, the professional curriculum settings, teaching models, and talent training programs of vocational education colleges are relatively traditional, and information technology and artificial intelligence have not been integrated into related courses. Most teachers’ teaching is still based on the “cracking duck” model, which will seriously affect the teaching
effect. The students of vocational education colleges have a poor foundation, and the ability to learn and accept new courses is poor. The teaching facilities and software are lagging behind and teaching resources are serious fragmentation. In short, the supply of low-level graduates in vocational education exceeds demand, while the supply of high-level management talents exceeds demand. Vocational education institutions and teachers should fully understand this situation and make improvements.

3. The impact of artificial intelligence on the training of vocational education talents
Most of the artificial intelligence machines can not only perform some complex mental work but also help humans perform simple calculations and memory. With the continuous innovation and development of science and technology, the technology and application fields of artificial intelligence are also expanding. Vocational education is not only academic education but also vocational skills education. If students are still trained in the direction of mechanization by traditional teaching methods, they will only be repeated. Some low-end manufacturing, service, accounting and other jobs may be replaced by artificial intelligence. As a result, vocational education graduates will not be able to find jobs. This will have a great impact on the vocational education industry. The vocational education industry will also face the choice of elimination. In terms of the current impact of artificial intelligence on vocational education, it can be divided into three aspects. Firstly, the artificial intelligence industry will have a certain impact on the new demand for vocational education. As the society’s demand for artificial intelligence talents continues to increase, vocational education also needs to add artificial intelligence majors to cultivate more talents to meet social needs. Secondly, the upgrading and elimination of traditional industries will also lead to changes in the demand for vocational education. Specifically speaking, the development of artificial intelligence technology will have an impact on many industries in social life. After integrating artificial intelligence technology, various industries need more talents in professional skills with artificial intelligence technology, vocational education institutions should transform traditional educational concepts and cultivate compound technical talents in a timely manner. Thirdly, artificial intelligence technology will also bring revolutionary changes to. The field of vocational education needs to change the traditional teaching mode and timely integrate various artificial intelligence technology to improve the quality of education. Therefore, the development of artificial intelligence has become an unstoppable development trend. Colleges and teachers should make adequate preparations and plans for the reform and innovation of vocational education to reduce the impact of artificial intelligence.

4. The countermeasures of vocational education talent training under the background of artificial intelligence

4.1 Strengthen the proportion of artificial intelligence thinking
The continuous development of science and technology is bound to have an impact on traditional education models. Therefore, teachers’ thinking of strengthening artificial intelligence in the process of vocational education is very important for the future development of students. It can be foreseen in the 30th of this century. In the ages, artificial intelligence will definitely bring about tremendous changes in society (as shown in figure 1), such as electrical, mechanical, computer and other traditional majors. Artificial intelligence will also be given new meanings, which are repetitive. For industries with strong or weak thinking ability, artificial intelligence will have a greater impact on them. Therefore, vocational education should also make corresponding changes with the times to adapt to the ever-changing information age.

For example, teachers can strengthen the introduction of artificial intelligence thoughts in the classroom teaching. For different professions, artificial intelligence has different degrees of influence on their professions. Therefore, teachers can determine whether to implement artificial intelligence according to different subjects. If the subject taught by the teacher requires the development of artificial intelligence, the teacher should choose in the direction of cloud computing, Internet of Things and big data, and choose the direction suitable to give a specific description to improve for the
professionalism of artificial intelligence knowledge. It can also be better adapted to the knowledge of the profession, and for some professions that do not need to set up artificial intelligence courses. Teachers can use the original courses as the basis and respond accordingly. To optimize and adjust the teaching content and supplement, teachers can start with the connotation and practical significance of intelligent response, knowledge graph, Internet of everything, etc., so that students can fully understand the help of artificial intelligence for the courses they learn. Moreover, teachers can create interactive learning system based on artificial intelligence and professional knowledge. The main purpose of this system is to enable students to better adapt to the impact of artificial intelligence on the real world. The learning is the process of input and output. If someone wants to make progress in learning, he can not ignore any link between input and output. Therefore, the interactive learning system can allow students to input and output at any time, and the interactive learning system can also enable students to fully grasp the knowledge they have learned, so that the artificial intelligence link shines and changes the traditional learning mode.

![The market scale of China artificial intelligence from 2014 to 2018](image)

**Figure 1 The market scale of China artificial intelligence from 2014 to 2018**

4.2 Combine artificial intelligence to innovate the teaching method

The vocational education involves many aspects, and it can be summed up in teaching, assessment, evaluation and teaching management and so on. The traditional vocational education each link is not very clear, and it is likely to cause confusion for all aspects of the education measures with different needs. Artificial intelligence has been more and more widely applied in education (as shown in figure 2). According to the advantage of artificial intelligence, each link of teaching reform is used to effectively improve the students’ professional quality.

For example, teachers can use the big data analysis system in artificial intelligence to conduct targeted analysis of students’ learning. The learning situation and state of different students are also different. In vocational education, there are a large number of students taught by teachers, and there are many subjects taught by teachers, which results in teachers not being able to monitor every student, so it is very important to adopt big data analysis systems. According to the student learning report provided by the functional system, teachers can plan the teaching more specifically, formulate corresponding teaching strategies, and make targeted adjustments to the original teaching path to make the existing teaching mode better adapt to the students’ reality and meet the students’ future development needs to achieve precise teaching. When assessing students, teachers can quote language,
text, facial expressions, and gesture recognition in the education system. The purpose is to allow the education system to intelligently correct the students’ test situation, so as to reduce the workload of teachers, and it can better standardize the learning situation of students. After the education system has corrected the students’ assessment papers, it will automatically display the assessment report based on the students’ weak or good knowledge links. Teachers can use the report to explain specific knowledge to different students to ensure that teaching resources are not wasted to obtain the maximum learning effect in the least time. In terms of teaching management, the use of artificial intelligence systems can also produce the desired effects. Firstly, teachers can enter the original vocational education management information into the system, and use the system to intelligently analyze the data. The management knowledge of related majors can be studied in depth, so that teachers can obtain a vocational education development plan. Teachers can combine development planning with the daily management system to provide reference for managers, make management and decision-making more scientific in line with students’ development requirements, and provide effective help for students’ future development.

![The proportion of artificial intelligence applied in industries](image)

Figure 2 The proportion of artificial intelligence applied in industries

4.3 Training artificial intelligence talents according to the needs of social development

The artificial intelligence technology upgrade and elimination effect can lead to the changes in the demand for vocational education, so vocational colleges management personnel shall be made with the depth of fusion between different departments. To form a diversified education system is very necessary. College education is not the whole education, because some students will work after graduate. Using artificial intelligence to promote teaching combined with production can make students get good use of limited knowledge.

For example, teachers can initiate a proposal led by the local government, and cooperate with colleges and enterprises and corresponding teaching and training institutions to establish a vocational education employment training center. Based on the relationship between the local industrial structure and the level of economic development, all data are planned to use an artificial intelligence system to help students in their employment. The job training center’s task is to provide students with help when they are in the connection stage of school education and on-the-job staff. To better adapt to the work stage, it needs to train students to meet the needs of local enterprises, provide qualified talents for enterprises, and at the same time improve students’ practical ability. Vocational training institutions and enterprises can also develop in-depth cooperation and establish careers. The teaching
enterprise provides assistance for students’ employment behavior, allows students to better perform, strengthens the integration of production and education and college-enterprise cooperation, so that students can better complete employment, and build a diversified system to allow vocational education students to be fully trained.

5. Conclusion
In summary, China’s vocational education colleges have gradually entered information-based teaching and smart classrooms, but they still cannot meet the impact of the rapid development of artificial intelligence. In response to this situation, vocational education, colleges and universities should actively cope with innovation reform teaching contents and methods to adapt to the job changes, talent level and the quality of the talent demand changes brought by the artificial intelligence. The organic integration of artificial intelligence and vocational education through investigation and analysis can find out the problems and gaps in students’ professional skills, propose solutions and solutions, implement vocational education tasks into actual teaching. Students can meet the needs of compound talents and improve their overall quality.

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