Research on cultivation mode of general education of artificial Intelligence in colleges and universities

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Abstract: To study the training mode of artificial intelligence general education in colleges and universities is a key part of realizing the 2035 goal of education modernization. It not only helps to promote the innovative development of college education, but also has great significance for improving the quality of talent training. Based on this, this paper analyzes the existing problems of the training mode of artificial intelligence general education in colleges and universities in the intelligent era. From the four perspectives of innovating the teaching concept with the core of improving students' digital competency, constructing the "CEE" curriculum system for college artificial intelligence, creating the "OO2O -I PBL" teaching mode for college artificial intelligence, and building the "AI+U-G-E" collaborative education platform, this paper explores the talent training strategy. It aims to effectively solve the problems existing in the current training mode of artificial intelligence general education in colleges and universities, promote the innovative development of college education, improve the quality of talent training, and make positive contributions to the future scientific and technological development and social progress.

Key words: Artificial intelligence; Higher education; General education

I. Existing problems in the training mode of general education of artificial intelligence in universities

1. The "two" problem of the curriculum setting of general artificial intelligence in colleges and universities

(1) Devalue the educational concept

At present, many colleges and universities often pay too much attention to the explanation of test points and technical content of artificial intelligence courses, while ignoring its nature as a general education. This tendency of "de-value" leads to teachers often only pay attention to the teaching of knowledge points, but ignore the guidance of students' values, ethics and other aspects in the teaching process. Under such circumstances, students tend to regard this course as a pure technical course, focusing only on the realization and application of technology, while ignoring the ethical and social responsibilities contained therein.

(2) The teaching content is empty generalization

When many college teachers set up general courses on artificial intelligence, they tend to understand the course content as a simple infusion of artificial intelligence concepts and scientific working principles. They pay too much attention to the explanation of theoretical knowledge and neglect the content of practical application. This kind of empty generalization of teaching content makes students can only passively accept knowledge in class, but can not really understand and master the essence of artificial intelligence. In addition, some teachers believe that the course is only a basic technical training for students. This deviation in understanding also leads to the empty generalization of the teaching content, making the general courses of artificial intelligence lose their due value and significance.

2. Lack of technology embedment in the teaching methods of artificial intelligence general courses in colleges and universities

At present, the education of general courses of artificial intelligence mainly relies on mobile phone apps in terms of technology application. Although this approach provides students with flexible learning channels, its effectiveness largely depends on students' consciousness. In the absence of clear guidance and supervision from teachers, most students find it difficult to consciously use such software for extracurricular learning. In addition, many advanced technologies in the field of artificial intelligence, such as VR immersive learning, have not been widely used in college general education courses. These technologies can provide students with a more intuitive and vivid learning experience, which helps to stimulate students' interest and enthusiasm in learning. However, due to the lack of technology embedments, these advantages can not be fully utilized, and the teaching process still seems boring and boring.

3. College students lack the initiative to improve intellectual and numerical literacy

In the current practice of artificial intelligence general education in colleges and universities, many students lack sufficient initiative for the improvement of intellectual and numerical literacy. They often just passively finish homework and pass exams, and lack the thinking to actively use artificial intelligence to find and solve problems. This passive learning attitude makes it difficult for them to really grow and make progress in the general courses of artificial intelligence. What's more, there is no consensus among students on the importance of intellectual and numerical literacy. Many students only have a superficial understanding of AI technology and do not realize its importance and application value in the future society. This lack of consensus undoubtedly runs counter to the original intention of the curriculum setting of general education on artificial intelligence, and also restricts the improvement of the quality of talent training.

II. The strategy of artificial intelligence general education training mode research

1. Innovation of teaching concept

In today's digital age, it is particularly critical to improve students' digital competency. Therefore, teachers need to innovate the teaching concept of AI general education in many aspects. First of all, encouraging students to actively apply for interdisciplinary innovation and entrepreneurship projects of "artificial intelligence +X" is an important way to cultivate digital competency. By participating in these projects, students will not only be able to apply their AI knowledge to practical problem solving, but also exercise their innovative thinking and entrepreneurial abilities. Secondly, in terms of teaching evaluation, teachers should actively explore diversified evaluation methods. The traditional outcome evaluation pays too much attention to students' test scores, which is difficult to fully reflect their learning process and actual ability. At the same time, innovative forms of communication such as "roadshow" and "competitive bidding" can be adopted to allow students to demonstrate their learning results and enhance their self-confidence and expression ability. Finally, colleges and universities need to introduce more cutting-edge digital technologies to provide students with more advanced and rich learning resources and practice platforms. In the past, although some colleges and universities introduced advanced digital equipment, they often only "introduced" rather than "advanced", and were placed in the laboratory "shelved", failing to give full play to its role. Therefore, on the premise of ensuring equipment and campus safety, teachers need to maximize the liberation of students' creativity and imagination in free exploration, so that they can really improve their digital competency in practice.

2. Building the "CEE" curriculum system

In order to comprehensively improve the intelligent numeracy quality of college students, colleges and teachers should pay close attention to the construction of "CEE" intelligent education curriculum system. The system takes "Cognition -- Experience -- Entrepreneurship" as the core, and pays attention to the teaching content of "one core" and "multiple". Based on this curriculum system, It can provide students with a comprehensive and systematic artificial intelligence learning platform. First of all, for the basic cognitive courses, schools can set up relevant courses based on the general knowledge of the frontier technology industry of artificial intelligence. For example, the Introduction to Artificial Intelligence course can be set up to let students understand the basic concepts and development process of artificial intelligence; The course "The Basis of Brain and Cognition" can be set up to guide students to conduct research on the human brain and cognitive mechanism, which is an important direction of artificial intelligence research. Courses such as Machine Learning and Data Mining can also be set up to further deepen students' understanding and application of artificial intelligence. Secondly, courses related to artificial intelligence simulation and exercise can be added to the elective course. Through cross-learning with humanities, art, finance, science and other disciplines, students can apply the artificial intelligence knowledge they have learned to practical problem solving, so as to deepen their understanding and application of artificial intelligence technology. Finally, schools should further set up artificial intelligence practice courses, strengthen practical teaching, and promote students to comprehensively apply what they have learned. In the practical application process, students can carry out deep learning in the problem solving process, so as to further improve their intelligent number literacy.

3. Create the "O2O-IPBL" teaching method

"O2O-IPBL" as a new type of talent training method, its application in artificial intelligence general education is conducive to promoting students' deep learning and improving their application ability of artificial intelligence technology. In the specific teaching, first of all, teachers should actively introduce the learning path of "IPBL", that is, teachers should guide students to carry out deep learning in the process of "introduction -- planning -- implementation -- evaluation" through the process of "inspiration -- integration -- deep processing -- evaluation", so that students can connect the theoretical knowledge they have learned to practical work. And improve their ability to solve problems. At the same time, teachers should further embed the "O2O" model into the "O2O-IPBL" teaching, and start to explore the teaching model from the aspects of students, online resources, offline classroom practice, interactive platform and service center. To be specific, first, build an online theoretical education channel to provide ample learning resources for students; Through the online and offline practice channel, let students deepen the understanding of the course in the practice; Secondly, through the interactive channel of teachers and students, students and teachers can communicate better; Third, the use of online resources technology update channels to ensure the timeliness and advanced nature of online education resources; Fourthly, through offline practical activities, expand and extend the way to increase students' learning experience; Fifth, to establish the information feedback mechanism of students, so that students can better grasp their needs and difficulties in learning, so as to give targeted guidance and help. The establishment of "O2O-IPBL" teaching mode enables students to have diversified learning paths, access to high-quality educational resources, and promote efficient communication and cooperation between teachers and students. Under the guidance of teachers, students can unconsciously improve the subject thinking ability combined with information technology, laying a good foundation for future study and career development.

4. Build an "AI+U-G-E" collaborative education platform

The "AI+U-G-E" collaborative education platform is a new type of artificial intelligence teaching platform with wide application prospects, formed under the deep participation of universities, the policy guidance of government departments and the demand guidance of enterprises. Colleges and universities have rich experience and resources in talent training. Through in-depth participation in the "AI+U-G-E" cooperative education platform, they can provide students with more systematic and in-depth general education of artificial intelligence. In this process, the government should play a policy-oriented role and guide and support the development of artificial intelligence education through the introduction of corresponding policies, so as to provide a strong guarantee for the cultivation of talents. Enterprise organizations

have profound insight into the market and rich practical experience, and their participation in the platform construction can provide education resources and practice platforms that are closer to the market needs for the efficient training of talents. In the construction of the "AI+U-G-E" collaborative education platform, colleges and universities should pay attention to increasing capital investment, speeding up curriculum renewal, strengthening the construction of teachers' teams, strengthening the construction of practice bases, accelerating the integration of high-quality artificial intelligence general education resources, and building a digital resource integration platform, so that teachers and students can obtain more learning resources on this basis. This is of great significance for realizing the individuation and precision of artificial intelligence teaching and improving students' learning efficiency and satisfaction.

III. Conclusion

To sum up, colleges and universities, as the cradle of talent training, have become one of the important tasks in the field of higher education to train talents with artificial intelligence knowledge and application skills. In the face of challenges such as the "two aspects" of curriculum setting, the lack of technology embedment in teaching methods and the lack of initiative of students in improving intellectual and numerical literacy in general education of artificial intelligence in colleges and universities, schools and teachers should actively explore corresponding optimization strategies. By innovating teaching concepts, building "CEE" curriculum system, creating "OO2O -IPBL" teaching method and building "AI+U-G-E" collaborative education platform, we can effectively promote the in-depth development of general education of artificial intelligence in colleges and universities, improve students' digital competency, and cultivate more artificial intelligence talents with innovative thinking and practical ability.

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