

# Retraction

# Retracted: Teaching Innovation and Development of Ideological and Political Courses in Colleges and Universities: Based on the Background of Wireless Communication and Artificial Intelligence Decision Making

#### **Mathematical Problems in Engineering**

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

- (1) Discrepancies in scope
- (2) Discrepancies in the description of the research reported
- (3) Discrepancies between the availability of data and the research described
- (4) Inappropriate citations
- (5) Incoherent, meaningless and/or irrelevant content included in the article
- (6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their

agreement or disagreement to this retraction. We have kept a record of any response received.

#### References

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# Research Article

# Teaching Innovation and Development of Ideological and Political Courses in Colleges and Universities: Based on the Background of Wireless Communication and Artificial Intelligence Decision Making

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After entering the first decade of the new century, information technology has brought some profound changes in all aspects of social life. In the field of education, teaching mode to teaching concept has been severely impacted. Especially in the more open university classroom, the changes brought about by this shock are more pronounced. Classrooms of all majors have ushered in a wave of innovation. The use of cutting-edge information technology to build efficient classrooms has become the direction of multidisciplinary efforts. While promoting the upgrading of ideological and political classroom teaching in colleges and universities, it has become a common topic for ideological and political teachers in colleges and universities to effectively promote the effectiveness of ideological and political classroom teaching. In order to investigate the current teaching recognition of ideological and political courses in colleges and universities and the need for courses to integrate new technologies, this study used questionnaire survey and group comparison analysis as the main methods to distribute online questionnaires to 621 students from 6 colleges and universities in Nanjing, Jiangsu Province. It is divided into students' interest in ideological and political courses and the interest of teaching content. According to the analysis of previous literature, a control group experiment of ideological and political courses is designed. The experimental results show that after wireless communication and artificial intelligence technology are combined with ideological and political courses, students' learning is more efficient. Finally, according to the results of experiments and questionnaires, the problems existing in the current teaching of ideological and political courses in colleges and universities are summarized, and then, innovative reform suggestions for the teaching methods of ideological and political courses are put forward.

## 1. Introduction

How to improve the teaching effect of ideological and political classrooms in colleges and universities in the information age has always attracted the attention of many scholars. Especially in today's increasingly close integration of information technology and ideological and political education, the research results show a blowout phenomenon [1, 2]. From January 2019 to October 2021, a query was made on CNKI with the compound keywords "ideological and political" and "innovation," and more than 50,000 related articles were published. Some scholars put forward valuable suggestions on building a multi-functional teaching platform, guiding students to change their learning concepts, and innovating teachers' teaching thinking [3, 4]. Some scholars proposed the idea of integrating resources and establishing a unified digital resource library. It is believed that a unified resource library can improve the efficiency of teachers in selecting teaching materials, and help to eliminate those inferior network resources, which lays the foundation for the innovation of ideological and political courses to a large extent [5, 6]. Some scholars conducted research on how to innovate ideological and political innovation in colleges and universities in the era of fusion media, and put forward constructive countermeasures from the aspects of teaching method innovation, teaching system construction, and the construction of the "learning-thinking" collaborative mechanism [7, 8]. Some scholars' claim combines the background of the era of big data and proposes that ideological and political teaching should have the characteristics of the times in terms of timeliness, pertinence, and sensitivity, and advocates that ideological and political teachers and the entire school management system should establish awareness of big data. Big data system improves the teaching effect of ideological and political courses [9-12]. Some scholars have comprehensively analyzed the current deficiencies in the teaching ability of college teachers and have proposed solutions with high value from a theoretical point of view [13-15]. Some experts have studied the development trend of ideological and political teaching in colleges and universities from the perspective of education modernization, and put forward development suggestions for this field in an all-round way [16-18]. The above achievements have put forward suggestions on improving the level of ideological and political teaching in colleges and universities at many levels, effectively filling the gaps in various fields. However, in the context of the development of information technology, the research on the improvement of wireless communication technology and ideological and political teaching is still blank [19, 20].

Through the analysis of representative literature results, it can be found that the vast majority scholars believe that the ideological and political courses in colleges and universities should be innovated, and most scholars also believe that wireless communication and artificial intelligence technology should be combined with the ideological and political courses to improve the teaching of students. Learning efficiency. This research aims to investigate the development of ideological and political courses in colleges and universities, analyze students' learning interests and teaching content reform needs through the survey, and focus on analyzing the current needs of ideological and political courses for wireless communication and artificial intelligence technology. The survey method of the article is mainly to combine the current wireless communication, artificial intelligence decision making, and other technologies with the teaching of ideological and political courses in colleges and universities by issuing online questionnaires to 600 students in 3 colleges and universities in Nanjing, Jiangsu Province. We investigated the current situation. Through quantitative analysis of the answers selected by the students, the corresponding experiments are designed to further confirm the problem points, and finally, the problems existing in the current ideological and political courses are refined, and perfect suggestions are put forward in combination with the new technology conditions and the needs of the times.

## 2. Technical Framework of Classroom Multimedia Integration Monitoring System

2.1. Multimedia Fusion System Constructed by Wireless Communication and Artificial Intelligence Decision-Making Technology. The development of wireless communication and artificial intelligence technology provides a broader space for multimedia integration. At the end of the last century, some countries have realized the integration of radar scanning and intelligence analysis by virtue of their own strong scientific and technological capabilities, thus greatly increasing the speed of response to military operations. With the gradual popularization of this technology, commercial and even civil multimedia fusion work systems began to appear [9]. Today, this technology has been widely used in various fields of social life, such as intelligent scanning, safety warning, and medical diagnosis. Its basic working principle can be understood as the process of the human brain processing external information, fully mobilizing the sensory organs of various parts of the body to perceive the target thing, through the sorting and refining of the obtained information, and reorganizing according to a certain arrangement of the subject's choice, in order to get a scientific explanation of the target thing.

The multimedia fusion system that constructed by wireless communication and artificial intelligence decisionmaking technology can build an all-round monitoring system around the target object [21, 22]. The multisensor system fully senses the change of the target object and transmits it to the control system. The control system is preset according to the designer. The given program gives the corresponding instructions. Although it can replace human work to a large extent, artificial intelligence decision making at this stage still works according to human vision. However, with the development of science and technology, the comprehensiveness and intelligence of the monitoring system continue to improve, and its' work is becoming more and more complicated [23-25]. This requires the monitoring system to require more scientific accuracy to complete the data detection work. At this stage, in order to achieve this goal, people often set up more sensors to enrich the level of monitoring, so as to collect more comprehensive data. However, sometimes the simple increase in the number of sensors cannot achieve the expected effect. This requires a scientific system to match them reasonably to make them play a better role. From the perspective of the integration model, the current stage is mainly divided into the following three forms.

2.1.1. Data Layer Fusion. Data layer fusion is to directly aggregate the raw data collected by the sensors, next refine them according to the set keywords, and use them as the basis for decision making. The basic requirement for constructing this system is to adopt homogeneous sensors. If sensors of different qualities adopt this fusion system, it will cause the consequences of data conflicts. The advantage of the data layer fusion system is that it can collect and process extremely large data volumes, and it also needs to spend

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more money in erection. Data layer fusion architecture is as shown in Figure 1.

2.1.2. Feature Layer Fusion. This fusion model is further improved on the basis of data layer fusion. After the original data are refined by the established keywords, the refined content is formed into a unified feature group, which greatly reduces its computational volume and slightly reduces the economic cost requirements for installation, but it is a secondary filter. A lot of useful original information is ignored, unable to accurately summarize the all-round nature of the target thing, but highlight the typical characteristics of a certain field.

2.1.3. Fusion of Decision-Making Layers. Decision-making fusion is the highest stage part of the fusion system. It compresses the data after keyword extraction and then analyzes it in the result data. After two previous extractions, the original information of the target thing has a certain deviation from its original characteristics, but because of this, its computing volume and construction cost are the lowest among the three fusion types.

2.2. Ideological and Political Classroom Teaching Effect Prediction Model Architecture Based on Whale Optimization Algorithm. The influencing factors of the ideological and political classroom teaching effect in colleges and universities are very complex, and the teaching effect at this stage has many deficiencies [26, 27]. After research, it is found that teachers' adaptability in the classroom and the novelty of teaching content are very important among many factors. Proportion. In many researches on the effects of ideological and political classroom teaching and conference discussions, scholars often ignore the real-time data changes in the classroom or the incomplete monitoring of the details of students' responses, making some ideological and political teachers unable to conduct the first time when problems occur in the classroom. Proper handling will cause the students to lose their attention and not be able to devote themselves to the classroom learning. However, simply collecting information and dynamic monitoring of the details of students' classroom reflections cannot significantly promote the improvement of classroom effects. The existing monitoring system is based on students' performance after class summary and remedy, and cannot be used to the effect of instant adjustment. Because the classroom performance of students is extremely random, this requires that while ensuring the full monitoring and collection of student classroom performance, it is necessary to predict the events that will occur in the classroom based on the existing data, and find that the data are abnormal in the first time [28]. Teachers issue early warnings and put forward suggestions for solutions to the actual situation in order to effectively ensure the quality of classroom teaching.

The design purpose of this model is to build a class event prediction model with higher accuracy based on the whale optimization algorithm. The optimized algorithm is easier to

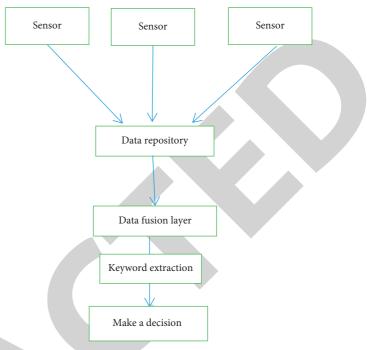


FIGURE 1: Data layer fusion architecture.

operate, and the degree of automation is higher. Those make this model avoids the influence of human factors better so that the monitoring system predicts classroom events more quickly and accurately. The optimized solution process is briefly introduced as follows. First, set the hypothetical value of each parameter according to the whale optimization algorithm. This model sets the whale population parameter N to 20, and the maximum iteration M value of the optimization algorithm to 50, and the best individual whale. The position is set as \*X, and the number of updates in the position is 20 times, and the optimal solution is used to bring it into it. The result is the efficient node of the student's classroom performance [29, 30]. Through the calculation of the whale optimization algorithm, a student behavior analysis model is constructed, and the assignment of each parameter is reversed according to the final optimal solution of the model. Through comparative experiments, it is confirmed that the optimized behavior analysis model has a better effect on predicting the direction of the classroom. It can not only realize the prediction with a higher correct rate, but also provide a relatively optimized response method. The establishment of this model has realized the preconceived to a large extent, indicating that the improved model is more effective than the current monitoring system. The selection formula is as follows:

$$F(x+1) = \cos(2\pi x) + F(x).$$
 (1)

The value of "t" is between 0 and 1.

$$F(t) = F(x) - \sin(\pi t).$$
<sup>(2)</sup>

In the process of information induction and refinement, students' performance will inevitably deviate from the optimal goal. Therefore, it is necessary to search with larger data resources as the parent. When A exceeds 1, the early warning system is fully activated, organically combining the countermeasures that meet the final demand, and finding the most optimal proposal [31, 32].

#### 3. Research Design

This study adopts a combination of questionnaire survey and comparative experiment.

3.1. Questionnaire Survey. In order to investigate the actual situation of ideological and political classrooms in colleges and universities and through the research and comparison of teaching survey methods in Tang, Zuo, and other types of literature, this paper finds that it is most effective to carry out the questionnaire twice, and the first questionnaire is sufficient to test only. The literature indicates that the best survey results can be achieved when the number of questionnaires distributed during the questionnaire testing phase is less than 100. This paper decided to distribute a total of 80 test questionnaires to teachers and students. After analysis of the obtained data, the questions that the students were unwilling to face in the questionnaire were corrected, and the questionnaire was then officially distributed. Due to the impact of the epidemic, this questionnaire survey is not conducted by way of on-site distribution, and the questionnaire is mainly conducted by online Q&A on the "Questionnaire Star" questionnaire platform. Since the content of this survey is mainly about the combination of ideological and political classrooms and new technologies in colleges and universities, I am mainly familiar with colleges and universities in Nanjing, so the survey subjects and addresses are 621 students from 6 colleges and universities in Nanjing. It is time to fill out the questionnaire, and the survey time lasted one week. With the active participation of the students and the cooperation of the class teacher, the questionnaire was successfully completed. The 7 questionnaires whose answers were obviously inconsistent with the facts were excluded, and 614 valid questionnaires remained. After the reliability test, the reliability of the questionnaire was measured to be 0.913, which was higher than the standard value, confirming that the obtained data can be used for research. There are 12 questions in the questionnaire, which are mainly divided into three levels: the investigation of students' interest in classroom learning, the immediacy of teachers' teaching content, and the areas that need to be improved in the current ideological and political courses. The distribution of specific topics is shown in Table 1.

3.2. Comparative Experiment. While sorting out the questionnaire data, based on the experimental methods of the same type of investigation in the Cui and Bao literature as this paper, an experiment was designed to analyze the application effect of wireless communication and artificial intelligence decision-making technology in college ideological and political classrooms. The design cycle of this experiment is 3 months, and the six universities participating in the study are classified according to the maturity of the wireless communication and artificial intelligence decisionmaking system technology research and use in their schools. The three universities with the highest scores are set as experimental classes, and the remaining three universities are set as ordinary classes. On the basis of the existing technology, the experimental class is equipped with sensors in the ideological and political classroom, and the data are transmitted to the background for analysis by using the wireless network, and then, the optimization model algorithm designed in this research is added through software development to carry out innovative development of ideology and politics. *Classroom*. The ordinary class, as the control group, only needs to teach according to the traditional model, and teachers reflect and improve after class.

#### 4. Results and Discussion

#### 4.1. Experimental Results

4.1.1. Analysis of Questionnaire Survey Results. Through the analysis and summary of the results of the questionnaire, the recognition of ideological and political classrooms by college students at the emergence stage and the status of teachers' teaching ability and other aspects can be obtained. The specific scores are shown in Table 2.

It can be seen from Table 2 that college students are generally more interested in ideological and political courses at this stage. The two segments of "70-80" and "80-90" account for the vast majority of students, indicating that students are more interested in ideological and political courses. Teaching recognition is high. However, in terms of the immediacy of teachers' teaching content, the score is significantly lower than that of learning interest, which shows that there are certain deficiencies in the arrangement of ideological and political teaching content in colleges and universities. In actual teaching, students' interest is often related to the interestingness of ideological and political classroom content. Artificial intelligence technology can just design the best and interesting classroom content according to the characteristics of each student. It is necessary to combine artificial intelligence to further increase the interest of teachers' teaching content.

As can be seen from Figure 2, in the questionnaire, students believe that the teaching content is the most important, and the teaching content in real life is often related to the use of new science and technology in the teaching process. Wireless communication and artificial intelligence technology are just the ones that can be used in classrooms. Teaching-related technologies, in which wireless communication technology can be associated with teaching hardware facilities to design a more convenient teaching process, and artificial intelligence technology can be used to analyze and predict the best learning status of students. In summary, Table 2 reflects students' needs for ideological and political classroom teaching content combined with new technology updates.

4.1.2. Analysis of Comparative Experiment Results. After the end of the comparative experiment, the six universities participating in the study were randomly selected from classroom videos, and each university selected a video as the

Investigation of students' interest in classroom learning	3	250/
	-	25%
The immediacy of teacher teaching content	4	33.3%
The current ideological and political courses need to focus on improvement	5	41.7%

TABLE 1: Distribution of questionnaire test questions (N=12).

TABLE 2: Introduction	to the distribution	on of questionr	naire scores.		
	Under 60 points	61-70 points	71-80 points	81-90 points	Above 90 points
Investigation of students' interest in classroom learning	2.1%	6%	36.4%	47.2%	4.7%
The immediacy of teacher teaching content	4.7%	9.7%	58.6	18.8%	2.8%

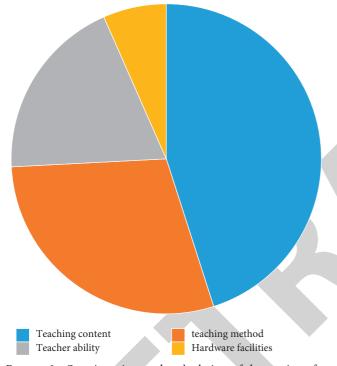


FIGURE 2: Questionnaire students' choice of key points for improvement.

scoring object. The scoring judge invited 10 lecturers and associate professors from other universities to participate, and the students' classroom performance, the teacher's teaching content, response performance, teacher-student interaction, and other aspects are assigned points. The sum of the scores obtained in the above 4 aspects is the total score of the classroom effect. The specific assignments for the 6 classes are as follows.

It can be seen from Table 3 that the scores of experimental classes in classroom teaching are generally higher than those in experimental classes, especially in the teacher's classroom response performance and teacherstudent interaction. The gap between the two aspects is particularly obvious. The difference between the highest experimental class 3 reached 1 point, and in terms of teachers' teaching content, the difference between the two groups of classes was the smallest, and the overall score was low, indicating that the current ideological and political classroom teachers in colleges and universities. There is still much room for improvement in teaching content.

The difference between the scores of the experimental class and the ordinary class actually shows the difference between the teaching effect of ideological and political courses using wireless communication and artificial intelligence technology and the teaching effect of traditional ideological and political courses. From the data gaps in students' performance, teaching content, process interaction, and continuous performance, after using wireless communication and artificial intelligence technology, the overall teaching efficiency of ideological and political classrooms has been improved, and students prefer ideological and political courses.

#### 4.2. Discussion

4.2.1. Strengthen the Connection of Simultaneous Politics and Build a New Content System. After studying in junior high and high school, college students already have a certain understanding of ideological and political theory. If college classroom continues to use the traditional teaching content system, emphasizes theoretical teaching, and ignores the reality guidance value of ideological and political courses, it will definitely not be able to effectively motivate students. Interest in learning [33, 34]. Therefore, ideological and political teaching in colleges and universities should actively explore the combination of simultaneous politics. Measures such as strengthening collective lesson preparation and arranging current political research topics can improve the level of teachers in this area. The main thing that needs to be the combination of simultaneous politics is not to talk about current affairs away from theory, but to analyze the nature of current affairs events with classic theories, and ultimately strengthen students' ideological and political application ability. The monitoring system constructed by wireless communication and artificial intelligence decision-making technology can grasp the reaction and learning status of students for the first time, and carry out targeted adjustments to make classroom teaching more efficient.

4.2.2. Promote the Construction of Wireless Communication and Artificial Intelligence Decision-Making Technology System. Experiments have proved that with the assistance of wireless communication and artificial intelligence decision-

	Student classroom performance	Teacher teaching content	Contingency performance	Teacher-student interaction	Total score
Ordinary class 1	3.8	3.8	3.8	3.9	15.3
Ordinary class 2	3.8	3.9	3.8	3.8	15.3
Ordinary class 3	3.7	3.8	3.7	3.6	14.8
Experimental class 1	4.2	4.3	4.5	4.5	17.5
Experimental class 2	4.2	4.1	4.4	4.5	17.3
Experimental class 3	4.3	4.1	4.5	4.6	17.5

making technology systems, the performance of ideological and political classroom in terms of adaptability and teacherstudent interaction is significantly better than traditional classroom. Today, information technology is increasingly integrated with college classroom, and all colleges and universities must make due to investments in hardware construction. At the same time, it will also cooperate with information technology experts from software companies or other universities to develop management software that is more suitable for the specific needs of the school. Through the combined assistance of software and hardware, the teaching effect of the current ideological and political classroom is improved [35, 36]. For universities with limited economic strength, a step-by-step approach can be adopted, by optimizing sensor configuration, simplifying algorithms, and other methods to establish a teaching aid system that is more specific and does not reduce efficiency.

#### 5. Conclusion

Wireless communication and artificial intelligence decision making have expanded the radiation range of traditional ideological and political classrooms and have greatly improved the speed and scientificity of real-time reflection. With the development of various classroom management apps and complementary advantages in the future, ideological and political classrooms in colleges and universities assisted by wireless communication and artificial intelligence decisionmaking technology will definitely develop in a more intelligent direction. The support built by the two together is another demonstration of the tremendous positive changes brought about by the advancement of information technology to the ideological and political classroom after multimedia. It can not only effectively improve classroom efficiency but also make the interaction between students and teachers more efficient and close. It will definitely help college ideological and political classrooms develop in the direction of modernization, intelligence, and interaction. The design of this research is based on the wireless communication and artificial intelligence decision-making sensor-analysis core-teacher terminal classroom data collection and analysis system. The success of this system lies in the construction of a classroom information collection and response model with a whale optimization algorithm as the core, which greatly improves the immediacy of information collection and response speed, and because it fully utilizes the existing system, it greatly

reduces the cost of erection; therefore, it has a strong promotion value. The disadvantage of this research is that it is completely focused on the development of classroom teaching, without taking into account the construction of other fields such as the classroom evaluation system. In future research, I will focus on the construction of the ideological and political teaching evaluation system, and strive to create a comprehensive teaching system.

## Data Availability

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

### **Conflicts of Interest**

The authors declare that they have no conflicts of interest.

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