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PRELIMINARY EXPLORATION ON THE IMPLEMENTATION EFFECT OF COURSE-BASED IDEOLOGICAL AND POLITICAL EDUCATION REFORM IN THE BOTANY COURSE UNDER THE BACKGROUND OF THE NEW AGRICULTURAL SCIENCES

Xiaoxue Liu*, Yunbo Zhang, Fengying Xu, Le Xu

College of Agriculture, Yangtze University, Jingzhou, Hubei 434025, P. R. China

*Corresponding author: xiaoxueliu@yangtzeu.edu.cn

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ABSTRACT

Course-based ideological and political education constitutes the core pathway for higher agricultural and forestry education to fulfill the fundamental mission of fostering virtue and cultivating talent under the background of the New Agricultural Sciences. It also acts as a crucial lever to realize synergistic education that combines professional instruction with value-oriented guidance for agricultural-related majors. Drawing on our two-year practical experience in constructing and reforming course-based ideological and political education for the Botany course, this study adopts a questionnaire-survey approach to systematically evaluate its implementation effectiveness. A total of 214 valid questionnaires were collected from undergraduate students in the College of Agriculture. The results show that the course-based ideological and political education practice of the Botany course has yielded promising educational outcomes. Students hold high recognition for this educational initiative. Blended learning, information-assisted teaching tools, practical teaching activities, and diversified assessment mechanisms have gained widespread approval among respondents. Students report high overall teaching satisfaction, and the course has exerted prominent value-guiding effects in fostering the philosophy of “understanding and caring for agriculture, and strengthening and revitalizing agriculture”. The integrated goal of specialized-knowledge imparting, comprehensive-competency cultivation and value shaping has been basically accomplished. Nevertheless, several practical bottlenecks emerge during the reform practice, including inadequate depth in the integration of partial ideological-political elements and difficulties in adapting teaching contents to diversified learning profiles caused by multi-major combined-class teaching. Accordingly, this paper puts forward optimization countermeasures covering closed-loop teaching iteration, differentiated instruction design and the expansion of localized practical practice. The findings can provide empirical evidence for improving the quality and efficiency of course-based ideological and political education in foundational agricultural courses offered by agricultural and forestry universities.

KEYWORDS: New Agricultural Sciences, Botany, Course-based ideological and political education, Teaching effectiveness

1. INTRODUCTION

As the connotative development of higher agricultural and forestry education continues to advance, fostering virtue and cultivating talent has become the fundamental talent-training task for the New Agricultural Sciences. Against the backdrop of rapid global advances in agricultural science and technology, cultivating innovative talents oriented toward “new agriculture, new farmers, new rural areas and new ecosystems” has become a vital guarantee for promoting sustainable agricultural development and safeguarding national food security [1]. The construction of the New Agricultural Sciences sets higher requirements for talent cultivation in agriculture-related universities, where course-based ideological and political education serves as an important measure to foster new-generation talents who understand and love agriculture [2]. As the reserve workforce for serving rural revitalization and the development of modern agriculture, undergraduates majoring in agriculture should not only consolidate their foundational theoretical knowledge and practical skills in botany, but also develop profound patriotism, establish the concept of the agriculture-rural-farmer issues for a major country, and enhance their awareness of ecological civilization as well as their sense of responsibility for strengthening and revitalizing agriculture.

Botany is a core foundational compulsory course offered for first-year undergraduates in the College of Agriculture at Yangtze University. Characterized by solid theoretical attributes and strong practical features, it represents students’ first exposure to specialized professional coursework. Its curriculum covers plant tissues and cells, morphological structures of plant organs, plant taxonomy, biodiversity conservation and other themes, which contain abundant inherent resources for course-based ideological and political education. Valuable educational materials can be mined from Chinese plant scientists’ devotion to national research undertakings, traditional Chinese botanical culture, national food security, germplasm-resource conservation, ecological-civilization construction and the contemporary mission concerning the agriculture-rural-farmer issues for a major country. These contents offer natural carriers for exploring and embedding ideological-political elements into this course.

Plenty of domestic researchers have explored course-based ideological and political education for Botany. Existing studies involve the mining paths of ideological-political elements [3-5], teaching and experimental reform practices under the New Agricultural Sciences initiative [2,6-8], as well as practical attempts of information-driven blended teaching [9-11], which accumulate rich practical experience for relevant implementation. Nevertheless, most available studies focus on teachers’ instructional design, while empirical evaluation research from learners’ perspective remains relatively scarce. Quantitative assessments on real value-guiding outcomes and student teaching satisfaction still need further supplementation.

To resolve the “disconnect” between professional knowledge instruction and value guidance and give full play to the educational function of specialized courses, our teaching team has carried out two-year reform practice for course-based ideological and political education. Centering on the tripartite educational objective of “knowledge transmission, competency development, value-oriented guidance”, we excavate implicit ideological-political elements scattered across each chapter and build a case repository for course-based ideological-political education. Supported by digital platforms including Rain Classroom and Massive Open Online Courses (MOOCs), an online-offline blended teaching mode is constructed. We also attach great importance to practical sessions such as field internships and plant observation activities, and establish a diversified formative assessment system.

To scientifically evaluate the actual effectiveness of curriculum-based ideological and political construction, capture students’ real learning perceptions and further refine instructional design, questionnaires were designed after course completion, and empirical investigations were conducted through ‘Wenjuanxing’. Based on multi-dimensional survey data concerning students’ recognition of curriculum-based ideological and political education, embedding effects of ideological-political elements, evaluation of teaching modes, feedback on assessment systems, educational outcomes of value guidance, overall teaching satisfaction, existing drawbacks and improvement suggestions, we sort out achievements and deficiencies in curriculum-based ideological-political construction. This study aims to realize the educational goal of infiltrating students’ minds, shaping their characters of knowing and loving agriculture, and consolidating their professional foundations via the Botany course. It also offers practical references for curriculum-based ideological-political reform of similar fundamental agricultural courses.

2. Overview of course-based ideological and political education practice for the botany course

Targeting the learning characteristics of agricultural undergraduates with vague professional cognition and underdeveloped academic planning, the course-based ideological and political education construction of Botany follows the principle of “professional-knowledge-oriented foundation, ideological-political-education-centered soul, agriculture-major relevance and subtle imperceptible influence”. Teaching reforms are promoted from four dimensions: teaching-resource construction, instructional-design optimization, teaching-mode innovation and assessment-evaluation reform, so as to build a multi-dimensional and three-dimensional course-based ideological and political education system.

In terms of teaching resources and instructional design, based on the textbook Botany (3rd Edition) edited by Yingen Jin , our team sorted out knowledge points of each chapter and summarized five categories of ideological-political educational elements: fostering patriotism for building a powerful agriculture-oriented nation, cultivating the scientific spirit of seeking truth and pragmatism; establishing dialectical materialism and critical thinking; anchoring the theme of the agriculture-rural-farmer issues for a major country, and enhancing ecological civilization awareness and social responsibility; inheriting excellent traditional Chinese plant culture to boost cultural confidence;

tempering professional literacy and comprehensive practical competence.

Oriented to the above directions, we collected national agricultural-related policies, typical events of germplasm-resource surveys, advanced deeds of distinguished scientists including Yuan Longping, Zhong Yang and Tu Youyou, together with popular-science audio-visual materials. Selected cases were assembled to build a curriculum-based ideological-political case resource library. Considering the 40-class-hour constraint of this course, teaching contents were properly prioritized. Modules about plant structures are elaborated in depth, while plant-taxonomy knowledge is delivered through group-based flipped-classroom activities. A total of 20-25 ideological-political entry points are set throughout the whole course, matching themes such as patriotism, ecological civilization, food security and germplasm-resource conservation to corresponding chapter knowledge points. Narrative and scenario-oriented design strategies are adopted to embed implicit ideological-political elements naturally into classroom sessions.

For instance, education concerning the agriculture-rural-farmer issues for a major country and ecological civilization is integrated with plant-biodiversity protection in the introduction chapter; the concept of food security is connected with chapters of seeds and seedlings; traditional plant culture is infiltrated in contents of reproductive organs and plant taxonomy to enhance students' cultural confidence.

Regarding teaching methodology, we abandon single lecture-oriented instruction and establish a closed-loop blended-learning framework covering pre-class, in-class and post-class phases. Before class, ideological-political entry points are identified according to explicit textbook content and embedded into lesson-plan documents. Pre-class learning resources such as MOOCs and micro-lectures are distributed through Rain Classroom, together with preview quizzes to create diverse personalized pre-learning scenarios. During class, teaching focuses on key and difficult professional knowledge, from which moral-education connotations are naturally extended. Task-driven group thematic discussions are organized; real-time polls, in-class quizzes and group competitions are launched on Rain Classroom to enhance the attractiveness and affinity of ideological-political contents, evoke students' emotional resonance and deepen their comprehension of professional knowledge. After class, assignments including mind-map drawing and plant-observation reports are assigned on Rain Classroom. Supplementary popular-science articles and short videos are released as extended learning materials. Real-time teacher-student communication is maintained via QQ groups to collect feedback. Background learning data from platforms are analyzed to dynamically monitor students' actual learning performance. Plant-identification mobile applications such as Huabanlv (Flower Companion) and Xingse (Shape & Color) are recommended to encourage students' self-directed fragmented-time learning, stimulate their inquiry awareness and cultivate their comprehensive abilities of knowledge acquisition and practical exploration.

Meanwhile, practical education is strengthened by integrating course-based ideological-political

education into implicit educational scenarios such as laboratory sessions and field internships. Teachers dig deep into educational elements closely coupled with professional knowledge, pursuing subtle, imperceptible educational effects. Multi-level practical assignments are arranged, including seed-planting observation logs, research on characteristic local plants, field internships and outdoor investigations. Students are required to select plant seeds for cultivation independently, continuously record organ traits across different growth stages and finish observation reports. Such tasks sharpen their observational and critical-thinking capabilities and bridge the gap between theoretical knowledge and practical production-oriented applications. Series practical activities guide students to engage with nature and understand plant-growth rules, facilitating knowledge transformation from theories to practice. Through hands-on experience, students establish the concept of respecting and protecting nature, and develop patriotism of knowing, loving, strengthening and revitalizing agriculture. Coordinated education combining theoretical teaching and practical teaching is realized, avoiding rigid indoctrination of moral education.

In the aspect of assessment-evaluation reform, the traditional final-exam-centered grading pattern is replaced by a diversified formative-assessment mechanism. Online learning statistics from Rain Classroom, classroom-interaction performance, practical reports and thematic presentations on ideological-political topics are incorporated into final course grades. Pre-class preparation, in-class engagement and post-class extended learning are counted towards regular-performance scores. Assignments like ideological-theme presentations are introduced to balance knowledge assessment and value-competency evaluation for reflecting students' comprehensive learning outcomes objectively.

To comprehensively measure the practical effects of this teaching reform, questionnaire surveys were distributed to undergraduates enrolled in this course via the 'Wenjuanxing' online platform. Respondents cover students majoring in Agronomy, Plant Protection, and Agricultural Resources and Environment from the College of Agriculture. In total, 214 valid responses were collected from cohorts of 2023 and 2024. The sample achieves wide coverage with authentic and valid data, which can objectively mirror the real-world implementation status of course-based ideological and political education within this course.

3. Survey-based analysis on implementation effectiveness

This survey is carried out from six dimensions: basic information of respondents, embedding adaptability of curriculum-based ideological-political elements, evaluation on blended and practical teaching, evaluation of diversified assessment systems, educational outcomes of value guidance plus overall teaching satisfaction, and demands for curriculum improvement together with open-ended suggestions. Statistical data are analyzed to comprehensively judge the construction effects of curriculum-based ideological-political education.

3.1 Analysis of basic information of survey respondents

The survey samples consisted of 214 valid questionnaires collected from undergraduates of the 2023 and 2024 cohorts taking the Botany course. All 214 distributed questionnaires were returned with valid answers, achieving a 100% response rate. The survey data were authentic and reliable and could comprehensively reflect the implementation outcomes of course-based ideological-political education. In terms of cohort distribution, the 2023 cohort accounted for 50.5% and the 2024 cohort accounted for 49.5%. The balanced sample size of the two cohorts supported comparative analysis of reform effects before and after teaching optimization. In terms of major distribution, students majoring in plant protection accounted for 42.1%, those majoring in agronomy accounted for 35.51%, and those majoring in agricultural resources and environment accounted for 22.4%. The samples covered all majors in the college that took this course, reflecting the perceptions and evaluations of students from different majors regarding the integration of ideology and politics into the curriculum.

3.2 Analysis on the appropriateness of integrated ideological-political elements

In this course, ideological-political educational elements are systematically excavated according to the knowledge framework of each chapter of Botany. Themes such as scientists' devotion to national undertakings, food security, germplasm-resource conservation and ecological civilization are matched with corresponding knowledge points. Multiple integration approaches including case explanation, scenario-driven introduction and in-class critical discussions run through the whole teaching procedure. Instead of mechanically attaching ideological-political fragments to professional knowledge points, an integrated instructional-design framework linking knowledge points, ideological-political entry points and classroom cases is constructed.

Figure 1 presents students' evaluation on the appropriateness of ideological-political-element integration, covering three dimensions: the relevance between ideological-political elements and professional knowledge, the capacity of ideological-political cases to arouse learning interest, and the rationality of the quantity of ideological-political entry points. As shown in Figure 1a, 93.5% of students consider ideological-political elements highly or fairly relevant to professional knowledge, whereas merely 6.5% perceive weak relevance and obvious content splicing. Figure 1b demonstrates that 93.5% of respondents hold that selected ideological-political cases can effectively stimulate learning interest, and only 6.5% report negligible stimulating effects. As illustrated in Figure 1c, 92.1% of students regard the 20-25 ideological-political entry points as reasonably arranged; just 7.9% believe the number of entry points is excessive. Moreover, cross-cohort comparison reveals that students from the 2024 cohort give higher proportions of positive feedback for the integration performance between ideological-political contents and professional knowledge.

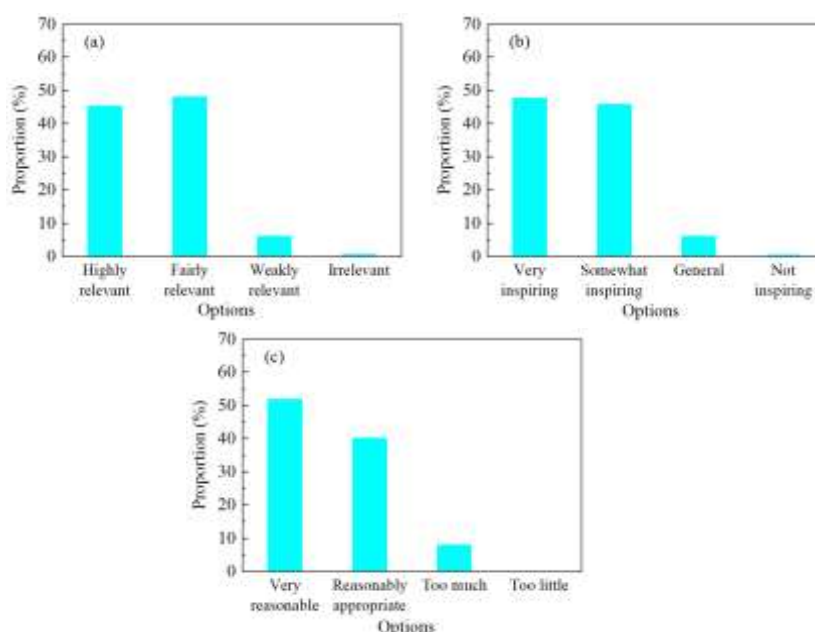


Figure 1: Students' evaluations of the appropriateness of integrating course-based ideological-political education elements: (a) Relevance between ideological-political elements and professional knowledge, (b) Stimulating effects of ideological-political cases on learning interest, (c) Rationality of the number of ideological-political entry points.

Aggregated results from the above figures indicate that continuous updates of ideological-political case repositories and instructional-design optimization have alleviated the long-standing disconnect between disciplinary instruction and ideological-political education to a certain degree, and the overall quantity of ideological-political entry points is appropriate. Iterative teaching optimization can further improve the matching degree between ideological-political contents and disciplinary knowledge. However, a small number of students have reported that some teaching segments appear to have been simply spliced together, and there is still room for improvement in the effectiveness of the implicit integration of ideological and political content.

3.3 Evaluation of blended learning, information-aided tools and practical teaching

This botany course adopts an online-offline blended-learning framework combining MOOCs, micro-lectures and the Rain Classroom digital platform. Pre-class preview quizzes, post-class thematic discussions, plant cultivation and observation tasks, frontier research updates, self-directed learning via plant-identification applications, field internships and local-flora investigations are integrated throughout the whole teaching process. In terms of teaching models, we have moved away from a single-track lecture-based approach and established a closed-loop blended learning model that integrates "pre-class, in-class, and post-class" activities.

Figure 2 reflects students' acceptance of the blended-learning model. As demonstrated in Figure 2,

95.3% of students accept blended-learning arrangements: 54.2% show strong acceptance and believe that this mode improves learning efficiency, while 41.1% hold moderate acceptance and recognize its innovative form. Only 4.7% of students maintain a neutral attitude, and no respondents explicitly reject this teaching model.

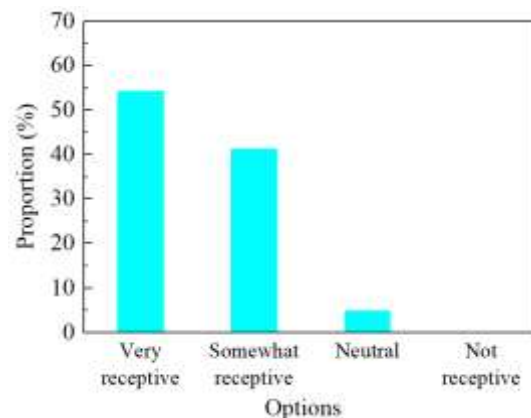


Figure 2: Student acceptance of the blended learning model.

Figure 3 illustrates how interactive functions embedded in Rain Classroom contribute to students' in-class participation. According to the statistics, 53.3% of students report a significant rise in classroom engagement brought by these interactive features, and another 41.1% observe partial improvement, jointly accounting for 94.4% of all participants. Only a small number of students believe that interactive features have limited benefits or even have a negative impact.

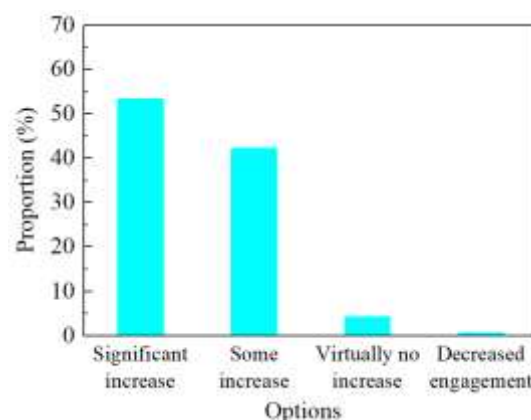


Figure 3: Extent to which Rain Classroom's various teaching features enhance student classroom participation.

Figure 4 quantifies the learning benefits generated by pre-class preparation and post-class extended-learning resources. Statistical results reveal that 94.9% of students acknowledge the educational value of pre-class preview and post-class supplementary materials; 46.7% consider them extremely helpful, and 48.1% regard them as moderately helpful. Merely 5.1% report little practical benefit.

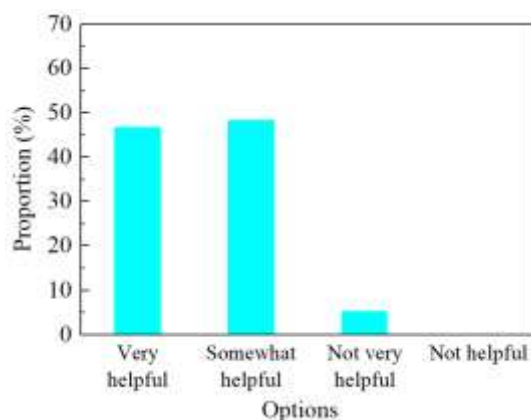


Figure 4: Degree of helpfulness of pre-class preparation and post-class extended resources for student learning.

Figure 5 presents the performance of plant-identification applications in supporting extracurricular learning. Concerning user experience with these applications, 54.2% of students believe such tools greatly boost their learning initiative and practical capabilities, and 38.8% perceive moderate improvement, reaching a combined proportion of 93.0%. Only 7.0% consider their effects trivial.

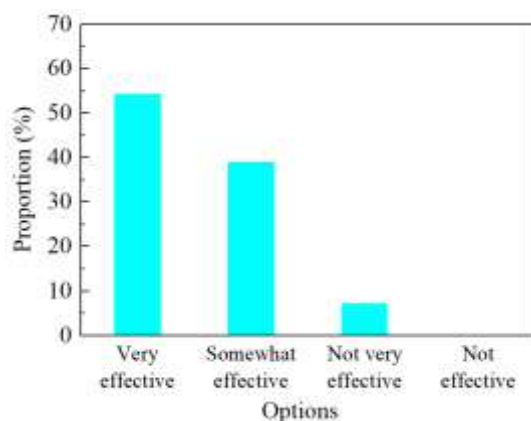


Figure 5: The role of mobile plant-identification applications in enhancing learning initiative and practical competence.

Figure 6 collects student feedback on how practical teaching facilitates the integration between professional knowledge and course-based ideological-political education. The results indicate that 57.0% of students deem practical sessions highly conducive to understanding such integration, and 40.7% view them as moderately helpful, which totals 97.7%. Just 2.3% rate the overall effect as average, and zero students report that practical activities produce no educational value.

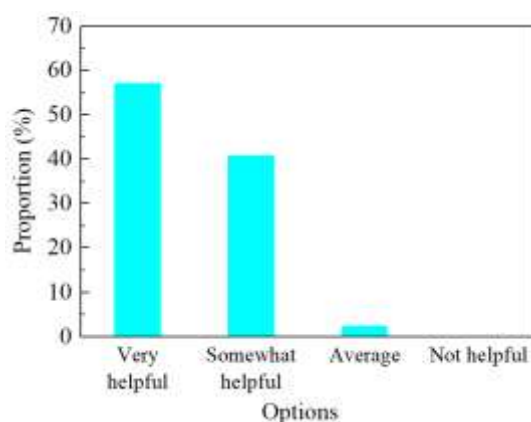


Figure 6: The role of practical components in understanding the integration of course-based ideological-political education and professional knowledge.

Synthesizing the above statistics, the online-offline blended-learning mode, information-assisted means and diverse practical-teaching activities of this course obtain generally high recognition from students. Blended learning gains broad student approval, though a tiny minority still prefer conventional teaching approaches. The effectiveness of Rain Classroom interactive functions for activating classroom atmosphere is validated by most respondents. Pre-class and post-class extended-learning resources deliver prominent support for course study. Plant-identification applications serve as effective auxiliary tools for students' self-directed after-class learning. Practical projects including field internships and hometown-plant investigations excel at revealing the internal logical connection between specialized knowledge and ideological-political connotations. This fully confirms that practical teaching acts as a vital carrier to realize the subtle, imperceptible educational effects of course-based ideological-political education for agricultural-science courses.

3.4 Evaluation of the diversified assessment system

This course implements a diversified formative-assessment system. Classroom performance, online learning statistics, practical reports and thematic presentations on ideological-political topics are all incorporated into the final course grade. Table 1 summarizes student evaluations of the diversified assessment system across different cohorts. On the whole, 95.3% of students approve of this diversified assessment scheme. Cross-cohort comparison shows that merely 43.5% of students from the 2023 cohort strongly recognized the diversified assessment model. After assessment rules were further optimized, this proportion climbed to 69.8% among the 2024 cohort. Student acceptance of incorporating ideological-political content into assessment items has increased substantially. The share of students who considered Rain Classroom scoring rules unreasonable dropped from 13.0% in the 2023 cohort to 2.8% in the 2024 cohort. These data suggest that transparent and publicly released assessment criteria significantly improve student recognition and acceptance of the diversified assessment framework.

Table 1: Student evaluations on the diversified assessment system across different cohorts.

<i>Evaluation Dimension</i>	<i>Options</i>	<i>Proportion of 2023 cohort /%</i>	<i>Proportion of 2024 cohort /%</i>
Recognition of diversified assessment methods	Strongly agree: it can comprehensively reflect learning outcomes	43.5	69.8
	Moderately agree: more reasonable than a single-exam assessment	48.2	29.3
	Neutral: evaluation criteria are not sufficiently clear	8.3	0.9
	Disagree: it increases academic burden	0	0
Recognition of incorporating ideological political elements into assessment	Highly reasonable: consistent with educational objectives	48.2	71.7
	Moderately reasonable: it delivers positive educational significance	43.5	27.4
	Neutral: difficult to conduct accurate evaluation	8.3	0.9
	Unreasonable: deviates from the core focus of professional assessment	0	0
Fairness of scoring rules	Very fair and impartial	47.2	65.1
	Moderately fair and impartial	39.8	32.1
	Neutral: some unreasonable points exist	13	2.8
	Unfair and partial	0	0

3.5 Analysis of value-guided educational outcomes and teaching satisfaction

Value-oriented guidance constitutes the core objective of course-based ideological-political education. Figure 7 shows the statistical results of students' perceived value-guided educational outcomes, covering three observation indicators: recognition of the concept of “understanding and caring for agriculture, and strengthening and revitalizing agriculture”, improved awareness of outstanding traditional Chinese culture and ecological civilization, and the influences of course-based ideological-political education on academic and career planning. As shown in Figure 7a, 92.5% of students highly endorse the “understanding and caring for agriculture, and strengthening and revitalizing agriculture” values conveyed in this course. Figure 7b demonstrates that 94.9% of students believe the course elevates their cognition of outstanding traditional Chinese culture and ecological civilization. According to Figure 7c, 50.9% of students report that course-based ideological-political education exerts considerable influences on their academic and career aspirations, and 45.3% observe partial influences; no students report zero effect. Cross-cohort comparison reveals that a larger percentage of students from the 2024 cohort selected the option “strongly agree and am willing to devote myself to agricultural sectors”. This indicates that continuous teaching-plan optimization further strengthens the course’s educational effect of fostering students’ devotion to agriculture-related undertakings.

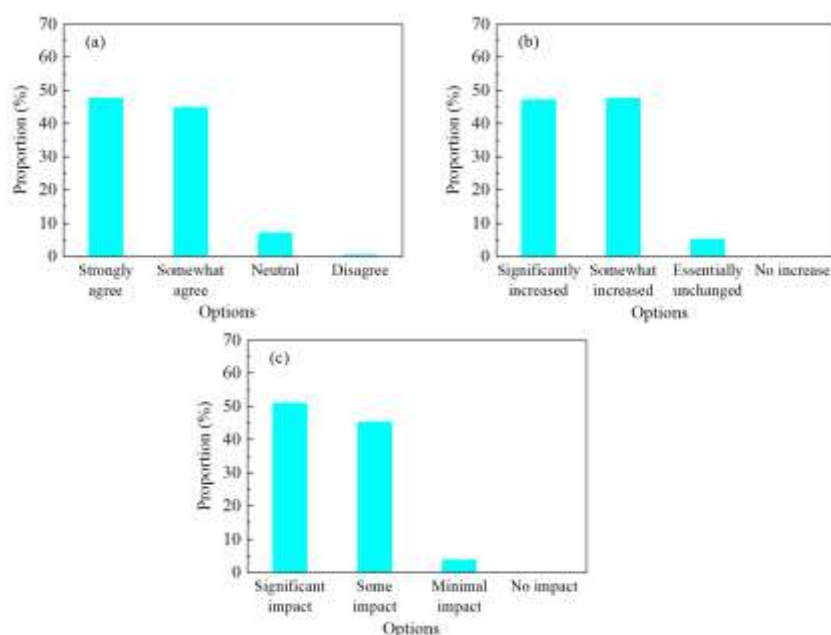


Figure 7: Evaluation results on perceived outcomes of value-driven education: (a) Level of agreement with the concept of “understanding and caring for agriculture, and strengthening and revitalizing agriculture”, (b) Enhanced understanding of China’s outstanding traditional culture and ecological civilization, (c) Impacts on academic planning or career-related choices.

Figure 8 presents statistics for overall teaching satisfaction regarding course-based ideological-political education. The data reveal that 52.3% of students are very satisfied, 36.9% are moderately satisfied, and 10.8% give average ratings. No participants select “somewhat dissatisfied” or “very dissatisfied”. Overall, students deliver predominantly positive evaluations for course-based ideological-political education, while there remains scope for further improvement in educational construction.

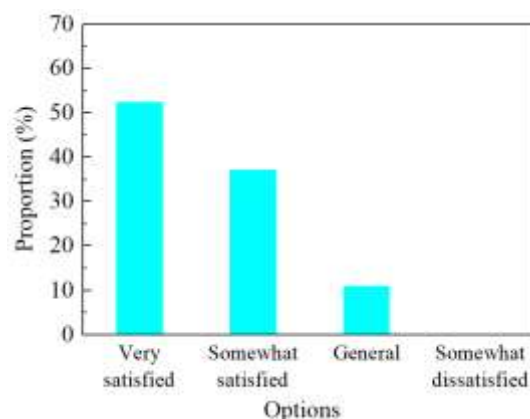


Figure 8: Student satisfaction with course-based ideological-political education.

3.6 Analysis of course improvement requirements

Multiple-choice and open-ended questions were jointly adopted to collect students’ suggestions for optimizing course-based ideological-political education. According to multiple-choice statistics, the aspects requiring priority improvement, sorted by descending proportion of student votes, are: excavation and careful selection of ideological-political elements (65.0%), teaching-mode optimization (63.1%), refinement of assessment approaches (55.1%), and adjustment of course contents (43.0%).

In the open-ended questionnaire section, most respondents did not submit written feedback, and only six valid textual suggestions were collected. Some students offered positive comments on current course contents and class-hour arrangements. Collected optimization opinions mainly focus on: balancing the proportion between professional knowledge delivery and ideological-political content and avoiding forced stacking of educational materials; reasonably allocating class hours to guarantee both professional knowledge learning and in-class discussion activities; optimizing teaching implementation strategies to strengthen implicit infiltration and reduce didactic tones. Feedback from open-ended questions further illustrates that course-based ideological-political education should follow the “salt-dissolved-in-water” integration principle and avoid label-oriented ideological-political design decoupled from knowledge points.

4. Existing key challenges and corresponding optimization strategies

According to questionnaire statistics, the overall construction performance of course-based ideological-political education is favorable; nevertheless, deficiencies still exist regarding content integration depth and teaching adaptation for diversified student groups. First, the integration depth of ideological-political content needs enhancement. Although most students give positive recognition for the combination of ideological-political education and specialized knowledge, several teaching segments still exhibit simple mechanical splicing and certain didactic tendencies. Second, teaching adaptation to diverse learning situations should be strengthened. Despite high overall recognition for blended-learning modes, a small number of students are more accustomed to traditional lecture-based teaching. Under multi-major combined-class teaching conditions, online interactive resources, assessment rules and ideological-political connotations embedded within localized practical activities still require further refinement.

In response to the areas for improvement mentioned above, the following optimization strategies are proposed: (1) Establish a routine, closed-loop teaching improvement mechanism. After each teaching cycle, collect feedback from students across different majors to dynamically update the ideological and political education case repository; further leverage interactive features such as in-class quizzes and group discussions on the Rain Classroom platform; continuously optimize online supplementary learning resources and refine guidelines for classroom interaction and assessment; and consistently enhance the quality of integration between ideological and political elements and major-specific content. (2) Moderately implement differentiated instruction and expanded practical projects, while taking into account the learning experiences of students who prefer traditional teaching models, and optimize classroom assignments based on the characteristics of different majors. (3) Introduce localized practical tasks, such as surveys of germplasm resources, to enrich the content of practical instruction, strengthen the organic integration of professional knowledge and ideological-political elements, and further leverage the educational value of practical components.

5. CONCLUSIONS

Based on valid questionnaire data collected from 214 undergraduates, this paper conducts an empirical evaluation for two-year course-based ideological-political education reform practice in the Botany course. The results show that iterative teaching optimization brings satisfactory comprehensive educational outcomes for course-based ideological-political education. The vast majority of students approve the integration of ideological-political elements and professional knowledge. Blended online-offline teaching, information-assisted tools and practical teaching receive high student recognition. After detailed refinement of diversified formative-assessment criteria, student acceptance across different cohorts increases significantly. Students report satisfactory overall teaching satisfaction. This course effectively cultivates undergraduates' dedication to "understanding and caring for agriculture, and strengthening and revitalizing agriculture", and realizes the tripartite educational objectives of knowledge transmission, competency cultivation and value-oriented guidance. To some extent, the

long-standing “two-track” disconnect between professional instruction and value-shaping education has been mitigated.

Meanwhile, the survey identifies practical shortcomings: partial teaching segments suffer from superficial splicing and didactic expression of ideological-political contents; student learning backgrounds are differentiated under multi-major combined-class arrangements; blended-learning resources, assessment rules and ideological-political connotation within localized practical training are to be further perfected. Such issues can be addressed by constructing a regular closed-loop teaching-improvement mechanism, together with differentiated instruction and expanded localized practical projects.

This study constructs learner-oriented evaluation indicators for course-based ideological-political education of foundational agricultural courses, making up for the limitation of existing research which overemphasizes teachers’ instructional design while lacking empirical feedback from student respondents. It provides practical references for continuous teaching improvement in our university and for the development of course-based ideological-political education in foundational agricultural courses at peer agricultural and forestry higher-education institutions. It bears practical significance for cultivating “agriculture-understanding and agriculture-loving” agricultural talents under the New Agricultural Sciences initiative.

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