Education Reform and Development, 2024, Volume 6, Issue 4
https://ojs.bbwpublisher.com/index.php/ERD
Online ISSN: 2652-5372
Print ISSN: 2652-5364

Construction of a Modern Apprenticeship Talent Training Model for Textile and Garment Majors

Guochuan Li*, Huanliang Sun, Xiaoyan Zhang

Chongqing Vocational College of Science and Technology, Chongqing 400999, China

Corresponding author: Guochuan Li, lgc19880905@163.com

Abstract: The textile and apparel industry has a long history of apprenticeship tradition, and the modern apprenticeship training in textile and apparel specialties with distinct professional characteristics urgently needs a scientific and reasonable training model to solve the problem of industry-academia mismatch. Currently, there is a disconnect between what is taught in vocational education and the practical needs of the industry. To address this, a new approach is proposed that integrates government, schools, enterprises, and apprentices, based on theories such as the "three spiral theory" and "tacit knowledge theory." This approach aims to better align education with the needs of the industry by considering the perspectives of all stakeholders involved.

Keywords: Textile and garment; Modern apprenticeship; Talent training; Path research

Online publication: May 20, 2024

1. Introduction

In 2014, the government officially initiated the modern apprenticeship pilot program to address the disconnect between education and employment by integrating the two systems to some extent. In February 2019, the State Council issued the Implementation Plan for National Vocational Education Reform, which aimed to learn from the pilot experiences of modern apprenticeship systems in enterprises [1]. In June 2023, the National Development and Reform Commission and other departments issued the Implementation Plan for Enhancing the Integration of Production and Education in Vocational Education (2023–2025). This plan emphasized promoting production through teaching and teaching, extending the education chain, service industry chain, support supply chain, building the talent chain, and enhancing the value chain. The goal is to accelerate the formation of a development pattern of in-depth integration of production and education, characterized by positive interaction and complementary advantages between schools and enterprises [2]. Given this new context, it is crucial for higher vocational teachers in the new era to focus on the application of the modern apprenticeship system in teaching and to explore more scientific and reasonable approaches to professional personnel training [3].

2. Difficulties in training textile and garment talents

2.1. Mismatch between education and industrial needs

With the continuous advancement of the textile and garment industry, the demand for skilled professionals has evolved significantly. However, traditional teaching methods often fail to align with industry requirements, resulting in a gap between students' skills and the needs of modern positions. Textile and garment enterprises increasingly prioritize practical operational skills and industry insight in their recruitment criteria [4]. Unfortunately, some higher vocational teachers in textile and garment programs do not effectively integrate these requirements into their teaching, limiting students' readiness for the workforce.

One contributing factor to this issue is the inadequate infrastructure and practice facilities in many higher vocational colleges. While efforts to enhance school-enterprise cooperation have been made, attention to improving these fundamental aspects has been lacking. Consequently, practical training activities heavily rely on multimedia courseware or micro-lessons [5]. Prolonged use of these methods may hinder students' ability to meet the certification and job requirements of contemporary garment enterprises upon entering the workforce [6].

2.2. Outdated teaching content

In traditional teaching, much emphasis is placed on teaching materials, which often lag behind the rapidly evolving production landscape. Outdated cases fail to keep pace with industry updates and iterations, resulting in a mismatch between the taught content and the reality of production. This discrepancy significantly diminishes the effectiveness of teaching. There exists a significant disparity between theoretical and practical teaching in textile and garment programs. In many colleges and universities, specialized course instructors assume the role of "masters" during practical teaching sessions, guiding students through textile and garment design and production projects. However, without firsthand experience and understanding of real production environments, school teachers can only impart knowledge based on their own understanding [7].

The root cause of these issues lies in the inflexibility of professional curricula and teaching methods to adapt to evolving skill requirements driven by advancements in production. Furthermore, instructors often lack the experience and skills necessary to guide students in analyzing and exploring the practical production skills relevant to their majors. Instead of providing hands-on guidance, they typically rely on verbal instruction alone. Consequently, this teaching approach falls short of achieving the desired educational outcomes.

2.3. Unrealistic learning environment and the lack of innovation

Teachers' teaching, research, and reform efforts are primarily based on classroom practice, disconnected from the actual production environment. Consequently, promoting reform and innovation becomes challenging. The gap between research and learning lies in the inability of school teachers to integrate their research process with real production sites and processes. Additionally, the lack of real projects, scenes, and indicators during student learning further exacerbates this issue. Over time, a disconnect emerges between school and enterprise teachers, leading to a misalignment between research and teaching content with real production needs and scenes. As a result, effective reform and innovation become elusive.

Professional school teachers and enterprise teachers often have divergent focuses in their research and teaching pursuits. School teachers tend to delve deeply into teaching research and reform, with limited attention to production aspects. Conversely, enterprise teachers typically concentrate on specific topics within the production process.

2.4. Poor evaluation methods and students' lack of interest

Current apprenticeship programs are evaluated mostly based on the assessments conducted by schools

teachers, and enterprises, rather than considering the perspectives of students themselves. There is a lack of comprehensive evaluation mechanisms that include students' feedback on teachers and enterprises.

Students participating in modern apprenticeship programs often associate their experiences with real-world production processes, internships, job responsibilities, and compensation. Additionally, the learning content and workload in these programs tend to be more demanding than traditional teaching methods. As a result, students may require time to adjust, especially during the initial stages of the program.

3. Reasons for the challenges in textile and garment apprenticeship programs

3.1. Lack of collaboration between schools and enterprises

The lack of overall planning and coordination among government departments poses a challenge, making it difficult for schools and enterprises to align their interests. Students, while participating in apprenticeship programs, may not fully meet the production needs of enterprises as they are still in the learning process. This disconnect between teaching and production is the root cause of the divergence between education and industry. In the implementation of modern apprenticeship, currently, only higher-level government entities have issued guidelines for school construction, but there is a lack of clear directives or incentives for enterprises to participate in such programs. As a result, the implementation of modern apprenticeship programs often falls solely on schools, leading to significant challenges in execution. To address this, the government should take on a more active coordinating role to facilitate collaboration between schools and enterprises.

3.2. Differences of interests between schools and enterprises

The operational mechanisms and interests pursued by enterprises and schools are inherently different, making it challenging to find common ground. Enterprises are primarily focused on production and value creation, striving to minimize costs and maximize profits. On the other hand, schools are dedicated to educating students, ensuring they acquire the necessary skills and knowledge for their future careers. These disparate goals often create tensions in school-enterprise cooperation, especially in the implementation of modern apprenticeship programs where divergent interests can disrupt the collaboration process.

3.3. Differences in the goals between enterprise and college teachers

School teachers and enterprise teachers face significant differences in their roles and responsibilities, posing challenges to their collaboration in modern apprenticeship programs. School teachers, focused on teaching research and reform, often lack direct exposure to real production environments and demands, limiting their ability to drive educational reform and support the development of modern apprenticeship. On the other hand, enterprise teachers are primarily tasked with creating value for their employers, with enterprises aiming to extract surplus labor value from their workforce. Given these distinct roles, it is challenging for enterprises to allow their teachers to devote time to mentoring apprentices alongside their regular duties. Additionally, the requirements for "double mentors" in modern apprenticeship programs demand collaboration between school and enterprise teachers, yet their work contexts and responsibilities are often incompatible, making it difficult for them to effectively participate in each other's activities.

3.4. Difficulty in building good student-teacher relationships

The structure of the "mentoring" relationship within the modern apprenticeship mechanism differs fundamentally from traditional mentorship, making it challenging to foster a mentoring rapport. Mentors and apprentices typically assume managerial and subordinate roles, creating inherent tensions. Consequently,

students may not engage enthusiastically in their learning experiences. In the modern apprenticeship model, students often adopt a worker's mindset, perceiving themselves in opposition to their mentors and the enterprise. Their focus on earning a salary may overshadow their original intent to acquire valuable skills. Moreover, while students may contribute some value to the enterprise during their apprenticeships, it is often insufficient to offset the costs of their training. Consequently, apprentices receive low salaries that fail to align with student expectations, dampening their interest and motivation.

4. Construction of a modern apprenticeship talent training model for textile and garment majors

4.1. Joint efforts of the government, schools, and enterprises in building a talent training program

To establish an effective modern apprenticeship training program for the textile and garment specialty, the key is to establish a collaborative framework involving the government, educational institutions, and enterprises. The government should take on the responsibilities of organizing, leading, and coordinating efforts. Schools are responsible for organizing teaching, training teachers, and implementing program objectives and tasks. Meanwhile, enterprises should lead the industry, provide production demonstrations, impart skills, and offer practical training opportunities.

To effectively implement modern apprenticeship and reduce the influence of traditional teaching methods, higher vocational colleges must enhance awareness and understanding of this new educational model among professional teachers and students. This involves promoting a shift in teaching paradigms among educators and fostering proactive student engagement in the new approach. In the textile and garment field, consensus among government bodies, schools, enterprises, teachers, and students is crucial to aligning talent development goals. Emphasis should be placed on cultivating students' skills in modeling, color coordination, design, fabric recycling, and textile production technology. Only through government leadership can the "school-enterprise dual teacher training and alternate work-study training" model be effectively implemented [8].

4.2. Creating a path to achieve "four truths and four realities" in classroom content, stage training, and implementation

In the modern apprenticeship model of talent training, collaboration between schools and enterprises is crucial to develop a curriculum tailored for textile and garment majors. From enrollment, a comprehensive plan for students' future studies should be established. Over three years, students' education and training should embody the "four truths and four realities" classroom system [9]. "Four truths" denote genuine learning intentions, authentic classroom projects and cases, practical student operations, and the real-world applicability of acquired skills. "Four realities" signifies the suitable level of difficulty in knowledge and skills, balanced theory and practice hours, alignment with students' interests and career aspirations, and an appropriate balance of enterprise interests.

A systematic curriculum system needs to be established, incorporating "critical thinking, authenticity, and the four realities" into teaching practices, conducting teaching activities in a structured and organized manner, and providing staged training for students based on the modern apprenticeship training plan for textile and garment majors, as outlined below [10].

(1) First stage: Students

During the first semester, teachers should focus on imparting fundamental theoretical knowledge and practical skills related to the textile and garment major to the students. This includes topics such as

clothing fabric, garment structure, and production technology. Additionally, teachers should integrate career guidance courses into the curriculum to assist students in gaining a better understanding of their future career paths and development opportunities [11].

(2) Second stage: Prospective apprenticeship

During the second, third, and fourth semesters, the institution's faculty members will continue to instruct students in the fundamental knowledge and skills pertinent to their major. This encompasses areas such as clothing design, garment color theory, clothing computer-aided design (CAD), as well as clothing production and sales techniques. Concurrently, it is imperative for enterprises to actively engage with the school's specialized course instructors and offer students practical projects and tasks whenever feasible. Nevertheless, the primary responsibility for guiding students in practical operations remains with the institution's specialized course instructors. Through this collaboration, enterprises can provide students with staged and short-term opportunities for hands-on learning within a professional setting. This approach aims to afford students the chance to apply theoretical knowledge to real-world scenarios, thereby deepening their comprehension of textile and garment industry practices and fostering the development of a standardized career outlook over time [12].

(3) Third stage: Apprenticeship

In the fifth semester, schools and instructors should enhance collaboration with enterprises by arranging students for long-term and comprehensive training within these organizations. This training should be conducted under the guidance of professional instructors from enterprises. Furthermore, different positions within the enterprise necessitate the appointment of distinct lead instructors, who will spearhead relevant practical training activities for students. These activities may include but are not limited to clothing sewing technology, clothing technology, and clothing design. Upon the completion of the training programs, lead instructors from the enterprises and professional instructors from the school will conduct an objective and thorough evaluation of the students' performance. This evaluation process aims to pinpoint any weaknesses in the students' theoretical knowledge and practical skills, facilitating self-reflection among students and enabling them to enhance their professional competencies and vocational aptitude more effectively.

(4) Fourth stage

In the sixth semester, schools and instructors should leverage the outcomes of school-enterprise cooperation and student training and evaluation to assist students in formulating effective career plans. This guidance aims to ensure that students are well-prepared for high-quality employment upon graduation, thereby offering enhanced support for their career development.

4.3. Improving the "double mentor" structure and establishing a teacher training program

To ensure the effective implementation of the modern apprenticeship system, schools and enterprises must deepen their collaboration and communication, establishing a team of dual tutors and instructors from both entities. Schools should actively foster strong partnerships with enterprises, assigning key textile and garment instructors to engage in cooperative studies and practical training with these enterprises. Through this collaboration, instructors can gain a deeper understanding and mastery of advanced production technology, equipment, and methods within the clothing industry. This exposure will inspire them to better comprehend the genuine demands for professional talent within textile and garment enterprises [13]. On the other hand, textile and garment enterprises should select outstanding personnel to act as mentors for students, clarifying their roles, salaries, and benefits. Moreover, students' qualifications should be considered as a crucial criterion for

employee promotion and salary increments, incentivizing mentors to invest in the students' development.

Furthermore, schools and enterprises should jointly devise a scientific and feasible talent mobility mechanism to enhance the engagement of both school and enterprise instructors. This mechanism will serve to deepen school-enterprise cooperation, ultimately enhancing the overall strength of the school-enterprise instructor team [14].

4.4. Reconstructing the evaluation system

In the process of advancing modern apprenticeship, the interests of students, teachers, schools, enterprises, and other relevant participants are all involved, constituting a complex structure. Within this framework, a comprehensive evaluation system for modern apprenticeship is constructed from various perspectives. This system involves multifaceted evaluators and should encompass diverse evaluation objects, including students, teachers, enterprises, positions, and school management [15].

The fairness and accuracy of the apprentices' evaluation and assessment directly impact the enhancement of students' professional competence. Hence, under the modern apprenticeship talent training mode, both schools and enterprises should proactively establish a relatively robust professional talent evaluation mechanism. They should aim to mitigate the shortcomings of traditional evaluation methods and engage in diversified and comprehensive assessment practices for students. This approach will offer greater assurance in cultivating high-quality textile and garment professionals [16].

5. Conclusion

The practical nature of textile and garment professional teaching necessitates the implementation of the modern apprenticeship training mode. This approach can establish a relatively robust path for training professional talent by aligning the training objectives of the government, schools, and enterprises, optimizing the construction of the professional curriculum system, forming a team of school-enterprise dual tutors and teachers, and enhancing the teaching evaluation mechanism. However, in the actual implementation of the modern apprenticeship system, the primary challenge lies in coordinating the interests of multiple stakeholders to achieve a win-win outcome. Effectively managing the interests of all parties is the most significant difficulty in the implementation process of the modern apprenticeship system.

Funding

2023 Chongqing Vocational Education Teaching Reform Research Project: Research and Practice of Studio Teaching Mode Based on Modern Apprenticeship – Taking Fashion Design and Craft Major as an Example (Project number: Z233342)

References

[1] Niu Y, Yang D, 2020, Vocational Colleges Carry Out Practical Difficulties and Way to Solve the Modern Apprenticeship. Journal of Education and Profession, 2020(18): 39–44. https://www.doi.org/10.13615/j.cnki.1004-3985.2020.18.006

[2] Yan K, Exploration on Training Mode of Modern Apprenticeship for E-Commerce Major in Higher Vocational Colleges. Expo economy, 2023(19): 157–160.

[3] Xu Y, 2023, Research on Talent Training Strategy of Modern Apprenticeship in Higher Vocational Colleges Based on

University-Enterprise Alliance. Journal of Jiamusi Vocational College, 39(12): 202–204.

[4] Ma Z, Fo Z, 2022, Practice and Exploration of Pilot Work of Modern Apprenticeship in Equipment Manufacturing Majors of Higher Vocational Colleges. Journal of Beijing Polytechnic College of Technology, 21(03): 76–80.

[5] Li X, 2023, Research on Innovation and Practice of Modern Apprenticeship Training Model in Higher Vocational Colleges. Journal of Jiamusi Vocational College, 39(05): 142–144.

[6] Yuan X, Wu Y, 2023, Research and Practice of Modern Apprenticeship Talent Training Scheme for Architecture Major Based on "1+X" Certificate System. Sichuan Labor Security, 2023(04): 92–93.

[7] He D, Du P, 2023, Professional Undergraduate Course of Modern Apprenticeship Reality Confusion and Relieve Path. Journal of Chongqing Electronic Engineering Vocational College, 32(2): 16–23,

[8] Luo X, 2023, Research on the Operation Mechanism of Modern Apprenticeship Talent Training for Garment Major Based on College of Industry. Liaoning Silk, 2023(02): 61–62 + 18.

[9] Wu Y, Zhang S, Jiao X, et al., 2023, Investigation on the Content of Accounting Comprehensive Practical Training Program of "Three Truth and Three Practical Learning Combined." Modern Trade industry, 44(6): 153–155. https://www.doi.org/10.19311/j.cnki.1672-3198.2023.06.060

[10] Lin Y, 2023, Research on the Existing Problems and Development Countermeasures of Modern Apprenticeship Training in Higher Vocational Colleges. Light Industry Science and Technology, 39(02): 149–151.

[11] Liu L, Guo B, 2023, Based on the Modern Apprenticeship Non-Government College Students Employment Ability Promotion Strategy. Modern Commercial and Trade Industry, 44(7): 109–111. https://www.doi.org/10.19311/j.cnki.1672-3198.2023.07.037

[12] He Y, Ling D, 2023, A Practical Research on Modern Apprenticeship Talent Training: A Case Study of Guangzhou Preschool Normal School. Education and Teaching Forum, 2023(43): 181–184.

[13] Zhang S, 2023, Synergy Between Colleges Education under the Background of the "Size" Adviser Implementation Strategy, Western China Quality Education, 9(20): 183–186.

[14] Zhou D, Yang X, 2023, Practice and Exploration of Constructing New Modern Apprenticeship System in Schools and Enterprises Serving Local Industries. Industry and Technology Forum, 22(22): 222–226.

[15] Fan Q, Ding D, Jiang W, 2024, Research and Construction of Modern Apprenticeship Teaching Quality Evaluation System Based on CIPP Model. Professional Technology, 23(01): 59–64.

[16] Hong J, Qiang Y, 2023, Research on the Construction of Modern Apprenticeship in Higher Vocational Colleges under the Background of Integration of Production and Education. Journal of Heilongjiang Teachers Development College, 42(12): 82–85.