

Exploring Interesting Approaches to Cultivating Learning Psychological Resilience among College Students from the Perspective of Vocational Education

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ABSTRACT Learning psychological resilience is an important quality for vocational college students to cope with learning setbacks, skills-training pressure, and career adaptation challenges. Current vocational education students often show weak coping skills, low self-efficacy, and insufficient motivation, while existing resilience-cultivation methods are frequently monotonous, theory-oriented, and detached from professional learning contexts. Based on the talent-training goals of vocational education, this paper analyzes the main problems in cultivating students' learning psychological resilience and proposes engaging cultivation strategies from three dimensions: gamified learning design, diversified activity integration, and simulated professional scenarios. The proposed approach emphasizes challenge-based tasks, immediate feedback, incentive mechanisms, teamwork, role-playing, workplace simulation, and professional stress experience. By connecting psychological resilience training with practical learning processes and career scenarios, the framework aims to improve students' frustration tolerance, learning motivation, self-efficacy, and professional adaptability. The study provides a systematic reference for mental health education and resilience cultivation in vocational colleges.

INDEX TERMS vocational education, learning resilience, gamified learning, professional scenarios, self-efficacy

I. INTRODUCTION

LEARNING resilience refers to a student's psychological ability to actively adjust and persevere when facing challenges in mastering intricate textile production techniques and troubleshooting advanced weaving machinery. This mental toughness allows them to overcome technical setbacks and maintain focus while navigating the rigorous precision required in modern textile manufacturing environments. Vocational school students bear considerable pressure from professional studies, skills training, and career adaptation; therefore, cultivating their learning resilience is crucial for improving the quality of talent development. Currently, the cultivation of resilience in vocational schools suffers from drawbacks such as monotonous methods, lack of engagement, and detachment from professional studies, failing to effectively motivate students. Therefore, exploring engaging and practical pathways for cultivating resilience has become an important issue in vocational education's mental health work to prepare students for the rigorous technical demands and high-speed operational environment of the textile manufacturing industry. Developing these psychological strengths ensures that future technicians can

effectively navigate the complexities of modern weaving and spinning processes while maintaining professional growth.

II. THE SIGNIFICANCE OF CULTIVATING LEARNING PSYCHOLOGICAL RESILIENCE AMONG COLLEGE STUDENTS IN VOCATIONAL EDUCATION

A. IMPROVE STUDENTS' PSYCHOLOGICAL RESILIENCE IN THE FACE OF CAREER CHALLENGES

Career development is uncertain and full of difficulties, and practitioners need to have strong psychological resilience. Academic tenacity serves as the primary internal resource that students utilize to navigate pressure and setbacks. In the face of scholastic difficulties, internship hurdles, or employment stressors, students can maintain a constructive outlook, rationally analyze problems, and seek effective solutions [1]. With high levels of mental fortitude, individuals encountering setbacks—such as poor performance in skills tests or mistakes in practical training—can learn from these experiences, adapt their strategies, and persist until they succeed, thereby establishing a robust foundation for future career growth [2].

B. ENHANCING STUDENTS' LEARNING ENGAGEMENT AND CAREER DEVELOPMENT POTENTIAL

The level of psychological resilience determines the level of students' learning motivation and the quality of their engagement. Students with good psychological resilience are able to actively and proactively complete learning tasks and persevere in overcoming difficulties, while those with poor psychological resilience tend to avoid completing learning tasks and are unwilling to give their all when faced with problems [3]. This positive attitude will encourage students to delve into their professional disciplines, hone their professional skills, and continuously improve their professional qualities and skills through practice. Moreover, these students are more goal-oriented, able to set clear plans for their careers, and continuously strive for greater career development potential [4].

C. PROMOTING STUDENTS' PHYSICAL AND MENTAL HEALTH AND ALL-ROUND DEVELOPMENT

Psychological resilience plays an irreplaceable role in maintaining mental health and promoting all-round development. Students in vocational schools are in an important period of physical and mental development and will face many problems such as academic pressure, interpersonal relationships, and career choices, which will lead to various negative emotions such as anxiety and depression. Cultivating psychological resilience in learning will enable students to form a positive cognitive pattern, face difficulties and setbacks with a rational and optimistic attitude, regulate their negative emotions, and maintain psychological balance [5]. Improving psychological resilience is beneficial to students to form a sound personality, cultivate a sense of responsibility, resilience and other excellent qualities, and achieve all-round development in morality, intelligence, physical fitness, aesthetics and labor [6].

III. PROBLEMS IN CULTIVATING LEARNING PSYCHOLOGICAL RESILIENCE AMONG VOCATIONAL SCHOOL STUDENTS

In order to systematically sort out the prominent problems in the cultivation of psychological resilience in vocational colleges, this article conducts a diagnostic analysis from three perspectives: student ability, cultivation methods, and educational integration. The specific problems are shown in Table 1.

A. INSUFFICIENT COPING SKILLS FOR LEARNING SETBACKS AND LOW SELF-EFFICACY

At present, vocational school students generally have poor coping skills. When they encounter learning difficulties, they will show fear of difficulties or avoidance behavior. When they encounter difficult theoretical knowledge or difficult operational skills in the process of professional learning, they rarely analyze the reasons for the problem and seek solutions. They either passively avoid it or blindly seek help from others. The lack of

coping skills causes students to gradually lose confidence in learning after repeatedly experiencing learning difficulties, resulting in learned helplessness [7]. At the same time, many vocational school students have low self-efficacy and lack confidence in their learning ability and potential. Negative self-cognition significantly diminishes learning motivation, often leading to self-denial when students face difficulties. The primary catalyst for this cycle is often identified as the initial cognitive appraisal of failure, where students interpret setbacks as permanent and pervasive. To break this 'vicious cycle,' the logical entry point for intervention is the restructuring of these cognitive appraisals through immediate, positive feedback and mastery-based scaffolding. This approach targets the root cause of low self-efficacy before it translates into chronic avoidance behavior [8].

B. THE METHODS FOR CULTIVATING PSYCHOLOGICAL RESILIENCE ARE MONOTONOUS AND LACK FUN

At present, the cultivation of psychological resilience in vocational colleges mainly relies on traditional mental health courses and psychological counseling services. The methods are monotonous and lack appeal and interest. Most mental health courses adopt the method of theoretical teaching. Teachers explain the concept, characteristics, importance and other knowledge of psychological resilience in a textbook. Students passively receive information, and the classroom atmosphere is dull and boring, which cannot arouse students' learning interest. The one-way teaching model makes students' understanding of psychological resilience only stay at the theoretical level. They lack the process of personal experience and practical training, and cannot internalize theoretical knowledge into actual psychological ability [9]. More importantly, the existing training methods lack interesting and interactive design, and cannot take into account the interests and acceptance habits of contemporary college students, resulting in low student participation and greatly reduced training effect [10].

C. THE DISCONNECT BETWEEN VOCATIONAL EDUCATION CHARACTERISTICS AND THE CULTIVATION OF PSYCHOLOGICAL RESILIENCE

Vocational education aims to cultivate high-quality technical and skilled personnel and has strong vocational and practical characteristics. However, the cultivation of psychological resilience is not well integrated with the characteristics of vocational education and there is a disconnect. Most colleges and universities adopt the model of ordinary colleges and universities for psychological health education. The content and methods of cultivation lack the characteristics of vocational education and do not combine professional, skills, and practical training scenarios of vocational education. It is difficult to carry out effective cultivation for the problems encountered by students in vocational colleges at special stages [11]. In professional teaching and practical training guidance, teachers generally only pay attention to

TABLE 1. Main Problems and Manifestations in Cultivating Learning Psychological Resilience among Vocational School Students

Problem Dimensions	Core Issues	Main Manifestations	Impact And Consequences
Student psychological ability	Insufficient coping skills and low self-efficacy	Avoidance of difficulties, passive seeking of help, learned helplessness, lack of confidence in learning	Lack of motivation to learn can easily lead to a vicious cycle.
Cultivation methods	The methods are monotonous and lack fun.	Primarily theoretical lectures, passive learning, lack of experiential learning, and low participation.	Difficult to internalize into actual ability, resulting in poor results
Educational integration	The disconnect between professional characteristics and resilience training	Simply copying the model of ordinary universities, ignoring professional scenarios, and lacking system design.	Missed educational opportunities, lack of targeted approach

the transmission of knowledge and skills and ignore the concern for students' psychological state and the cultivation of psychological qualities. They do not integrate the cultivation of psychological resilience into the whole process of professional education. There is a lack of design for the cultivation of psychological resilience in vocational education characteristic links such as school-enterprise cooperation and on-the-job training, and a good educational opportunity is missed. Based on the above problem analysis, this paper constructs a problem diagnosis and countermeasure framework for the cultivation of psychological resilience in vocational colleges, as shown in Figure 1. This framework includes problem identification and strategy implementation, and provides systematic guidance for the cultivation of psychological resilience.

IV. FUN STRATEGIES FOR CULTIVATING LEARNING RESILIENCE IN COLLEGE STUDENTS IN VOCATIONAL EDUCATION

To address the above issues, this paper creates a three-dimensional, engaging cultivation strategy system, which systematically designs cultivation programs from three aspects: technical means, activity formats, and contextual integration, as shown in Table 2.

A. GAMIFIED LEARNING DESIGN: ENHANCING FRUSTRATION COPING AND SELF-EFFICACY

Integrating the concept of gamification into the cultivation of psychological resilience can effectively stimulate students' enthusiasm for participation while serving as a controlled stress-induction mechanism. Rather than substituting comfort for challenge, gamification provides a structured 'safe-to-fail' environment where the difficulty levels are calibrated to mimic workplace stressors. This ensures that the sense of self-efficacy gained in a fun experience is a direct result of overcoming incremental technical setbacks, thereby building the cognitive endurance required for high-pressure, high-speed operational environments. Teachers can design learning task games with a certain degree of difficulty and stratification, turning professional knowledge and skills training into challenge tasks. When students complete a series of challenges from simple to complex, they can experience the taste of success and gain self-confidence. Gamified teaching design emphasizes the immediate feedback mechanism. When students encounter difficulties, the

system can immediately give them prompts and encouragement, prompting them to analyze problems, change strategies, and try again, thus cultivating a tenacious spirit. Furthermore, incentive elements such as points, levels, and badges can be set up so that students can experience their progress and growth in gamified learning and enhance their sense of achievement. Teachers can also develop some team cooperation games, guide students to help each other and solve problems together in group competitions, role-playing and other activities, feel the team spirit from

the power of the team, obtain positive energy from others, and cultivate positive psychological qualities. Using virtual reality technology to create an immersive learning environment allows students to practice repeatedly in simulated scenarios, reducing the cost of trial and error and improving learning efficiency, thus making psychological resilience training more technological and attractive. The implementation of gamified learning psychological resilience training should follow a scientific process design, and Figure 2 shows the specific process. This process emphasizes closed-loop management from needs analysis to objective effect evaluation. Beyond mere participation rates, effectiveness is measured through pre- and post-training psychometric scales (such as the CD-RISC) and performance metrics during high-difficulty simulations, focusing on 'recovery time'—the speed at which a student regains technical accuracy after an induced failure—to ensure actual psychological growth and improved coping capacity.

B. INTEGRATING DIVERSE AND ENGAGING ACTIVITIES: ENRICHING THE FORMS OF CULTIVATING PSYCHOLOGICAL RESILIENCE

A variety of engaging activities can break the monotony of traditional education by embedding technical curriculum objectives into the activities themselves to avoid a 'disconnect.' Instead of generic exercises, these activities are redesigned as 'Professional Resilience Labs'; for instance, the 'electric grid crossing' is reimagined as a 'complex loom circuit troubleshooting' challenge, where physical coordination is linked to industrial safety protocols. By integrating technical knowledge with experiential learning, these activities serve as a direct extension of the core technical curriculum rather than a detached extracurricular supplement. Schools can regularly conduct psychological development activities using a graduated challenge model. For students exhibiting

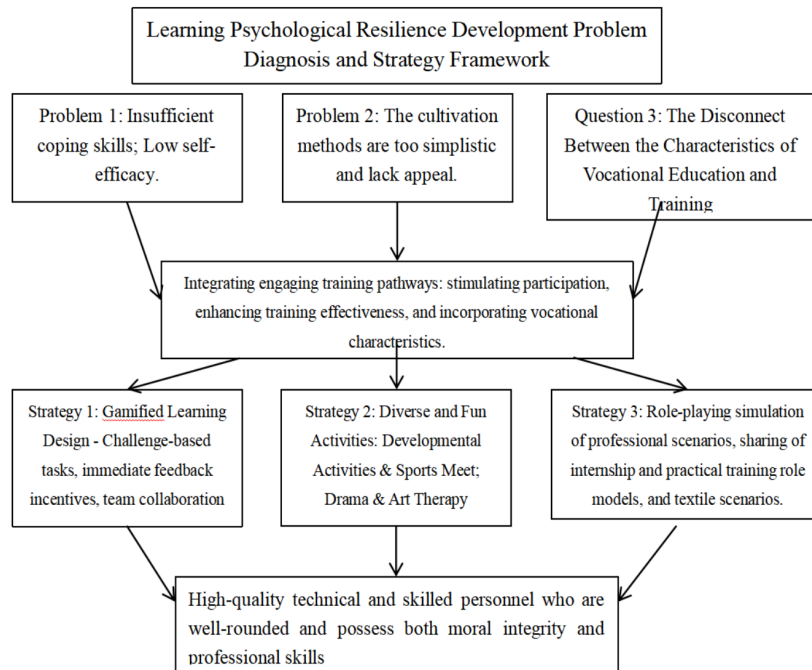


FIGURE 1. Framework for Diagnosis and Strategies for Cultivating Learning Psychological Resilience

TABLE 2. A System of Learning Psychological Resilience Cultivation Strategies Based on Engaging Learning Paths

Strategy type	Implementation Methods	Core Mechanism	Expected results
Gamified learning design	Challenge tasks, instant feedback, incentives, teamwork, VR technology	Challenge-success cycle, reinforced sense of accomplishment	Enhance resilience and self-efficacy
Diverse and fun activities	Team building activities, psychological sports meet, drama performances, art therapy, club activities	Experience-Insight-Internalization, Peer Support	Enrich the forms of training and enhance participation
Career Situation Simulation	Role-playing, on-the-job training, role model sharing, and industry scenario simulations	Real-world stress experience, enhanced professional identity	Developing professional psychological resilience and adaptability

'learned helplessness' or severe avoidance behaviors, the process begins with low-stress team cooperation tasks. Once a baseline of safety and competence is established, they can gradually transition to more challenging activities such as trust falls, high-altitude bridge crossings, and electric grid crossings. By employing a 'graded exposure' strategy, the manuscript ensures that students are not thrust into highstress environments prematurely, but rather build the necessary regulatory skills to manage anxiety during high-challenge tasks. Under the premise of ensuring safety and control, these activities allow students to experience and manage tension, fear, and hesitation, learning to regulate their psychological state, overcome psychological obstacles, and cultivate psychological resilience, thereby conquering themselves and improving their psychological qualities. Fun psychological sports meets can be held, featuring psychological balance tests, emotion recognition competitions, and stress release games, allowing students to recognize their own psychological characteristics and learn emotion regulation methods in a relaxed and enjoyable atmosphere. Psychological drama competitions can also be held, allowing

students to create and perform scenarios reflecting setbacks and growth in their school life in groups. Through artistic creation and role-playing, they can experience the role of psychological resilience and learn positive coping methods. Furthermore, utilizing art forms such as music therapy and art therapy to conduct mental health activities allows students to express negative emotions through art, achieving psychological relaxation and self-healing through creation, and cultivating a positive and optimistic attitude towards life. Schools should establish psychological resilience training clubs and carry out regular book exchange meetings, movie discussion meetings, outdoor hiking and other activities to create a good atmosphere for mutual growth, thereby guiding students to exchange and discuss together, inspire each other and achieve the goal of mutual improvement.

C. CAREER SITUATION SIMULATION EXPERIENCE: STRENGTHENING PROFESSIONAL IDENTITY AND RESILIENCE DEVELOPMENT

Career scenario simulations can integrate the cultivation of psychological resilience with professional education,

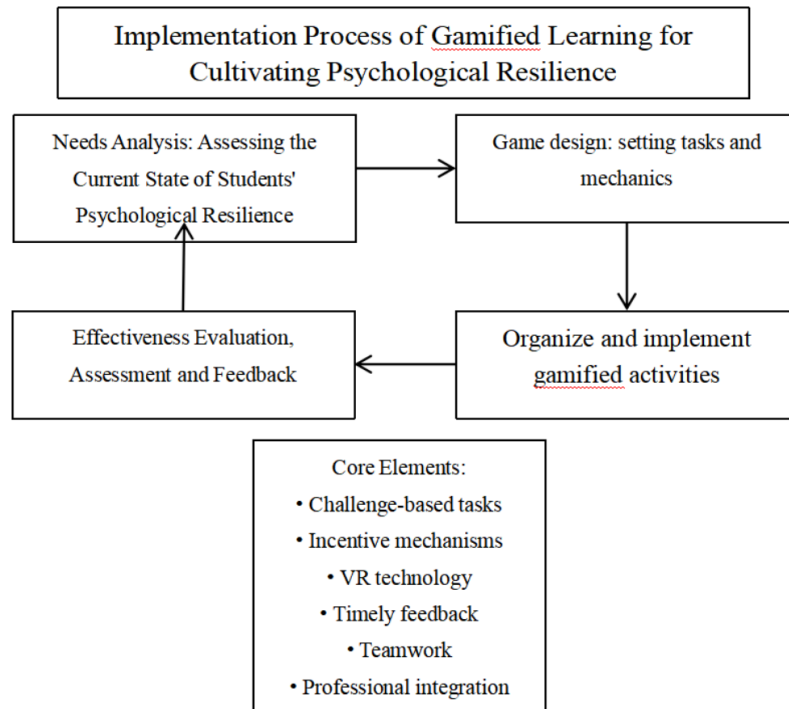


FIGURE 2. Flowchart for Cultivating Psychological Resilience Through Gamified Learning

training students' psychological qualities in realistic or simulated professional situations. Teachers can create typical career challenge scenarios, simulating customer complaint handling, emergency equipment malfunction response, and work task conflict coordination, allowing students to experience workplace pressure through role-playing. This helps them remain calm in complex environments, rationally analyze problems, and effectively resolve them. After repeated scenario drills and reflections, students gradually develop professional psychological resilience, laying a foundation for future workplace adaptation. Industry-university cooperation provides students with authentic workplace experiences. During internships and on-the-job training, students directly face workplace difficulties and challenges, receiving guidance from mentors on how to solve various problems encountered at work and honing their willpower. Schools can invite outstanding graduates and industry experts to share their career growth journeys, recounting how they overcame difficulties and setbacks in their career development. The power of role models inspires students to build career confidence, develop professional identity and pride, and cultivate an intrinsic motivation for continuous learning and progress through a love for their profession. Based on the characteristics of the textile major, scenarios such as fabric failure testing, dyeing process errors, and order delivery delays were created to allow students to practice dealing with various pressures encountered in a real work environment, thereby enhancing their professional adaptability and psychological resilience. Taking textile-related

majors as an example, this study integrates engaging training strategies with the characteristics of the major, forming an implementation approach with industry characteristics, as shown in Table 3.

V. CONCLUSION

Developing psychological resilience is a crucial foundation for vocational school students to successfully navigate the technical rigors and high-precision standards of the textile manufacturing industry. This mental strength empowers them to sustain professional growth while mastering the complex operational demands of modern spinning and weaving environments. Faced with current challenges in training students, such as insufficient coping skills, monotonous methods, and a disconnect from vocational characteristics, vocational schools should actively explore engaging and interactive training pathways. Through gamified learning design, diverse and enjoyable activities, and vocational scenario simulations, students' psychological resilience can be enhanced in an entertaining and educational way. Teachers should integrate resilience training into textile engineering curricula and mill-based internships, constructing a comprehensive mental health system that prepares students to handle the technical pressures of high-speed weaving and spinning operations. This approach ensures the development of well-rounded technical personnel capable of maintaining both moral integrity and professional competence within the demanding textile manufacturing environment.

TABLE 3. Implementation Paths and Case Studies for Cultivating Psychological Resilience in Textile-Related Majors

Cultivation stage	Professional scenario design	Fun methods	Ability Development Goals
Basic cognitive period	Textile material identification game, process flow challenge	Gamified tasks and points incentives	Develop professional interests and enhance learning confidence
Skills training period	Fabric quality inspection simulation and dyeing process challenge	Team competition, failure review	Enhance resilience and strengthen skills training
Workplace adaptation period	Order delivery pressure simulation and customer communication exercise	Role-playing, case study	Develop professional resilience and enhance adaptability

AUTHOR CONTRIBUTIONS

Meng Gang designed, collected and analyzed the data, and drafted the manuscript. Meng Gang conducted the study, critically revised the manuscript for important intellectual content, and gave final approval of the version to be published. Meng Gang participated fully in the work, take public responsibility for appropriate portions of the content, and agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

CONFLICTS OF INTEREST

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REFERENCES

- [1] N. Reynoso, "Positive Psychology Framework and Cultivating Resilience," *Promoting Resilience and Inspiration*, pp. 149-171, 2025, DOI: 10.1007/978-3-031-82295-7_9.
- [2] Y. Dan, "A Study on College Students' Sense of Acquisition in Ideological and Political Theory Courses from the Perspective of Psychology," *Applied & Educational Psychology*, 2022, DOI: 10.23977/appep.2022.030504.
- [3] L. Gui, "Exploring the path to improve college students' entrepreneurial competence from the perspective of psychological capital," *Education Guide: First Half Month*, no. 9, p. 4, 2018, DOI: CNKI:SUN:JYDK.0.2018-09-018.
- [4] Y. Miao and L. Zhou, "Research on the Innovation Path of Ideological and Political Education in Colleges from the Perspective of Positive Psychology," *Frontiers in Humanities and Social Sciences*, vol. 3, no. 10, pp. 14-19, 2023, DOI: 10.54691/fhss.v3i10.5677.
- [5] S. Sha, K. Heller, R. Hartson K, et al., "College students' resilience-promoting behaviors and psychological well-being: A latent class analysis," *Open Health*, vol. 5, no. 1, 2024, DOI: 10.1515/ohe-2023-0041.
- [6] S. Kabak and M. Baş, "Examination of the relationship between athlete identity, emotional intelligence, psychological stress and psychological resilience of university students," *BMC psychology*, 2026, DOI: 10.1186/S40359-026-03984-X.
- [7] A. Kumar, P. Singh, A. Parihar S, et al., "Analyzing the impact of psychological capital on the entrepreneurial intentions of students through mediating role of individual expectancy using PLS-SEM," *International Journal of Social Economics*, vol. 53, no. 1, pp. 46-61, 2026, DOI: 10.1108/IJSE-03-2024-0252.
- [8] P. Gasser, A. Grajeda, J. Cordova P, et al., "Mental cost in higher education: a comparative study on academic stress as a predictor of mental health in university students during and after the COVID-19 pandemic," *Cogent Education*, vol. 12, no. 1, 2025, DOI: 10.1080/2331186X.2024.2445968.
- [9] J. Li, "Innovative Strategies for Mental Health Education in Universities under the Background of Artificial Intelligence," *GBP Proceedings Series*, pp. 65-71, 2025, DOI: 10.70088/9GDVDV04.
- [10] C. Liu, "Reflections on Career Development Planning for Vocational College Students from a Positive Psychology Perspective," *International Journal of Learning and Teaching*, vol. 11, no. 6, 2025, DOI: 10.18178/IJLT.11.6.397-401.
- [11] K. Guo, J. Zhang, and H. Ansari A W, "Teacher care and mental wellbeing: Exploring the role of grit, resilience, and AI-interaction in education management," *Acta psychologica*, vol. 261, Art. no. 105977, 2025, DOI: 10.1016/J.ACTPSY.2025.105977.