

Research and Practice on the Precise Cultivation Model of High-Skilled Applied Talents in AI Majors in GBA

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Abstract: *With more and more universities in China offering AI majors, the cultivation of AI talents has become a research topic of widespread concern. With the continuous updating of sci & tech and the rapid development of digital economy, the construction of intelligent Greater Bay Area has become the general trend, which brings new opportunities to the development of cultural industry in GBA. However, at present, GBA's cultural industries are faced with problems and challenges such as insufficient development imbalance, low degree of integration of creativity and technology, and urgent need for upgrading and upgrading of traditional industries. As a leading technology in the field of scientific and technological innovation in the new era, AI provides new ideas for solving the problems encountered in the development of cultural industry in Guangdong, Hong Kong and Macao, provides more optimized creative design solutions and more efficient production methods for the cultural industry, and can optimize the production links of cultural industry; Expand the marketing and distribution channels of the cultural industry from the two levels of depth and breadth to improve and improve the user experience; Enable the cultural industry in an all-round way to form intelligent creation, intelligent production, intelligent marketing and intelligent experience. Exploring the strategic opportunities for the development of AI application and gradually forming a characteristic AI application-oriented talent training system is a supplement to the formulation of the development plan of scientific and technological talents in China.*

Keywords: *GBA; AI; Applied Talents; Precision Training*

1. Introduction

From the first mention of "Guangdong-Hong Kong-Macao Greater Bay Area (GBA)" in the government work report of the State Council in March 2017 to the release of the top-level design of GBA development plan in February 2019, building GBA has become China's national strategy. Artificial intelligence (AI) has greatly changed people's way of thinking, life style and production mode. GBA's vocational education, as the main position for exporting skilled talents to Hongkong, Macau, Guangzhou and Shenzhen, should transform its educational development based on the background of AI development, build an intelligent teaching system on campus, and improve the degree of information teaching, so as to meet the needs of AI development. The construction of Dawan district should not only pursue the social and economic indicators of rapid growth, but also shape the cultural competitiveness conducive to sustainable development [1]. The development of Guangdong, Hong Kong and Macao Bay area depends not only on economic promotion, but also on cultural development to promote the construction of humanistic Bay area. At present, AI has entered a new stage of deep integration with industry. It is deeply integrated with intelligent manufacturing, automatic driving, voice and image processing, medical and health care, finance and other fields. Industry university collaborative education for AI has become a hot issue [2].

In recent years, with the rapid development of AI technology, universities have set up AI majors, hoping to train more talents for the field of AI. Under the background of "internet plus", it is an important educational breakthrough to focus on improving the core literacy of innovative talents. Through literature investigation at home and abroad, it is found that there are many shortcomings in the cultivation and research of core literacy at present: (1) The reform of core literacy focuses on "what kind of people to cultivate for the future", but it does not indicate how to cultivate the core literacy of talents from the perspective of deep implementation. (2) The activities of memory, understanding, and mastery that dominate in teaching cannot make students form literacy, and at the same time make the cultivation of literacy weakened and marginalized. (3) The teaching methods that pursue the goal of

"rapid training" and "class batch production" have formed a teaching concept based on knowledge transfer, which restricts the education and teaching reform in the past and cannot give full play to its efficiency. The development model of "cultural industry + AI" has become a breakthrough and a new direction for the high-quality development of the cultural industry in the GBA [3].

2. The Present Situation and Trend of Intelligent Construction in GBA

2.1. AI

AI is a very broad science. It is composed of many fields such as machine science, computer science, psychology, philosophy, etc. It has been widely concerned and applied by people in the form of intelligence, informatization and dataization, and it also enables people to use various aspects of knowledge to carry out the development and development of society has deepened people's transfer and application of knowledge. The GBA is the main base for my country to build a world-class urban agglomeration. Vocational colleges within it should recognize the important role of the GBA in my country's economic development and opening up, and according to the training needs of technical talents, combined with the development of AI, to establish and improve the scientific skills teaching system [4]. AI is now everywhere, from smart assistants and smart chat applications such as Apple Siri, Baidu Dusi, Google Allo, Microsoft Xiaobing and Amazon Alexa around us, to machine translation and automatic driving, they are influencing and changing our lives. In GBA, the existence of leading technology enterprises such as Huawei, Tencent and ZTE has greatly promoted the research, landing and application of AI in Greater Bay Area, and made the formation of "smart Greater Bay Area" possible [5]. In this environment, the AI industry is becoming a new kinetic energy to promote the comprehensive development of GBA's economy, changing the innovation chain and life circle in the Bay Area, and constantly promoting the integration and development of the cultural industry and other industries.

2.2. Innovation of Teaching Resources

Due to the limitations of various basic conditions in application-oriented undergraduate universities, if the traditional teaching mode is adopted, the students trained will not have advantages compared with students from high-level domestic universities such as double first-class universities. After graduation, it may be difficult to engage in technical skills and industry experience requirements. Higher jobs, therefore, need to highlight applications and take their own characteristic path. First of all, vocational colleges in GBA can increase the investigation of talent demand of enterprises in this region, understand the knowledge, literacy and professional requirements of talent demand in GBA, and predict the future talent demand of enterprises according to the investigation results, so as to lead the students of our school to fully understand society and enterprises; Secondly, vocational colleges in GBA should analyze the specialty applicability according to the teaching specialty of our school, predict the change and development of AI, and what new industries may be brought about, so as to improve the teaching specialty of our school; Finally, according to the results of investigation and prediction, vocational colleges in GBA should adjust and innovate the professional teaching contents and methods, increase the content of information-based teaching, and add more elective courses according to the development needs of AI, so as to provide a learning platform for students to learn about AI and promote the continuous development of students' skills, knowledge and specialization. Establish resource assisted education for teachers' teaching planning, change teachers' class resources by means of information technology, promote teaching, and realize the integration of core literacy training plan and innovative teaching practice [6].

2.3. AI Development

First of all, the GBA has a good scientific and technological foundation for the development of AI, and cities such as Hong Kong, Shenzhen, Guangzhou, and Dongguan have their own advantages and characteristics in the development of AI industry. Second, since 2018, local governments in the GBA have successively issued a series of relevant policies to promote the development of the AI industry [7]. Finally, the "three-in-one" combination of scientific research advantages, talent advantages, and industry associations and platforms in the GBA jointly promote the collaborative innovation and development of AI in the GBA. The GBA is home to numerous AI-related scientific research institutes and abundant talents, providing strong intellectual support for the development of the AI industry in the

Greater Bay Area. In addition, GBA AI Alliance and other associations have also promoted the rapid development of AI industry in GBA to a certain extent. While applying AI technology to create value for the industry, we should always pay close attention to the development direction of AI technology, accept new theories in time, use new technologies, new platforms and new tools, and constantly make application innovation to better create new value for the industry. To sum up, GBA's AI has excellent scientific and technological development foundation, industrial policy environment, scientific research talents and advantages of industry associations. If it is supplemented by innovation-driven and capital-driven, the great development of AI industry in GBA can be described as a natural trend.

3. Training of Applied Talents

With the advent of the era of AI, its requirements for talents will continue to increase. The characteristic of application-oriented AI talent training is to take the road of integrating production and education, which is a complex systematic project, which requires the support of various conditions. Students can learn a variety of teaching resources through the Internet. It meets the learning needs of students. Vocational colleges in the GBA should combine the advantages brought by AI to students' learning, and cultivate students' life-long learning model, so that students can actively learn knowledge and skills. Winning awards in teaching competitions held by the school is equivalent to publishing domestic authoritative or core academic papers, guiding students to participate in various professional and subject competitions sponsored by government agencies such as the Ministry of Education, the Provincial Department of Education or other authoritative social organizations such as industry associations recognized by the school. He has won the first prize at the provincial level or guided the innovation and entrepreneurship practice of national-level college students [8]. Vocational colleges should guide students to establish the concept of lifelong learning, so that after graduation, students can also study in their jobs according to their job requirements, so as to meet the requirements of social and enterprise development. Based on the existing unified talent training scheme, we should explore personalized training methods according to students' development intention, so that students can master the required courses of their major and expand the courses with special research direction, that is, take a diversified training path of "general knowledge plus special knowledge". Diversified cultivation methods are shown in Figure 1.

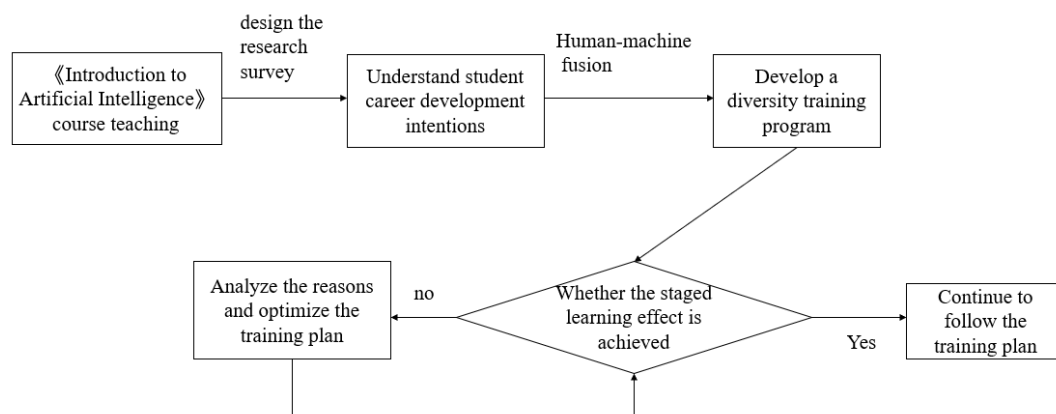


Figure 1: Diversified culture method

The combination of the new generation of information technology and the new generation of AI forms the characteristic application-oriented teaching mode of combining educational informatization 2.0 with AI 2.0, "Five innovations in AI applied talents training": new ideas, new structures, new models, new quality and new systems [9]. (1) Based on the experience and lessons of developing application-oriented education reform with AI, analyse and study the mode, characteristics, laws and development trends of application-oriented education, and put forward the ideas and ideas of application-oriented education reform and innovation. (2) Carry out the research and exploration of application-oriented majors with multi-dimensional interaction and its subdivision direction, and create a new form of integrated and distinctive general education of AI. (3) When summarizing the technical attributes of AI, consider its dimensional attributes, similar to the reform of engineering application education talent training mode, and carry out research and practice on deepening the integration of education into intelligent enterprises, life-long virtual education system and mechanism, and AI

application-oriented talent training mode reform research and practice. (4) Improve Chinese characteristics, learn from international intelligent teaching, study and quantify China's AI application-based education intelligence standards, and deepen the evaluation of education quality in multiple spaces. (5) Analyse and study the system structure of the classified development of universities and the subdivision training of AI talents, promote the macro policies, organizational systems and operation mechanisms of AI application education to develop characteristics and levels, and improve the education concept and liberate education through the AI application talent training model. Concept. In addition to the "soft" conditions such as the level of teachers, curriculum system, and training methods, it also requires "hard" conditions such as the teaching environment and experimental training facilities. Only the combination of soft and hard can achieve the goal of talent training.

The cultivation of industrial skilled talents is the top priority of applied technology universities. First of all, vocational colleges should guide students to develop the habit of combining learning inside and outside class, assign homework for students according to the content of professional teaching, and guide students to further expand their knowledge by using the Internet, so as to guide students to develop the habit of comprehensive learning inside and outside class; Secondly, vocational colleges can improve the teaching infrastructure of the school, combine the development of AI, innovate the teaching situation, increase students' learning experience, make them further understand professional knowledge and skills, and strengthen students' ability to transfer and apply knowledge; Finally, vocational colleges can combine the development needs of AI, build intelligent learning space, guide students to make learning plans according to their professional needs and career planning, and constantly adjust plans according to the knowledge provided by intelligent learning space, so as to meet students' learning needs. The college can build AI shared classrooms and AI laboratories. AI shared classroom is equipped with current mainstream intelligent systems such as teaching recording and broadcasting, cloud resource sharing, teacher-student interaction and teaching data analysis, so that students can experience the application of AI technology in the field of education, and leave teaching status data for teachers to analyze and study and optimize teaching. AI Lab relies on Baidu AI open platform and AI Studio, developer ecology and related hardware, covering computer vision, speech recognition, natural language processing, unmanned driving, robot and other training subjects, so that students can simulate actual combat, increase experience and improve application ability [10].

4. Conclusion

With the increasing number of new general universities specializing in AI, how to develop a unique path in the cultivation of AI talents in application-oriented undergraduate colleges is an urgent problem that needs to be studied, which is related to students' career planning and whether they will be able to do so in the future. Play its due value in the field of AI. The GBA should closely combine its own advantages, seize the "window" of "AI", and continuously explore the development of cultural industries in the Greater Bay Area on the basis of comprehensive consideration of policy elements, technological elements, capital elements and talent elements. The "AI" model will form a development pattern of cross-regional cooperation, cross-border integration, cross-regional construction, and cross-border attraction, realize the wide application of AI in the cultural industry, and strengthen the cultural industry and manufacturing, financial industry, logistics industry, etc. cooperation to achieve "cross-border integration of the whole industry". Vocational colleges should innovate teaching contents and methods based on the development of AI, provide better learning conditions for students, and cultivate students' concept of lifelong learning, so that students can learn more practical knowledge in vocational colleges and enhance their self-worth. If the development of GBA's cultural industry fails to grasp the breakthrough and general direction of AI in the next 10 years, it will lose its core competitiveness in the international competition; otherwise, it will lead the development of cultural industry in the Bay Area of the world.

Acknowledgements

2021 Guangdong Education Science Planning Project (2021GXJK655):

Research and Practice on precise cultivation mode of high skilled applied talents of artificial intelligence specialty in Dawan District, Guangdong, Hong Kong and Macao.

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