Research on the Synergistic Education Path of Ideological and Political Education in the Context of Big Data

--Taking the course of Relational Database Application as an example

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Abstract

With the continuous development of information technology and the emergence and popularization of Big data applications, the ideological and political collaborative education of hybrid courses has become a research hotspot in the educational world today. In this context, this paper takes the course of Relational Database Application as an example to explore the path research of ideological and political collaborative education of hybrid courses in the context of Big data. In traditional teaching models, knowledge is scattered and lacks systematicity, making it difficult to meet students' comprehensive ability development needs. While the mixed curriculum ideological and political collaborative education teaching model can be deeply integrated in curriculum settings, teaching content, teaching methods and other aspects, combine the curriculum with ideological and political theory, and introduce Big data technology to promote the comprehensive development of students. Therefore, exploring the practical process, strategic methods, and effectiveness of ideological and political collaborative education in blended courses is of great significance for promoting educational and teaching reform.

Keywords

Curriculum Ideology and Politics,Big Data, Relational Database Application.

1. Introduction

The 18th National Congress of the Communist Party of China clearly regards moral education as the fundamental task of education, which is an important guiding principle for the scientific development of China's education and higher education. In May 2022, the new Vocational Education Law will be implemented, which will make it clear that vocational education must adhere to the leadership of the CPC, adhere to the socialist orientation of running schools, implement the national education policy, and adhere to the principle of cultivating morality and cultivating people, combining morality and technology. Adhere to a comprehensive education concept that regards morality and cultivating people as the fundamental task of education, take the Core Socialist Values education as the main line, take the construction of an ideological and political work pattern of all staff, whole process and all-round education as the goal orientation, deeply explore and refine the ideological and political elements and moral education functions contained in the course of Relational Database Application, and strengthen the scientific, standardized and systematic ideological and political curriculum, To achieve the coordinated promotion of ideological and political education and professional education, the organic unity

of knowledge transmission, ability cultivation, and value guidance, improve the quality of classroom teaching, innovate existing teaching models, and enhance the effectiveness of ideological and political education in professional courses.

2. Problem Presentation

From the dimensions of training objectives, student characteristics, and teaching methods, there are significant differences in the education of vocational college students compared to undergraduate and graduate students. At present, research and practice on ideological and political education in courses mainly focus on undergraduate courses, and their theory and practical experience cannot be directly applied to ideological and political education in graduate courses. To achieve long-term and effective implementation of ideological and political education in the curriculum, there are still some unresolved issues, including the following aspects.

2.1. The ideological and political objectives of the course are not concise

Teachers often overlook the importance of designing goals for ideological and political education, as the number of goals is too large and not systematic. At the same time, the selection of ideological and political cases lacks core goals and pertinence. Realizing the organic integration of professional teaching and ideological and political education, and exerting the educational function of professional course teaching, is one of the keys to the ideological and political construction of the curriculum. However, there are still varying degrees of "two skins" phenomenon in professional teaching and ideological and political education in universities, which has not formed a synergistic effect between ideological and political courses and ideological and political education. This urgently needs to adhere to the unity of knowledge transmission and value guidance, explicit education and implicit education, and move towards deep integration based on the same direction of professional teaching and ideological and political education, towards collaborative innovation, and presenting a new form of two-way empowerment.

2.2. The process of ideological and political education is centered around teachers

In ideological work, students' personality traits and ideological dynamics often have a greater impact on their learning and practical outcomes. In the existing path of ideological and political education in courses, teachers are often the center of the classroom, with only one-way output of information during teaching, lacking understanding of students and feedback from them.

2.3. Difficult to evaluate the effectiveness of ideological and political education

Ideological guidance is a long-term and meticulous task, and graduate courses generally have short class hours. For example, the average graduate course at Northeastern University does not exceed 32 class hours per course. How to scientifically evaluate the ideological and political effects of a single course is still an open question. Activities are also a difficult point in the construction of ideological and political education in the curriculum. It is an inevitable trend to give full play to the enabling role of Digital transformation and carry out the digital evaluation of ideological and political curriculum in colleges and universities. At present, there is no consensus on what data to collect, how to transfer data, and how to utilize data in the digital evaluation of ideological and political education in university courses. The human-machine collaborative evidence-based diagnosis and evaluation process surrounding the construction and implementation of ideological and political education in courses still needs to be further improved. In response to the above issues, the author proposes the following ideas: firstly, design concise ideological and political goals and select targeted ideological and political cases;

Second, the ideological and political teaching is centered on the students in higher vocational colleges. Teachers investigate the characteristics of students before class, pay attention to their words and deeds in class, and analyze their feedback after class; Thirdly, integrate the evaluation of course ideological and political effects into the entire teaching process.

3. Peparation in advanceIndustry

3.1. Clarify ideological and political goals

In the construction of ideological and political education in the curriculum, how to set ideological and political goals is the primary issue that needs to be explored. The ideological and political objectives, like teaching objectives, run through the entire teaching process and require careful consideration and argumentation to ensure that they are in line with national policies, close to the essence of the subject and curriculum. The ideological and political goals extracted by the author include the following aspects: firstly, engineering ethics education. With the improvement of technological level and engineering ability, the impact of engineering ethics on the development of human society is becoming increasingly significant. The goal of engineering ethics education is to enable students to have moral judgment ability in engineering practice and establish a sense of social responsibility to protect public interests; Secondly, identity education. Identity is the foundation for the formation of human society, and all human organizations, including countries, ethnic groups, and political parties in the construction of ideological and political courses, are united through identity. The goal of identity education is to guide students to identify with China's political system and cultural heritage, form a sense of unity between family and country, and unite forces for the prosperity and development of the country. Finally, innovative spirit education. Graduate education aims to cultivate composite talents with innovative and practical abilities, providing support for national rejuvenation. The goal of innovative spirit education is to cultivate students' spirit of diligent thinking and willingness to practice, stimulate their academic aspirations and research enthusiasm, and enable them to have the ability and willingness to promote technological development and productivity progress .

3.2. Analyze academic situation

The essence of ideological and political education in curriculum is to guide students' thinking, and teachers need to understand and understand students. Generally speaking, graduate students in domestic universities have the following characteristics: firstly, strong plasticity. Graduate students' psychology is not yet mature enough and their social responsibilities are not clear, but they possess self-learning ability and strong plasticity. Secondly, the scope of communication is narrow. Teaching in universities is relatively closed and introverted, with a relatively single venue and environment; The content of student activities is mainly focused on scientific research, while other cultural and collective activities are not rich enough; Students' interpersonal communication is mainly limited to communication and interaction with mentors and other students. Finally, the emotions are vivid. Postgraduates love the motherland, are aggressive, have rich emotions and enthusiasm, and are vulnerable to the influence of Consumerism and Consequentialism.

4. Course Implementation Path

Relational Database Application is a compulsory course for higher vocational students majoring in Big data technology, which covers Big data, data science, blockchain, in-depth learning and other fields, with a wide range of knowledge points. The teaching objective of the course is to broaden students' horizons, cultivate their thinking abilities, and guide them to establish specific perspectives and problem-solving thinking methods. The core idea of the course

'Application of Relational Database' in ideological and political education is to establish a more scientific method for selecting ideological and political cases, collect more detailed ideological information from students, and evaluate the effectiveness of ideological and political education more comprehensively, including the following aspects.

4.1.   Conduct course ideological and political education in case studies

In the teaching process of vocational college students, case analysis and explanation play an important role. First of all, as a curriculum in higher vocational colleges, the selected cases should have a certain degree of progressiveness, engineering difficulty and theoretical depth; Secondly, the curriculum should be able to support teaching and have a high degree of correlation with knowledge points. The author has designed a reasonable plan for case selection, including the following conditions: ① including domestic technology with independent intellectual property rights; ② Involving areas that urgently need to be developed in China; ③ Greatly promoting productivity progress or enhancing human understanding of the world; ④ Belonging to engineering practice; ⑤ Belonging to scientific research; ⑥ Motivating (interesting) background stories; ⑦ The source is authoritative (such as authoritative journals, journals, or large enterprises in the industry); ⑧ Solved major problems in practice, especially in China's development; ⑨ The technical applications involved may have negative effects.

In teaching practice, selecting cases requires the following steps: first, search for several cases that have high relevance to the knowledge points as candidates. Secondly, make condition ⑦ a necessary condition for the selection of the case and conduct preliminary screening. Thirdly, the author proposes a goal based case division method, which determines the ideological and political goals of the case based on its characteristics. Cases that meet conditions ①, ②, and ⑧ are suitable for identity education; Cases that meet conditions ③, ④, and ⑨ are suitable for engineering ethics education; Cases that meet conditions ③, ⑤, and ⑧ are suitable for innovative spirit education. Fourthly, if multiple cases can meet the ideological and political requirements, condition ⑥ should be used as the final judgment criterion.

4.2.   Collaborative approach to curriculum ideological and political education

In ideological and political education, it is important for students to express their own views and opinions. Teachers need to transmit ideological and political information to students, as well as collect their ideological dynamics. Teachers can use the collected feedback information to further optimize the ideological and political teaching methods of the course, laying the foundation for other ideological and political education work. This is also a demand in the actual teaching process to explore the integration of ideological and political teaching work, including the following methods.

(1) Salon style case analysis and exploration. Conduct a salon style case analysis and exploration of recent and influential events. Take the Big data related technologies involved in the case as the entry point, and insert ideological and political elements in the explanation. Through communication and discussion, it can inspire students' critical thinking ability and help achieve the dual goals of learning and moral education. For example, in the 2021 curriculum salon, the author analyzed and discussed the role of national policies in promoting science and technology by combining the "14th Five Year Plan" with Big data under the title of "Big data development strategy". At the pre class stage, convey the theme of the salon to the students, arrange the open questions of "the importance comparison of Big data industry and real estate", and require students to collect data by themselves. In the salon teaching session, the development process of China's Big data industry was explained in combination with the national strategy. In the discussion section, students are invited to express their own viewpoints and guide them to engage in discussions and debates. For example, when a student put forward the idea that "market demand stimulates the development of Big data industry",

the teacher immediately took "the comparison of the importance of market demand and national strategy" as an open discussion topic to guide more students to express their opinions. At the same time, teachers should record students' opinions and performances, objectively summarize them, guide key directions, and encourage students to express true opinions. Through salon style case analysis and discussion, most students are able to identify with the importance of national development strategies for industry development and express their true views.

(2) Assign homework after class. Let students collect key data on China's development, such as railway mileage, ship tonnage, total length of bridges, and average height of the population. By conducting data analysis on their own and submitting their opinions through homework, students can gain an understanding of the great achievements made in national construction. After the teacher corrects the homework, timely display the students' achievements and viewpoints in the classroom. From a practical perspective, some students have found a positive correlation between national development and personal development through their own research. Encourage more students to participate in research by showcasing their achievements.

(3) Group defense at the end of the class. Divide the students into groups, choose their own research directions related to Big data, conduct research on the latest research results, and finally make a defense in front of all students and teachers. For example, a student group investigated the topic of "Big data based medical Question answering". In the defense, issues related to engineering ethics and innovative spirit, such as "whether the use of data involves personal privacy, how to solve it, and where are the innovative points of technology", were involved. During the process of thinking about these issues, students achieved the improvement of their overall quality.

4.3. Design an iterative evaluation system for ideological and political education

Exams are a common method of course evaluation, which can serve as an evaluation indicator for learning effectiveness and also provide reference for teachers to improve their teaching methods. However, the evaluation of the effectiveness of ideological and political education is an iterative and progressive process, and students' comprehensive qualities develop upwards in the cycle of "discovering problems analyzing problems solving problems". Traditional exams can no longer meet the requirements for evaluating the effectiveness of ideological and political education. The author has designed an iterative ideological and political evaluation system for the course "Big data Thinking and Analysis", which includes the following parts.

(1) Based on the three objectives of ideological and political education in the curriculum, the author has designed three indicators to assess the effectiveness of students' ideological and political learning: moral indicators (for engineering ethics), patriotic indicators (for national identity), and innovation indicators (for innovative spirit).

(2) Emphasis is placed on communication and discussion in the course, with 10-15 minutes reserved for each class for students to speak up, ensuring that each student has the opportunity to express their views. Teachers should encourage introverted and shy students to express their opinions. The students' speeches will serve as the basis for teachers to evaluate students.

(3) Explore common or prominent issues in students' thoughts and speech, and conduct targeted ideological and political education in subsequent courses, but do not target specific students with specific problems.

(4) Include a defense section in the final assessment to assess students' research ability on the latest research results. The teacher questions all students and tests their ethical values, innovative abilities, etc. during the Q&A process .

5. The Effect of Curriculum Ideological and Political Construction

he author found through research that Cheng Sizheng's "Application of Relational Database" has achieved positive results, mainly reflected in the following three aspects.

(1) The teacher-student relationship has become more harmonious, and extracurricular communication has increased. Compared to other levels of education, there is less extracurricular communication between university teachers and students, and the content is generally limited to areas related to course knowledge. Through the ideological and political practice of the "Big data thinking and analysis" course, students feel that teachers pay attention to their thoughts, are willing to turn to teachers for help on a broader range of issues, and are willing to share with teachers ideas on professional development direction, social reality, personal development and other aspects.

(2) Students are more confident and dare to propose new ideas. Discovering and solving problems is a common law for graduate students to carry out scientific research innovation. Through the course of ideological and political education, students realize the importance of innovation for the country, society, and themselves, are better at discovering problems, have the courage to put forward their own ideas, and have a more active classroom atmosphere.

(3) Students recognize ideological and political education and are willing to discuss ideological and political topics. The difficulty of ideological and political construction in courses lies in students' indifference to ideological and political content, and even their resistance to it. Through teaching practice, students realize the long-term role of ideological and moral qualities in life, and thus recognize the ideological and political cases in the classroom. They even hope that teachers can introduce more ideological and political elements to help them establish a correct outlook on life and the world.

6. Conclusion

Talent cultivation is a process of integrating education and talent cultivation. To fully implement the fundamental task of building morality and cultivating talents, and consciously fulfill the mission of educating people for the Party and the country, colleges and universities need to make full use of the value of ideological and political curriculum, and take the extensive and in-depth application of "New Infrastructure of education" as an opportunity to constantly play the role of data as a new factor of production, and enable the ideological and political connotation development of curriculum with Digital transformation.

The author conducted ideological and political education in the application of relational databases for vocational college students, designed several ideological and political goals, and achieved significant results. Curriculum ideological and political education is a systematic project that involves a large amount of pre and post class work. It requires teachers to be willing to contribute and actively explore the ideological and political elements behind knowledge, effectively conveying engineering ethics awareness, positive values, etc. to students, in order to truly complete the fundamental task of cultivating morality and cultivating people.

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