

# Lessons and Enlightenments from Switzerland's Vocational Education Model for China

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**Abstract:** Against the backdrop of global industrial restructuring and rapid technological advancement, vocational education has become an increasingly prominent platform for cultivating high-quality, skilled professionals. Switzerland's vocational education system, characterized by its strong practical orientation and close integration between skill development and industry needs, has provided solid support for the country's sustained economic growth. In contrast, although China's vocational education has made significant progress in recent years, challenges remain, including a mismatch between educational content and market demands, insufficient practicality in skills training, and inadequate depth in school-enterprise collaboration. This article focuses on the core features of Swiss vocational education—its practical orientation, skill development, and deep integration with industry—analyzing its evolution, key components, and success factors through literature review and comparative research. By examining the actual conditions of China's vocational education system, the study explores the applicability and implementation pathways of the Swiss model within China, offering important theoretical and practical insights for enhancing the quality and standard of Chinese vocational education and promoting deeper integration between industry and education.

**Keywords:** Switzerland; practical orientation; skill development; industry integration; reform of vocational education in China

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## I. Introduction

As a world-renowned manufacturing powerhouse and service industry leader, Switzerland boasts a sophisticated vocational education system that serves as a core pillar of its sustained economic and social development. Relying on its distinctive educational concepts, systematic training mechanisms and mature school-enterprise collaborative models, the Swiss vocational education system has continuously cultivated large numbers of high-quality technical and skilled talents with solid professional competencies and good comprehensive literacy. These professional talents effectively meet the precise talent demands of industrial upgrading, technological iteration and social service optimization, providing solid human resource support for Switzerland's long-term economic prosperity and industrial competitiveness. The outstanding achievements of Swiss vocational education are not merely attributed to its advanced practical-oriented educational concepts and systematic training practices, but also rooted in the country's solid industrial foundation, sound institutional systems, standardized industry training norms, positive social education atmosphere and effective government

policy support.

In recent years, driven by rapid economic growth and in-depth industrial structural transformation and upgrading, China has put forward higher and more diversified requirements for the quality, structure and operational mechanism of vocational education. Against the backdrop of accelerating high-quality economic development, deepening integration of industry and education, and advancing the construction

From the perspective of educational principles, vocational education is neither a simple auxiliary supplement to general academic education nor a utilitarian training tool oriented merely to grassroots employment. Instead, it undertakes multiple essential social and educational functions, including individual socialization, practical transformation of theoretical knowledge, and sustainable reproduction of high-quality labor resources. On the one hand, vocational education promotes the organic transformation of students' abstract theoretical knowledge into operable, transferable and innovative professional practical competencies, realizing the effective connection between educational output and industrial post demands. On the other hand, it focuses on shaping students' comprehensive professional literacy through systematic cultivation of professional ethics, team collaboration awareness, innovative thinking and problem-solving capabilities, enabling individual learners to adapt to complex and changing workplace environments and achieve continuous personal career development.

The typical theoretical and practical value of Swiss vocational education lies in its effective balance between the individual development value and social economic value of education. It avoids the two extreme tendencies of overemphasizing instrumental industrial demands and neglecting individual all-round development, or focusing solely on theoretical indoctrination and separating education from social practice. This educational philosophy enables skill training to closely align with industrial development needs while always taking learners' long-term growth as the core orientation, providing a valuable reference for the high-quality development of modern vocational education worldwide.

## **II. Characteristics of the Development of Vocational Education in Switzerland**

Renowned worldwide in the field of vocational education, Switzerland's vocational education system stands out for its highly efficient vocational skill training, close industry-university-research collaboration, and distinctive apprenticeship model. As China attaches increasing importance to vocational education, a growing number of scholars have begun to examine and conduct in-depth research on issues concerning the development of vocational education. In particular, exploring ways to draw on successful foreign vocational education models and adapt them to China's local context has become a central focus of academic research. Among a wide array of international vocational education systems, Switzerland's model has garnered extensive attention from Chinese scholars owing to its unique developmental characteristics and remarkable practical outcomes.

Switzerland's vocational education system is practice-oriented, focusing on cultivating students' practical competencies and vocational skills. Its vocational curricula are closely aligned with industrial development demands, guaranteeing that knowledge acquired by students can be directly applied to real-world work scenarios.

Furthermore, the system attaches great importance to fostering students' comprehensive qualities, including teamwork, communication and problem-solving capabilities, so as to prepare them for complex and volatile working environments.

Some scholars argue that by constructing an interconnected education system, Switzerland can better respond to shifts in educational demands and social progress, while enhancing educational equity and flexibility [1]. The country has successfully established a modern education framework featuring permeability between vocational, general and academic education [2]. Researchers hold that this system facilitates mobility and transition across different types of education through the integration and connection of two educational tracks, offering learners a wider range of options and opportunities. Breaking down barriers inherent to traditional educational structures, it enables students to freely switch between diverse educational pathways based on their personal interests and aptitudes.

Switzerland's tracking model separating general and vocational education is characterized as "enlightening and interconnected". This indicates that a sound mutual communication mechanism has been set up between general and vocational tracks within its education system [3]. Such a model not only expands students' development prospects but also contributes to the cultivation of their comprehensive literacy and adaptability [4]. Drawing on Switzerland's tracking mechanism can further optimize China's system of general-vocational education streaming.

It should be noted that the "practical orientation" of Swiss vocational education is neither equivalent to a narrow employment-oriented mindset nor reduced to short-term skill training targeting a single post. Its underlying logic regards professional workplace contexts as critical arenas for knowledge generation and competency development, allowing students to comprehend the meaning of knowledge and build transferable capabilities while tackling authentic practical problems. In other words, vocational education needs to address not only the question of "whether students are capable of performing tasks", but also "why tasks are executed in such ways" and "how to optimize solutions under new circumstances".

This philosophy delivers an important revelation for China: curriculum reform in vocational education should not merely focus on increasing practical training hours or purchasing teaching equipment. Instead, it requires restructuring the interrelations among theoretical learning, hands-on practice and professional literacy, enabling students to grasp knowledge through practical engagement and upgrade their competencies via reflective thinking.

Switzerland boasts a diverse array of vocational education modalities, encompassing vocational schools, apprenticeship systems, and in-house corporate training, each with distinct characteristics to accommodate the demands of diverse industries and enterprises. Vocational schools focus primarily on delivering theoretical knowledge and foundational vocational skills. Switzerland's vocational examination and progression system, consisting of professional maturity examinations, vocational maturity examinations, and progressive supplementary examinations, not only opens up pathways for vocational trainees to pursue further studies but also fully highlights the intrinsic value of vocational education as an independent educational track.

The tripartite framework of Switzerland's modern apprenticeship system is jointly constituted by enterprises, vocational schools, and professional associations, building a tripartite apprenticeship training system that enables apprentices to acquire a comprehensive set of professional competencies throughout their training process. In the paper Experience and Enlightenments of Modern Apprenticeship Training in Switzerland, Huo Ningbo et al. elaborate on the operational model and successful practices of the Swiss apprenticeship system, noting that it centers on practical skill cultivation and prioritizes the improvement of students' practical capabilities and vocational adaptability [5]. Vocational education commands high social prestige in Switzerland, a result of active engagement from enterprises and industrial associations alongside a sophisticated vocational guidance and counselling system [6]. In-house corporate training delivers customized training programs for employees tailored to each firm's unique operational requirements. Such diversified vocational education modalities lay a solid foundation and broad prospects for the advancement of Switzerland's vocational education system.

In terms of institutional operation, these diversified training formats are underpinned by a well-defined shared responsibility mechanism. Enterprises are far more than external parties offering trainee placements; they act as key co-developers of talent cultivation objectives, curriculum benchmarks, assessment frameworks, and vocational qualification accreditation. Vocational schools are not merely venues for theoretical instruction, but public educational bodies tasked with basic knowledge delivery, academic support, and vocational career guidance. Industrial associations translate fragmented corporate demands into standardized industrial norms through curriculum standard formulation, quality oversight, and qualification certification.

A governance structure featuring mutual restriction and mutual support has therefore been established among the three stakeholders. This structure prevents vocational education from over-reliance on any single participant, while sustaining consistent training quality and reinforcing the credibility of vocational qualifications.

Switzerland's vocational education system maintains close integration with industries, with solid cooperative partnerships forged between enterprises and schools. Schools design talent training programs tailored to corporate demands to ensure that graduates can meet practical workforce requirements of enterprises. Meanwhile, enterprises actively participate in vocational education by offering internships and vocational career counselling for students. This tightly integrated model enables Swiss vocational education to better serve industrial growth and supply high-caliber technical and skilled personnel for businesses.

Wu Xueping et al. investigated Switzerland's efforts to advance the digital transformation of vocational education [7]. Their research reveals that the country responds to industrial upgrading and labor market shifts through optimizing vocational majors, cultivating digitally competent talents, deploying digital technologies and sharing industry data. Guided by industrial demands, Swiss vocational education adheres to content-centered and student-centered philosophies, promotes reform in a gradual manner to tackle core difficulties, and attaches great importance to standard formulation and resource sharing.

Furthermore, the integration between Swiss vocational education and industries is not a one-off

“order-based training”, but a sustainable dynamic feedback mechanism. Updates in industrial technologies, shifts in occupational competency requirements and evolving labor market demands are continuously incorporated into curriculum development and the revision of vocational qualification standards. In return, the education system evaluates the effectiveness of training programs based on graduate competency, employment outcomes and corporate feedback. Thanks to this closed-loop operation, vocational education can promptly address new demands arising from digitalization, intelligent manufacturing and service sector upgrading.

For China, the core of industry-education integration lies not in signing more cooperation agreements, but in establishing dynamically updatable standards for majors, curricula and assessment. This shift will elevate school-enterprise collaboration from sporadic project-based cooperation to systematic institutional collaboration.

Chinese scholars have carried out multi-dimensional and multi-perspective research on the development orientation and implementation paths of the Swiss vocational education model, yielding abundant valuable findings. Nevertheless, controversies and challenges remain regarding the localized implementation of the Swiss model in China due to disparities in national conditions, cultural traditions and other factors [8]. The primary obstacles are twofold. First, the two countries differ vastly in institutional environments, making localized innovation adapted to China’s national realities the core priority. Second, the unequal distribution of educational resources poses a prominent challenge to safeguarding equity and universal access to vocational education.

Accordingly, simply copying the Swiss model is not a viable approach to learning from its experience. Swiss vocational education is built upon well-developed industrial self-governance, a mature corporate training culture and a solid foundation of social trust. In contrast, China suffers from unbalanced regional development, accompanied by obvious gaps in corporate participation capacity, school operating conditions and public perceptions of vocational education. Neglecting such contextual disparities will likely lead to superficial apprenticeship programs, shallow school-enterprise cooperation and administratively dominated skill evaluation.

A more feasible approach is to translate Swiss practices into general principles compatible with China’s institutional context: centering competency development, taking industrial demands as the driving force, relying on multi-stakeholder collaboration as institutional guarantee, and prioritizing learners’ all-round development as the ultimate goal.

### **III. Enlightenments of Swiss Vocational Education for China**

The remarkable success of Swiss vocational education largely stems from its practically oriented educational philosophy and permeable education system, which offers valuable insights for China to strengthen the practicality and permeability of its own vocational education system [9]. Practicality requires vocational education to be closely aligned with industrial development demands, ensuring that knowledge acquired by students can be directly transferred to real workplace practice. To this end, curriculum content should be updated on a regular basis with the introduction of new technologies and processes, so that students’ knowledge and competencies can keep pace with industrial requirements. Meanwhile, equal emphasis should be placed on cultivating students’ comprehensive literacy to help them adapt to complex and ever-changing working

environments.

Permeability, by contrast, calls for breaking down the barriers embedded in traditional education systems to enable smooth mobility and transition between vocational, general and academic education. This provides students with diversified options and allows them to shift freely among different educational pathways according to their personal interests and aptitudes. Drawing on Swiss experience, bridges can be built between vocational and general education, such as transitional courses and credit mutual recognition mechanisms, to facilitate seamless student transfers across different education tracks.

In practical implementation, China shall further refine the institutional design featuring vertical progression and horizontal permeability [10]. Vertically, clear articulation should be constructed among secondary vocational education, higher vocational education and undergraduate-level vocational education, so as to prevent vocational education from becoming a terminal point for learners' personal development. Horizontally, credit recognition, cross-track course selection and qualification conversion between vocational and general education ought to be promoted to expand students' opportunities for secondary selection and further learning.

In addition, systems including the National Qualifications Framework, vocational skill level certificates and credit banks can be utilized to convert diverse learning outcomes into accumulable, transferable and recognizable competency credentials. This will not only boost the attractiveness of vocational education, but also cater to the demands for a flexible education system in the era of lifelong learning.

The diversified modalities of vocational education constitute another key contributor to Switzerland's outstanding achievements, and China should vigorously advance the diversified development of its vocational education system. Apart from conventional vocational schools, multiple alternative models such as apprenticeship schemes and in-enterprise training can be explored. The apprenticeship system, in particular, enables students to acquire knowledge and vocational competencies within authentic workplace settings, so they can better adapt to labor market demands. Meanwhile, in-enterprise training delivers customized training programs tailored to the unique operational requirements of individual firms.

While pursuing diversified development, coordination and synergy among various vocational education formats must be prioritized. For instance, cooperative partnerships between vocational schools and enterprises should be established to jointly design talent training programs, ensuring that cultivated personnel can satisfy the practical demands of employers. Furthermore, governments ought to scale up support for diversified vocational education through financial subsidies, targeted policy formulation and other measures to drive innovative development of vocational education.

Especially when advancing the apprenticeship system with Chinese characteristics, policymakers should avoid reducing it to mere student internships in enterprises [11]. A genuinely effective apprenticeship system incorporates core standardized components: clear learning objectives, qualified master instructors, job rotation arrangements, procedural assessment and workplace safety guarantees. Progressive competency development is realized through organic integration of school-based coursework and on-the-job corporate training.

Governments can incentivize corporate participation via tax incentives, training allowances and official

quality accreditation. Meanwhile, exit mechanisms and quality accountability frameworks need to be instituted to prevent enterprises from distressing apprenticeship training into low-cost labor recruitment. Diversified training models can only achieve long-term sustainability when students, schools, enterprises and industrial sectors all secure reasonable benefits under the institutional framework.

The close integration between vocational education and industry represents another pivotal factor behind Switzerland's vocational education success, and China's vocational education sector must strengthen links and cooperation with industries accordingly. Schools are supposed to gain in-depth insights into corporate demands and industrial trends, so as to formulate and revise curricula and talent training programs based on such information [12]. In parallel, enterprises should take an active part in vocational education by offering internship positions and vocational career guidance for students.

To achieve this goal, institutional frameworks for industry-education integration and school-enterprise cooperation ought to be established. Schools can invite enterprises to participate in teaching links including curriculum design and textbook compilation, guaranteeing that educational content aligns with practical workplace requirements. Meanwhile, enterprises may back the development of vocational education by building training bases within campuses and providing internship vacancies. Such close integration enables vocational education to better fuel industrial growth and deliver high-caliber technical and skilled workers for enterprises.

For China, industry-education integration needs to move beyond fragmented bilateral cooperation between individual schools and single enterprises toward the construction of regional and industrial communities. Focusing on key sectors such as advanced manufacturing, modern service industries and the digital economy, local governments, industrial organizations, leading enterprises and vocational colleges can jointly build industrial colleges, practical training centers and technical service platforms. These platforms integrate talent cultivation, technological research and development, employee training and employment services into a unified system. This model not only enriches students' experience of real industrial projects, but also elevates vocational colleges' capacity to support the upgrading of local industries.

In the meantime, special attention shall be paid to the insufficient participation of small and medium-sized enterprises (SMEs). Measures including shared training bases and joint training alliances can reduce their participation costs, laying a broader industrial foundation for industry-education integration.

#### **IV. Conclusion**

The developmental characteristics of Swiss vocational education provide significant implications for the reform of vocational education in China. By drawing on the successful experience of the Swiss vocational education system, China's vocational education can further improve its educational quality and effectiveness, cultivate more high-quality technical and skilled talents, and provide strong support for industrial development [12]. In the future, the reform of vocational education in China should continue to deepen practical exploration and innovative development in terms of school-enterprise cooperation, diversified school-running models, and practice-oriented educational concepts, so as to adapt to the demands and challenges of economic and social progress.

Overall, the enlightenment of the Swiss vocational education model for China lies not merely in the transplantation of individual school-running forms or management experiences. More importantly, it prompts a re-understanding of the value orientation of vocational education. Vocational education should be employment-oriented but not limited to employment; it should serve economic development while attaching equal importance to learners' personal dignity, interests and long-term growth. Only by integrating skill training, knowledge acquisition, professional ethics and social responsibility can vocational education become a vital driving force for individual development and social progress.

Future vocational education reform in China needs to be further deepened in three key dimensions. First, strengthen institutional guarantees by improving mechanisms for enterprise participation, financial investment, quality evaluation and vocational qualification certification. Second, enhance the practical competencies of teachers and promote the high-quality development of dual-qualified teachers from quantitative expansion to qualitative improvement. Third, optimize the social evaluation environment. By improving further education pathways, employment quality and career development prospects, the inherent social stereotypes toward vocational education can be gradually eliminated. Only by forming a collaborative governance pattern featuring government overall planning, industrial guidance, enterprise participation, school implementation and social recognition can the Swiss experience be effectively transformed into sustainable driving forces for vocational education reform in the Chinese context.

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