

## **Original Research Article**

# **Exploring Curriculum Ideology and Politics in First-Class Major Construction - Introduction to Artificial Intelligence as an Example**

### **ABSTRACT**

Computer science is a key major **subject** in the construction of "New Engineering" in universities, and the students trained in this major **subject** should have high scientific literacy and strong innovation and entrepreneurial ability. In the education of "Curriculum Ideology and Politics", **we** should focus on cultivating students' innovation ability, engraving "craftsmanship" in the heart of every student, so that they can devote themselves to the process of building a world science and technology power.

The Introduction to Introduction to Artificial Intelligence helps students to build a general understanding of the field of artificial intelligence and provides a solid foundation for subsequent research in various branches. It is important to follow the syllabus of this course to teach students the spirit of **this** science and to learn about the applications of artificial intelligence for the benefit of humanity.

**Comment [NA1]:** . In the text, do not use the first person "we".

*Keywords: First-Class Major, Artificial Intelligence, Curriculum Ideology and Politics, Computer Science.*

### **1. INTRODUCTION**

The University is a pilot institution for Sino-German cooperation in training higher applied talents, and the first batch of colleges and universities implementing the "Excellence in Engineer Education and Training Program" of the Ministry of Education. The computer science major is the first batch of pilot majors under the Ministry of Education's "Excellence in Engineer Education and Training" programmer, and is also a national first-class undergraduate major construction site. The training objective is to cultivate application-oriented computer engineers who can meet the needs of local economy and technology development. It is necessary to take the curriculum system as the carrier to achieve the training goal, and reform the teaching methods and approaches of the curriculum, so as to implement the process of competence training into the curriculum [1, 24][2].

Today's world is in a period of industrial change and technological revolution, with **Internet**, artificial intelligence and other information technology breakthroughs, profoundly affecting the change of human production and lifestyle [3]. Therefore, as a computer science major, it is important to put the AI-related curriculum thinking politics in an important position, combine the strategic development plan of the university and the characteristics of the college, and design the "curriculum thinking politics" education content and methods suitable for its own development, which can effectively promote scientific and technological innovation [4], help promote the development of computer science majors in colleges and universities, and promote It is very important to promote scientific and technological innovation and accelerate the construction of a world science and technology power [5].

Secondly, this is also the need for the "New Engineering" talent training goal in the new era [6, 76][7]. Young people are responsible for achieving the great rejuvenation of the Chinese nation. As the pioneer representatives of youth, contemporary university students are the practitioners of advanced science and technology in China and have a more prominent position and role. With the guidance of Xi Jinping's thought of socialism with Chinese characteristics in the new era, and with the goal of cultivating computer professionals with the spirit of "great craftsmanship" [8, 98][9], and against the background of the development of "new engineering" [10, 111], the content and method of thinking and political

education of the course "Introduction to Artificial Intelligence" are designed to It is of great significance to cultivate college students with both solid professionalism and high ideological and political awareness. It is conducive to promoting the "artisan spirit" of the country and cultivating socialist "new engineering" talents[12].

In the new era, theoretical research on the work of Civic Education continues to open up boundaries, and the operating mechanisms of educational philosophy, teaching methods and the application of teaching technology present new opportunities and challenges, putting forward new development requirements for Civic Education teaching innovation. This requires us to gain a deeper understanding of the innovation of the application of wisdom education in the field of Civic Education, actively change our way of thinking and make reasonable use of new technologies to explore the path of Civic Education reform and development.

In this paper, our aim is to further improve the quality of lectures and students' interest in learning through the introduction of the ideological elements of the curriculum, thus contributing to the building of the profession.

## 2. BUILDING OBJECTIVES AND MECHANISMS

1. Strengthen the construction of the teaching staff of "Curriculum Ideology and Politics" to address the shortage of professional teaching staff.

Through faculty development, all teachers of professional courses should understand the importance of the integration of computer professional courses and theories of Civics, so that the educational objectives of "Introduction to Artificial Intelligence" and "Civics in the Curriculum" of the core computer courses can be accomplished in a more in-depth manner. At the same time, teachers of other professional courses are encouraged to explore the entry points for the education of "Civics in the Curriculum" in the major, so as to achieve a seamless integration of Civics education in the teaching of the major.

2. Focus on the continuous improvement of the course system of Introduction to Artificial Intelligence, so as to point out the direction for the construction of "Curriculum Ideology and Politics". As an important field in the era of "new engineering" construction, the construction efficiency of the curriculum system of computer science plays a decisive role in the rapid promotion of "curriculum thinking and politics" education. Therefore, we should improve the efficiency of the construction of the curriculum system of computer-related majors and insist on the organic combination of computer education and "curriculum thinking and politics" education, so that we can accomplish both the professional teaching objectives and the "curriculum thinking and politics" education objectives. At the same time, we also try to increase the Civic and Political Education in the core curriculum of other majors, so as to realize the deep integration of majors and Civic and Political Education and cultivate more application-oriented talents.

Comment [NA2]: · . In the text, do not use the first person "we".

Comment [NA3]: · . In the text, do not use the first person "we".

Comment [NA4]: · . In the text, do not use the first person "we".

### 2.1 Innovative Initiatives

Formatted: Font: 11 pt, Bold, Highlight

This course adopts a case-driven teaching mode and intersperses elements of ideology and politics in the cases, allowing students to receive ideological and political education in a practical and subtle way. In introducing the industrial applications of artificial intelligence, the important role of technology for national development is emphasized to stimulate students' patriotic enthusiasm and motivate them to study harder in order to realize the Chinese dream. Through the introduction of AI security, it emphasizes that the issue of information security is the most critical link affecting the development of all information system applications, which not only concerns personal privacy and property and life safety, but may also involve national interests and stability, guiding students to comply with the regulations and abide by the laws of the country in their study, life and future work. Through the cases, students will appreciate that seemingly boring technology can actually build up energy and momentum for our better life.

Comment [NA5]: · . In the text, do not use the first person "our".

## 3. COURSE EXAMPLES

1. Transfer learning is a machine learning method where the principle is to improve a learned new task by transferring knowledge from a related task that has already been learned.

According to the process of "transfer learning", students can be taught to use dialectical thinking to look at problems and learn to analyze specific problems in concrete terms. Only under the leadership of the Communist Party of China, based on China's national conditions, following the path of socialism with Chinese characteristics, grasping the special

characteristics of China and the universality of socialism, can **we** achieve national prosperity, national revitalization and people's happiness.

**Comment [NA6]:** · · In the text, do not use the first person "we".

2. Ideological and political education content contained in "intelligent service robots" Intelligent service robots are intelligent equipment that provide necessary services for human beings in a non-structural environment with a variety of high technology integration, which is a national high-tech real

It is an important indicator of the level of strength and development.

Through guidance, students can be guided through ideological and political education. Let them understand that technology is the first productive force, and artificial intelligence, as a key technology, will affect a country's pattern and international competitiveness. Young people are the backbone of realizing the Chinese dream of the great rejuvenation of the Chinese nation and the source of power for the cause of socialist modernization.

3. Ideological and political education content in "collective intelligence" Collective intelligence is a shared intelligence of the group, a process of gathering and transforming the opinions of people into decisions. This can be used to teach students about the dialectical relationship between solidarity, consensus, shared ideas, brainstorming, cooperation and competition. Students will be trained to develop the ability to work together, to cooperate in competition and to compete in cooperation, to share resources and to exchange ideas.

#### 4. BUILDING RESULTS

The course "Introduction to Artificial Intelligence" has been carried out since the teaching of Civics for a total of 95 students in the computer science major in two sessions in 2018 and 2019, and has been established as a model course of Civics for the university-level curriculum.

Through the two-pronged teaching of theoretical and practical course thinking, students consolidate comprehensive theoretical knowledge, while being able to innovate on their own and actively communicate with their teams, reaping good teaching results, as well as stimulating students' sense of exploration and cultivating a group of university students with both a solid professional level and a high ideological and political awareness.

In recent years, students have won a number of national and provincial awards for their participation in subject competitions, and a number of students from the Class of 2018 who took the Introduction to Introduction to Artificial Intelligence have been admitted to postgraduate programmers at prestigious universities such as East China Normal University, Zhejiang University of Technology and Shanghai Maritime University, continuing to grow into the talents needed by their country.

#### 5. CONCLUSION

The Introduction to Introduction to Artificial Intelligence helps students to build up a general understanding of the field of artificial intelligence, laying a solid foundation for future research in various branches. In this course, the course must follow the syllabus of the specialized courses and impart the spirit of science to students, further enhance the cohesiveness of the course and improve the quality of the training of students through the construction of the course and the integration of the course's thinking and politics. The course will be incorporated into the compulsory course system of the training plan of computer science majors, contributing to the local construction of training talents in the field of artificial intelligence.

#### ACKNOWLEDGEMENTS

This article was funded by the Zhejiang Institute of Science and Technology Key Teaching Reform Project (2019-J6) and the University-level Curriculum Civics Teaching Research Project 2021 -J4

#### REFERENCES

[1] Li Yanhe, Gao Zexia, Liu Hong. Exploration and practice of "course thinking politics" in natural science courses--- Taking "fish breeding" course as an example[J]. Heilongjiang Education (Theory and Practice), 2020, (2).

**Comment [NA7]:** These references should be rearranged according to this example [Boateng R, Mbrokoh AS, Boateng L, Senyo PK, Ansong E. Determinants of elearning adoption among students of developing countries. Int. J. Inf. Learn. Technol. 2016;33(4):248–262.]

- [2] Shen Zhenqian, Xu Guowei, Wang Haocheng, Liu Yi. A paradigm study on the paradigm of thinking politics in engineering practice courses [J]. Journal of Jilin Provincial College of Education,2019,(7).
- [3] Sun Cuicui, Li Xia. Exploration of the teaching practice of "Course Civics"----Taking "Data Structure" course as an example [J]. Journal of Shandong Radio and Television University,2019,(4).
- [4] Cai Zixing. Strategic thinking on the development of intelligent science and technology[J]. Computer Education,2011(15): 8-11.
- [5] Dai H, Wang YZ, Zhou SQ. Exploring a comprehensive teaching reform method for the introduction to Introduction to Artificial Intelligence [J]. Curriculum Education Research,2018(43): 250.
- [6] Yu Lei, Wang Yikis, Zhou Yuhan. Research-based teaching reform and practice of "Introduction to Artificial Intelligence" course based on CBL teaching method[J]. Curriculum Education Research, 2018(37): 226-227.
- [7] Chen Lixin, Wu Wenxing, Chen Zhang. The application of new generation of information technology in teaching based on mobile Internet [J]. Computer Education, 2015(20): 45-48.
- [8] WU Aihua; YANG Qiubo; HAO Jie., Leading the innovation change of higher education with the construction of "new engineering" - Higher Engineering Education Research, 2019.
- [9] Zhang Yinnan; Luo Chaosheng, Thinking and exploring the training mode of information talents for intelligent manufacturing; -Computer Education -- 2019.-
- [10] Xue Han, Exploration and practice of a new internship teaching mode based on the situation of practical teaching reform - Taking Nanjing University of Aeronautics and Astronautics as an example Modern Vocational Education -- 2020.-
- [11] Lu Guodong; Zhang Cunru, Paths, strategies and reflections on the construction of grassroots teaching organizations - practice and exploration based on Zhejiang University - Research on Higher Engineering Education -- 2020.
- [12] Guide to the construction of new engineering disciplines ("Beijing Guide") , search on Higher Engineering Education,2017.