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Research on the Implementation Path of AI-Enabled Innovation and Entrepreneurship Education in Universities

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Abstract: Against the backdrop of the integrated development of the digital economy and the digital transformation of education, artificial intelligence has become a core engine for the reform of innovation and entrepreneurship education in universities, offering a new approach to addressing problems such as homogeneity and insufficient practice in traditional education. Based on the demand for high-quality development of innovation and entrepreneurship education in universities and combined with the application practice of artificial intelligence, this paper explores the specific implementation paths enabled by artificial intelligence from three dimensions: reconstruction of the teaching system, innovation of teaching models, and improvement of the guarantee system. It aims to promote the in-depth integration of the two, cultivate international talents with innovative thinking, entrepreneurial competence, and artificial intelligence literacy, and provide practical references for the reform of innovation and entrepreneurship education in universities.

Keywords: Artificial intelligence technology; Universities; International students; Innovation and entrepreneurship education; Implementation path; Talent cultivation

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1. Introduction

A new round of scientific and technological revolution and industrial transformation is accelerating. The wide application of artificial intelligence (AI) has reshaped the models of various industries and put forward higher requirements for the cultivation of innovative and entrepreneurial talents in universities. Traditional innovation and entrepreneurship education in universities is plagued by problems such as outdated curricula, single teaching models, insufficient practice, and a lack of personalized guidance. When facing international students, it also encounters challenges including cross-cultural adaptation. The *Action Plan for Innovation of Artificial Intelligence in Colleges and Universities* clearly requires accelerating the application of AI in the

field of education. In this context, integrating AI into the whole process of innovation and entrepreneurship education has become an inevitable choice for universities to break through bottlenecks and improve educational quality. Based on the characteristics of AI and educational practices, this paper explores feasible empowerment paths and provides references for the intelligent development of education.

2. Reconstructing an AI-enabled innovation and entrepreneurship teaching system

2.1. Optimizing modular curriculum design

The curriculum system is the core carrier of innovation and entrepreneurship education. To empower innovation and entrepreneurship education in universities with AI, the primary task is to break the fragmentation and homogeneity of traditional courses and build a modular and systematic curriculum system. Combined with the characteristics of different majors and students' development needs, a modular design approach is adopted to integrate basic AI technology, core knowledge of innovation and entrepreneurship, practical application abilities, and other contents into core modules, covering key contents such as the application of core AI technologies, fundamentals of innovation and entrepreneurship, and industry-integrated innovation, so as to avoid disconnection and repetition of courses. For international students, cross-cultural innovation and entrepreneurship contents are integrated, balancing technical teaching and cultural adaptation. Meanwhile, contents such as AI ethics and data security are incorporated into the curriculum system to guide students to establish a correct outlook on technology application [1].

2.2. Improving the adaptability of curriculum content

AI-enabled innovation and entrepreneurship education needs to achieve deep adaptation of curriculum content to AI technology, industry demands, and student characteristics, abandoning unrealistic and empty content. On the one hand, deeply integrate AI technology with professional education and innovation and entrepreneurship education. Combined with the innovation needs of different professional fields, integrate AI application scenarios and innovative ideas in various industries, so that students can understand new models and paths of innovation and entrepreneurship driven by AI. On the other hand, based on students' personalized development needs, use AI technology to analyze students' learning preferences and knowledge gaps, and push adaptive curriculum content to realize teaching according to their aptitude. For international students, optimize the language expression and cultural adaptation of curriculum content, adopt diversified content presentation forms, balance professionalism and understandability of knowledge, and integrate the core logic of cross-cultural innovation and entrepreneurship cases to help students quickly adapt to the education model and improve their innovation and entrepreneurship capabilities.

2.3. Strengthening interdisciplinary curriculum integration

Innovation and entrepreneurship are inherently interdisciplinary and comprehensive. The empowerment of AI technology further requires breaking disciplinary barriers and building an interdisciplinary curriculum integration system. Universities should break professional boundaries, promote the deep integration of AI technology, innovation and entrepreneurship education with various professional courses, set up interdisciplinary curriculum modules, and encourage students of different majors to conduct cross-field learning and collaborative innovation. For example, combine AI technology with medicine, information technology, economics, and management, and develop interdisciplinary courses such as AI+Medical

Innovation and AI+Digital Entrepreneurship to cultivate students' interdisciplinary thinking and comprehensive innovation capabilities [2].

3. Innovating AI-enabled innovation and entrepreneurship teaching models

3.1. Implementing a teaching model integrating gamification and intelligence

Break the traditional teaching model of "teachers lecturing and students passively receiving," deeply integrate the gamified teaching concept with the AI intelligent learning system to enhance the fun and interactivity of teaching. Use AI technology to design gamified learning scenarios, integrate elements such as point systems, task challenges, and virtual role-playing, transform innovation and entrepreneurship knowledge, AI technology application, and other content into interesting tasks, and guide students to take the initiative to participate and explore independently. Meanwhile, use tools such as AI intelligent tutors and intelligent Q&A systems to provide students with personalized learning paths, feed back learning effects in real time, intelligently identify knowledge blind spots, and push supplementary resources to improve the pertinence and immersion of learning. This teaching model can not only stimulate students' interest in learning but also realize personalized guidance with the help of AI technology, solving the problems of insufficient interaction and weak pertinence in traditional teaching. It is especially suitable for the learning characteristics of international students and improves the effectiveness of education and teaching [3].

3.2. Constructing a project-driven practical teaching model

Practice is the core link of innovation and entrepreneurship education. AI-enabled innovation and entrepreneurship education should be practice-oriented and construct a project-driven practical teaching model. Rely on AI technology to build an immersive practical platform to simulate real entrepreneurial scenarios, allowing students to carry out entrepreneurial practice, product research and development, market promotion, and other activities in a virtual environment, reducing practical costs and improving practical effects. Guide students to design innovation and entrepreneurship projects in teams based on actual needs, and use AI tools to complete project planning, content generation, data analysis, and other links to cultivate students' practical ability and innovative thinking. Meanwhile, combined with industry-university-research cooperation resources, organize real entrepreneurial projects for students to participate in, optimize project plans with the help of AI technology, promote project implementation, and realize the integration of "learning, practicing, and innovating," so that students can accumulate experience and improve abilities in practice, solving the dilemma of "empty talk on paper" in traditional practical teaching.

3.3. Implementing blended and internationalized teaching models

Combined with the advantages of AI technology, implement flipped classrooms and blended teaching models to realize the deep integration of online and offline teaching. Use the AI learning platform to build online learning modules, allowing students to preview course content and complete online quizzes in advance. Offline classrooms focus on discussion, practice, and task collaboration to promote in-depth learning. Meanwhile, use AI technology to break time and space constraints, implement internationalized teaching, form international teaching teams, invite experts at home and abroad to give lectures, and provide students with opportunities for cross-cultural communication. Set up cross-cultural and interdisciplinary learning teams to promote collaborative innovation between international and local students, organize international

innovation and entrepreneurship forums, online exchanges, and other activities, and use AI translation, intelligent interaction, and other tools to eliminate language and cultural barriers, and cultivate students' global vision and cross-cultural innovation and entrepreneurship capabilities [4].

4. Improving the security system of AI-enabled innovation and entrepreneurship education

4.1. Strengthening the construction of teaching staff

Teachers are the key foundation for the application of AI in innovation and entrepreneurship education, and there is an urgent need to establish a team of teachers with AI literacy, innovation and entrepreneurship ability, and professional teaching ability. Universities should optimize the current teacher training system, strengthen the training of the two core modules of artificial intelligence technology and innovation and entrepreneurship teaching method, and fully improve the level of teachers' guidance and help. Introduce professionals in the field of artificial intelligence, hire enterprise innovation and entrepreneurship guidance teachers, and establish a diversified team of teachers to make up for the lack of teachers in a certain specialty. In addition, we need to establish and improve the incentive mechanism to let teachers go deep into education, scientific research, and practical work, actively improve their comprehensive professional quality, and provide them with high-quality and professional innovation and entrepreneurship guidance.

4.2. Building a diversified support platform

Platform support is an important carrier of AI empowerment. Universities need to integrate various resources and build a multi-level and comprehensive support platform system. On the one hand, an artificial intelligence-assisted teaching platform should be established to integrate high-quality curriculum resources, a large number of data resources, and practical tools, facilitate smart teaching management, provide personalized guidance to students, and improve the efficiency and accuracy of teaching. On the other hand, a series of services such as business incubation, cultivation, and financing docking based on artificial intelligence should be established to help enterprises realize the landing and transformation of projects. At the same time, through strengthening the cooperation in production, learning, and research, the internship platform will be established to introduce the actual engineering and cutting-edge technology of the enterprise, so that the students can polish the project in the real industry to improve the practicability and feasibility of the project.

5. Conclusion

AI technology has injected new opportunities into the reform of innovation and entrepreneurship education in colleges and universities. AI empowerment is an inevitable requirement to promote the digital transformation of education and cultivate innovative and entrepreneurial talents in the new era. This paper explores the specific implementation path of innovation and entrepreneurship education in AI-enabled universities from the three dimensions of the teaching system, teaching mode, and security system. The above measures can accurately solve the pain points and difficulties of traditional innovation and entrepreneurship education, effectively improve the quality of education and teaching, and provide solid support for colleges and universities to cultivate compound innovative talents.

Disclosure statement

The authors declare no conflict of interest.

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