

Innovating and Implementing Models for Aid-Based Education in Higher Education from the Perspective of “Three-All Education”

Shan Zhou*

Sichuan Southwest Vocational College of Civil Aviation, Chengdu 610400, China

*Corresponding author: Shan Zhou, 1312170495@qq.com

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Abstract: In response to the “Three-All Education” agenda and persistent shortcomings in university financial aid practice—such as an overemphasis on disbursement over development and outcomes over process—this study focuses on aviation-oriented higher vocational colleges. Considering the sector’s strong safety culture, high costs associated with training and certification, and close industry–education integration, the paper develops an analytical framework of elements–mechanisms–pathways and proposes an integrated “one-body, three-dimensions” model that shifts student support from basic hardship relief to development-oriented empowerment. Centered on students’ holistic development, the model operates through multi-actor collaboration, whole-process alignment, and multi-context integration, supported by collaborative, precision, and developmental mechanisms. It enables a closed-loop operation linking financial aid with talent development, student affairs, career services, and school–enterprise partnerships, underpinned by institutional arrangements, resource integration, and a smart digital platform.

Keywords: Three-All Education; Aid-based education; Development-oriented financial aid; School–enterprise collaboration; Model innovation

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1. Introduction

In recent years, ideological and political work in Chinese higher education has shifted from fragmented, point-based initiatives to a more integrated, system-oriented approach, with renewed emphasis on embedding the fundamental task of moral education throughout institutional governance and educational practice^[1]. The Implementation Outline of the Quality Improvement Project for Ideological and Political Work in Higher Education Institutions issued by the Ministry of Education calls for the full educational functions of teaching, research, practice, culture, online platforms, psychological services, management, student services, financial aid, and organizational work. It further proposes the “ten educational systems” and explicitly situates aid-based education within the overarching framework of Three-All Education^[2].

In parallel, the student financial aid system has continued to be strengthened at the institutional level. For example, the Measures for the Administration of Student Financial Aid Funds standardize the use and management of aid funds, providing a policy foundation for precision targeting, compliant implementation, and quality enhancement ^[3]. In practice, however, financial aid in many institutions remains largely confined to economic assistance and procedural compliance. Common issues include prioritizing disbursement over developmental support, emphasizing end results over process management, and focusing on minimum protection rather than empowerment. As a consequence, the educational function of financial aid has not been fully translated into outcomes in value formation, capability development, and students' career trajectories ^[4].

This tension is particularly salient in aviation-oriented higher vocational colleges. On the one hand, aviation programs are highly practice-intensive and cost-demanding, and they operate under stringent professional norms and a strong safety culture. Students from low-income backgrounds are therefore more likely to face implicit barriers in accessing training resources, internship opportunities, professional certification, and labor-market competition ^[5]. On the other hand, higher vocational education features a more pronounced ecosystem of industry–education integration and school–enterprise collaboration, creating a natural setting for embedding aid-based education into authentic workplace contexts, professional identity development, and employability enhancement. Against this backdrop, the present study examines an aid-based education model for aviation-oriented higher vocational colleges under the Three-All Education perspective. It explores how the goals and functional positioning of aid-based education can be upgraded from basic protection to development-oriented empowerment, and how an all-staff, whole-process, and all-round collaborative mechanism can be established to achieve a closed-loop linkage among financial aid, talent cultivation, student affairs, career services, and school–enterprise partnerships ^[6].

2. Theoretical foundations and analytical framework

2.1. Key concepts: Three-All Education and aid-based education

Three-All Education represents a systemic approach through which higher education institutions implement the fundamental task of moral education. It emphasizes coordinated advancement across all staff, the whole educational process, and all educational contexts, ensuring that value guidance permeates every component of talent cultivation. All-staff education expands the scope of educators from ideological and political work teams to all faculty and staff, and further to enterprise mentors, industry resources, and broader social actors. Whole-process education provides sustained support across critical stages such as transition and adaptation at entry, academic development, training and internships, and graduation-to-employment. All-round education extends educational spaces from classrooms to training bases, enterprise sites, campus life, and online environments, enabling resource integration and scenario-based continuity ^[7].

Aid-based education, situated within the national student financial aid policy framework, builds on economic support while taking moral education as its guiding principle. It provides value guidance, capability development, and growth-oriented support for students from financially disadvantaged backgrounds, helping them move beyond short-term burden relief toward self-reliance and holistic development. Its core implications are threefold. Institutional rules and funding define the boundaries and guarantees of aid provision. Financial aid work should extend beyond administrative procedures to accompany students' developmental trajectories through sustained, process-oriented support. Aid resources should be transformed into developmental opportunities that enhance learning capacity, occupational competence, psychological resilience, and social responsibility.

Conceptually, student financial aid primarily concerns policy design and funding allocation; precision aid emphasizes beneficiary identification and resource matching; aid-based education places greater weight on educational goals, operational mechanisms, and developmental outcomes, representing a functional upgrade and value extension of financial aid practice^[8].

2.2. Contextual characteristics of aid-based education in aviation-oriented higher vocational colleges

Aviation-oriented higher vocational colleges are characterized by a strong industry orientation, a high proportion of practice-based instruction, and clearly specified occupational standards, which collectively impose more pronounced type-specific requirements on aid-based education. First, the sector's safety culture and regulatory compliance demands are stringent. Positions such as aircraft maintenance and operational support depend heavily on standardized training and strict adherence to procedures; quality awareness, risk awareness, and a strong sense of responsibility are core competencies for job performance. Accordingly, aid-based education should embed professional values such as integrity, rule compliance, and accountability into whole-process educational design, and facilitate internalization through authentic, scenario-based training. Second, training and certification are costly and intensive, making financially disadvantaged students more vulnerable to opportunity constraints. Their financial pressure extends beyond tuition and living expenses to include examination fees, consumables, transportation and accommodation for internships, and the purchase of occupational equipment. Without targeted support, students may fall behind during critical periods of competence formation. Third, the foundation for industry–education integration is relatively strong, creating practical space for school–enterprise co-education. Enterprise mentors, workplace-based projects, internship assessment systems, and employment resources can serve as key carriers of development-oriented support. Fourth, student development in this field involves a distinctive process of occupational socialization. The transition from campus to industry settings entails substantial adaptation demands; financially disadvantaged students may face compounded challenges such as heightened psychological sensitivity and diminished developmental confidence. Aid-based education, therefore, needs to coordinate economic support with psychological support, academic assistance, skills development, and career planning to form an integrated support structure^[9].

2.3. Building the analytical framework: Elements–mechanisms–pathways

To enhance explanatory power and transferability, this study adopts an elements–mechanisms–pathways framework. At the elements level, five categories are identified: goals, actors, target groups, resources, and carriers. Goals are guided by the fundamental task of moral education, balancing equity protection with developmental value-add, while highlighting the cultivation of aviation-related professional ethos. Actors are organized around the financial aid unit as a hub, linking student affairs teams, academic staff, enterprise mentors, alumni, and broader social partners. Target groups are defined on the basis of a standardized eligibility assessment, with tiered profiles developed and updated dynamically. Resources include national financial aid funds and internal and external development-oriented resources, covering scholarships, grants, loans, subsidies, work-study programs, enterprise scholarships, and practice opportunities. Carriers encompass curriculum-based education, training bases, work-study positions, authentic enterprise tasks, volunteer and service-learning activities, and digital platforms^[10].

At the mechanisms level, the framework focuses on three mechanisms: collaboration, precision, and development. The collaboration mechanism builds an educational community through cross-departmental

coordination and school–enterprise linkage, thereby strengthening governance capacity. The precision mechanism implements differentiated support and dynamic monitoring based on standardized assessment and process data, improving the efficiency of resource matching. The development mechanism emphasizes transforming aid resources into developmental opportunities that enhance students’ capabilities and promote self-help and mutual support ^[11].

At the pathways level, the framework is operationalized along three main lines: organizational, process, and scenario-based pathways. The organizational pathway secures implementation through task forces, responsibility lists, and a closed-loop evaluation system. The process pathway deploys tiered support packages across stages such as entry adaptation, academic progression, training and internships, and career decision-making. The scenario-based pathway embeds professional norms and safety and quality requirements into authentic tasks and practice settings, promoting learning through doing and education through action ^[12].

3. Constructing an innovative model of aid-based education from the perspective of Three-All Education

3.1. Core rationale: From hardship relief to development-oriented empowerment

The paradigm shift in aid-based education does not negate the foundational role of financial assistance. Rather, it calls for moving beyond a purely instrumental logic and repositioning financial aid as an educational project aimed at fostering students’ holistic development. Under a conventional hardship-relief orientation, the primary objectives are compliant fund disbursement and short-term alleviation of financial strain. Practice is often concentrated on eligibility determination, review, disbursement, and administrative management, which can result in weak process-oriented education, insufficient developmental support, and a largely passive role for students. By contrast, a development-oriented empowerment approach places student growth at the center. It treats financial support as an entry point and leverage mechanism, systematically linking value guidance, academic support, skills development, psychological support, and career development. Through such integrated interventions, the model seeks to strengthen students’ human capital, psychological capital, and social capital, ultimately cultivating sustainable self-development capacity and overall competitiveness. Accordingly, evaluation should move beyond procedural compliance and quantitative outputs toward developmental outcomes and students’ perceived gains, with greater emphasis on sustainability, traceability, and continuous improvement ^[13].

3.2. Overview of the “One-Body, Three-Dimensions” Model

Building on the empowerment-oriented rationale, this study proposes an integrated “one-body, three-dimensions” model of aid-based education. The “one body” refers to students’ holistic development as the model’s central objective, value anchor, and evaluation criterion. It underscores that both the starting point and the end point of aid-based education should be students’ growth and success, thereby forming a virtuous cycle from hardship alleviation to education, talent development, and social contribution. The “three dimensions” comprise actor collaboration, process integration, and contextual integration ^[14].

Actor collaboration corresponds to all-staff education. It aims to establish a coordinated structure in which multiple stakeholders share responsibility, pool resources, and jointly promote student development. With the financial aid team as the hub, the model connects faculty members and administrative/service staff and brings in enterprise mentors, families, alumni, and social organizations, enabling a shift from simple aggregation to synergistic effectiveness. Process integration corresponds to whole-process education. It emphasizes designing a tiered and progressive support system aligned with students’ developmental stages. The entry stage prioritizes

precision identification and adaptation support; the development stage focuses on academic improvement, skills training, psychological resilience, and access to practice-based projects; the graduation stage emphasizes career decision-making and employment support, helping students move from dependence on external assistance toward self-reliance. Contextual integration corresponds to all-around education. It stresses the coordinated use of diverse learning contexts—classrooms, training bases, enterprise sites, campus life, and digital platforms—and promotes deep embedding of aid-based education into ideological and political education, mental health education, labor education, and professional competency cultivation, thereby forming a sustainable educational ecosystem^[15].

3.3. Operating mechanisms and key implementation considerations

The effective functioning of the one-body, three-dimension model relies on three mechanisms: goal alignment, dimensional co-construction, and dynamic adaptation. Goal alignment uses students' holistic development as the central reference point to unify stakeholders' actions and to avoid fragmentation and project drift. Dimensional co-construction highlights the mutually reinforcing relationships among the three dimensions. Actor collaboration expands the boundaries of educational resources and contexts and enriches process-based support; process integration, in turn, necessitates broader stakeholder participation and stimulates contextual innovation, encouraging deeper engagement from academic staff and enterprise mentors; contextual integration provides stable platforms and scenarios for collaboration and process continuity, ensuring that aid-based education is enacted in authentic tasks and practice settings. Dynamic adaptation emphasizes evidence- and data-informed resource matching and quality enhancement. By using student profiles, participation records, performance indicators, and outcome measures as feedback inputs, the model establishes a closed loop of evaluation, feedback, and optimization, shifting aid-based education from event-based implementation to a governance approach centered on continuous improvement.

4. Practical pathways and support systems for implementing the innovative model

4.1. Practical pathways

The collaborative pathway is grounded in community-based governance and establishes an operating structure in which the university, school/department, and class levels advance in an integrated manner, with coordinated participation from families and wider society. At the institutional level, the university prioritizes top-level design and overall coordination by incorporating aid-based education into the broader Three-All Education agenda, standardizing policies, procedures, and evaluation criteria, and institutionalizing cross-departmental coordination and school–enterprise collaboration. At the school/department level, primary responsibility is assumed for implementation. Guided by the training objectives of disciplinary clusters, financial aid programs are aligned and integrated with coursework, skills training, internships, and employment-related processes. At the class level, counsellors serve as the key hub, working jointly with class advisors, academic mentors, and practical training instructors to conduct routine monitoring, case-based support, and developmental portfolio management.

The process-oriented pathway emphasizes a full-cycle closed loop and builds a continuous support chain consisting of precision identification, tiered empowerment, and follow-up tracking. Precision identification supplements standardized eligibility assessment with process information from academic performance, practical training, mental health, and employment preparation, enabling tiered profiling and dynamic updating. Tiered empowerment configures support packages across stages such as entry adaptation, capability development, and internship-to-employment transition, balancing financial burden reduction with equitable access to learning

opportunities while prioritizing certification support, targeted reinforcement in training, and the enhancement of job competence. Follow-up tracking relies on an evidence chain to conduct staged evaluations and strategy adjustments; for cases with compounded risks, joint interventions are activated to ensure the effectiveness of support implementation.

The integrative pathway stresses systematic embedding of aid-based education into ideological and political education, mental health education, career guidance, and innovation and entrepreneurship education. Value guidance runs throughout the aid process, incorporating integrity, rule compliance, accountability, and aviation safety culture into practical tasks and training scenarios. Psychological support is coordinated with aid services through improved early-warning, referral, and follow-up mechanisms. Employment support is oriented toward improving job–major matching and employment stability by embedding enterprise mentoring and occupational standards into the support process. Innovation and entrepreneurship support expands students’ upward mobility through project-based practice and developmental opportunities, thereby generating value-added outcomes.

4.2. Support systems

Institutional support emphasizes standardization, clear accountability, and evaluability. It requires strengthened systems for eligibility assessment, program operation, resource access and governance, supervision and evaluation, and data compliance. Resource support shifts from fund allocation to opportunity provision, promoting the educational redesign of on-campus work-study positions and expanding development-oriented resources through enterprises and alumni networks. Technical support relies on a smart digital platform to enable data integration, student profiling, program matching, process documentation, and outcome evaluation, thereby establishing a closed loop of continuous improvement.

5. Conclusion

This study addresses the practical tensions surrounding aid-based education in aviation-oriented higher vocational colleges and argues that financial aid should be upgraded from hardship relief to development-oriented empowerment. Conceptually, it clarifies the meanings and boundaries of Three-All Education and aid-based education, and highlights that sectoral norms and safety culture, the costs of training and certification, the ecosystem of school–enterprise co-education, and students’ adaptation pressures require stronger emphasis on opportunity, skills development, and employment quality. On this basis, the study proposes an elements–mechanisms–pathways framework and constructs an integrated one-body, three-dimensional model. Centered on students’ holistic development, the model operates through actor collaboration, process integration, and contextual integration; it strengthens governance effectiveness via collaborative, precision, and developmental mechanisms; it is implemented through organizational, process, and scenario-based pathways; and it is secured through institutional standardization, resource integration, and a data-driven closed loop enabled by a smart platform. Overall, the study offers a meso-level explanatory framework for operationalizing the Three-All Education agenda in the domain of aid-based education and provides practical guidance for developing a scalable model tailored to aviation-oriented higher vocational colleges.

Disclosure statement

The author declares no conflict of interest.

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