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Reconstructing the Project Management Mechanism and Exploring Practical Pathways for Educational and Teaching Reform of Arts Majors under the Double First-Class Initiative

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Abstract: Under the Double First-Class Initiative, the management of educational and teaching reform projects for arts majors must transcend traditional modes and actively align with the requirements of connotative development in contemporary higher education. This demands a shift from experience driven approaches to data driven approaches and from outcome orientation to orientation toward effectiveness. Such a transformation is not only an inevitable response to increasing disciplinary integration, it is also a crucial route to resolving practical problems in project management for arts majors, including fragmented resource allocation, weak process supervision, and low rates of results conversion. Drawing on systems science theory and the perspective of the innovation ecosystem, and taking full account of the disciplinary characteristics of arts majors which emphasize creative thinking and practical competence as well as the Double First-Class Initiative's call for discipline specialization and precision in talent cultivation, this paper proposes an innovative reform pathway centered on a three-dimensional management model of goals, processes, and effectiveness. Driven by the Double First-Class Initiative, this approach aims to raise the scientific and informatized level of project management for educational and teaching reform in arts majors, thereby achieving high quality in project implementation and a high standard of management, and ultimately promoting improvement in the quality of talent cultivation.

Keywords: Double First-Class Initiative; Arts Majors; Project Management; Dynamic Collaborative Governance; Intelligentization

1. Introduction

The Double First-Class Initiative constitutes a major national strategy for the development of higher education in China, intended to elevate the overall standard and international competitiveness of higher education. As the core measure for deepening higher education reform in the new era, its essential purpose is to drive iterative advancement in discipline construction and talent cultivation through institutional and mechanism innovation, a goal that carries particular significance for the modernization and transformation of arts majors. The Declaration on the Construction of New Liberal Arts highlights the Initiative's emphasis on deep integration among the arts, sciences, and humanities, and calls for teaching reform projects to incubate interdisciplinary curricula and pedagogical models. As a vital component of higher education, arts disciplines play an important role in cultivating artistic talents endowed with creativity[1] and practical capabilities. [2]Consequently, effective management of educational and teaching reform projects for arts majors is a key factor in improving the quality of arts education and in training innovative talent under the Double First-Class framework. At present, however, project management in this field still faces multiple challenges, such as imperfect management mechanisms, low levels of informatization, and underutilization of data[3], all of which constrain the effectiveness of reform to some extent. Combining the characteristics of arts disciplines and taking the College of Arts at University H as a case, and drawing on the authors' many years of practical work in managing education and teaching reform projects, this paper examines the current status, existing problems, and optimization strategies for project management of educational and teaching reform in arts majors, with the aim of offering references for the development of

arts disciplines within the Double First-Class Initiative.

2. Current Status of Project Management for Educational and Teaching Reform in Arts Majors

2.1 Growing attention from National and Local Authorities and Proactive Faculty Participation in Project Applications

A series of targeted policy documents has been issued at both the national and local levels. In the field of arts education, landmark policy texts such as *Guiding Opinions on Deepening Reform and Innovation in Higher Arts Education* have been promulgated in recent years. These documents elevate arts education within the framework of quality education assessment and translate that emphasis into concrete, measurable policy instruments through initiatives such as construction of "first-class majors" and demonstration projects for curriculum ideological and political education. Under the guidance of the Double First-Class Initiative, educational and teaching reform projects for arts majors have attracted increasing attention. Universities and education authorities actively organize the submission, implementation and completion of related projects with the aim of making a constructive contribution to the enhancement of arts-education quality.

To better advance educational and teaching reform, some universities designated under the initiative have made participation in reform projects a required element for faculty professional-title evaluation. Education authorities and institutions have worked to overcome difficulties and to ensure that project funding is disbursed and matched appropriately.[4] [5]For example, the College of Arts at University H stipulates that serving as the principal investigator of a teaching-reform project is a mandatory item for faculty appraisal for professional titles. This policy aims to incentivize frontline teachers to engage in educational reform. Frontline teachers have responded positively to the reform call and actively participate in project applications and related research. Their motivation stems on one hand from a desire to improve their teaching practice and to provide students with higher-quality arts education resources, and on the other hand from the requirements of professional-title evaluation. In recent years, the annual number of project applications submitted by this college has been two to three times the number of projects ultimately approved.

2.2 Under Favourable Institutional Policy and Funding Incentives, Project Outcomes are Beginning to Appear

Driven by supportive policies and funding, educational and teaching reform projects in arts majors have continuously explored new reform pathways. In recent years, such reform-research projects have produced a series of outcomes. These results have not only enriched theoretical perspectives on arts education and pedagogy but have also been effectively applied in practice, enhancing students' artistic literacy and capacity for innovation. For example, over the past three years the College of Arts at University H has achieved a project final-acceptance rate of up to 95 per cent. Project outcomes have been applied to classroom teaching methods, curriculum content, instructional approaches, academic assessment, and practical teaching reforms. Examples include the introduction of immersive art-creation workshops, courses that integrate digital-art technologies with traditional art forms, implementation of curriculum ideological and political reform in art courses, and the use of aesthetic-education immersion activities and rural-revitalization initiatives as opportunities for pedagogical reform; these measures have yielded notable teaching effectiveness. In addition, through preferential policy guidance that clarifies reform directions, the college has gradually shifted its talent-training model from single-skill instruction toward cultivation of comprehensive competencies. It has articulated an objective of interdisciplinary integrated education and established dedicated funds to support interdisciplinary talent-training projects such as "New Liberal Arts + Arts" and "Agricultural Science + Aesthetic Education," thereby further improving the quality of talent cultivation.

3. Problems in the Management of Educational and Teaching Reform Projects for Arts Majors

Under the impetus of the Double First-Class Initiative, the governance of arts-education reform projects in China exhibits a three-stage evolutionary pattern. In the initial stage from 2015 to 2018 the emphasis was on standardized

investment in physical infrastructure, with equipment procurement accounting for the majority of special-purpose spending at many universities. In the middle stage from 2019 to 2021 the policy focus shifted toward restructuring curricular systems; for example, eight institutions, including the Academy of Arts & Design at Tsinghua University, piloted interdisciplinary modules combining the arts and technology. Since 2022 attention has concentrated chiefly on digital transformation, and university arts programs have begun to employ virtual reality technology to redesign educational environments.

At present, project management for pedagogical reform in arts disciplines is developing along multiple dimensions, yet systemic challenges persist despite measurable progress.

3.1 Management Systems have been Improved Gradually, but Interdisciplinary Coordination Remains Inadequate.

Although the governance of arts-reform projects has become multi-layered and diversified, weaknesses remain in interdisciplinary coordination and resource integration. Most higher-education institutions have established project-management frameworks led by the Academic Affairs Office and implemented by colleges of arts. Procedural systems have been progressively completed so that a relatively coherent chain from project initiation through implementation to final acceptance is in place. In practice many projects require collaboration across departments, for example the digital preservation of cultural heritage or aesthetic-education initiatives supporting rural revitalization, and these endeavors call for the removal of disciplinary barriers. The prevailing vertical management model of university, college, and discipline can impede effective integration of resources.

3.2 Resource Allocation has Improved Continuously but Still Shows a Tendency to Prioritize Hardware over Software

Policy guidance has produced a phase in which reform projects emphasize hardware investment more than software development. On the one hand, instructional management has begun to adopt information technologies, for example multimedia platforms for interactive teaching, but the creation of shared digital repositories for networked resource sharing lags behind and a cross-institutional mechanism for sharing arts courses has not yet been established. On the other hand, faculty training tends to emphasize enhancement of scholarly capabilities while offering insufficient preparation in the interdisciplinary integration skills demanded by project management. As a result some projects have been delayed because team members cannot integrate effectively or communicate smoothly. Only a minority of universities and programs have implemented a dual-mentoring system that pairs academic mentors with industry mentors, and the absence of such arrangements has in some cases reduced the practical value of project outcomes.

3.3 Collaborative Mechanisms are not Yet Mature, and This Constrains Project Effectiveness

Most universities have set up basic rules and procedures, they use project guidelines to frame research themes and apply methods such as literature review and case analysis to ensure scientific rigor, and they secure completion by means of academic publications and research reports. [6]Nevertheless, in practice some projects show a disconnect between their research objectives and actual teaching needs, and others overemphasize theoretical discussion at the expense of practical translation; for example the lack of robust school-industry collaboration has left many results nontransferable.

Internally, the Academic Affairs Office's commitment to standardized management can conflict with the distinctive characteristics of arts education. Arts teaching reform requires non-standardized evaluation and assessment systems; at present evaluations still rely largely on paper publications and project closure as the principal criteria and place insufficient emphasis on the real effects of pedagogical reform. Students' innovative achievements often lack quantitative benchmarks and are typically represented by exhibited works as qualitative evidence. Externally, partnerships between universities and cultural or arts institutions are often limited to superficial arrangements such as the designation of internship bases and lack deeper forms of joint curriculum development and co-research. Consequently, research outcomes struggle to meet the rapidly changing needs of industry. Data from the 2023 White Paper on National Arts Education Reform

indicate that only twelve percent of arts teaching-reform achievements have been translated into industrial practice.

3.4 Insufficient Data Governance and Delayed Adoption of Intelligent Tools

With the rapid advance of information technology, information-based management has become a vital means to raise the effectiveness of project administration. Nonetheless, many arts programmes still rely on traditional, manual methods to manage educational and teaching-reform research projects. As a result, data are fragmented across the stages of proposal, implementation and evaluation; process-level databases are lacking; dynamic adjustments cannot be supported; information processing is inefficient; data accuracy is uneven; and resource sharing is difficult. Consequently, although arts programmes have accumulated a large volume of historical data through long-term reform practice, these data are often overlooked or remain underexploited. The fundamental cause is the absence of effective data-mining and analytical tools, which prevents the extraction of actionable insights to guide decision making in project management.

4. Explorations in Project Management for Educational and Teaching-Reform Research in Arts Programmes from the Double First-Class Perspective

Drawing on system dynamics and innovation-ecosystem theory, this paper constructs a three-dimensional management model of goals, processes and efficacy in order to offer new perspectives and methods for managing educational and teaching-reform research projects in arts programmes.

4.1 Aligning Objectives with the Core Indicators of the Double First-Class Initiative

The Ministry of Education has promulgated a series of policy documents, including the Overall Plan for Deepening Education-Evaluation Reform in the New Era, which clarifies the direction of evaluation reform. These documents call for correcting an evaluation orientation that privileges only test scores, only university admissions, only diplomas, only publications and only professional titles, and require universities to place greater emphasis on substantive contributions in talent cultivation, scientific research and social service that address national needs. Attention should focus on aligning with the Initiative's core indicators, namely disciplinary strength and capacity for social service. Disciplinary strength reflects a field's ability to meet social needs and contribute to society. Moreover, the assessment of Double First-Class construction includes research achievements in interdisciplinary fields as one of the performance indicators, thereby encouraging the dismantling of traditional disciplinary barriers and the strategic development of disciplines that address major future interdisciplinary frontiers, so as to foster knowledge innovation and new models of talent cultivation in education and teaching. [7]Therefore, by aligning project-management evaluation with these indicators, educational and teaching-reform research projects in arts programmes can strengthen disciplinary capacity and better meet practical social needs.

4.2 Process Integration through Dynamic Collaborative Governance and Intelligent Decision Support

In the context of rapid development in arts education, educational and teaching reform research projects in arts majors carry substantial practical significance for raising quality and fostering innovation. Traditional process management models are increasingly unable to meet the growing complexity of reform practices. To advance reforms more effectively, it is necessary to explore and establish process management models that incorporate dynamic collaborative governance and intelligent decision support, and to construct a scientific, efficient, and sustainable closed-loop management system.

4.2.1 Construction of a closed-loop management model

Establish a closed-loop concept of needs orientation, resource integration, dynamic evaluation, and continuous improvement. Grounded in social demand and aimed at precisely matching the real needs of arts education—including societal demand for artistic talent, students' developmental needs, and the developmental trajectory of the arts discipline—the approach is needs oriented. Through resource integration, human resources, technological capabilities, and funding are pooled to provide robust support for reform projects. Dynamic evaluation runs throughout

the project lifecycle, delivering timely feedback on progress and problems and providing the basis for continuous improvement. Continuous improvement relies on the results of dynamic evaluation to implement targeted refinements and optimizations, thus creating a virtuous cycle of iterative enhancement.

4.2.2 Establishment of a dynamic collaborative governance system

To accommodate the comprehensive requirements of educational and teaching reform in arts majors, establish a dynamic collaborative governance system that engages multiple stakeholders.

Form a composite management team that integrates arts, technology, and management. This team should combine domain expertise and creativity in the arts, technical support and innovation capacity from science and technology, and organizational coordination and service capabilities from management, thereby offering integrated management services for project development.

Faculty constitute the core implementers of projects. Encourage the formation of cross-disciplinary teaching teams so that diverse knowledge backgrounds and skill sets can be leveraged. For example, the College of Arts at University H implemented the project titled "Innovative Practice of Integrating Ideological and Political Elements into the Curricula of Agro-forestry Universities from a Digital Humanities Perspective." In that project, arts faculty lead while colleagues from technology and the humanities provide support. Artistic creation is combined with technological innovation and humanistic concerns. During project implementation, technological approaches supply new forms and media for artistic expression, while humanistic perspectives impart deeper meanings and values to the works, advancing the project in an innovative and substantive manner. To overcome disciplinary barriers, institutions may adopt explicit faculty-sharing policies to encourage collaboration across colleges and majors and establish faculty information repositories from which departments can identify and select appropriate instructors according to project needs.

Industry mentors are indispensable contributors and supporters. They can provide current practical experience and market insights, guide the practical application of project outcomes, and facilitate smooth implementation and dissemination. Students are the principal agents in project completion. By mobilizing students as active participants, the problem-solving process becomes a site for integrated application of knowledge, thereby strengthening students' practical skills and creative thinking. With participation from multiple parties, and with faculty leadership, industry support, and students as primary actors, projects can achieve sustainable development and produce high-quality outcomes.

4.2.3 Development of an intelligent decision-support system

An intelligent decision-support system should be constructed on the basis of multimodal data collection, comprising structured data such as project schedule, budget utilization, and team composition, together with unstructured data such as the project team's creative manuscripts, rehearsal footage, and online evaluations. Structured data directly indicate project progress and the efficiency with which resources are used. Unstructured data—including teachers' and students' creative processes, features of artistic expression and skills, students' learning trajectories, public attention and evaluations of the project, and characteristics of teacher–student collaboration—can be captured and analyzed through multimodal means to provide a clearer and more accurate picture of project development.

An AI-based efficacy-prediction model should be established, for example using a long short-term memory (LSTM) neural network. Input variables would include an interdisciplinarity index, a public-attention index, and an industry-fit index, among others, to forecast the potential for translating project outcomes into practice. The interdisciplinarity index denotes the degree of cross-disciplinary integration achieved by the project. The public-attention index measures the extent of societal recognition and interest. The industry-fit index assesses how well project results match market demand. By combining these variables into a composite metric, the model can produce relatively accurate predictions of translational potential and therefore provide a robust basis for adaptive decision making.

4.2.4 Enhancement of informatized management capacity

Develop an informatized management platform tailored to arts projects to enable online

operation of application, review, and acceptance procedures. Such a platform overcomes temporal and spatial constraints and improves the efficiency and transparency of project administration. Applicants can submit proposals at any time from any location. Reviewers can conduct evaluations and scoring online. Principal investigators can monitor project progress and review outcomes in real time. These capabilities substantially streamline administrative workflows and reduce distortions introduced by human factors. [8]

Construct a data warehouse and apply data-mining techniques and data-visualization tools to enable in-depth analysis of project data. [9]A data warehouse consolidates data distributed across disparate systems and provides a unified source for analysis. Data-mining methods can extract useful patterns and knowledge from large datasets, for example by revealing associations among projects or relationships between student development profiles and pedagogical reforms. Visualization converts analytical results into intuitive charts and images that render abstract findings tangible, enabling managers and decision makers to comprehend information quickly and to ground administrative choices in evidence.

Ensure real-time data sharing and collaborative processing to support arts-education reform. Real-time sharing allows project participants, administrative units, and stakeholders to obtain the latest project updates and to maintain effective communication. Collaborative processing enables different departments and personnel to jointly refine and analyze data, thereby improving the efficiency and quality of coordinated data work. For example, teachers, students, and administrators can use the informatized management platform to share teaching materials, creative outputs, and feedback data in real time during project implementation, so that work plans and instructional schemes can be adjusted promptly and reforms in arts education can proceed smoothly.

4.3 Constructing an Innovation Eco-chain for Outcome Translation

Although the share of interdisciplinary projects within arts disciplines has risen, the conversion rate of research outcomes into practical use remains low. This shortfall indicates that the existing industry–university–research collaboration mechanisms are not yet fully developed and that cooperation between enterprises and universities must be strengthened to promote the translation of pedagogical achievements. [10]Accordingly, at the efficacy level, an eco-chain for outcome translation should be established, encompassing three interlinked stages: teaching practice, industrial application, and cultural dissemination. Teaching practice constitutes the foundation. By embedding the results of reform projects into curriculum modules, instructional quality and the effectiveness of talent cultivation can be enhanced. For example, the College of Arts at University H integrated a virtual simulation teaching project into its curricula, which improved both teaching quality and student training outcomes. Industrial application is the decisive link. Converting research results into productive capacity advances industry development. A case in point is the cultural and creative project co-developed by the College of Arts at University H and corporate partners, which contributed to industrial growth. Cultural dissemination serves as the extension. Through artworks and cultural activities, the fruits of arts education reach broader publics, raise cultural standards, and expand the channels for application and promotion of results. Practically, this framework calls for innovation in evaluation mechanisms so that the practical application of project outcomes becomes an explicit assessment criterion, thereby encouraging faculty to convert research outputs into reusable teaching resources. A dissemination mechanism should be instituted, using teaching seminars, exhibitions of results and similar events to strengthen exchange and promote outcomes, thereby amplifying their impact within the field of arts education. For instance, the College of Arts at University H has publicized its teaching achievements and captured their value through news media and the Xuexi Qiangguo platform.

5. Conclusion

With the steady progression of the Double First-Class Initiative, arts programmes in higher education encounter unprecedented opportunities and challenges. As a vital component of tertiary education, the effective management of educational and teaching reform research projects in arts disciplines is crucial for elevating the overall quality of higher arts education and for enhancing the innovative and

practical capabilities of trained artists. Optimizing the management of these projects requires alignment with national policy, grounding in local practice and model innovation, and adherence to the three-dimensional management model of goals, processes and efficacy. By integrating system dynamics and innovation-ecosystem theory, it is possible to reconcile the tensions between normativity and creativity and between disciplinary specificity and cross-boundary integration. This integrated approach provides a three-dimensional, dynamic, and efficient framework for project management, addresses current bottlenecks, and constructs a complete innovation eco-chain for arts-project outcomes. In so doing, it fosters continuous advancement in arts education, promotes deeper integration of the arts with science, technology and industry, and contributes more substantially to social and cultural development.

Funding

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