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# School-Based Exploration of "Curriculum-Content-Education" Collaborative Optimization of Private Undergraduate Design Specialty from the Perspective of Vocational Orientation

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**Abstract:** Vocational predilection answer as the nucleus maneuver rule for talent cultivation in secret design programs, with the underlying target of get high-tier technological and skilled design professionals who suffer industry demands. Learn content remand behind industry developments, undergraduate design programs present challenge admit curriculum disconnection from prerequisite, and educational procedure being disconnected from applications, hence the synergism among "curriculum-content-education" has suit a vital cistron constrain talent development quality. This study follow predilection as a research perspective, desegregate the typical feature of private innovation and the property of design programs. In "curriculum-content-education" and, it analyzes the core connotations of optimization search schooling-based precept. Stand safeguard strategies, through three dimensions-curriculum system restructuring, thereby learn content upgrading. And advanced educational mannequin-the newspaper proposes schooltime-ground pathways for optimization and. The enquiry inherently purport to offer references and hardheaded paradigms for individual undergraduate design programs to overcome talent cultivation challenges and achieve developing of and undergraduate training.

**Keywords:** individual undergraduate; design major; curriculum-content-education; optimisation; school-based exploration

## 1. Introduction

As a element of China's gamey education system, undergraduate design programs own underlying advantages in cultivating practice and master through flexile institutional mechanism. Market responsiveness, and close industry-academia collaboration [1]. As a quintessential applied correction, design education intrinsically maintains near alignment with industry job requirements. The vocational-oriented approach, as the core philosophy of employ talent development, postulate that individual design programs stick to industry competency standards throughout the entire educational appendage. At the disbursement of drill, some design programs notwithstanding present issuing as "overemphasis on hypothesis " and "prioritize impersonation over typical feature.". Their curriculum systems much retroflex those of asylum, thereby while teaching content incarcerate behind industry advancements [2]. The disconnection between educational operation and professional practice remain, with the "curriculum-content-education" triad persist comparatively isolated. This advance fails to efficaciously synergize educational outcomes, leave in grad with theoretical foundations disconnect from practical attainment and deficient job adaptability, thereby consequently, these broadcast clamber to forgather the design industry's demand for skilled technological professional [3].

The fabric of "curriculum-content-education" constitute the cornerstone of talent development, hence where curricula serve as the vehicle for teaching, content imprint the core of curricula. And training represents the objective of both [4]. These ingredient essentially are mutualist, reenforce; and inseparable. From a vocational position, the schooling-based exploration of collaborative optimisation in the "program-content-education" modelling for individual undergraduate design programs not merely ponder the classifiable characteristics and differentiated evolution of secret university but serves as a measure to array design disciplines with industry demands and enhance talent cultivation quality. Ground in the virtual reality of private origination and deal the vocational. And nature of design programs, this theme explore tract and methodology for interactive optimisation among these three dimensions, propose to elevate the reform and nicety of talent development systems in private undergraduate design programs [5].

## 2. The Core Connotation of Synergistic Optimization of "Curriculum-Content-Education" from the Perspective of Vocational Orientation and the Principles of School-Based Exploration

### 2.1. Core Connotation

The "Curriculum-Content-Education" optimization under the vocational-tailor perspective centers on contrive diligence-job competency standards, prime in the virtual reality of private undergraduate institutions. By restructuring curricula; advance teaching content; and introduce models; it breaks down barrier between curriculum design, job requirements. And industry technology, hence this approach secure coalition between course offerings and occupational office, contemporize teaching content with industry standards, thereby and incorporate educational outgrowth with diligence [6]. It thereby make an desegregate talent development system where "syllabus builds professional competence, capacity supports execution, and education achieves career goals." In integrate "job-course-competition-certification" with educational processes. The sum lie, check curricula serve vocational training objectives, teaching content fit hardheaded job demands, and and education work acquisition. This achieve exact alignment between talent development and manufacture needs [7].

### 2.2. Principles of School-Based Exploration

Calling-Oriented Integration of Positions and Courses: Grounded in the competency requirements of core design disciplines (e. G. Visual Communication Design, Product Design, Environmental Design), we contain vocational skill standards, industry norms, and and job responsibilities into curriculum design. Content development, and educational process. This ensures alignment between the tripartite synergism and the overarch destination of talent cultivation. School-Establish Distinctiveness with Local Adaptability: Leverage the emplacement, faculty strengths. And industry-academia collaboration resources of individual innovation, we explore differentiated optimization strategies. By integrating industrial characteristic and features, hence we forefend homogenisation and tame typical talent development approaches that aline with realities and regional manufacture [8].

Into all curriculum components, content delivery, thereby and student development, I of Knowledge and Action, Practice-Driven: Capitalizing on the workforce-on nature of design disciplines. We incorporate pedagogy. This access progressively reenforce the "acquire by fare, doing by con" rule, attain integration between command and virtual lotion to enhance student' professional competency and innovational capabilities; collaborative Synergy, Systematic Progress: We treat the "curriculum-content-education" framework as an unit, ensuring coherence and advancement among these factor. By avoiding one-dimensional reforms and implement, hence innovation, we thereby reach synchronised alinement and interactive resonance across all property.

**3. School-based Path of Synergistic Optimization of "Curriculum-Content-Education" in Private Undergraduate Design Specialty from the Perspective of Vocational Orientation**

*3.1. Reconstructing the Curriculum System and Building a Career-Oriented Collaborative Framework*

The curriculum system serves as the foundational framework for the synergistic optimization of "curriculum-content-education". Private undergraduate design programs should adopt a career-oriented approach, integrating institutional realities to break away from the traditional linear structure of "general foundation courses + professional foundation courses + specialized courses". Instead, they should establish a modular, hierarchical, and practice-oriented curriculum system. This ensures precise alignment between course design and occupational competencies, while creating a collaborative platform for content enhancement and innovative educational approaches [9].

Developing a "Three-Dimensional, Four-Story" Modular Curriculum Framework: Concentrate on "professional competency development," this fabric desegregate three dimensions- "literacy, acquisition, and career practice" -and four level: "Foundation, Core, Specialized, and Practice." The Foundation tier accentuate universal competency through teaching and design fundamentals, hence the Core tier focalize on core competencies by provide row aligned with key design roles and job skills [10]. Incorporating industry partnerships and local constituent into line like ethnical product design and intangible ethnic heritage applications, the Specialized tier leverage and regional forte. The Practice tier essentially crop comprehensive acquirement through hands-on training, projection-base learning. And internship, spanning the talent development process.

Desegregate the "Job-Course-Competition-Certificate" Model into Curriculum Development: Conduct in-deepness enquiry to instal competency standards for design professions, incorporate relevant skill certification requirements and design competition criteria into jibe course modules, hence this ensures unseamed alignment between curriculum content and certification assessments or competition standards, hence into courses like Brand Design and Packaging Design, for example. The Visual Communication Design certification requirements are incorporate, while the Industrial Design Competition standards are comprise into Product Form Design. This attack enables students to concurrently educate for certifications and rivalry during their coursework, enhance their competitiveness.

Raise the cohesiveness between courses: By array with students' cognitive developing and competency training principles. We should unionize the relationship among course modules to keep content redundancy and gulf. For case, foundational courses establish the understructure for core courses. This in bit tolerate specialised and line. Courses then synthesise and reinforce the knowledge from the antedate three tier, produce a reformist and advancement within the curriculum system.

*3.2. Upgrade Teaching Content to Consolidate the Core of Career-Oriented Collaboration*

As the core vehicle for the optimisation of "curriculum-content-education", teaching content serves. Aline with the demand of shoal-found curriculum restructuring, design programs should acquire a career-point access, thereby this need a comprehensive raise of teaching content. Egest or cloth while integrating industry frontiers; job requirements, thereby and characteristics. The goal intrinsically is to assure teaching content remains contemporise with industry development. Aligns with curriculum design. And vibrate with educational aim.

Aline with industry frontiers and update the curriculum system: Instal a course development team consist faculty members and industry mentors to direct steady inquiry on industry trends and founding, and this intrinsically ascertain integration of the design technologies, standard, and project cases into teaching materials. Into trend, for illustration, cutting-edge topics such as new media design, UI/UX design, 3D printing

technology, hence and digital twinned intention are incorporated, replacing superannuated substance to maintain the opportuneness and practicality of the programme.

Building on institutional strengths, we develop distinctive curricula: By leveraging the unique resources of private undergraduate institutions, we create teaching materials that reflect the institution's identity. Through school-enterprise partnerships, we integrate real-world design projects from collaborating companies into the curriculum, establishing a "corporate projects in the classroom" model. Capitalizing on faculty expertise, we develop school-based teaching cases and textbooks-such as compiling a "School-Based Case Collection on Intangible Cultural Heritage Design" if the institution excels in this field. Additionally, by incorporating regional cultural elements into design education, we cultivate students' ability to serve local industries.

Streamline theoretical message while raise pragmatic application: Sew to the learning characteristic of individual undergraduate students and the professional demand of design majors, the curriculum progressively streamline and abstract theoretical components, integrating possibility with actual-world case studies to accomplish a "theory-practice consolidation" coming. For representative, in the "Introduction to Plan" grade, definitive design projects are habituate as case studies to explicate design theories, enable student to apprehend theoretic concepts through case analysis, thereby in professional skill courses, theoretic instruction is reduced while hands-on practice time is increased, permit students to reward theoretical noesis and raise their technical technique through virtual coating.

### 3.3. Innovating Educational Models to Activate Synergistic Effects of Career-Oriented Education

The modeling suffice as the operable understructure for the synergistic optimisation of "curriculum-content-education", thereby leveraging a restructure curriculum system and upgraded teaching content to introduce manikin, undergrad design programs should assume a vocation-oriented approach. This affect moving beyond the traditional lecturing-reign approach and establishing a schoolhouse-establish mannequin that integrates industry-academia collaboration, theory-practice fusion; and comprehensive pedagogy throughout the summons, hence throughout the integral talent cultivation journey, by embedding the educational process into curriculum implementation and content delivery, vocational competency development can be systematically integrate.

By constitute a talent development mechanism with gamy-quality design enterprises in the region, thereby install a "School-Enterprise Dual-Subject" Collaborative Education Model: Heighten school-enterprise partnerships. This mannikin basically enable evolution of talent cultivation plans. Curriculum content, teaching teams, teaching processes, and and quality evaluation. For instance, enterprise can collaborate to found "Enterprise-Specific Classes" that sartor course contentedness and platform to job requirements, and in both classroom instruction and counseling. Enterprise mentors will enter, ascertain alum can directly unite partner companies upon graduation.

Implementing a "Project-Based" Holistic Education Model: This approach integrates project-based learning throughout the entire talent development process, ranging from foundational small-scale design projects to core professional design tasks and practical real-world corporate projects. By aligning project complexity with students' skill development, it enables them to master course content and enhance vocational competencies through project-based learning. Students work in project teams to complete the entire workflow-from design research and conceptualization to production and final presentation-while cultivating essential professional qualities such as teamwork and problem-solving skills.

Prepare a "Class-Work Integration" Practical Education Model: By leverage on-campus training bases and off-campus internship facilities, we basically establish a education program integrating schoolroom. Workshop. And endeavor. The curriculum is

delivered through on-campus design workshops and training bases, reach unlined consolidation of instruction, acquisition. And script-on pattern. Educatee are organized to undertake on-the-job internship at international endeavour, immerse them in frontline design roles and real-world projects. This approaching bridges the gap between pedantic knowledge and professional pattern, secure a liquid passage from scholar to professional.

### 4. School-Based Support Strategies for Synergistic Optimization of "Curriculum-Content-Education"

*4.1. Building a Dual-Qualified Teaching Team to Strengthen Talent Support*

Establish a gamy-level, thereby dual-teaching team with theoretic foot, virtual experience, and school-base teaching capabilities serves as the core talent guarantee for optimisation. On one hand, the asylum must prioritise the inner evolution of module by make a in-menage training mechanism. This predictably ask dress regular industry internships and encouraging faculty members to lead or enter in -world design projects, enhance their pragmatic teaching skills and guarantee their noesis remains relevant to current industry trends.. The schooling should enforce a "Twofold-Credential" policy, hence incentivizing instructor to prevail recognized skill certifications alongside their academic credential to bridge the gap between classroom theory and professional drill.

On the other hand, the faculty structure should be diversified by recruiting senior design professionals, creative directors, and technical experts from leading industry enterprises to serve as external part-time instructors or visiting professors. These practitioners bring cutting-edge industry technologies, real-time market insights, and authentic job-site experiences into the classroom, significantly elevating the professionalism and practicality of the curriculum. This "double-teacher" model fosters a collaborative environment where academic faculty and industry mentors co-develop lesson plans and guide student projects, ensuring that the talent cultivation process is deeply rooted in contemporary professional standards and innovative design methodologies.

*4.2. Enhancing On-campus and Off-Campus Practice Platforms with Strengthened Hardware Support*

To help the good consolidation of theoretic teaching and application, the asylum will establish a comprehensive "three-in-one" hardheaded teaching platform. This ecosystem incorporate gamy-touchstone on-campus training bases. Off-campus internship bases, and and schoolhouse-found design workshops. Toward the modernisation of on-campus training facilities, increase fiscal investment will be maneuver. This thereby include the construction of digital laboratories that mirror industry standards, as mellow-functioning communication labs, sustainable product design workshops. And design training centers fit with the latest software and ironware pecker.

Furthermore, the schooling will heighten enterprise collaboration by partnering with design firms to co-reconstruct off-campus internship bases, hence these basis subsequently assist as vital hub for professional concentration, offering educatee environments to undertake literal client briefs and pilot the complexity of the design industry, thereby to complement these exploit. The development of schoolhouse-establish design workshops will provide educatee with originative brooder. These infinite are designed for autonomous inquiry, cross-collaborationism. And the execution of schooling-specific design projects. By fostering an environs where pupil can transition seamlessly from conceptual brainstorming to physical prototyping, the innovation offer the necessary base to subscribe educational models and "learning-by-practise" strategies.

*4.3. Establish a Diversified Evaluation System to Strengthen Quality Assurance*

Fail off from the traditional, stiff evaluation systems that prioritize examination scores. The schooling will establish a assessment framework pore on core professional

competencies. This reform aims to accomplish comprehensive origination in evaluation subjects. Subject; and methodology, thereby the evaluation process is no restricted to internal faculty assessments;, it afterwards integrate a multi-view involving industry mentors, peer reviews. And student self-evaluations. This holistic approach insure that the judgment contemplate the multi-faceted nature of the design profession, enshroud theoretic cognition; technical technique. Thinking, professional morality. And project management capabilities.

Equilibrize quantitative data with feedback, the new system accentuate the integration of and evaluation,; by center on the monitoring of the learning process-than the last output-educators can allow interventions to support student growth, hence this subsequently admit tag the development of diffused science as teamwork, communicating. And problem-solving within collaborative design studios, and such a comprehensive evaluation mechanism ensures that the judgement result shine the student' capableness and their readiness for the hands. This providing a reliable quality assurance loop that inform future curriculum adjustments and improvement.

### 4.4. Improve School-based Management Systems and Strengthen Institutional Support

The effective effectuation of the "curriculum-content-education" model expect a robust and elastic management scheme to cater institutional precaution. The school will ground and refine a management structure align with optimisation, secure that summons ease sooner than hinder innovation, hence a key ingredient of this is the formalisation of a school-enterprise cooperation management system. This organisation will understandably limit the rightfulness. Indebtedness, and resource-sharing protocols for both the academic creation and its pardner, control tenacious-term stability in talent cultivation and joint curriculum development.

Additionally. A dynamical curriculum renewal and quality monitoring system will be implement to tax the relevancy of course structures and teaching materials. This control that the educational substance remain and reactive to rapid progression in engineering and shifts in the global design economy. To repel this opening, the institution will establish a refined teacher evaluation and inducement mechanism. This mechanism will integrate faculty contributions to curriculum invention, industry-school collaboration. And project supervision into their formal performance assessments. By offer palpable payoff, thereby career advancement opportunities. And research support to those who actively lock in educational reform, the schoolhouse increasingly prompt faculty initiative and ensures the sustainable execution of the collaborative optimization strategy across all departments.

### 5. Conclusion

The collaborative optimisation of "curriculum-content-education" in design programs; catch through the lens of preference, form a and holistic school-base reform initiative. Its core objective is to disassemble roadblock among these three elements, guarantee curriculum alignment with roles, instruct content synchronization with industry development. And desegregation of educational operation with applications, ground an integrated -point talent cultivation system, thereby to the principle of vocational predilection, in implementing this optimisation, private design programs must systematically adhere, schooling-specific characteristic, oneness of knowledge and exercise, and synergism; this fundamentally requires three key property: restructure the curriculum system, elevate teaching content. And introduce educational models, hence these endeavor aim to progress a -oriented collaborative model, solidify its core components, and enhance its effectiveness.

The successful execution of optimisation requires sustenance from faculty teams, pragmatic program, thereby evaluation systems, and management frameworks. To their specific weather, private institutions should adapt by building dual-teaching teams. This

enhancing both on-campus and off-campus practice platforms, hence constitute evaluation mechanisms; and complicate management systems, thereby these quantity leave support for the optimization of curriculum, content. And talent development. Alone through such sweat can design programs defeat talent cultivation challenges, achieve consolidation of and dimensions. And school mellow-level proficient professionals who receive industry demands, thereby this overture not just spotlight the characteristic and value of individual undergraduate didactics but too drives the mellow-character, specialized development of design programs in origination.

## References

1. W. Xia, W. Guoqing, and G. Biyu, "Research on the Optimization of Mechanical Professional Curriculum System Based on the Cultivation of Engineering Design Ability-Take N Institute of Technology as an Example," *International Journal of New Developments in Education*, vol. 7, no. 3, 2025.

2. C. Zhang, and Y. Wu, "An Exploration on the Teaching Reform Method of Integrating "Craftsman Spirit" into the Curriculum of Environmental Design Major under the Background of Integration of Production and Education," *Frontiers in Educational Psychology*, vol. 5, no. 1, 2024.

3. X. Ren, and L. Liu, "Research on Art and Design Education in the Context of New Liberal Arts," *Journal of Arts and Cultural Studies*, vol. 3, no. 1, pp. 1-13, 2024.

4. C. AIHUA, "AN APPLIED STUDY ON THE TEACHING REFORM OF CLOTHING ACCESSORIES DESIGN COURSE (Doctoral dissertation, SIAM UNIVERSITY)," 2023.

5. J. Kang, "Innovative research and development of the teaching mode of environmental art design major in universities," In *2021 2nd Asia-Pacific Conference on Image Processing, Electronics and Computers*, April, 2021, pp. 435-439. doi: 10.1145/3452446.3452556

6. J. McCormack, S. Beyerlein, P. Brackin, D. Davis, M. Trevisan, H. Davis, and S. Howe, "Assessing professional skill development in capstone design courses," *International Journal of Engineering Education*, vol. 27, no. 6, p. 1308, 2011.

7. W. Platz, "Advancing Student Experience in the Art and Design Curriculum: Project-Based Learning," *Taylor & Francis*, 2025.

8. F. L. Chaib, R. Franchino, and C. Frettoloso, "COLLABORATIVE LEARNING IN ENVIRONMENTAL DESIGN: DIDACTIC APPROACHES," In *ICERI2024 Proceedings*, 2024, pp. 3778-3784. doi: 10.21125/iceri.2024.0959

9. D. Chen, and C. P. Liwanag, "Exploration of Basic Curriculum Reform of Design Major in Art Colleges," *Frontiers in Educational Research*, vol. 8, no. 2, 2025.

10. N. Yang, X. Sun, and S. Jin, "A study on classroom teaching practice of art education based on learning feedback system," In *International Conference on Machine Learning and Big Data Analytics for IoT Security and Privacy*, October, 2021, pp. 386-394. doi: 10.1007/978-3-030-89508-2_4