

Current Situation Analysis and Adaptation Strategies of Professional Education and Ideological Education in Electrical Specialty

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Abstract: It is of great significance for the personnel training of electrical engineering in China to carry out the curriculum ideological politics of electrical engineering in an all-round way. In this study, juniors majoring in electrical engineering in Heilongjiang Institute of Technology were selected as the research objects, and the classroom teaching conflicts between electrical teaching and ideological and political education were studied and investigated in reality through questionnaire survey and mathematical statistics, so as to have a deep understanding of students' learning attitudes and effects. The survey results show that students recognize the ideological and political teaching of electrical specialty courses, and students have higher expectations for the teaching content, teaching methods, teaching evaluation and teaching effects of ideological and political teaching of electrical specialty courses. Based on the theory of educational conflict management, this paper analyzes the current situation, causes and functional effects of the conflict between professional education and ideological and political education in classroom teaching. Put forward targeted and reasonable conflict adjustment strategies to ease teacher-student relationship, reduce and transform classroom teaching conflicts, establish a harmonious classroom teaching atmosphere, and promote students' all-round development. The research results provide a new perspective for the reform of "curriculum ideological and political" education in electrical specialty.

1. Introduction

Since the new era, profound changes have taken place or are undergoing profound changes in national strategies, industrial development, educational environment, and teaching objects, and these changes have had a profound impact on higher education. As an important discipline in the energy field, the electrical engineering discipline should adapt to these changes and further guide its development in a correct and positive direction [1]. The construction of a socialist university curriculum system with Chinese characteristics under the guidance of "Curriculum Ideology and

politics" is an effective way to explore the "combination of knowledge transfer and value guidance". The concept of "Curriculum Ideology and politics" clearly points out that we should strengthen ideological and political education in the study of professional courses, so that students can consciously strengthen their ideological and moral cultivation and improve their political awareness in the process of learning scientific and cultural knowledge. To comprehensively promote the ideological and political construction of the curriculum, we must guide the values in the teaching of professional knowledge and ability training, cultivate students' correct ideological awareness and moral quality, and help students establish a correct outlook on life, world outlook and values. The quality training of electrical students in colleges and universities urgently needs more attention.

2. Connotation of Curriculum Ideological Politics

Curriculum ideology and politics refers to the integration of the content of various professional courses in the school with the content of ideological and political education, to build an all-round education pattern in various courses, and to combine other subject courses and ideological and political theory courses in the same direction to form a synergistic effect (especially ideological and political theory courses [2]); Curriculum ideology and politics is essentially a comprehensive educational concept that regards moral cultivation as the fundamental task of education. In China, "Curriculum Ideology and politics" is to integrate value education into the teaching of professional courses. The important path of value education in American universities is also curriculum, which includes explicit formal curriculum and implicit auxiliary curriculum. The former includes humanities, social and natural sciences, while the latter includes extracurricular practice, situational influence and school rules and regulations. The two are interconnected and complementary, and together constitute the path of values education in American colleges and universities. In contrast, the explicit formal curriculum is widely used in the value education in American colleges and universities because of its directness, systematicness and stability. Among them, general education curriculum is an important carrier of values education in formal curriculum. For example, in the fall semester of 2018, Harvard University officially launched a new framework for general education courses, established "aesthetics, culture and interpretation" as one of the eight categories of general education courses, and set up a series of courses, among which the more typical ones are "the Muslim world in South Asia: religion, culture and identity", "Shakespeare's early plays" and "Ethics: Marx, Nietzsche and Freud". Electrical engineering discipline is an important discipline in the field of energy related to the national economy and the people's livelihood. Different countries in the world also attach great importance to electrical engineering [3]. They carry out research in various aspects of teaching and practice [4], and carry out teaching reform activities [5] to improve teaching effects. Advanced teaching methods and technologies [6], online teaching, experimental teaching [7-8], engineering education [9-10], skill cultivation [11] and other aspects are used for research and exploration [12]. For example, based on data mining technology, an intelligent mining system for learning needs of electrical engineering students is designed. Through the analysis of students' online learning behavior, the system can find the learning and skill needs of electrical students, which provides a basis for the implementation of teaching reform [13].

It is of great significance to comprehensively carry out the course Ideological and political education of electrical engineering in China [14]. Carrying out ideological and political teaching during the implementation of electrical courses is conducive to giving full play to the educational value of electrical courses and cultivating talents with better humanistic and professional qualities Under the guidance of Ideological and political education, students can establish a correct world outlook, outlook on life and values while mastering the theoretical knowledge of their major, develop good ideological and moral quality, improve national self-confidence, glow national pride,

and enhance the sense of value identity at the social emotional level [15]. In this paper, by means of questionnaire survey and mathematical statistics, the conflict between electrical teaching and ideological and political education in classroom teaching is studied and investigated; By analyzing the current situation, causes and functional impact of the conflict between professional education and ideological and political education in classroom teaching, this paper puts forward targeted and reasonable conflict adjustment strategies, reduces and transforms the conflict between professional education and ideological and political education in classroom teaching, establishes a harmonious classroom teaching atmosphere, and promotes the all-round development of students. It is hoped that these suggestions can improve the ideological and political conflict of electrical courses.

3. Methods and Procedure

This research takes the junior students majoring in electrical engineering of Heilongjiang Institute of technology as the research object, investigates the current situation of the ideological and political education of electrical courses, and deeply understands the conflict between electrical education and ideological and political education; By means of questionnaire, this paper studies the attitude and effect of students' Ideological and political education in electrical courses. The purpose of this study is to investigate the students' cognition and learning attitude towards the implementation of Ideological and political education in professional education, and analyze the reasons for the conflict between electrical education and ideological and political education; According to the theory of educational conflict management, this paper discusses the effective integration of professional education and ideological and political education, and provides a new research perspective for the teaching reform of "curriculum ideological and political" education of electrical major in Colleges and universities.

Questionnaire star website and Excel software were used as research tools. Questionnaire star is a professional online questionnaire survey, examination, evaluation and voting platform, focusing on providing users with powerful and humanized online questionnaire design, data collection, customized reports, survey result analysis and other services. The platform provides online SPSS analysis, which can make statistics and Analysis on the data of the questionnaire. First of all, the questionnaire "questionnaire on the implementation effect of Ideological and political teaching of electrical professional courses" is designed on the questionnaire star website. Then it is released to the survey object to collect the original data; finally, make statistics and Analysis on the data to form an analysis report.

3.1. Questionnaire Design

According to the actual situation of the research topic, this paper chooses the questionnaire method to carry out the research. In order to more accurately understand and grasp the ideological and political conflicts and implementation status of electrical courses, the questionnaire design is simple and rich. The questionnaire pays more attention to the implementation effect of integrating electrical professional courses into Ideological and political education; The questionnaire consists of 25 questions, including 3 modules. Questions 1-18 use Likert scale to investigate the effect and attitude of students towards the implementation of Ideological and political education in the teaching of electrical courses; Questions 19-21 are the basic information of the students who participated in the questionnaire survey, including gender, personality and position; Questions 22-25 are single choice questions, which mainly investigate the conflict between teachers and students in the teaching of electrical specialty. The respondents of this questionnaire are students majoring in electrical engineering. There are 157 valid samples, including 130 boys, accounting for 82.8%, and

27 girls, accounting for 17.2%; the sample of student questionnaire is shown in Table 1. The average score, mean and standard deviation of questions 1-18 are shown in Table 2.

Table 1: Sample of student questionnaire

Sample condition	Options	Subtotal	Proportion (%)
Gender	Male	130	82.8
	Female	27	17.2
Character	Extroverted	78	49.68
	Introverted	79	50.32
Student cadre	Yes	34	21.66
	No	123	78.34

Table 2: Average score, mean and standard deviation

Question number	Average score	Question number	Average score
1	4.48	10	4.43
2	4.43	11	4.48
3	4.47	12	4.49
4	4.45	13	4.46
5	4.43	14	4.48
6	4.44	15	4.55
7	4.44	16	4.34
8	4.46	17	4.48
9	4.43	18	4.43
Expectation	4.454	Standard deviation	0.042

3.2. Reliability and Validity of Questionnaire

The reliability and validity of 157 valid questions were tested. As shown in Table 3, the alpha value of the reliability coefficient of the student questionnaire is 0.989, and the alpha value is greater than 0.8, indicating that the reliability quality of the research data is good.

Table 3: Questionnaire reliability analysis table

Sample size	Number of items	Cronbach α coefficient
157	18	0.989

The Likert scale is used for questions 1-18. See Table 4 for the average value distribution of each question. After calculation, the mean value of questions 1-18 is 4.45 and the standard deviation is 0.042. It can be seen that, in general, students do not exclude the integration of Ideological and political education into the classroom teaching of electrical related professional courses, and highly recognize the implementation effect of "curriculum ideological and political education" from all aspects. On the question setting,

(1) Questions 1-5 are used to investigate whether students have a clear level of self-awareness of the "curriculum ideological and political" teaching of electrical courses;

(2) Question 6-11 is used to test students' cognition of teachers' teaching content, teaching attitude and teaching methods in the process of "curriculum ideological politics";

(3) Questions 12-18 are used to test students' evaluation of the teaching effect of the integration of electrical teaching and ideological and political teaching.

After validity analysis, the KMO value is 0.954, which indicates that the data are relevant. It can be concluded that the student oriented questionnaire has scientific reference value. See Table 4.

Table 4: Questionnaire validity analysis table

Item	Factor 1	Factor 2
Characteristic root value (before rotation)	15.32	1.01
Variance interpretation rate% (before rotation)	85.13%	5.61%
Cumulative variance interpretation rate% (before rotation)	85.13%	90.74%
Characteristic root value (after rotation)	8.6	7.73
Variance interpretation rate% (after rotation)	47.77%	42.96%
Cumulative variance interpretation rate% (after rotation)	47.77%	90.74%
KMO value	0.954	
Bartlett spherical value	5937.711	
df	153	

4. Results and Discussion

4.1. Results

The overall situation of students' learning attitude and implementation effect of "curriculum ideology and politics" in electrical specialty is analyzed, as shown in Figure 1.

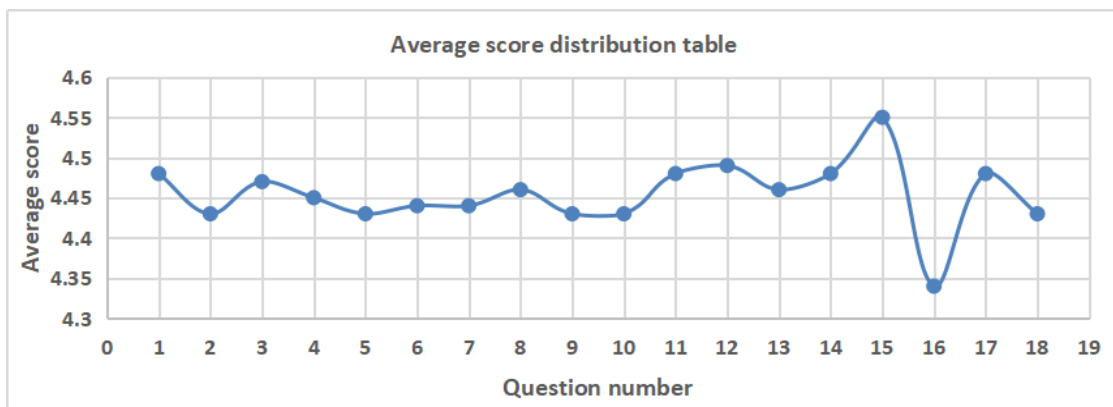


Figure 1: Average distribution

On the whole, the average score of each question is very high. It seems that students have a very clear and correct cognition of the "course ideological and political education" teaching of electrical professional courses, and they strongly agree to carry out ideological and political education in the teaching of electrical professional courses. The students also recognized the teaching contents, teaching attitudes and teaching methods of the teachers. Students seem to have a high evaluation on the teaching effect of integrating electrical teaching with ideological and political teaching. Yet there are glaring problems. For example, question 15 had the highest average score of 4.55, which was: "Are you satisfied with the current teacher-student relationship of electrical courses?"; Question 16 had the lowest average score, 4.34; The question is: "Your self-evaluation on the

learning effect of current electrical courses." The results of the two questions are obviously contradictory. This also shows that students have negative views on the teaching effect of integrating electrical specialty teaching with ideological and political teaching. This also reflects the conflict of ideological and political education in electrical specialty teaching. In fact, it shows that students are not satisfied with the overall teaching effect.

The result of this question shows that there are conflicts between teachers and students in teaching, mainly in psychological conflicts, followed by language conflicts. The degree of conflict is not obvious or intense. This shows that the teaching process is "harmonious" on the surface, but there are still conflicts between teachers and students. In fact, more conflicts are hidden. In the cause of conflict, few students attributed to teachers, nearly half of the students attributed to other reasons. Obviously, this result reflects students' negativity, probably because they don't want to cause trouble. The survey results shows students agree with the ideological and political teaching of electrical courses. For example, the results of Question 4 show that nearly 87% of the students believe that timely ideological and political education in electrical professional courses enables them to have a deeper understanding of professional knowledge; the result of Question 5 shows that ideological and political teaching can enable students to master more knowledge and establish a relationship between professional knowledge. This shows that students have a demand for ideological and political education in specialized courses. Therefore, it is feasible for students to carry out ideological and political courses in electrical specialty. The survey results also show that students have higher expectations on the teaching content, teaching methods, teaching evaluation and teaching effects of ideological and political education in electrical courses (Question 6-11). Students expect to be respected in the course of ideological and political teaching (Question 12).

The findings indicate that, there are some conflicts in carrying out ideological education in electrical specialty teaching, which is, carrying out "curriculum ideological and political" teaching in electrical specialty. From the perspective of students, many students can clearly and correctly recognize the teaching purpose of "curriculum ideological and political"; Students can correctly recognize the importance of carrying out "ideological and political education" in electrical specialty courses. Students seem to approve of the teachers' teaching methods, teaching skills, course evaluation methods, course organization forms and teaching contents. However, students have a negative attitude towards themselves, teachers and courses, and the teaching effect is not optimistic.

4.2. Discussion

Through the investigation of students' attitudes and effects on the ideological and political education of electrical courses, the problems of teaching and learning are reflected. It is necessary to comprehensively explore the specific reasons, so as to effectively solve the conflict between professional education and ideological education in electrical specialty, improve the classroom teaching effect, and give full play to the all-round educational effect of Ideological and political education in electrical specialty courses. Generally speaking, there are not only students' own factors, but also external reasons such as teachers, teaching methods, courses and classroom management.

4.2.1. Conflict Cause Analysis

Because the social foundation and social status behind teachers and students are different, the social roles are different, and the values are inconsistent, the conflict between teachers and students is inevitable and therefore reasonable. The course Ideological and political education of electrical major is carried out in professional courses. The conflict between professional education and ideological and political education occurs in the process of classroom teaching. Conflict is mainly

manifested in classroom conflict. This is because the time and place of interaction between teachers and students are mainly in the classroom. Teachers' verbal and nonverbal behaviors convey different information to different students. These behaviors are accepted, recognized or rejected by different students. The students' behavior reaction in the interaction also makes teachers have different expectations for different students. This kind of contradiction between the different expectations between teachers and students and the limitations of their own conditions is not easy to reconcile, and the conflict naturally arises. The causes of classroom conflict are analyzed as follows.

The main reason is the contradiction between teachers' teaching methods and strategies and students' needs. In order to ensure normal teaching order, teachers will focus on strict control in teaching methods and strategies, such as adopting critical means to maintain class discipline. In this way, the teachers' and students' increasing awareness and concepts of independence, freedom, equality and democracy produce contradictions, which lead to conflicts. According to the survey, in the cases of teacher-student conflict, teachers often appear as power, while most students show superficial obedience, but they are hostile to teachers in their hearts, and even "dual personality" may appear.

On the other hand, "curriculum ideological politics" is a concept emerging in recent years, which puts forward higher requirements for teaching ability. Many teachers are still unable to adapt to the new situation at the teaching level, resulting in classroom teaching conflicts.

(1) The teaching form is single and lack of innovation. Students have more needs for the form of Ideological and political education. Students hope that teachers can carry out diversified forms of teaching in the electrical professional class, and carry out the teaching form of combining theory with practice to improve the effect of Ideological and political education. Teachers are used to using traditional teaching methods, which are boring and lack of innovation, which damages students' enthusiasm and enthusiasm for learning.

(2) "Teaching" and "education" are out of step and lack of Ideological and political awareness. Teachers habitually impart professional theoretical knowledge in the process of teaching implementation, do not take the initiative to think about how to refine the ideological and political elements in electrical courses, and lack time and energy to add additional content to classroom teaching; This shows that professional teachers lack the initiative to integrate ideological and political elements into the curriculum, and the "teaching" and "education" are not synchronized, so it is difficult to realize the good original intention of curriculum ideological and political education for teaching and educating people.

(3) Teachers' ideological and political elements are not fully integrated. Ideological and political elements are very rich, and different students' cognitive levels are also different. Teachers should select ideological and political elements that can better reflect the teaching art in combination with the actual content of professional courses and the actual needs of students. Teachers did not dig into the ideological and political elements suitable for professional courses, simply cited examples in teaching, and forcefully instilled ideas, causing students' boredom. Therefore, the teaching effect is not good.

The concept conflict and interpersonal conflict between teachers and students are the deep causes of the conflict between teachers and students. There is a big gap between teachers and students in terms of values and morality. Once students can not accept teachers' classroom expression, it is easy to produce antagonistic emotions and cause interpersonal conflicts between teachers and students. The internal opposition between teachers and students is usually manifested by students' problem behaviors in class. Many teachers can not treat students' behaviors objectively, and lack preset coping strategies, which leads to conflicts. The existence of prejudices between the two sides has led to interpersonal conflicts between teachers and students. The main reasons are:

(1)Lack of effective communication. Due to the influence of many factors, the communication between teachers and students is very limited, which mainly occurs in the process of teaching and learning in the classroom. In addition, there is no more contact. Due to the lack of necessary communication, the relationship between teachers and students is becoming more and more estranged and indifferent. Sometimes there is no basic interpersonal etiquette, such as teachers and students deliberately avoid or do not greet each other when they meet.

(2)Teachers' inappropriate handling methods. Teachers' indifference and prejudice, teachers' improper teaching attitude, and nonstandard teaching language; overemphasizing students' obedience is easy to lead to conflict.

4.2.2. Conflict Adjustment Strategies

Based on the research results, after discussion and analysis, this study puts forward methods and countermeasures to solve the teaching conflict of "curriculum ideological politics" in electrical specialty, so as to enhance the effectiveness of "curriculum ideological politics" teaching in electrical specialty. Specific recommendations are as follows.

Respect students and create a harmonious classroom atmosphere in which teachers and students respect each other. Mutual respect for personality is the bridge between teachers and students, and receiving due respect is the basic spiritual needs of human individuals. The same is true of teachers and students. Teachers' respect for students permeates in language, behavior and attitude. Students' psychology is delicate. Through contact with teachers, we can deeply feel whether teachers respect themselves. Specific suggestions:

(1) Teachers' teaching attitude should be correct and the teaching language should be standardized. As the leader of teaching, teachers' body language and teaching language expression in the classroom play an important role in creating the classroom atmosphere.

(2) When dealing with conflicts, we should deal with them on a case by case basis, not with people. Teachers should fully respect students, treat every student equally, and not label students with their own likes and dislikes. When communicating with students, they should be reasonable and respect their personality.

Treat students fairly and in good faith, and actively hone communication skills. Many aspects of the questionnaire data, either explicit or implicit, reflect the students' desire to be treated fairly. In the relationship between teachers and students, justice is of great significance. Justice not only helps to establish the prestige of teachers, strengthen and maintain teachers' non right influence, but also effectively implements teachers' functional right influence. In addition, as a model of human beings, teachers have certain imitation and guiding value for students who are teachers.

Improve the teaching methods of ideological and political education and improve teaching skills. Professional teachers should deeply understand the connotation of Ideological and political education, reasonably set teaching objectives, and establish the educational concept of "people-oriented"; Improve the teaching means and methods of curriculum ideological and political education, improve relevant teaching skills, and strengthen the construction of professional teachers' curriculum ideological and political ability.

5. Conclusions

In order to comprehensively and deeply understand the students' learning attitude and effect, this study studied the classroom teaching conflicts between electrical specialty teaching and ideological and political education in Chinese universities by questionnaire survey. The survey results show that students recognize the ideological and political teaching of electrical specialty courses, and students have higher expectations for the teaching content, teaching methods, teaching evaluation

and teaching effects of ideological and political teaching of electrical specialty courses. Based on the theory of educational conflict management, this paper analyzes the current situation and causes of the conflict between electrical specialty education and ideological and political education, and puts forward targeted and reasonable conflict adjustment strategies to ease the relationship between teachers and students, reduce and transform the classroom teaching conflict, and promote the overall development of students. It is hoped that these suggestions can improve the ideological and political conflict in electrical courses.

The sample size of the study is not large enough, and the questionnaire design has limitations. In the future, I will further improve and perfect the research methods. In addition to the commonly used literature research method, questionnaire survey method and other methods, I can try to interview method, observation method, action research method and case analysis method, so as to reflect the research results more truly and objectively and improve the overall level of the paper. Secondly, I have limited professional knowledge and ability, the theoretical and operational aspects of the research need to be further improved, and relevant conclusions need to be further verified and improved in future teaching practice.

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