

Research on the Construction of College Student Development Support System Oriented to Employability Improvement

Bin Ge¹, Ying Zhu¹, Yaqing Gu²

¹School of Information Engineering, Shandong Huayu University of Technology, Dezhou 253034, Shandong, China

²School of Electrical Engineering, Shandong Huayu University of Technology, Dezhou 253034, Shandong, China

Corresponding author: Yaqing Gu (e-mail: guyaqing6666@163.com)

ABSTRACT The cultivation of college students' employability in textile engineering and fiber science is an important indicator of higher education quality and directly affects individual development and industrial human resource allocation. To construct a systematic student development support system, this paper begins with an analysis of employability structure and clarifies the cultivation priorities of professional ability, general ability, and adaptability. The support system includes four dimensions: curriculum teaching, practical training, career guidance, and resource guarantee, and it forms an educational synergy through collaborative mechanisms. Its effective operation relies on professional teaching teams, informatized platform construction, and dynamic evaluation and feedback. The system runs through the whole process from enrollment to employment and strengthens an ability-oriented educational philosophy aligned with industrial demand. For emerging engineering fields, including smart textiles, electromagnetic sensing, wireless communication, and advanced fiber systems, the framework emphasizes that employability support should connect disciplinary knowledge, practical engineering platforms, and adaptive career development to improve students' capacity for technological innovation and workplace transition.

INDEX TERMS employability, student development, engineering education, smart manufacturing, electromagnetic sensing

I. INTRODUCTION

HIGHER education undertakes the important mission of cultivating high-quality talents, and the level of students' employability in specialized fields such as textile engineering and fiber science directly reflects the effectiveness of this educational mission. Strengthening the technical proficiency and innovative capacity of graduates ensures they can lead the transformation of modern textile manufacturing and advance the global competitiveness of the industrial sector. With the transformation and upgrading of the economy and society, employers have put forward higher requirements for the ability structure of graduates, and the traditional training mode is facing the problem of insufficient adaptability. Employability not only includes professional knowledge and skills, but also covers comprehensive literacy such as innovative thinking, teamwork and lifelong learning. Modern higher education institutions must transcend traditional knowledge-transfer models by establishing an all-round and multi-level student development support system. This framework integrates teaching resources, textile engineering practical platforms, and guidance services into a collaborative mechanism. Such integration empowers students to transition smoothly from

campus to the high-tech textile manufacturing workplace, and guidance services into a collaborative mechanism that helps students smoothly transition from campus to the high-tech textile manufacturing workplace. By embedding domain-specific technical training and fiber science research into this framework, the model significantly improves students' employment competitiveness and long-term career development potential.

II. ANALYSIS OF STUDENT DEVELOPMENT NEEDS ORIENTED BY EMPLOYABILITY

A. MULTI-DIMENSIONAL STRUCTURE MODEL OF EMPLOYABILITY

Employability is essentially a collection of comprehensive qualities for individuals to successfully enter and adapt to the labor market, and its structure presents obvious hierarchical and correlational characteristics. Based on human capital theory and competency-based education concept, employability can be decomposed into three core dimensions: professional ability, general ability and adaptability. As the basic layer, professional ability includes the mastery of disciplinary knowledge system, the proficiency of professional skills and the depth of industry cognition. These

elements directly determine whether graduates can meet the technical requirements of specific positions [1]. General ability, located in the middle layer, includes cross-domain skills such as communication and collaboration, problem-solving, critical thinking and information processing. This kind of ability has the characteristics of strong transferability and wide applicability, enabling individuals to cope with different work situations. Adaptability, located at the top layer, is reflected in career resilience, willingness to continuous learning and ability to adapt to the environment, which plays a long-term supporting role in career development [2]. The three dimensions are interdependent

and dynamically evolving: professional ability serves as the foundational core, acting as the essential carrier through which general abilities are applied, while general ability in turn enhances the specialized execution of professional skills. Adaptability, positioned at the top layer, ensures the continuous renewal of these underlying competencies in a changing environment. This multi-dimensional structure model reveals that the cultivation of employability needs to break through single knowledge transmission and turn to the systematic integration and coordinated development of ability elements, as shown in Table 1.

TABLE 1. Multi-dimensional Structure Model of Employability

Ability Dimension	Core Elements	Forms of Performance	Training Cycle
Professional Ability	Disciplinary knowledge, professional skills, industry cognition	Theoretical application, technical operation, professional judgment	Full cycle (Years 1–4)
General Ability	Communication and collaboration, problem-solving, critical thinking	Teamwork, scheme design, logical analysis	Full cycle (Years 1–4)
Adaptability	Career resilience, learning willingness, adaptability	Stress management, knowledge renewal, situational adjustment	Full cycle (Years 1–4)

B. IDENTIFICATION OF SUPPLY-DEMAND CONTRADICTIONS IN COLLEGE TALENT TRAINING

At present, there is a structural mismatch between college talent training and the demand of the labor market, and this contradiction presents itself at multiple levels. The curriculum setting lags behind the speed of industrial development, and the teaching content of some majors still takes the traditional disciplinary system as the framework, failing to timely incorporate knowledge related to new technologies, new formats and new models, resulting in a time gap between graduates' knowledge structure and job requirements. The weakness of practical teaching is prominent: the high proportion of theoretical class hours squeezes the training space, and the insufficient depth of school-enterprise cooperation makes students lack opportunities to experience real work scenarios, often facing the dilemma of theory-practice decoupling upon graduation [3]. There is an obvious deviation in the focus of ability training: colleges and universities overemphasize the imparting of professional knowledge while ignoring the development of general abilities. Students have insufficient training in teamwork, cross-cultural communication, innovative thinking and other aspects, making it difficult to adapt to the requirements of modern enterprises for compound talents. The imperfect career guidance system exacerbates the disconnection between supply and demand. Many students lack systematic cognition of industry trends, career paths and job-hunting skills, and show blindness and passivity when choosing jobs. The root cause of these contradictions lies in the information asymmetry and lack of feedback mechanism between colleges and universities and the market under the inertia of the traditional education mode, making talent

training unable to quickly respond to changes in external demand.

C. EXTRACTION OF KEY ELEMENTS OF STUDENT DEVELOPMENT SUPPORT

Constructing an effective student development support system requires identifying and integrating a variety of key elements that jointly act on the process of ability formation. As a basic element, curriculum resources include not only the scientific setting of professional courses, but also the reasonable configuration of general education, innovation and entrepreneurship education and other modules. The curriculum system needs to reflect ability orientation rather than simple knowledge accumulation. Practical platforms constitute supporting elements: on-campus laboratories, training bases and off-campus internships form a three-dimensional practical network, providing students with progressive training opportunities from simulation training to real operation [4]. Guidance services are guiding elements, covering multiple dimensions such as academic counseling, career planning and psychological support. A professional guidance team can help students clarify their development direction and solve growth puzzles. Evaluation and feedback are regulatory elements: through phased ability evaluation, employer feedback, graduate follow-up surveys and other methods, weak links in the training process are found in a timely manner and targeted improvements are made. The collaborative mechanism plays an integrated role, breaking down the barriers between teaching departments, student work systems, employment centers and enterprise resources to form an educational joint force. These elements do not exist in isolation, but form an organic whole of

mutual support through the interaction and integration of information flow, resource flow and service flow, ensuring that students receive continuous and precise support at different development stages.

III. OVERALL ARCHITECTURE DESIGN OF THE STUDENT DEVELOPMENT SUPPORT SYSTEM

A. THEORETICAL BASIS AND DESIGN PRINCIPLES OF SYSTEM CONSTRUCTION

The construction of the student development support system is rooted in the cross-integration of multiple theoretical frameworks. Human capital theory emphasizes the role of education investment in improving individual productivity, providing theoretical support for the economic value of ability cultivation. Career development theory reveals the phased characteristics of career growth, requiring the support system to match the differentiated needs of different development periods, forming a coherent chain from the establishment of cognition in the exploration period to the consolidation of ability in the establishment period. Competency-based education theory breaks through the traditional disciplinary knowledge framework, taking observable and measurable ability indicators as training objectives, making the education process more focused on the comprehensive qualities required for practical work. Based on these theoretical foundations, the system design needs to follow the systematic principle to ensure the coordinated operation of various elements; the targeted principle requires accurately identifying the special needs of different majors and groups; the developmental principle emphasizes that the training content should be dynamically adjusted with industrial changes; the open principle promotes the in-depth integration of internal and external resources [5]. These principles are mutually supportive and progressive: systematicness constructs the overall framework, pertinence achieves precise supply, developmentalism maintains system vitality, and openness expands resource boundaries. Together, they ensure that the support system has both theoretical rigor and practical adaptability, and can effectively respond to the multi-dimensional requirements of the complex and changing employment environment for talent abilities.

B. THREE-IN-ONE SUPPORT MODULE OF CURRICULUM-PRACTICE-GUIDANCE

The integrated support framework synthesizes curriculum, practice, and guidance into a functional closed-loop. Rather than independent silos, these modules operate as a unified developmental engine: the curriculum provides the theoretical scaffolding, the practice phase facilitates competence transformation through industrial immersion, and the guidance module serves as the regulatory axis for career alignment [6]. The guidance module plays a connecting and regulating role: career planning guidance helps students establish a clear cognition of development paths, employment skills training improves job-hunting competitiveness, and psychological counseling services, which foster career

resilience by utilizing stress-simulation workshops and iterative feedback loops that challenge students to recalibrate their professional strategies in fluctuating market scenarios [7]. There is a clear collaborative mechanism between the three modules: curriculum learning lays a theoretical foundation for practical operation, practical experience feeds back to the optimization of curriculum content, and guidance services run through the whole process and provide personalized schemes according to curriculum and practical performance. This mutually penetrating structural design breaks the segmentation of the traditional training mode and realizes the organic unity of knowledge transmission, ability training and development guidance, as shown in Figure 1.

C. PHASED DIVISION OF FULL-CYCLE ABILITY CULTIVATION

The development process of students from enrollment to employment has obvious phased characteristics. The support system needs to be scientifically divided according to the law of ability formation and provide differentiated support. The adaptation and foundation stage covers the first year of university. At this stage, students are in the transition period from middle school to university. The focus of support is on the establishment of professional cognition, the transformation of learning methods and the enlightenment of professional awareness. Freshman seminars, professional introduction courses and enterprise visits help students complete role adaptation. The ability improvement stage runs through the second and third years of university. Students begin to systematically learn professional core knowledge and receive skills training. The support system strengthens the combination of in-depth curriculum learning and practical ability cultivation, providing students with opportunities to verify and expand their abilities through discipline competitions, scientific research training, short-term internships and other activities [8]. The in-depth transformation stage focuses on the fourth year of university. Students are facing a key transition from campus to workplace. The focus of support turns to the integration of comprehensive abilities and the improvement of job-hunting skills. Graduation design, on-the-job internships and employment guidance workshops constitute the core activities of this stage. The various stages are not completely divided but gradually evolve. The subsequent stages are progressively deepened on the basis of consolidating the achievements of the previous stages. The ability training objectives gradually develop from basic cognition to comprehensive application, and the support methods turn from general guidance to personalized services. This full-cycle design ensures that students can obtain appropriate support at each key node, promoting the continuous accumulation and systematic improvement of abilities.

IV. FUNCTIONAL IMPLEMENTATION MECHANISM OF EACH MODULE OF THE SUPPORT SYSTEM

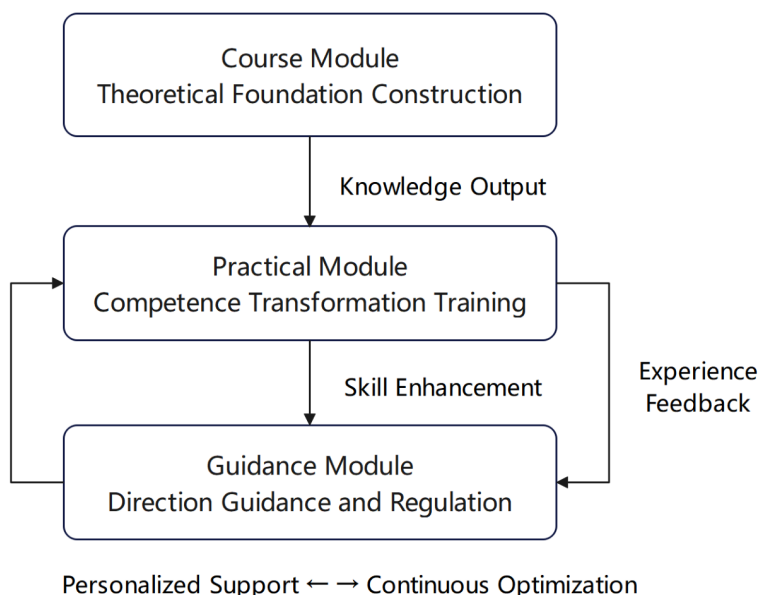


FIGURE 1. Operation Mechanism of the Three-in-One Support Module of Curriculum-Practice-Guidance

A. RECONSTRUCTION MECHANISM OF ABILITY-ORIENTED CURRICULUM SYSTEM

The reconstruction of the curriculum system needs to break through the traditional knowledge accumulation mode dominated by disciplinary logic and turn to goal-oriented design centered on ability achievement. The key of the reconstruction mechanism is to establish an accurate mapping relationship between ability indicators and curriculum content. Professional courses no longer only impart theoretical knowledge, but clearly define the specific ability elements cultivated by each course, decomposing abstract ability requirements into operable teaching tasks through the curriculum objective matrix. The selection and organization of curriculum content follow the principle of “necessity and sufficiency”, deleting outdated knowledge modules and adding content related to new technologies and new formats, while strengthening the integration of interdisciplinary knowledge to cultivate students’ comprehensive thinking ability. The reform of teaching methods has

become an important support: case teaching, project-driven learning, flipped classroom and other methods have changed the traditional one-way knowledge indoctrination, allowing students to realize the transformation from knowledge to ability in the process of solving real problems [9]. The assessment and evaluation system is adjusted accordingly, shifting from a single test of knowledge memory to a combination of process evaluation and result evaluation, and increasing the weight of ability-based assessment content such as practical operation, teamwork and innovative design. The curriculum system also needs to establish a dynamic adjustment mechanism: regularly review the appropriateness of curriculum settings through industry expert consultation, graduate feedback, employer evaluation and other channels, and update teaching content in a timely manner to keep pace with industrial demand. This continuous optimization mechanism ensures that the curriculum system is always in the optimal state for employability cultivation, as shown in Table 2.

TABLE 2. Elements and Implementation Paths of Ability-Oriented Curriculum System Reconstruction

Reconstruction Elements	Characteristics of Traditional Mode	Characteristics After Reconstruction	Implementation Path
Goal Setting	Knowledge mastery-oriented	Ability achievement-oriented	Constructing ability-curriculum mapping matrix
Content Selection	Integrity of disciplinary system	Principle of necessity and sufficiency	Phasing out legacy manufacturing protocols in favor of high-performance fiber synthesis and green textile chemistry based on real-time industrial bibliometrics
Teaching Methods	Lecturing-oriented	Diversified interaction	Case teaching, project-driven learning, flipped classroom
Assessment Methods	Knowledge memory test	Equal emphasis on process and result	Increasing the weight of ability-based assessment to 40%
Adjustment Mechanism	Static and fixed	Dynamic optimization	Annual review and three-year major revision

B. OPERATION MECHANISM OF SCHOOL-ENTERPRISE COLLABORATIVE PRACTICE PLATFORM

The effective operation of the practice platform relies on in-depth collaboration between schools and enterprises based on mutual benefit and win-win results. This collaboration goes beyond the traditional simple cooperative relationship and forms a community of interests. The core of the collaborative mechanism is to establish an institutionalized cooperation framework. Through signing strategic agreements, schools and enterprises clarify their respective rights and responsibilities: enterprises provide real projects, technical guidance and internships; colleges and universities output human resources, R&D capabilities and training services. This complementary resource relationship provides a driving guarantee for the sustainable operation of the platform [10]. The design of practical content emphasizes close connection with the actual business of enterprises. The projects participated by students come from the real needs of enterprises rather than virtual cases. This authenticity enables students to contact cutting-edge industrial technologies and work processes, cultivating their practical ability to solve complex problems. The platform operation establishes a dual-tutor system: on-campus tutors focus on theoretical guidance and academic norms, while enterprise tutors are responsible for technical guidance and professional quality cultivation. Both parties regularly communicate students' performance and jointly formulate training plans. The quality control system runs through the whole practice process, tracking the trajectory of students' ability development through internship logs, phased reports, enterprise evaluations and other methods, and timely finding and solving problems arising in practice. The establishment of a benefit-sharing mechanism solves the problem of enterprises' enthusiasm for participation. To address logistical and financial burdens, the framework incorporates an explicit incentive structure

where universities provide cooperative enterprises with tax-deduction certifications, subsidized laboratory access, and priority recruitment rights. Additionally, colleges output technical R&D support and employee training services, ensuring that the dual-tutor model offers measurable financial returns that offset the costs of providing external technical guidance. This mechanism innovation breaks through the dilemma of loose school-enterprise relations in traditional practical teaching.

C. PERSONALIZED CAREER DEVELOPMENT GUIDANCE MECHANISM

The effectiveness of career development guidance depends on the ability to accurately identify individual differences of students and provide adaptive support. The construction of a personalized mechanism needs to be based on comprehensive information collection and scientific analysis. The guidance process starts with career assessment: standardized tools are used to measure students' multi-dimensional characteristics such as career interests, personality traits and ability tendencies. The assessment results provide an objective

basis for the formulation of subsequent guidance schemes. The guidance content is designed differently according to the development stage and personal characteristics of students: lower-grade students focus on the establishment of career cognition and career planning enlightenment; higher-grade students focus on the improvement of job-hunting skills and preparation for workplace adaptation, enabling students with different professional backgrounds and employment intentions to obtain targeted industry information and job analysis [11]. The guidance method breaks through the traditional form of collective lectures, adopting multiple modes such as one-on-one consultation, group workshops and peer counseling. Professional counselors provide customized suggestions according to students' specific puzzles, and the experience sharing of seniors and sisters enhances the credibility and practicality of the guidance content. The information platform provides technical support for personalized guidance: the system records students' growth trajectory, ability development status and job-hunting progress, and intelligently pushes matching career information and development suggestions through data analysis [12]. The feedback and adjustment mechanism ensures the continuous optimization of guidance effect: regularly evaluate students' satisfaction with guidance services and their actual gains, and improve guidance strategies and service processes according to feedback results. This dynamic adjustment enables the guidance mechanism to continuously approach the real needs of students.

V. EFFECTIVENESS EVALUATION AND OPTIMIZATION STRATEGY OF THE SUPPORT SYSTEM

A. MULTI-SUBJECT PARTICIPATION EVALUATION INDEX SYSTEM

The scientific evaluation of the effectiveness of the support system needs to integrate the perspectives of multiple stakeholders. Evaluation by a single subject is difficult to fully reflect the real situation of system operation. The construction of the evaluation index system follows the principle of multi-dimensional coverage: from the student perspective, it focuses on the sense of ability gain and career readiness, measuring the improvement of professional ability, general ability and adaptability through self-assessment scales, and the employment direction and career development trajectory provide objective verification data. From the teacher perspective, it focuses on the participation in teaching reform and the perception of educational effectiveness; evaluation indicators include the number of ability-oriented courses developed, the duration of practical teaching investment and teachers' evaluation of students' ability development. As the user of talents, employers provide the most direct quality feedback: indicators such as graduates' post competency, work adaptation speed and continuous development potential reflect the matching degree between training and demand [13]. Third-party evaluation institutions introduce professional evaluation tools and standardized evaluation methods, providing independent and objective

evaluation conclusions through ability tests, satisfaction surveys, follow-up studies and other methods. The weight of each subject's evaluation is determined according to its influence on system operation and the credibility of evaluation: the evaluation of students and employers accounts for more than 60%, and the evaluation of teachers and third

parties forms a supplement. This multi-subject participation mechanism avoids the one-sidedness caused by a single evaluation subject and improves the reliability and validity of evaluation results through cross-validation, providing a reliable decision-making basis for system optimization, as shown in Table 3.

TABLE 3. Multi-Subject Participation Evaluation Index System

Evaluation Subject	Evaluation Dimension	Core Indicators	Weight Ratio	Data Source
Students	Perception of ability improvement	Professional ability growth rate, general ability mastery	30%	Self-assessment scale, skill test
Teachers	Effectiveness of teaching reform	Number of curriculum reconstruction, practical teaching hours	20%	Teaching files, questionnaire survey
Employers	Post competency performance	Work adaptation speed, development potential score	30%	Enterprise feedback, follow-up survey
Third-party Institutions	Training quality certification	Employment rate, professional relevance rate, ability compliance rate	20%	Standardized evaluation, data analysis

B. DATA-DRIVEN DYNAMIC ADJUSTMENT MECHANISM

The establishment of a dynamic adjustment mechanism enables the support system to timely respond to changes in the external environment and internal operation problems through evaluation data. Data collection covers the whole process and all links of system operation. As a data aggregation center, the information platform integrates multi-source information such as students' learning behavior data, curriculum teaching effect data, practical platform operation data and employment quality tracking data, forming an analyzable structured database through data cleaning and standardization. Data analysis adopts a combination of descriptive statistics and predictive modeling: descriptive analysis reveals the current status and historical trends; predictive models identify potential risks and improvement opportunities based on machine learning algorithms, for example, predicting the level of employment competitiveness through students' ability development curves and intervening in support in advance. The early warning mechanism sets trigger conditions according to the threshold of key indicators: when an indicator deviates from the normal range, the system automatically sends an early warning signal, and managers can quickly locate the problem and launch a response plan [14]. Adjustment decisions rely on data evidence rather than subjective judgment: after professional analysis by the team, evaluation data form a diagnostic report, clearly pointing out the weak links and improvement directions in system operation, and the decision-making level formulates targeted optimization measures accordingly. The formation of a feedback closed loop ensures the effective implementation of adjustment measures: the effect after the implementation of the optimization plan is verified through a new round of data collection, forming a continuous improvement cycle of "evaluation-analysis-adjustment-re-evaluation". This data-driven model improves the scientificity and accuracy of system management, as shown in Figure 2.

C. CONTINUOUS IMPROVEMENT QUALITY IMPROVEMENT PATH

Quality improvement is a process of gradual accumulation rather than an overnight result. The continuous improvement path needs to organically combine phased goals with long-term visions. The starting point of the improvement path is problem identification and attribution analysis: systematically sort out the key problems in system operation through evaluation data and feedback from stakeholders, trace the root causes of problems using causal analysis tools, and distinguish structural defects from operational deviations to take targeted measures [15]. Short-term improvement focuses on operational optimization with quick results, including specific measures such as adjusting curriculum content, improving teaching methods and optimizing guidance processes. These measures can produce observable effects within a semester or academic year, enhancing the confidence of teachers and students in system reform. Medium-term improvement involves the adjustment and improvement of the mechanism level, such as reconstructing the school-enterprise cooperation mode, optimizing the resource allocation method and improving the incentive and restraint mechanism. This kind of improvement requires cross-departmental collaboration and institutional innovation, with an implementation cycle of usually 2-3 years. Long-term improvement focuses on the strategic transformation and cultural remodeling of the system, promoting the in-depth recognition of ability-oriented concepts across the university, establishing an organizational culture of continuous learning and innovation, and forming an endogenous motivation mechanism for self-improvement. The improvement process follows the PDCA cycle principle: each improvement cycle includes four stages: plan formulation, implementation, inspection and evaluation, and summary and improvement. The experience and lessons at the end of the cycle become the starting point of the next round of improvement, realizing the spiral improvement of quality

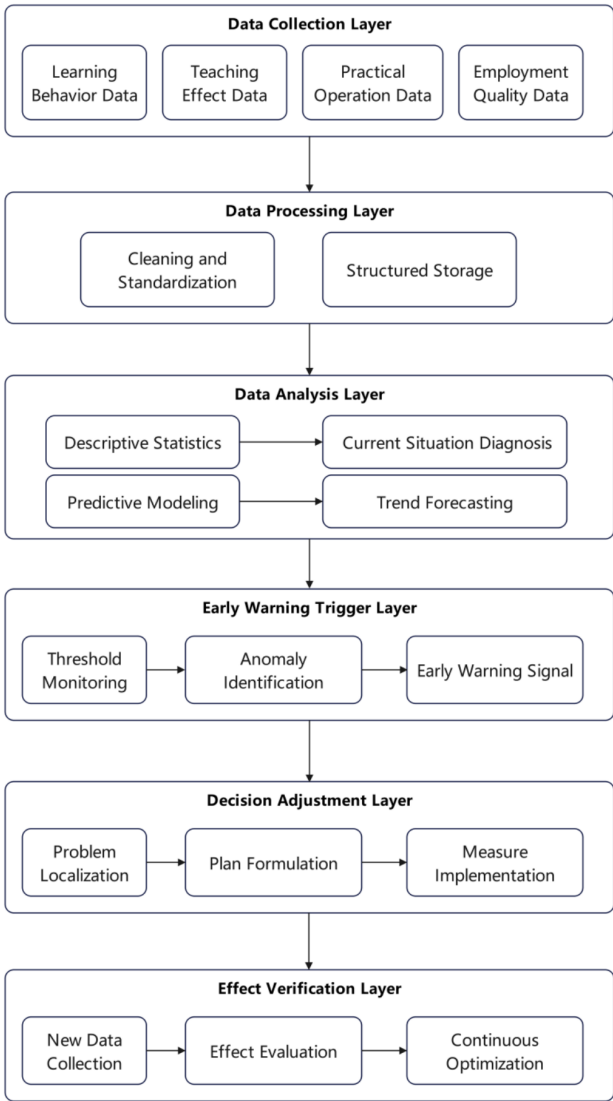


FIGURE 2. Operation Flow of Data-Driven Dynamic Adjustment Mechanism

through cycle iteration. This systematic path design ensures that the support system maintains continuous progress in dynamic adjustment.

VI. CONCLUSION

Constructing a student development support system oriented to employability improvement in textile engineering and fiber science is an inevitable choice for colleges and universities to adapt to the digital age and deepen education reform. This strategic alignment between academic support and the technical evolution of textile manufacturing ensures that graduates possess the high-level competencies required to lead the industry’s high-quality development. The system integrates ability cultivation into the whole process of talent training, forming a systematic education pattern through curriculum optimization, practical strengthening, precise guidance and resource integration. The establishment of a collaborative mechanism breaks down departmental barriers, realizes the effective linkage of internal and external resources,

and enhances the educational joint force. Implementation guarantee strategies ensure the effective operation of the system and provide continuous support for students’ ability development. The construction of this system not only improves students’ employment competitiveness, but also cultivates their career growth potential, realizing the organic unity of educational value and social needs. In the future, it is necessary to continuously improve the system content and innovate the operation mode in practice, promoting the integration of textile engineering and fiber science into higher education to ensure the continuous improvement of talent training quality. By aligning pedagogical innovation with the technical evolution of textile manufacturing, the system will transport more high-quality talents to drive sustainable economic and social development.

AUTHOR CONTRIBUTIONS

Conceptualization – Bin Ge, Ying Zhu and Yaqing Gu; methodology – Bin Ge, Ying Zhu and Yaqing Gu; investi-

gation – Bin Ge, Ying Zhu and Yaqing Gu; writing-original draft preparation – Bin Ge, Ying Zhu and Yaqing Gu. All authors have read and agreed to the published version of the manuscript.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

FUNDING

This research was supported by,

Shandong Province Higher Education Undergraduate Teaching Reform Project: Research and Practice on the Construction of Efficient Classroom of Automation Specialty under the Background of New Engineering, Z2021212

ACKNOWLEDGEMENTS

Not applicable.

REFERENCES

- [1] Y. Xiong, J. Yu, and H. Wu, "The relationship between psychological resilience and employability among higher vocational college students: the chain mediating effects of perceived social support and career decision-making self-efficacy," *Frontiers in Psychology*, vol. 16, pp. 1707655-1707655, 2026, doi: 10.3389/FPSYG.2025.1707655.
- [2] F. Ng L, W. Yap H, and P. Yong C V, "Evaluating research mobility placements: a skills audit framework for enhancing employability and professional development in higher education," *Cogent Education*, vol. 12, no. 1, 2025, doi: 10.1080/2331186X.2025.2554953.
- [3] Y. Yin, "Research on the Impact of Social Support on College Students' Employability," *Journal of Sociology and Education*, vol. 1, no. 11, 2025, doi: 10.63887/JSE.2025.1.11.20.
- [4] J. Ye, D. Huang, S. Meng, et al., "Development and validation of the perceived university employment support scale among undergraduate students," *Frontiers in psychology*, vol. 16, pp. 1657774-1657774, 2025, doi: 10.3389/FPSYG.2025.1657774.
- [5] H. Wang, "Research on the Promotion Path of Flexible Employment of College Students in Sports in the New Media Era," *Higher Education and Practice*, vol. 2, no. 11, 2025, doi: 10.62381/H251B28.
- [6] Y. Zuo, Y. Huang, L. Mou, et al., "The influence of subjective social class on employment confidence: the chain mediating effect of perceived social support and self-efficacy," *BMC Psychology*, vol. 13, no. 1, pp. 737-737, 2025, doi: 10.1186/S40359-025-02861-3.
- [7] L. Wen, M. Zhao, and Z. Li, "Statistical modelling and quantitative assessment of management reforms in higher education on the enhancement of student employability," *Applied Mathematics and Nonlinear Sciences*, vol. 10, no. 1, pp. 20251005-20251005, 2025, doi: 10.2478/AMNS-2025-1005.
- [8] G. Haneesha and A. K. Janardhanan, "Student Perceptions of Employability Outcomes of Online Education Vs Face-To-Face Learning," *SN Computer Science*, vol. 6, no. 6, pp. 610-610, 2025, doi: 10.1007/S42979-025-04139-2.
- [9] A. Bozzetti, D. N. Luigi, and L. Vergolini, "Differing patterns of employment for university students: the role of family background, educational choices and access to benefits," *Journal of Youth Studies*, vol. 28, no. 6, pp. 983-1002, 2025, doi: 10.1080/13676261.2024.2321497.
- [10] N. Baan D V, W. Nuis, S. Beausaert, et al., "Developing employability competences through career coaching in higher education: supporting students' learning process," *Studies in Higher Education*, vol. 49, no. 12, pp. 2455-2474, 2024, doi: 10.1080/03075079.2024.2307976.
- [11] S. Karimi, M. Esmaili, and A. Farani Y, "The relationship between career-related social support and self-perceived employability: the chain mediating role of psychological capital and career adaptability," *Journal of Education and Work*, vol. 37, no. 7-8, pp. 503-521, 2024, doi: 10.1080/13639080.2025.2472136.
- [12] J. Suja and J. Bharti, "Customized support vector machine for predicting the employability of students pursuing engineering," *International Journal of Information Technology*, vol. 16, no. 5, pp. 3193-3204, 2024, doi: 10.1007/S41870-024-01818-W.
- [13] Y. Wu, "Quantitative assessment of information technology support in higher education management systems for student employability enhancement," *Applied Mathematics and Nonlinear Sciences*, vol. 9, no. 1, 2024, doi: 10.2478/AMNS-2024-3694.
- [14] X. Cui, "The Relationship between Perceived Social Support and Employability among Preservice Preschool Education Students: The Mediating Effect of Learning Engagement," *International Journal of New Developments in Education*, vol. 5, no. 14, 2023, doi: 10.25236/IJNDE.2023.051423.
- [15] B. Zhang, H. Wang, and R. Mei, "Relationship between social support and employment anxiety among art education students: Self-efficacy as a mediator," *Social Behavior and Personality*, vol. 51, no. 5, pp. 1-8, 2023, doi: 10.2224/SBP.12284.