Research on the Cultivation and Improvement Paths of College Students' Artificial Intelligence Literacy under the Background of New-quality Productivity

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Abstract: *The construction of paths for cultivating and improving college students' artificial intelligence literacy meets the development requirements of new - quality productivity and contributes to the establishment of a more complete education model in colleges and universities. Therefore, how to construct these educational paths should be one of the key research points for college teachers. This paper briefly summarizes new - quality productivity, further clarifies the necessity of constructing the cultivation paths of college students' artificial intelligence literacy under the background of new - quality productivity, analyzes the obstacles faced in the cultivation of college students' artificial intelligence literacy under this background, and focuses on analyzing and discussing the cultivation and improvement paths of college students' artificial intelligence literacy under the background of new - quality productivity. It is hoped that the viewpoints put forward in this paper can provide some reference for the implementation of this educational work.*

Keywords: New-quality Productivity, College Students, Artificial Intelligence Literacy.

1. Introduction

The concept of new quality productivity was first proposed by General Secretary Xi Jinping in 2023, specifically referring to the construction of a new type of social production relationship driven by new technologies, characterized by new industries, new formats, and new models. The cultivation of artificial intelligence literacy among college students is in line with the development requirements of new quality productivity and is conducive to highlighting the effectiveness of talent cultivation in universities. Therefore, the construction of this educational path is very necessary.

2. The Necessity of Constructing a Path for Cultivating Artificial Intelligence Literacy Among College Students under the Background of New Quality Productivity

University teachers should have a clear understanding of the relationship between the development of new quality productivity and the cultivation of artificial intelligence literacy among college students, in order to form a correct educational philosophy. Firstly, the development of new quality productivity requires the support of AI talents. Artificial intelligence technology is an important component of "new technology" and a crucial support for the future development of "new industries". Therefore, the development of new quality productivity relies on artificial intelligence technology. The realization of the value of artificial intelligence technology requires the specific application of high-quality talents. The cultivation of artificial intelligence literacy among college students can enable them to master the principles of new artificial intelligence technology application, to a certain extent, to understand the ways in which this technology is applied, and to participate in the operation of artificial intelligence devices, thereby enabling artificial intelligence technology to play its practical role in promoting the development of new quality productivity.

Secondly, it helps to enhance the adaptability of college graduates to the future society. With the development of new quality productivity, the country will inevitably need a large number of new talents in the future society. Many college graduates will face significant employment pressure upon graduation. Under the influence of this cultivation work, college graduates can possess strong competitiveness, thereby alleviating employment pressure. After entering the enterprise, college students can quickly adapt to the business environment, further realize their own value in efficient work, and achieve ideal development in the entire industry.

3. The Obstacles Faced by College Students in Cultivating Artificial Intelligence Literacy under the Background of New Quality Productivity

3.1 Imperfect Curriculum Design

The rise of artificial intelligence technology in China is relatively short, therefore, many universities have not built a relatively complete curriculum system around the cultivation of artificial intelligence literacy among college students. In teaching practice, only some computer majors in universities offer AI courses, while AI courses in other majors are often presented in fragmented form. Due to the imperfect curriculum system, many college students have not received systematic training, and their artificial intelligence literacy has not been significantly improved.

3.2 Fixed Teaching Mode

In the cultivation of artificial intelligence literacy among college students under the background of new quality productivity, some university teachers habitually adopt

traditional rigid indoctrination teaching methods. Under this teaching mode, the artificial intelligence theory imparted by teachers is relatively dry and difficult, so students' learning enthusiasm is relatively poor. Some students may consider it as an additional learning burden, leading to resistance and relatively low learning efficiency. In addition, the problem of pattern solidification is also manifested as the lack of practical teaching. In the teaching of artificial intelligence knowledge and skills, the frequency of practical teaching arranged by teachers for students is relatively low, and college students are unable to integrate the learned technologies in practice, which in turn affects the improvement of students' artificial intelligence literacy. In the development of new quality productivity, relevant enterprises will place more emphasis on the practical abilities of their staff in the future. However, the current lack of practical teaching cannot promote the comprehensive development of college students, and the implementation effect of the entire cultivation work will be compromised.

3.3 Lack of Teaching Guarantee

In the construction of the cultivation path for college students' artificial intelligence literacy under the background of new quality productivity, the lack of guarantee work is first manifested in the absence of teaching evaluation. Due to the low popularity of artificial intelligence literacy cultivation in universities, many university teachers have not established a relatively complete evaluation system for this teaching. Specifically, teachers have not yet clear evaluation indicators, which cannot provide accurate reference for the implementation of evaluation work. Moreover, the evaluation methods adopted by teachers are relatively single, and many teachers habitually evaluate students' learning situation through written exams, and then evaluate their own teaching effectiveness. However, written test scores cannot fully reflect students' artificial intelligence literacy. Secondly, the lack of guarantee work is also reflected in the absence of teacher training. Some universities have not provided systematic training for teachers on the cultivation of artificial intelligence literacy among college students. Faced with this new type of educational work, some university teachers do not possess professional teaching skills and therefore cannot provide effective educational guidance for students.

4. Strategies for Cultivating and Enhancing the Artificial Intelligence Literacy of College Students under the Background of New Quality Productivity

4.1 Improve the Curriculum System

In order to better adapt to the development of new quality productivity, universities should popularize AI courses in all majors. Around this course, universities can provide students with a textbook called "Introduction to Artificial Intelligence". Through the study of this course, college students will have a preliminary understanding of artificial intelligence; Teachers also need to provide necessary guidance to help students clearly understand the relationship between artificial intelligence and the development of new quality productivity, so that they can further perceive the importance of this

learning, thereby stimulating students' learning motivation and enabling college students to continuously improve their artificial intelligence literacy through active participation. In order to further enhance the cultivation effect, university teachers should also develop artificial intelligence characteristic courses suitable for their respective majors. For example, finance majors can develop "intelligent venture capital" courses, while medical majors can develop "intelligent diagnosis" courses. With the continuous enrichment of artificial intelligence course content, meeting the practical needs of students from different majors, and further improving their artificial intelligence literacy. In addition, university teachers can also offer students interdisciplinary elective courses on artificial intelligence. Students can choose the courses they need based on their interests and learning needs, or combine them with their life plans to engage in interdisciplinary learning. It is necessary for university teachers to conduct market research on the setting of artificial intelligence courses. Teachers should take the development of new quality productivity as the starting point, rely on their professional vision, judge the future demand for talents in the field of artificial intelligence, and use the research information as a reference to make reasonable adjustments to the setting of elective courses.

4.2 Optimize Teaching Mode

4.2.1 Carry out project-based teaching

In the cultivation of artificial intelligence literacy among college students, teachers should further reduce their reliance on traditional indoctrination teaching methods and strengthen the application and exploration of diversified teaching methods. University teachers can introduce project-based teaching methods in this regard. On the basis of imparting theoretical knowledge of artificial intelligence, teachers can set learning projects for students and guide them to engage in independent thinking and exploration during the process of completing the projects. Compared to traditional rigid teaching methods, the application of project-based teaching can help students no longer passively accept learning. Through participating in learning projects, their thinking and exploration abilities can be exercised and improved. With the completion of the project, it can bring students deeper learning insights. In specific implementation, university teachers can adopt the principle of teaching from shallow to deep. In the early stages of education, teachers can set a project for students to use the Teachable Machine tool to train a model that can recognize simple gestures; Teachers can also require students to use existing sentiment analysis APIs to analyze the emotions contained in the dialogues of novel characters. Teachers arrange the above learning projects to enable students to form a visual experience of artificial intelligence through participation and completion.

With the deepening of teaching work, university teachers can set up advanced learning projects for students. For example, the project requirement is to use Python tools to predict one's own grades. During the process of completing this learning project, students are required to use AI tools for data analysis and then make intelligent predictions. By participating in this learning project, students can gain a deeper understanding of the application of artificial intelligence technology. In

addition, corresponding learning projects can also be set for students from different majors. For example, civil engineering teachers require students to obtain data information about concrete cracks in construction from multiple channels, use machine tools to organize the above information, and create relatively simple concrete crack recognition models.

In the process of completing learning projects, teachers allow students to participate in collaboration with multiple people, with the aim of reducing the difficulty of exploration and improving the quality of learning project completion through joint efforts of multiple individuals. In response to the challenges faced in project advancement, teachers should encourage each group to engage in intense discussions internally, and teachers can also provide certain assistance to facilitate thinking collisions during this process. With the resolution of problems, students' understanding of artificial intelligence technology can be enhanced.

4.2.2 Strengthen practical teaching

University teachers should further increase the frequency of practical teaching. Countermeasures: Teachers can collaborate with relevant departments of the university to create training bases for students, providing practical guidance on the application of artificial intelligence technology in modern enterprises and society. In the implementation of the base, teachers can arrange students to simulate and participate in positions related to enterprise and artificial intelligence. Faced with problems encountered in the application of artificial intelligence technology, students need to try to solve them through in-depth thinking, and help them master new skills in the process of practical exploration. In practical training, teachers require students to think about the application path of artificial intelligence technology from the perspective of enterprise workers, and increase their cognition through practice and thinking. Teachers can guide students to communicate with business workers and gain inspiration from it. Through the implementation of practical training activities, college students can further strengthen their understanding of artificial intelligence at the practical level, and establish a good foundation for their future development in related fields under the background of new quality productivity.

In practical teaching, university teachers should further strengthen their cooperation with enterprises and provide common guidance for students. Taking the cultivation of students majoring in computer network technology as an example, teachers can collaborate with relevant enterprises to provide special guidance on "Innovation of Network Security Systems in the Application of Artificial Intelligence Technology" based on the imparting of theoretical knowledge of artificial intelligence. Enterprise workers can introduce to students in detail some cases of using artificial intelligence for network system innovation. Through the above teaching, students can further integrate the knowledge of "network security construction" with artificial intelligence technology, stimulate their innovative thinking, and achieve great benefits. For example, under the cooperation between schools and enterprises, practical guidance can be provided to students around the construction of network databases in the application of artificial intelligence technology. On the one hand, teachers should impart relevant theoretical knowledge

and skills to students. On the other hand, enterprise workers can guide students to think about whether AI technology can be applied to database design, so as to upgrade and innovate the operation mode of traditional databases. Teachers guide students to engage in in-depth thinking around the above-mentioned topics, guiding them to construct corresponding database design models in their minds and encouraging them to boldly express their opinions. For example, inspired by teachers and business personnel, students are guided to propose the concept of "designing intelligent indexing for databases". With the assistance of AI technology, the indexing function of data can be made more intelligent. Databases can provide automated search services for users based on their daily usage habits, helping them to comprehensively and accurately obtain data information and further demonstrate the functionality of databases. Through the above special guidance, college students can generate new cognition in practical learning, thereby promoting the improvement of their artificial intelligence literacy.

4.3 Improve Teaching Guarantee

4.3.1 Conduct necessary teaching evaluations

In the cultivation of artificial intelligence literacy among college students under the background of new quality productivity, teachers should strengthen the construction of teaching evaluation system. In this regard, university teachers can set relatively complete teaching evaluation indicators, such as whether the cultivation of artificial intelligence literacy meets the requirements of the development of new quality productivity and whether students can use their learned knowledge and skills to solve practical problems. Teachers can use these as reference to objectively reflect teaching results. With the deepening of teaching work, university teachers can also make appropriate adjustments to evaluation indicators to enhance the effectiveness of teaching evaluation work. University teachers should also pay attention to the application of diversified evaluation methods. On the basis of regular written exams, teachers can organize AI skill competitions for students to evaluate the effectiveness of teaching work and provide a stage for students to showcase themselves, thereby forming a motivational effect. To ensure the effectiveness of the evaluation, university teachers can invite enterprise personnel to serve as judges, and in the evaluation, they can also indicate the next stage of learning direction for students.

4.3.2 Strengthen the construction of the teaching staff

Universities should further strengthen teacher training around this educational work, enabling teachers to provide guidance to students in a more professional manner. In specific implementation, trainers should provide guidance to teachers on how to cultivate college students' artificial intelligence literacy in the context of new quality productivity. Trainers should also provide one-on-one guidance based on the actual situation of each teacher, and simulation training can be conducted around the implementation of various stages of cultivation work. After undergoing systematic training, teachers will develop a new understanding of the application of educational skills, enabling them to provide high-quality educational guidance to students. Universities should also

conduct regular assessments of teachers around the application of educational skills, accurately identify deficiencies in teachers' work based on assessment results, and provide corresponding training. On the basis of institutional training, university teachers should also engage in self-directed learning and exploration to continuously improve themselves. To this end, they can join online forums and participate in discussions around the topic of "Artificial Intelligence Literacy of College Students under the Background of New Quality Productivity", gaining inspiration from the discussions and improving their own work. Through the implementation of the above series of work, the educational level of university teachers has been significantly improved, providing a guarantee for the cultivation of artificial intelligence literacy among college students.

5. Summary

The construction of the cultivation path for college students' artificial intelligence literacy under the background of new quality productivity meets the practical requirements of talent cultivation in the new era. University teachers should have a clear understanding of the necessity of this training work, actively analyze the problems faced in the promotion of this education work, and make teaching improvements from different levels. In specific implementation, teachers should reasonably set up AI courses, reasonably control diversified teaching methods, and timely carry out teaching evaluation work, making effective teaching adjustments based on the evaluation results. Schools should also provide necessary training for teachers around the development of artificial intelligence literacy among college students under the background of new quality productivity, enhance their professional competence, and thus provide strong guarantees for the overall development of education work.

Fund Project:

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