"Seed Science and Engineering" Exploration on the Construction of Curriculum Ideological and Political System

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ABSTRACT

The specialty of "seed science and Engineering" has trained a large number of scarce seed talents for China. This paper summarizes the experience, existing problems and future improvement direction of the ideological and political system construction of the curriculum of "seed science and Engineering" in our university, in order to improve the ideological and political system construction of colleges and universities.

1. Introduction

Since China Agricultural University took the lead in establishing the undergraduate specialty of "seed science and Engineering" in 2002, more than 36 colleges and universities in China have successively carried out undergraduate and graduate education of "seed science and Engineering", which has trained a large number of professionals for China's seed industry. As early as 2013, our university established the specialty of seed science and engineering to speed up the cultivation of seed industry talents. This paper summarizes the stage of the school level teaching reform project of "Ideological and political demonstration major".

2. Research Significance

Seeds are known as agricultural "chips". When inspecting Hainan in 2018, general secretary Xi Jinping put forward: "we must make up our mind to develop our seed industry and grasp the fine varieties with independent intellectual property rights, and protect the national grain security from the source". At present, Guangdong Province has included "modern seed industry and precision agriculture" in the R & D plan of nine major fields of scientific and technological innovation, listed it as the key work of the provincial government for six consecutive years, and took the lead in implementing the modern seed industry improvement project in the country. On April 22, 2020, the Department of science and technology of Guangdong Province, together with the Agricultural Office of the provincial Party committee, the Provincial Department of ecological environment, the Provincial Department of agriculture and rural areas, the Provincial Forestry Bureau, the provincial poverty Alleviation Office and the Provincial Association for science and technology, jointly formulated the science and technology plan for Ru*

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eral Revitalization of Guangdong Province, requiring the organization and implementation of the R & D plan in key areas of "modern seed industry and precision agriculture", carry out the action of "strengthening the core" of the agricultural industry, and seize the commanding height of the modern seed industry.

Curriculum ideological and political education is an important part of ideological and political education in colleges and universities and an important starting point for implementing the fundamental task of building morality and cultivating people in colleges and universities. It organically integrates curriculum professional knowledge with ideological and political education, takes the socialist core values as the foundation, fully excavates the ideological and political elements contained in this curriculum, and realizes the organic integration of curriculum and ideological and political education, and lay a solid foundation for cultivating excellent agricultural talents needed in the new era [1]. The construction of curriculum ideological and political system stands at the height of professional construction, which can better coordinate the implementation of ideological and political construction of various professional courses, better cultivate students' feelings of "big country, agriculture, rural areas and farmers", family and country feelings and craftsman spirit, enhance national self-confidence and cultural self-confidence, and improve students' innovation consciousness, cultural quality, legal consciousness and professional ethics. Help students apply the knowledge and technology they have learned to solve the practical problems of the national seed industry, and become compound "three rural" talents in the new era with solid theoretical foundation, excellent operation skills, high innovation spirit and professional ethics.

3. Experience Summary

(1) Guided by the construction of organization and system

Earnestly implement the rules and regulations for undergraduate education management formulated by the University and the college. The president is the first person responsible for teaching quality, the vice president of teaching is the person in charge, and the department head is the person directly responsible. The person in charge of ideological and political courses shall be implemented. Full time teachers shall act as the person in charge of professional basic courses, and a teaching team shall be established. The person in charge of each course is encouraged to form a team across colleges and disciplines. Responsible for the organization and implementation of ideological and political teaching, quality control, summary and promotion of teaching reform experience, etc.

College leaders, student work department, Party Committee Publicity Department, ideological and political theory teachers, counselors and experimenters are invited to participate in the course team. Improve students' online teaching evaluation, students’ final questionnaire survey, and add ideological and political evaluation indicators in the questionnaire. Teachers of this major are encouraged to listen to each other and hold seminars on the construction of Ideological and political specialty on a regular basis.

(2) Take the revision of talent training program as an opportunity

In the cultivation of talents in various disciplines in the new era, we should run the ideological and political work through the whole process of education and teaching, excavate and sort out the moral education elements of various courses, improve the curriculum system construction of Ideological and political education, give full play to the educational function of various courses, and realize the great ideological and political pattern of full, whole process and all-round education. We should deeply understand the strategic significance of comprehensively promoting the establishment of curriculum ideological and political education, grasp the key of curriculum ideological and political education, and comprehensively improve the ideological and political level and effectiveness of the professional curriculum.

According to the current construction standards of "new agricultural science" and "golden course" [2], the spirit of the guiding outline for curriculum ideological and political construction in Colleges and universities (JG [2020] No. 3) [3], the development orientation of the University, the social needs of the specialty and the needs of local construction, revise the talent training plan to make it a strong support for the training objectives. Refine the training objectives of ideological and political talents of the major, add relevant courses, and resort out the previous curriculum outline. It is required to closely combine the ideological and political elements with the curriculum content to prepare the syllabus, and establish a set of reasonable evaluation system to achieve the talent training goal of "Building Morality and cultivating people".

(3) Dominated by the ideological and political construction of professional courses

With the construction of professional courses and ideological and political courses as the core, all kinds of courses cooperate with professional ideological construction. Implement the socialist core values, relevant laws and regulations, professional ethics and the work spirit of agriculture, rural areas and farmers into various professional courses, refine the educational objectives, teaching
plans, teaching plans and handouts of various courses \cite{5}, and implement them into classroom tests, after-school homework and final exams. Take process assessment and multiple assessment as tools, take results as guidance, and take the satisfaction of students, parents and schools as criteria to implement the whole staff education and the whole process education.

The construction process of ideological and political specialty draws lessons from the achievements and experience of previous educational reform, rather than building ideological and political courses in isolation. It emphasizes the "three integration" of curriculum thought and politics with the concept of "student-centered" and information technology, so as to improve the effectiveness of teaching reform. For example \cite{6}, during the ideological and political construction of seed engineering experiment, for the teaching of seed production, students of this major (teachers provide guidance) developed the "virtual simulation" teaching software, which was later recommended as a national innovation project. This not only shapes the value orientation of students’ exploration and innovation, but also cultivates a serious, dedicated and persistent "craftsman spirit”, which is the successful integration of curriculum ideology and politics, information technology and student-centered concept \cite{7}.

(4) Assisted by teaching and research projects and teaching competitions

Take the application and implementation of teaching and research projects as one of the main measures for the construction of Ideological and political specialty, and implement the ideas and objectives of ideological and political construction in the project. Teachers are encouraged to participate in teaching competitions at all levels to promote teaching and reform. Support teachers to summarize teaching reform and competition experience and publish relevant teaching and research papers \cite{8,9}.

In recent years, the major has presided over over 5 teaching and research projects at all levels and published 6 ideological and political teaching and research papers. Some honors won by professional teachers are as follows: (1) The second prize in South China in 2018 National Crop Science young teachers’ teaching skills competition. (2) Top ten middle-aged and young teachers of the school in 2020. (3) In 2021, the top four players in the "First National College Teachers’ teaching innovation competition". (4) In 2021, the top eight contestants of the "first undergraduate college curriculum ideological and political teaching competition in Guangdong Province". (5) The 10th "my favorite teacher" school level top ten teachers in 2021.

4. Existing Problems

The construction of Ideological and political system in this major has carried out a lot of practice and achieved many exploration results. However, there are also the following problems:

(1) Some teachers are not enthusiastic. Although many teachers are enthusiastic and actively participate in various reform activities in the implementation process, a few teachers are not enthusiastic and still have resistance to curriculum thought and politics.

(2) It is difficult to assess the effectiveness of teachers’ ideological and political teaching. This study evaluates and summarizes the enthusiasm and teaching effectiveness of teachers’ participation in curriculum ideological and political education, but most of them are qualitative descriptions. How to accurately quantify teachers’ work participation and work effectiveness is still a difficult problem.

5. Outlook

In the future, in addition to trying to solve the above two problems, the project will continue to improve from the following two aspects.

(1) Mobilize the enthusiasm of professional teachers

Professional course teachers are the main body of the construction of "Ideological and political demonstration specialty" of this specialty, which is composed of experienced teachers and newly introduced excellent doctors. Next, through conference discussion, goal decomposition, result assessment, student evaluation, mutual scoring among teachers and other ways, professional teachers will be fully mobilized to participate in the work, and the curriculum ideological and political reform will be promoted in depth \cite{10}.

(2) Invite students to participate in the project construction

Give full play to students’ strength. Invite student class committee cadres, party activists and other excellent students to participate in the project. Let students make multi-dimensional records and feedback on the effectiveness of curriculum ideological and political implementation, help professional teachers find out the implementation methods of curriculum ideological and political implementation, and improve the effectiveness of ideological and political teaching. Grade and evaluate the behavior and results of teachers’ curriculum ideological and political reform, so as to encourage teachers to better participate in the project \cite{11}.

In short, the construction of the ideological and political system of the professional curriculum will continue to
consolidate the existing achievements, promote successful experience, solve the problems found in the practice process, and further promote the construction of the ideological and political system of the professional curriculum of "seed science and Engineering", so as to better realize professional education melts ideological and political education, such as salt dissolves in soup and resonates with the same frequency; ideological and political education promotes specialty, like spring breeze and rain, establishing morality and cultivating people.

**Funding**

The construction project of "seed science and Engineering" in 2020, a school level "curriculum ideological and political" demonstration specialty.

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