

Exploration of the Application of Artificial Intelligence in Ideological and Political Courses--Taking the Industrial Robot Application Course as an Example

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Abstract

This article explores the strategies and effects of integrating artificial intelligence into the ideological and political courses of industrial robot application courses. By analyzing 7 ideological and political cases, this paper demonstrates how to use artificial intelligence to enrich the supply of ideological and political content in courses, organically integrate ideological and political education into classroom teaching, and build high-quality digital resources. Research has found that this integration model effectively enhances students' patriotism, innovative spirit, and professional dedication, providing new ideas for curriculum ideological and political construction.

Keywords

Artificial Intelligence; Industrial Robot Applications; Course Ideology And Politics

1. Significance of the project

With the rapid development of artificial intelligence technology, its application in the field of education is becoming increasingly widespread. The industrial robot application course, as an important course for cultivating future talents in the field of intelligent manufacturing, how to effectively integrate ideological and political education, guide students to establish correct worldviews, outlooks on life, and values, has become a hot topic in current education reform. This article will take the industrial robot application course as an example to explore how to integrate artificial intelligence into the teaching process of ideological and political courses, and analyze seven specific ideological and political cases (as shown in Figure 1) in order to provide new ideas and methods for the construction of ideological and political courses.

Tab. 1 Seven Specific Cases of Ideological and Political Education

Number	Ideological and Political Content
1	How to "Reduce Americanize" China's large-scale basic software
2	Introduction of National Craftsmen of the Year, Enhancing Students' Love and Dedication to Their Jobs
3	The ultimate challenge of the chief engineer is difficult at the beginning of everything
4	BMW Super Factory
5	Future Development Prospects of Artificial Intelligence in China (the AI+era is really coming)
6	Empowering high-quality development with intelligent manufacturing - General Secretary Xi Jinping emphasized the need to adapt to the development trend of the Fourth Industrial Revolution
7	The significance of skills competition and professional dedication

2. Optimize the supply of ideological and political content in courses

Optimizing the supply of ideological and political content in industrial robot application courses is the key to improving the effectiveness of ideological and political education. Traditional ideological and political courses often focus on imparting theoretical knowledge, lacking close integration with practice. By introducing cases related to artificial intelligence, the ideological and political content of the course can be enriched, making it more in line with the development of the times and the needs of students[1].

For example, the case of "How to 'Reduce Americanize' China's large-scale basic software" can guide students to reflect on China's independent innovation capabilities in the field of science and technology, stimulate their patriotism and national pride. By introducing the achievements and challenges faced by China in the field of basic software, students are made aware of the importance of technological self-reliance and self-improvement, thereby cultivating their sense of responsibility and mission[2].

3. Organically integrate ideological and political education into classroom teaching

Integrating ideological and political education into classroom teaching is an important way to achieve the ideological and political goals of the curriculum. In the industrial robot application course, teachers can closely integrate ideological and political elements with professional knowledge through various teaching methods, so that students can receive ideological and political education while learning professional knowledge[3].

3.1 Case study teaching

Taking the "Introduction of National Craftsmen of the Year" as an example, teachers can showcase their outstanding achievements and dedication in the field of industrial manufacturing by introducing well-known craftsmen from home and abroad,

such as the promoters of Germany's "Industry 4.0" and China's "Great Country Craftsmen". Through case analysis, guide students to reflect on the connotation and value of craftsmanship, cultivate their love for work and dedication, and pursue excellence in quality.

3.2 Problem oriented teaching

In the case of "improving students' love for work and dedication", teachers can guide students to discuss and think by setting problem scenarios, such as "how to practice love for work and dedication in practical work". Through problem oriented teaching, stimulate students' thinking vitality and deepen their understanding of the spirit of dedication and professionalism in their thinking[4].

3.3 Project based teaching

The case of "The Ultimate Challenge of the Chief Engineer: Difficulties at the Beginning of Everything" can be taught through project-based teaching, allowing students to simulate the role of a chief engineer and face various difficulties during the project initiation phase. During the project implementation process, guide students to learn teamwork, innovative thinking, and problem-solving skills, while cultivating their sense of responsibility and commitment.

4. Constructing high-quality digital resources for ideological and political education courses

With the development of digital technology, building high-quality digital resources for curriculum ideological and political education has become an important means to enhance the effectiveness of curriculum ideological and political education. In industrial robot application courses, teachers can utilize technologies such as artificial intelligence, virtual reality (VR), and augmented reality (AR) to create immersive and interactive digital teaching resources[5].

4.1 Virtual Reality Technology

Taking the "BMW Gigafactory" as an example, students can be brought into the production site of the BMW Gigafactory through VR technology. Through virtual visits, students can experience the advanced technology and efficient processes of modern industrial manufacturing firsthand, and feel the charm of intelligent manufacturing. At the same time, teachers can set up ideological and political elements in the virtual environment, such as introducing BMW factory's measures in environmental protection, social responsibility, etc., to guide students to think about the relationship between enterprises and society.

4.2 Artificial intelligence assisted teaching

In the case of "the future development prospect of China's AI (the AI+era is really coming)", teachers can use AI assisted teaching tools, such as intelligent voice assistant, intelligent recommendation system, etc., to provide personalized learning

support for students. Through intelligent voice assistants, students can access course related information and answer questions anytime and anywhere; Through intelligent recommendation systems, teachers can recommend suitable ideological and political learning resources for students based on their learning situation and interests.

4.3 Digital Teaching Resource Library

Building a digital teaching resource library is an important guarantee for achieving the sharing and continuous updating of ideological and political resources in courses. Teachers can categorize and organize digital resources related to the course, such as lesson plans, courseware, video materials, case libraries, etc., and upload them to the resource library for sharing. At the same time, teachers can also invite industry experts, scholars, and others to participate in the construction and maintenance of the resource library, continuously enriching and improving the content of the resource library[6].

5. The effectiveness of ideological and political education in the curriculum

The integration of artificial intelligence into the ideological and political courses of industrial robot applications has achieved significant results. Specifically manifested in the following aspects:

5.1 Students' patriotism is enhanced

By introducing the achievements and challenges faced by China in the field of industrial robots, students' patriotism has been significantly enhanced. They pay more attention to the development

dynamics of the country and are willing to contribute their own strength to the country's technological progress and national rejuvenation.

5.2 Students' innovative spirit is enhanced

With the assistance of artificial intelligence technology, students' innovative thinking and ability have been effectively cultivated. They are more willing to try new things, new methods, and challenge traditional concepts and thinking patterns.

5.3 Cultivate students' professional dedication

Through case-based teaching, problem oriented teaching, and project-based teaching, students' professional dedication has been effectively cultivated. They cherish learning opportunities more and are willing to put in effort and time for their future career development.

6. Innovative Curriculum Ideological and Political Construction Model

In order to further enhance the effectiveness of ideological and political education in

the curriculum, we need to constantly innovate the construction mode of ideological and political education in the curriculum. Here are some possible innovative directions:

6.1 Interdisciplinary integration

The industrial robot application course involves multiple disciplines such as mechanics, electronics, and computer science. We can try to integrate ideological and political elements from these disciplinary fields to create an interdisciplinary curriculum ideological and political system. For example, when introducing industrial robot control systems, ethical and moral issues from computer science can be introduced; When introducing the application scenarios of industrial robots, social responsibility issues from social sciences can be introduced.

Science and engineering courses share the same characteristics of integrating foundational, cutting-edge, and practical aspects, and different stages can adopt different ideological and political strategies. The teaching of basic theories involves the principles of positive and negative, electric and magnetic, capacitive and sensory, static and dynamic, which manifest the workings of the universe and contain the dialectical principles of life philosophy; Expanding cutting-edge technology and discussing emotions, ancient and modern, domestic and foreign, old and new, guarding and breaking, inspiring patriotism and establishing the determination to serve the country; Proficient in experimental practice and operation, adhering to norms, precise operation, ensuring safety, and protecting the environment, establishing engineering awareness, and cultivating the spirit of craftsmanship.

6.2 This course integrates the concept of on-the-job course competition and certification

Extract ideological and political elements based on the characteristics of different stages, such as extracting craftsmanship and fighting spirit from "competitions", and extracting rule awareness from "certifications".

6.3 Integration of Industry and Education

The integration of industry and education is an important way to achieve the combination of curriculum ideology and career development. We can establish cooperative relationships with industrial robot manufacturing enterprises, intelligent manufacturing parks, etc., to provide students with internship and practical training opportunities. During the internship and practical training process, guide students to combine the knowledge they have learned with their actual work, and cultivate their professional ethics and comprehensive abilities.

6.4 International perspective

In the context of globalization, cultivating students' international perspective is of great significance for enhancing their competitiveness. We can invite foreign experts and scholars to give lectures or collaborate on research at the school, so that stu-

dents can understand the latest developments and trends in the international industrial robot field. At the same time, we can also encourage students to participate in international industrial robot competitions and exchange activities to broaden their international perspective and cooperation abilities.

7. Conclusion

Integrating artificial intelligence into the ideological and political courses of industrial robot applications is an important way to enhance the effectiveness of ideological and political education and cultivate high-quality talents. By optimizing the supply of ideological and political content in the curriculum, organically integrating ideological and political education into classroom teaching, and building high-quality digital resources for ideological and political education in the curriculum, we can effectively enhance students' patriotism, innovation spirit, and professional dedication. At the same time, by continuously innovating the model of curriculum ideological and political construction, we can inject new vitality and momentum into the sustainable development of curriculum ideological and political education. In the future, we will continue to explore and practice new methods and paths for integrating artificial intelligence into ideological and political courses, contributing wisdom and strength to cultivating young people with social responsibility, innovative spirit, and practical ability in the new era.

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