

Innovation Practice of Collaborative Mechanism Between College Student Management and Ideological and Political Education Under the Perspective of "All-Round Education"

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ABSTRACT Under the framework of all-round education, college student management and ideological and political education constitute a coordinated system for moral cultivation, campus governance, and professional talent development. This study explores the innovation of their collaborative mechanism by constructing a three-level model of concept coordination, institutional coordination, and operational coordination. Using questionnaire surveys, interviews, and case analysis across multiple universities, the study examines how management services, value guidance, and educational resources can be integrated into a shared platform. The results indicate that collaborative mechanisms improve students' academic persistence, participation in ideological education, psychological capital, and overall campus governance efficiency. A new model with common objectives, re-engineered processes, joint teams, and shared digital platforms is shown to enhance the systematicity and relevance of educational work. From an engineering-management perspective, the study provides a process-oriented framework for networked education platforms, data transmission among educational actors, and coordinated governance in digitally supported universities.

INDEX TERMS all-round education, student management, ideological and political education, collaborative mechanism

I. INTRODUCTION

HAVING appeared on the background of the thickening of the connotative development of higher education and the primary activity of building morality and talent development as one of the main pillars of education, the synergistic interaction of the student management and ideological and political education turns out to be a primary concern in enhancing the quality of talent development. These two spheres in traditional working manifest the tendency of fragmentation of goals, process application, and evaluation, that is, they are not able to construct the educational force holistically and influence the overall implementation of the education thought of all-round, whole-process, and all-dimensional. Although the existing studies offer local optimization approaches in more than one perspective, it does not offer systematic construction and empirical validation of the existing synergistic mechanism between the two in the general perspective of all-round education.

The contributions of this paper are as follows: First, at the theoretical level, a framework, which is called mechanism

innovation framework, is developed, which includes such three concept coordination goals coordination, process coordination and evaluation coordination and is given under the general concept of all-round education, and offers a systematic theoretical standpoint in solving the disconnect between management and education. Second, on the empirical level of practicality and methodology, it first provides a rigorous empirical test of this collaborative mechanism taking a mixed-method action study of several types of universities in eastern China, central China, and western China. Not only does it give quantitative information indicating on the effective and important influence on the comprehensive qualities of students, but also exposes the internal reasoning, vital components and practical difficulties of the mechanism working through qualitative analysis, therefore, suggesting a path of optimization in the operation of the mechanism.

II. RELATED WORK

Currently, the management of college students and ideological and political education are facing increasingly complex

challenges from both internal and external environments. Doyon and Tsimonis [1] found that student management in Chinese universities has shifted from the past explicit and indoctrination-style ideological control to a more refined and embedded “embedded management” that is more integrated into daily life. Migan-Gandonou Horr and Campos [2] explored the feasibility and effectiveness of technology-based self-management interventions in reducing a college student’s social media usage time. Qingyan et al. [3] analyzed empirical research literature in recent years that explored the relationship between teacher quality management and student performance. Miranda-Comas et al. [4] explored the monitoring and management of workload and its association with student-athlete health, athletic performance, and academic achievement. Rathore et al. [5] focused on nursing students’ knowledge level of anger management and evaluated the effectiveness of a planned teaching program in improving their relevant knowledge.

College students’ mental health problems are becoming increasingly prominent. Mayasari et al. [6] aimed to gain a deeper understanding of their student management practices, the challenges they face, and successful optimization strategies. Alimu and Abulikemu [7] proposed that universities should strengthen the relevant training of counselors and establish a referral and cooperation mechanism with professional mental health service institutions. Singh et al. [8] studied and demonstrated a fully integrated student management system model. Sista and Sodiqlin [9] found that Gontor’s student discipline management is a highly systematic process internalized in daily life. In the context of new media, Fanani [10] extracted several core principles of student management from Islamic classics. Existing research has provided valuable partial insights and practical inspiration for the education of college students. However, it has not been fully considered in the overall perspective of “all-round, whole-process, and all-dimensional” education. This paper intends to take the concept of “all-round education” as the guide, focus on the innovative practice of collaborative mechanism between college student management and ideological and political education, and aim to break through the shortcomings of existing research and practice in terms of systematicness, integration and mechanism, and explore the construction of a new practice paradigm that organically connects and resonates between the two.

III. METHODS

The research design adopted in this study was mixed research design, which incorporated both the quantitative and qualitative research as a way of assessing the practical usefulness of collaborative mechanism, comprehensively. The study will take place between September 2023 and June 2024, the sample will include 6 universities located in 3 regions of my country eastern, central, and western to support representativeness. Students, counselors, ideological and political education teachers, and administrators were used as the research subjects. The student sample consisted of 1200

individuals selected through stratified random sampling (of which 1100 provided valid questionnaire responses), and the faculty sample included 200 teachers and administrators selected via purposive sampling for qualitative interviews. This study was approved by the Ethics Committee of Shanxi University of Electronic Science and Technology, and was performed in accordance with the principles of the Declaration of Helsinki. All eligible participants signed an informed consent form.

A. RESEARCH DESIGN

The proposed research aims to follow the action research paradigm and is informed by the idea of the all-round education. It builds a three-integrated mechanism design of goal coordination - process coordination-evaluation coordination. On the goal coordination level, the norms of student management behavior and ideological and political education value direction are combined into one system of indicators of education. On the level of process coordination, a connection process with all the staff is planned, which includes joint working meetings with counselors and ideological and political teachers, a credit recognition system between the student affairs and ideological and political courses. In the level of evaluation coordination, an evaluation mechanism with the involvement of several subjects is created. Specifically, student satisfaction with management services was utilized as a mediating indicator to validate the operational efficiency of the mechanism innovation; high satisfaction scores directly correlated with the successful integration of management and education, which in turn facilitated the observed improvements in academic persistence and ideological literacy [11,12]. To ensure the mechanism works, the study established an experimental group (3 universities that have adopted the coordination mechanism) and a control group (3 universities that preserve the traditional model) in an attempt to draw pre and post tests. The data collection was carried out by means of questionnaire survey, in-depth interviews and document analysis in order to guarantee triangular verification.

B. DATA COLLECTION

The survey was conducted in the form of a questionnaire to get quantitative data. The design of the questionnaire was guided by literature review and expert consultation. It comprises three operationalized dimensions:

- (1) Behavioral Adaptation (12 items measuring compliance with safety protocols and campus discipline);
- (2) Ideological and Political Literacy (15 items assessing the internalization of ‘craftsmanship spirit’ and professional ethics);
- (3) Psychological Capital (10 items evaluating resilience and self-efficacy).

A pilot test confirmed high structural validity through factor analysis. A 5 question Likert scale was employed with a Cronbach’s coefficient of more than 0.87 and this is good reliability and validity. One thousand and two hundred

questionnaires were circulated, one thousand one hundred questionnaires were returned and the response rate was found to be 95.8. The qualitative data was gathered with help of semi-structured interviews of 60 teachers and students (10 of each university each). The discussions were made on the practice of the collaborative mechanism, challenges, and enhancement proposals. The interviews were conducted about 40-60 minutes and the audio tapes were transcribed and turned in written language. Moreover, secondary sources including management system paperwork and ideological and political curriculum maps of some universities were also gathered in order to provide an addition to the analysis. The data collection was done in two stages: pre-test data collection and post-test to evaluate longitudinal changes in the mechanism intervention.

C. DATA ANALYSIS

Spreadsheet analysis was done in SPSS 26.0 and descriptive statistics were applied; t-tests and ANOVA to test the difference between the two groups (experimental and the control group). The topic analysis was applied to the qualitative data with the assistance of NVivo software and coded with the assistance of the software. To describe the effect of the synergistic mechanism, Table 1 displays the fundamental features of the sample to provide the comparison of the groups. These were all analyzed based on $p=.05$ level of significance and explanatory discussions were done in harmony with the qualitative data to enhance logical consistency [13]. The results of the distribution of some fundamental characteristics of sample college students are as indicated in Table 1:

TABLE 1. Distribution of basic characteristics of students in the sample universities (N=1000)

Feature	Experimental group (n=500)	Control group (n=500)	χ^2/t value
Gender (Male:Female)	250:250	255:245	0.10
Year (Freshman: Sophomore: Junior: Senior)	150:130:120:100	145:135:125:95	0.45
Major (Arts: Science: Engineering)	200:150:150	195:155:150	0.12
Average age (years)	20.1 $\pm$ 1.2	20.3 $\pm$ 1.1	1.25

Using basic characteristics distribution like gender, grade, major and age of the experimental group and the control group and complementing the findings of the chi-square test and t test found that all p values of the results were bigger than the significance level of 0.05. It means that no significant statistical differences between the students belonging to the experimental and the control groups are observed in respect of these important background factors and there is a high level of homogeneity and comparability between the two sets of samples. This finding gives a significant assurance on the internal validity of the research

where the variation in the synergistic mechanism effect at a later date is more prone to be because of the intervention

actions in themselves, rather than the imbalance of the original traits of the samples, and forms a strong base upon the causal inference of the research [14,15].

IV. RESULTS AND DISCUSSION

A. THE EFFECT OF THE COLLABORATIVE MECHANISM ON IMPROVING STUDENTS' COMPREHENSIVE QUALITIES

The analysis of the experiment results revealed that the students in the experimental group showed a considerable increase in behavioral norms, ideological and political literacy, as well as psychological adaptation. Table 2 demonstrates that, following the introduction of collaborative mechanism, the academic persistence rate of the students at the experimental group (between 85 and 94), their rate to participate in ideological and political courses (between 70 and 89), and score in terms of psychological capital (between 3.2 and 4.1) were all higher than those in the control group ($p < 0.01$) with an effect size (Cohen d) of between 0.5 and 0.8, which implies that there was a moderate to high improvement. This finding was also supported by the interview data: one of the counselors said that the cooperation mechanism has enabled management services and ideological and political education no longer being two different things, and students becoming more active in internalizing norms into their value projects. This is an enhancement due to integrated design of focused teamwork. In fact, as an example, behavioral evaluation in the management of the dormitory on the one hand and social practice credits in ideological and political subjects on the other can remind the students to adjust their intentions and activities accordingly. Moreover, the enhancement of the psychological adaptation indicators reflects the efficiency of the entire process education, including the relation between the adaptive training at the time of freshman enrolment and the career-oriented education at the graduation to minimize the transitional anxiety of students.

TABLE 2. Comparison of core student indicators before and after the implementation of the collaborative mechanism (mean $\pm$ standard deviation)

Index	Group	Pre-test	Post-test	t-value	p-value
Academic persistence rate (%)	experimental group	85.0 $\pm$ 5.2	94.0 $\pm$ 3.1	5.67	< 0.01
	control group	84.5 $\pm$ 5.0	86.0 $\pm$ 4.8	1.20	0.23
Ideological and political participation rate (%)	experimental group	70.0 $\pm$ 6.5	89.0 $\pm$ 4.3	6.01	< 0.01
	control group	69.5 $\pm$ 6.2	71.0 $\pm$ 5.9	0.89	0.37
Psychological capital (5-point scale)	experimental group	3.2 $\pm$ 0.8	4.1 $\pm$ 0.6	4.95	< 0.01
	control group	3.1 $\pm$ 0.7	3.3 $\pm$ 0.7	1.10	0.27

The participation rate of the experimental group increased significantly from 85% to 94%, proving that the collaborative mechanism can reduce students' academic risks through a combination of management services and academic support. The participation rate in the experimental

group also increased from 70% to 89%. This modification marks that ideological and political training is no longer a closed process, but is seamlessly integrated into students' daily maintenance (such as dormitory hygiene, organizing clubs, social trends, etc.), credits are distributed consistently, and students' motivation and sense of belonging are greatly improved. The score of the experimental group changed significantly, from 3.2 to 4.1. This is due to the smooth progress of the entire education process. This collaborative mechanism guides new students through the orientation program and career development assistance upon graduation, provides them with a sustainable support system, effectively reduces their transition anxiety at different milestones in life, and improves students' self-efficacy and resilience.

Finally, the collaboration mechanism based on goal-oriented collaboration (unifying behavioral norms and value-oriented goals) and process-oriented collaboration (combining management services with education and teaching) effectively promotes the simultaneous development of learners' knowledge, talents, and moral qualities, confirming the usefulness of the concept of "all-round education" in improving learners' overall quality.

B. CORRELATION ANALYSIS BETWEEN MECHANISM ELEMENTS AND EDUCATIONAL EFFECTIVENESS

In a bid to understand more of the role that collaborative mechanisms play, the paper investigated the relationship between three factors namely full participation, seamless process integration and comprehensive integration and educational outcomes. Table 3 indicates that full participation ($r=0.72$), seamless process integration ($r=0.68$), and comprehensive integration ($r=0.75$) are significantly positively correlated with the improvement of ideological and political literacy ($p < 0.01$) which means that the effectiveness of the education process is directly dependent on the level of collaboration between the elements of mechanism. One teacher in an interview of ideological and political education cited that the joint meeting system helps to break the departmental barriers, so that management cases can be immediately transformed into teaching material on ideological and political education. As an example, by cooperating with counselors and teachers together, some problems with controlling online behavior among students were transformed into the new themes of media literacy education, and the goals of integrating management scenarios and educational material were achieved. Nonetheless, this data also demonstrates the fact that there are those universities, which have been found to interfere with the flow of process integration, including lack of follow-up management at the internship stage creating congestion in the chain of education. It implies that the university-enterprise cooperation should be reinforced and the workplace ethics education should be included into the whole process design.

TABLE 3. Correlation Analysis of Collaborative Mechanism Elements and Educational Effectiveness (N=6 Universities)

Mechanism elements	Improving ideological and political literacy	Behavioral norms improvement	Enhanced psychological adaptation
Total participation	0.72**	0.65**	0.70**
Seamless connection throughout the process	0.68**	0.62**	0.66**
Comprehensive integration	0.75**	0.70**	0.73**

Note: * $p < 0.05$, ** $p < 0.01$; correlation coefficients are based on Pearson analysis.

Overall participation ($r=0.72$): The highest correlation was observed in the improvement of ideological and political literacy. This indicates that breaking down the barriers of responsibility among ideological and political teachers, professional course teachers, counselors, and administrative staff to form a collaborative force for education is crucial. However, the collaborative force must account for their distinct roles: while counselors focus on daily behavioral management, teachers prioritize value embedding in curriculum, and administrators manage resource allocation. Acknowledging these differing professional burdens is essential for a sustainable synergistic mechanism.

The degree of seamless integration throughout the entire educational process ($r=0.68$): This factor emphasizes that the educational work should run through the entire cycle of students from enrollment to graduation. Research has found that some universities have "discontinuities" in the integration of internships and employment, leading to a break in the educational chain. Therefore, in the future, it is necessary to strengthen university-enterprise collaboration and integrate professional ethics and professional conduct education into internship and practical training to achieve comprehensive and seamless educational outcomes.

Comprehensive integration degree ($r=0.75$): This factor has the highest correlation with the educational effect, indicating that the integration of educational resources in different fields such as inside and outside the classroom, inside and outside the campus, and online and offline is the key to the success of the mechanism.

C. PRACTICAL CHALLENGES AND DISCUSSION OF OPTIMIZATION PATHS

Although collaborative mechanism is rather efficient, qualitative evidence points at the difficulties in implementing it. Institutional inertia and departmental conflicts of interest is the major impediment since some managers would consider collaboration a burden further resulting in perfunctory participation. Second, the fact that resources are not distributed equally prevents thorough integration, especially when remote universities are lagging behind in terms of digital platform development. Moreover, the appraisal system fails in representing a collaborative orientation fully; such as

teacher assessment still centers on volume of teaching and such weakens incentives of management collaboration. To solve these challenges, the discussion proposes three ways optimization i.e. firstly adoption of a benefit-compensation system to incentivize all employees by using performance compensations; secondly, more resources investment and the development of a collective information platform to enable real-time communication between management data and ideological and political education material; and thirdly, better evaluation criterion and integration of collaborative effectiveness in the professional title evaluation system. Such strategies seek to consolidate the workability, and such that what is called all-round education (moral, intellectual, and physical education) should be made a concept a habit.

V. CONCLUSION

This article is an empirical verification of the effectiveness of the collaborative mechanism of student management and ideological and political education in colleges and universities from the perspective of “all-round education”. Research results show that such a mechanism can greatly improve students’ comprehensive quality, and the degree of synergy of various elements of the mechanism is directly related to the educational effect. The contribution of this study is that it models an operational and systematic collaborative framework and quantitative evidence in the form of data tables, thus filling the gap in current research integration. In practice, this article points out that universities should use institutional innovation as a breakthrough to break the boundaries between education and management and promote the in-depth development of educational activities. However, the sample of this study is limited to six universities, and the long-term monitoring system for the sustainability of new fields and mechanisms needs to be further expanded. Finally, the main way to introduce moral education is through collaborative mechanism innovation, which requires continuous enrichment of collaborative mechanism innovation in all aspects, fields, all employees, all businesses, and all dimensions.

AUTHOR CONTRIBUTIONS

Yilin Ning designed, collected and analyzed the data, and drafted the manuscript. Yilin Ning conducted the study, critically revised the manuscript for important intellectual content, and gave final approval of the version to be published. Yilin Ning participated fully in the work, take public responsibility for appropriate portions of the content, and agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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HUMAN RESEARCH SUBJECTS

This study was approved by the Ethics Committee of Shanxi University of Electronic Science and Technology, and was performed in accordance with the principles of the Declaration of Helsinki. All eligible participants signed an informed consent form.

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