

## **Research on the Smart Ideological and Political Classroom in Higher Vocational Colleges Based on Big Data**

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**Keywords:** Big Data; Higher Vocational Colleges; Ideological and Political Curriculum; Synthesis; Innovation

**Abstract:** Big data has powerful data storage ability, data operation ability and analysis and processing ability, which has brought unprecedented development opportunities for the ideological and political curriculum reform in higher vocational colleges. This paper explores the establishment of smart classroom teaching mode in order to realize the combination between in-class and extracurricular, the seamless connection between online and offline, and the close coordination of theory and practice so as to provide students with help in terms of active learning, practical exercises and overall growth.

As a massive data resource, big data is not only a technical means, but also a value and methodology and it represents that people from all walks of life can obtain and analyze various data resources under the big data environment for the application of value using widely modern technical means. The establishment of smart classroom as a result of the deep integration of big data and ideological and political curriculum in higher vocational colleges can promote teaching reform, enrich teaching contents, improve teaching forms and fully reflect the role of modern technical means and abundant network resources in the teaching inside and outside the class, and make the deep integration of in the class and after class, online and offline, theory and practice.

### **1. Big Data Provides Development Opportunities for the Ideological and Political Curriculum Reform In Higher Vocational Colleges**

#### **1.1. Highlighting the Educational Concept of Collaborative Education and Promoting the Scientific Construction of Ideological and Political Courses**

Following the idea of collaborative education, integrating the network teaching resources of ideological and political courses and promoting the scientific construction of ideological and political courses and facing the complex network resources and digital information, the network information and digital resources that serve the teaching contents and meet the needs of higher vocational students' ideological and practical ability are chosen according to the teaching objectives of ideological and political courses. The educational value behind big data can be fully exploited through removing the dross and keeping the finer part, eliminating the false and retaining the true and integration and processing. Network text, pictures, videos, audio and other resources are written and made and creatively transformed into teaching cases with pictures and text and teaching videos to assist in understanding theoretical problems so as to promote the scientific construction of the network resource bank of ideological and political courses. The so-called cooperative education refers to playing the role of teaching team, setting up the big data studio of ideological and political courses, working together, sharing resources, jointly completing the integration of network teaching resources and performing the overall educational function. The capable ideological and political teachers with strong verbal skills are selected to go to the stage and are responsible for teaching and recording the micro-class video. Several young ideological and political teachers are selected to be responsible for collecting and downloading network resources and making the text, pictures, videos, audio, etc. into teaching cases with pictures and text and teaching videos. The ideological and political educators in college are invited to set up a part-time and full-time q&a team and responsible for solving students' puzzles and theoretical problems online. The collaborative education is formed through the cooperation of ideological and political teachers, full-time and

part-time teachers, and teachers in and outside the colleges, which continuously promotes the scientific and integrated construction of ideological and political courses, and improves the ideological, theoretical and ability quality of college students.

## **2. Promoting Teachers and Students' Data Literacy and Making Them Play the Role of the Main Channel of Moral Cultivation.**

In the big data environment, information is open and shared. Teachers and students can obtain data information and network resources anytime and anywhere according to their needs and also share information and leave comments through WeChat, QQ, douyin and so on. They are not only the acquirer and users of data information, but also the contributors and sharers of data information.

First of all, the big data environment helps to cultivate the network media literacy of teachers and students. Under the influence of extensive network teaching software, network resources of micro class and mu class ideological and political teachers can keep up with the trend of the times, strengthen the study of network technology, constantly improve the information-based teaching ability and use big data technology and network resources, and carry out online and offline mixed teaching supported by cloud class platform and ideological and political teaching website. Auxiliary courseware, classic cases, extracurricular reading guide and other resources can help students to learn theoretical knowledge independently after class. Teachers and students can carry out extensive ideological exchanges to form a consensus of ideas through "discussion module". Students can upload the video of the results of the practice activities so as to make the theory closely connected with the practice through "practice module". Big data makes ideological and political teaching activities expand from in class to after class and make teachers' leading role in teaching and students' role in learning work together and get the work of moral cultivation done.

In addition the big data environment helps students improve their network political literacy. Facing numerous and complicated internet information, ideological and political teachers have a keen political insight and the ability of information discrimination and judgment and can consciously use Marxist positions, views and methods to analyze and solve problems. As for the hot social issues and news events that college students care about, comment articles are published on weibo, WeChat and other platforms to guide college students to improve their online political literacy, distinguish right from wrong, dare to challenge wrong thoughts and comments and develop the theme and spread positive energy.

## **3. Giving Full Play to the Advantages of Students' Independent Study and Improving the Ideological and Political the Results in Teaching.**

Under the big data environment, ideological and political teaching should break the limitation of time and space and continuously meet the needs of students' independent learning, fragmented learning and ubiquitous learning. Big data technology provides an online platform and advanced technical means for the independent learning of the students in higher vocational colleges. Students can learn auxiliary courseware and guided learning materials through the "resource" platform of cloud class so as to do the preview before class and participate in online discussion through "brainstorming" platform and express personal views and test the learning results through the "test" platform. The websites that students visit, topics they care about, learning activities they participate in, and achievements they achieve all leave traces under the big data environment. Big data makes the students' learning process intuitive and visual and quantitative data analysis enables students to have a more objective understanding of their learning situation and have an intuitive understanding of their own independent learning situation through the cloud class ranking, the obtained experience value ranking, and understand where there are shortcomings and have a clear future direction through the individual comprehensive evaluation network map. Under the big data environment the ideological and political teaching contents are more scientific and reasonable and the teaching design is more targeted and the results in teaching are more prominent.

#### **4. The Practice Path of Ideological and Political Courses in Higher Vocational Colleges Based on Big Data**

Big data has the powerful information storage ability, the computation operation ability and the data analysis ability and has been widely used in the teaching field and makes the smart classroom emerge. The smart ideological and political class in colleges refers to using modern technological means such as big data, cloud computing, mobile Internet and intelligent App to create an intelligent and efficient class with "data-based teaching decisions, intellectualized resource launch, three-dimensional communication and interaction, and real-time evaluation and feedback" based on big data processing and application. The smart class based on big data has changed the teaching mode and learning methods of ideological and political courses, expanded the teaching activities of ideological and political courses from inside the class to outside the class, made the students become the main body of learning activities, and realized the combination of theoretical learning, practical exercise and online self-study

#### **5. Combining Primely in Class with Extra-Curricular Activities Guides Independent Learning**

Smart class goes beyond the obvious space and time limit between in class and after class and makes students' learning activities no longer limited to class. The knowledge source of students is no longer limited to classroom teaching. Teachers play the role of organizer and guide in the whole teaching process, and students become the main body of learning activities. Take "Mao Zedong's thought and an introduction to the theoretical system of socialism with Chinese characteristics" as an example. In the lecture "Mao Zedong's thought and its historical position" the teaching design of "one shadow one lesson ", " one poem one lesson ", " one drawing one lesson" and "one case one lesson" is carried out around the teaching goal according to the characteristics of students with different majors in higher vocational colleges. Before class, materials such as documentary film, audio biography of Mao Zedong and micro-class video are launched. Students can learn online in their leisure time and learn about Mao Zedong growing experience and revolutionary course and gain a perceptual understanding of Mao Zedong thought. On the basis of elaborating the key theoretical knowledge, the class designs and discusses the question "appreciation of Mao Zedong's classical poems". Group discussion in class and reading Mao Zedong's classic poems, interpreting the background of poetry creation and appreciating poems make students learn about the course of the new democratic revolution through poetry and deeply understand the outstanding contributions made by Mao Zedong and the Chinese Communists and enable students to acquire a deep rational understanding of Mao Zedong's thought and a strong emotional identity. After class, the students' grasp of knowledge and theoretical understanding are tested through the network "test questions". The teachers do on-line Q & A and theoretical instruction for the student's confusion of thought. The set up smart classroom using big data technology and mobile internet platform gets through the last kilometer between in class and out of class and makes the learning activities inside and outside the class combined and covers all day class and builds a platform for students' self-study,

#### **6. Seamless Connection between Online and Offline Expands Time and Space of Learning**

Under the teaching mode of smart ideological and political classroom, the link between students' online and offline learning forms a complete chain of independent learning before class, discussion learning in class and extended learning after class.

First of all, setting up online learning resources and creating online learning environment. Teachers collect online relevant materials surrounding the teaching contents such as text, cases, videos, etc. and make creative transformation and write cases and coursewares and selection of original works and extended readings and other auxiliary learning resources that are closely related to the teaching contents and continue to update and enrich the contents. Under the guidance of learning objectives, the students do the online self-study and thus obtain the basic theoretical

knowledge. Secondly, optimizing the teaching methods and improving the quality of classroom teaching. How to maximize the classroom efficiency in the 90 minutes is a problem that the ideological and political teachers need to constantly solve. In the smart class, big data records students' learning behavior and learning trajectory, and carries out effective data analysis so as to provide ideological and political teachers with the possibilities of finding problems and making targeted teaching. The common problems in the process of self-study could be found out through online questionnaires, test questions, topic discussion and so on before class. The classroom teaching design is carried out around students' ideological concerns and theoretical problems and task-driven learning is supplemented by case analysis, group discussion, keynote speech, creation of situations and other teaching methods. The teachers explain the key contents in depth and detail answer questions and solve puzzles for the confusion of mind. The teachers and students have a full exchange of ideas in class.

Lastly, making improvement online and teachers' follow-up instruction. The smart class makes the relationship between teachers and students closer after class. Teachers can consolidate new knowledge and answer questions by issuing homework questions test questions and answering questions online. Students are aware of the concerns of teachers, have a deeper understanding of the theoretical knowledge they have learned, and internalize it into the judgment of value and behavior choice.

## **7. The Close Link between Theory and Practice Facilitates Comprehensive Growth.**

In the first place, establishing practice teaching courses. Only when theory is closely linked to practice can it show its powerful charm and play a big role. The course "Practice Teaching" of ideological and political courses in higher vocational colleges is created on the basis of fully exploring the teaching contents, which should be included in the talent training plan of higher vocational colleges and set up the teaching plan to serve the theoretical courses. The course "ideological and moral cultivation and legal foundation" focuses on the themes of ideals and beliefs, moral sentiment, love for the party and patriotism, and legal knowledge. Social volunteer such as "moral observation on campus", "respecting the elderly and being grateful", service, and law lecture hall and other practical courses are carried out.

In the second place thematic practice activities are carried out surrounding big events. On the basis of subject-style theoretical teaching, the patriotic theme practice activity on "promoting patriotism and making achievements in the new era" and "reform and opening up", online knowledge contest on commemorating the 40th anniversary of reform and opening up. Through the after-class performance, speaking, practice, competition and other forms of practice, the understanding of the theoretical knowledge is deepened.

In the last place, the establishment of the theory and practice society for ideological and political course called "gongxingshe" builds a platform for the combination of theory and practice

## **8. The Striving Direction to Improve the Quality of the Smart Ideological and Political Classroom in Higher Vocational Colleges**

### **8.1. Consolidating the Foundation of Offline Ideological and Political Education and Highlighting the Value Guidance**

The smart ideological and political classroom in higher vocational colleges based on big data reflects the dialectic thought of "change" and "unchanging", and the "change" is the teaching method, and the "unchanging" is the main channel status of ideological and political classroom, which requires the ideological and political teachers in higher vocational colleges to insist on change and innovation. The scientific teaching design according to the feedback of big data learning situation reflects the ideological, theoretical and political nature of the course and uses new media and technology and a variety of teaching methods such as case analysis, group discussion, situational experience and practice appropriately and comprehensively according to the actual

needs. Under the guidance of Marxist theory and Xi Jinping's thought of socialism with Chinese characteristics in the new era, students can constantly improve their theoretical level, ideological consciousness and political position and to realize their value of life in the process of serving the people and contributing to the society.

## **8.2. Improving Teachers' Data Literacy and Creating Ideological and Political Quality Classroom**

Teachers are the organizers and leaders of teaching activities and the guides for students to grow up and become talents. To a certain extent, teachers' ideas and abilities determine the success or failure of the results in teaching

First of all, the ideological and political teachers in higher vocational colleges should establish the teaching idea of "big data + ideological and political courses", learn new technologies with a more positive attitude, carry out teaching reform, and make ideological and political courses into high-quality courses that students really love and benefit from for life.

Secondly, the teaching department in school should interact and intercoordinate and organize regular training on the improvement of information-based teaching ability, select and send outstanding teachers to attend relevant training and study on a regular basis, and promote the popularization and application of big data technology from point to area and combine point with area.

Finally, all the ideological and political teachers should be motivated, study and use the various functions of teaching software, actively participate in the information-based teaching design, classroom teaching, micro-class and other competitions, and learn valuable experience through the exchange between the teachers in peer colleges and universities.

## **Acknowledgements**

The key project of the first "Ideological and Political Research" of Liaoning Agricultural Vocational and Technical College "Research on the Intelligence Classroom of Ideological and Political Courses in Higher Vocational Colleges Based on Big Data", Project Number: LNNZYSZ20202A.

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