

Research on Teaching Reform and Practice of Application-Oriented Undergraduate Logistics Management Major Industry Class Based on Person-Job Fit

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Abstract. "Employment is the foundation of people's livelihood." Sending graduates who meet the job requirements of logistics enterprises to society is the core goal of training students in logistics management at applied undergraduate institutions. This paper comprehensively investigates the competency requirements, on-the-job training, and job training plans of logistics enterprises for university graduates. It compares the training programs of applied universities in logistics management, integrates the "person-job fit" theory with the teaching reforms and practices of logistics management professional industrial classes. The paper proposes a collaborative construction of a school-enterprise integrated practical teaching base, implementing a curriculum structure of "Year One Enlightenment, Year Two Introduction, Year Three Entry, Year Four Simulation, Graduation Employment," to facilitate the high-quality training of applied talents. Through tracking and analyzing the implementation paths of industrial class teaching reforms and practices for 104 students jointly trained by Guangdong University of Science and Technology and SF Express over the past four years, the paper demonstrates the achievements of industry-oriented teaching reforms and practices.

Keywords: Person-Job Fit; Application-Oriented Undergraduate; Logistics Management; Industry Class; Teaching Reform and Practice

1 Introduction

In recent years, with the rapid development of the logistics industry, the training of application-oriented undergraduate logistics management majors faces increasingly complex talent demands. To meet the requirements of logistics enterprises for high-quality talents with strong practical abilities, this paper aims to explore and implement the application of the "Person-Job Fit" theory in the application-oriented undergraduate logistics management major. Through industrial class teaching reform and practice, the goal is to better match students with the job requirements of logistics enterprises upon graduation. Recent research in this field has deepened both domestically and internationally. Hu Jingjuan (2023) conducted research and exploration on the diverse value of the "Person-Job Fit" theory and the optimization path of cultivating vocational literacy in university students guided by the theory, aiming to facilitate the alignment of vocational literacy with social talent demands and job competency requirements [1]. Fan

Xiang (2022) analyzed the inherent reasons for the low "Person-Job Fit" degree of university students and explored the path to enhance the employability of university students [2]. Zhu Xinyan and Xu Lirui (2022), based on industry-education integration, jointly created a talent training model with JD.com at Shaanxi Institute of Technology, forming a diversified mentor team, and improving the collaborative mechanisms of "industry-education synergy, skill training synergy, and professional development synergy" [3]. Ma Junpeng and Meng Ruizhen (2022) used "school-centered factory" as a platform to explore and practice a vocational logistics management talent training model that meets social needs, striving to achieve alignment between talent cultivation and demands [4]. Zhao Xiangdong, Wu Shikui, et al. (2023) proposed the "three-in-one practical education" model of school-enterprise cooperation, including strengthening on-campus practice through enterprise involvement, expanding off-campus practice through school-enterprise cooperation, and jointly guiding competition practice with enterprises [5]. Zou Shuzhen, Xie Heng, Xiao Caiyuan, etc. (2020) analyzed the necessity of constructing an evaluation system for practical teaching in applied universities and proposed four principles for constructing a four-in-one evaluation system for practical teaching. The aim is to provide reference for promoting the standardization, institutionalization, and specialization of practical teaching construction [6]. James A. Meurs, Graham H (2024) investigate the outcomes of supply chain employee trust in their supervisor. Applying person-environment fit theory, the authors evaluate the well-established antecedents to trust in supervisor ability, benevolence and integrity (ABI) relative to person-job (P-J) fit and person-vocation (P-V) fit of US supply chain employees [7]. Ikhsan Maksum, Nur Laili Fikriah(2021) focused on the mediating role of job boredom (KTP) in the pathway of influence of perceived overqualification (POQ) on counterproductive behaviors (PKP). Using a sample of 106 employees and lecturers at Islamic universities in Indonesia and using the integration of the theory of person-job fit, the researchers found that KTP fully mediates the effect of POQ on PKP[8].

This paper adopts a research method combining on-site investigation and data analysis. It focuses on the person-job fit industry class, a collaborative program between SF Express and Guangdong University of Science and Technology (GDUST) in logistics management, spanning four years. The research comprehensively explores the competency requirements, on-the-job training, and job training plans of logistics enterprises for university graduates. It compares the curriculum structure of applied universities in logistics management, integrating the "person-job fit" theory with teaching reforms and practices of logistics management industry classes. The paper also highlights the collaborative construction of a school-enterprise integrated practical teaching base, implementing a curriculum structure of "Year One Enlightenment, Year Two Introduction, Year Three Entry, Year Four Simulation, Graduation Employment." This approach aims to facilitate the high-quality training of applied talents. By tracking and analyzing the implementation paths of industrial class teaching reforms and practices for 104 students over the past four years, jointly trained by Guangdong University of Science and Technology and SF Express, the paper demonstrates the achievements of industry-oriented teaching reforms and practices. Additionally, the paper collects and analyzes data on graduation salary, promotion years, attrition rates, etc., for the 104 industry class students and compares them with around 700 students who did not participate in the industry class, showcasing the outcomes of teaching reforms and practices in logistics management industry classes.

2 Logistics Enterprise Undergraduate Learning Map and Training Plan

The "Person-Job Fit" theory originated in developed countries such as Europe and the United States and gained prominence with the rise of the social reform movement in the 19th century. It occupies a crucial position in the global system of vocational guidance theories. The theory revolves around the alignment of individual personality traits with the characteristics of societal positions. It not only reveals the relationship between individual personality traits and societal positions but also demonstrates higher value in vocational guidance, employment quality assessment, and human resource allocation. Occupational matching theory is an important genre within the "Person-Job Fit" theory, proposed by the American John Holland. He categorizes individuals into six types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional, and provides positioning for the occupational environments corresponding to each type. The talent cultivation of application-oriented undergraduate logistics management majors is mainly geared towards Enterprising individuals, meeting the demands of logistics enterprises for high-quality talents with strong practical abilities.

Taking SF Cold Chain, the top-ranked company in the Chinese cold chain industry, as an example, its training plan for newly recruited undergraduate graduates is illustrated in Fig.1. The training plan spans 10 months and is divided into three stages: Integration (preparatory period), Fusion (training period), and Innovation (on-the-job period). The goal is to develop university graduates who have just stepped out of campus into capable talents ready for future challenges, growing into a new generation of operational and managerial reserve cadres. SF Cold Chain designs learning courses for graduates from four dimensions: process, resources, assessment, and incentive. It provides experienced mentors and business mentors, conducts weekly/monthly coaching and rotation reports, and organizes evaluations and competitions for on-the-job deployment.

From SF Cold Chain's undergraduate training plan, it is evident that the traditional four-year training program for application-oriented undergraduate logistics management majors does not meet the industry's requirement of "graduation ready for the job." There is an urgent need for teaching and practical reforms.

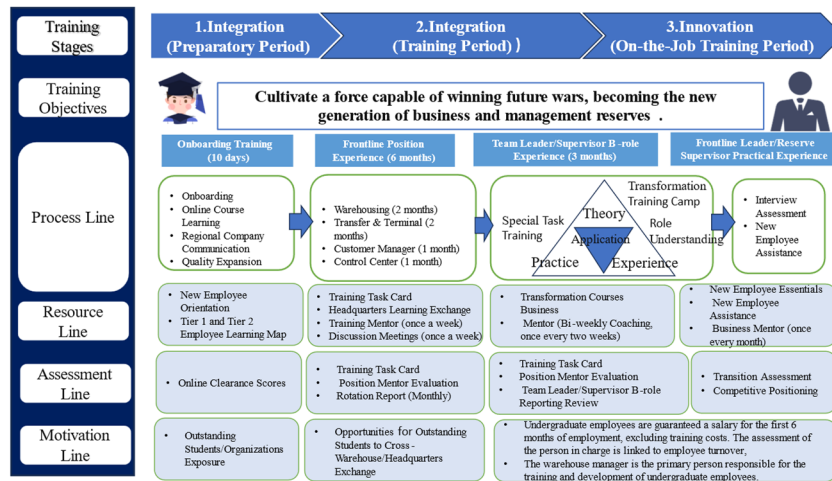


Figure 1. Learning Map and Training Plan for New Logistics Undergraduate Students in SF Cold Chain Logistics

3 Application-Oriented Undergraduate Logistics Management Major Industrial Class Teaching Reform and Practice Based on "Person-Job Fit"

Guangdong University of Science and Technology is a private application-oriented undergraduate university located in Dongguan, the geometric center of the Guangdong-Hong Kong-Macao Greater Bay Area, adjacent to SF's headquarters in Shenzhen. This geographical advantage provides a solid foundation for in-depth cooperation between the two parties. The university graduates over 600 logistics major students annually, with approximately 95% being Guangdong natives. SF recruits over 300 fresh graduates in Guangdong province each year. Guangdong University of Science and Technology and SF signed a cooperation agreement to jointly establish the "Person-Job Fit" Logistics Management Major Industrial Class and build a practice teaching base for the integration of production, education, and research in undergraduate institutions in Guangdong province (hereinafter referred to as the base). In the past four years, at least 100 logistics major juniors have been recommended to participate in SF's industrial class dual-selection presentations each year. After successful dual-selection, students sign a three-party agreement with SF for a 6-month internship. The university arranges logistics major teachers to serve as the industrial class instructor, responsible for coordinating with SF to integrate students into the pre-job training, guide students to successfully complete quarterly assessments during the training period, write graduation theses, and coordinate the credit substitution of senior-year courses for students.

After the 6-month internship, SF and students conduct a second mutual selection to decide whether to continue with a 4-month on-the-job internship until graduation. Graduates who complete the entire 10-month internship are all employed as regular employees by SF. During the internship, SF provides students with a monthly subsidy of no less than 6,500 yuan, and the internship period is counted towards employees' seniority, impacting future salary adjustments

and promotions. This model not only deepens students' practical experience but also cultivates new talents with practical abilities for SF, effectively promoting the close integration of education and industry. The cooperative mechanism also includes industry exchanges, lectures by enterprise mentors, joint research projects, etc. SF has 12 key employees from various departments serving as external instructors for Guangdong University of Science and Technology's logistics management major, and the university provides them with corresponding instructional fees annually.

In response to this "3+1" training model, with three years at the university and one year at the base, Guangdong University of Science and Technology's logistics management major has carried out teaching reforms and practices in three aspects: educational philosophy, curriculum design, and faculty construction.

3.1 Innovative Educational Philosophy: Oriented toward enterprise job competency requirements, improve the "education-employment" school-enterprise linkage mechanism

In terms of changing the educational philosophy, application-oriented undergraduate institutions need to establish a student-centric education concept oriented toward vocational needs and the development of vocational capabilities. In the formulation of talent training goals and programs, emphasis should be placed on promoting the effective alignment of university students' vocational literacy with the requirements of professional positions. Under the guidance of this philosophy, application-oriented undergraduate institutions need to conduct market research on talent demand, understand market development trends, grasp the trend of competency development for job positions, and provide a basis for the development and optimization of educational practices. Moreover, "Person-Job Fit" not only manifests as the alignment between the theoretical and practical capabilities of college students and professional positions but also reflects the match between student characteristics and professional positions. Therefore, application-oriented undergraduate institutions need to follow the principle of student-centeredness in the process of cultivating vocational literacy, respecting individual student personalities, and creating favorable conditions for the development of student personalities. Guangdong University of Science and Technology's logistics management major adheres to the training philosophy of "Enlightenment in the first year, Introduction in the second year, Entry into the industry in the third year, Entry into the model in the fourth year, and Graduation ready for the job," and, in collaboration with SF, integrates base logistics cognitive experience, base mentor lectures, and base internships throughout the four years of university. The detailed student development path, learning platforms, education focus points, and educational outcomes are shown in Table 1. In the talent cultivation system of the applied undergraduate logistics management major, there are various paths to enhance individuals' professional qualities and values. However, among them, constructing a talent cultivation model that closely involves enterprises, meets societal needs, and engages the participation of the three parties—enterprises, universities, and society—is crucial. Conducting "Person-Job Fit" course ideological and political education is one of the important approaches [9]. Therefore, focal points of ideological and political education, such as "nurturing a sense of patriotism" and "cultivating virtue and self-discipline," run through the philosophy of talent cultivation in the logistics management major.

Table 1. The cultivation philosophy and student development path of the Logistics Management Major

Timeline	Student Development Path	Learning Platforms	Educational Focus Points	Educational Effectiveness
Freshman (Year 1)	Cultivate a sense of responsibility	In-classroom teaching at the university, Excellent graduate speeches	Basic theoretical learning, Nurturing a sense of patriotism	Enlightenment
Sophomore (Year 2)	Explore points of interest, Choose a major in regular classes	Compulsory module classroom teaching, Lab teaching, Industry and enterprise research	Professional theoretical learning, Skill learning, Cultivation of a professional perspective, Ethical and self-discipline education	Entry
Junior (Year 3)	Find points of identity, Choose an industry in the innovative class	Selective module classroom teaching, Lab teaching, Corporate internships, Corporate teachers in the classroom	Professional theoretical learning, Skill learning, Training in professional thinking, Development of management skills, Ethical and self-discipline education	Entry into the industry
Senior (Year 4, Semester 1)	Implement matching points, Choose a company in the industry class	Students enter the industry class in the company, Professional teachers enter the company, Corporate experts mentor apprentices, Cooperative company position teaching	Professional skill learning, Development of management skills, Cultivation of corporate culture, Formation of professional habits, Ethical and self-discipline education	Entry into the model
Senior (Year 4, Semester 2)	Embark on the development path, Interns choose positions	Student internships, Actual work in cooperative company positions, Training in management positions	Professional skill learning, Development of management skills, Identification with corporate values, Cultivation of sustainable development capabilities	Entry into the job

3.2 In Curriculum Design Reform: Emphasizing Both Theoretical Learning and Productive Practical Training.

Factors such as students' vocational abilities, professional qualities, and educational environment are directly and inevitably related to the ways in which applied undergraduate students are trained during their school period. Therefore, deepening the integration of industry and education, establishing production-oriented training bases that align completely with enterprise production, and implementing a production-oriented training-led industry-education integration mechanism are the most effective ways to enhance students' occupational adaptability.

Around the two directions of international logistics and cold chain in the Logistics Management major at Guangdong University of Science and Technology, benchmarking the job skills training requirements of two typical work scenarios in SF Express and SF Cold Chain, the curriculum system of the logistics management major has been reformed and upgraded. As

shown in Fig.2, this curriculum system consists of basic required courses, major required courses, major elective courses (offered in different directions), major elective courses, and base practice courses. Eight base practice courses have been established, including logistics machinery application experiments, logistics market special investigations, and warehousing and distribution experiments.

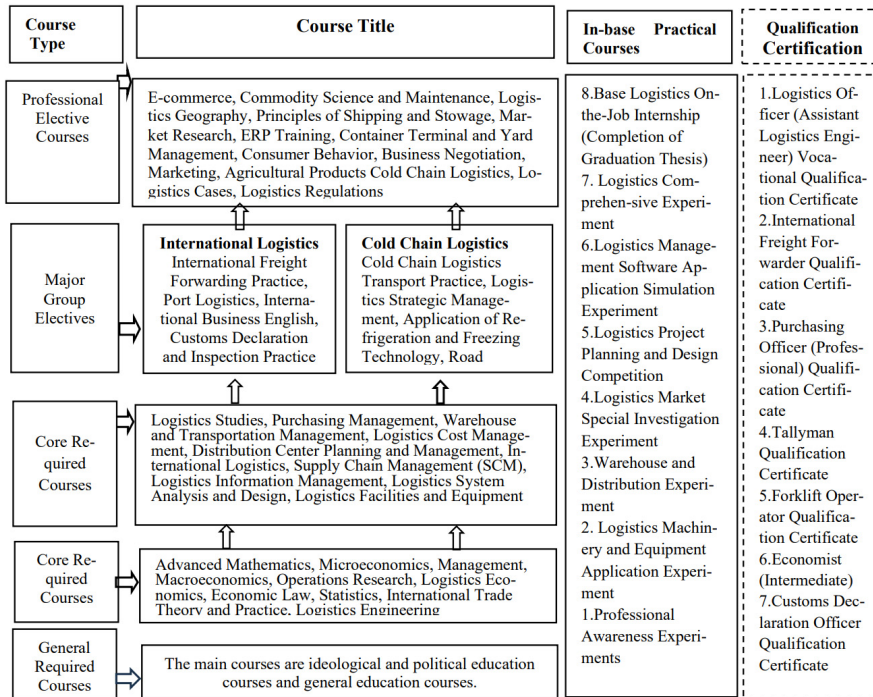


Figure.2. Revised Curriculum System for Logistics Management Major

3.3 Faculty Team Construction: Enhancing the Dual-Teacher Model.

Faculty team construction is an important guarantee to meet the quality and standards requirements of talent cultivation and is a key driver in enhancing the vocational adaptability of applied undergraduate students. Both the university and enterprises actively participate in the recruitment and training of the faculty team. Guangdong University of Science and Technology provides teachers with a solid theoretical foundation and teaching experience, while SF contributes professionals from the industry's frontline. Through regular teacher training sessions and collaborative discussions, the faculty team is equipped to stay abreast of the latest developments in the logistics industry and adopt new educational concepts.

The focus is on developing a dual-teacher faculty team. Firstly, in terms of the overall structure, a combination of specialized and adjunct roles is employed by hiring over ten SF professionals with rich practical experience to serve as part-time teachers. Secondly, at the individual level, teachers are required to possess "dual-teacher" capabilities. The university has implemented a rotation practice and further education system for teachers at the base, assigning them roles such

as base class advisers or mentors guiding base students in their thesis projects. This ensures that teachers in this major take turns participating in practical further education.

Guangdong University of Science and Technology and SF, as university-enterprise partners, have collaboratively developed a series of innovative course cases driven by real-world projects, as illustrated in Table 2.

Table 2: Example of Case-Based Teaching and Project-Driven Course Arrangement in SF Cold Chain Logistics

Serial Number	Empowerment Position	Course Content	Duration
1	Food Safety and Quality Management	Interpretation of the three respects (respect for temperature, inventory, shelf life) of food safety and quality management	60min
2	Product Awareness	Cold chain product knowledge system	45min
3	Storage Awareness	Introduction of Warehouse System Functions (OMS/WMS/Barcode Scanner)	90min
		Introduction of Warehouse Functional Areas, Storage Areas, and Storage Locations	
		Introduction of Warehouse Inventory, Production Tools	
		Introduction of Warehouse Inbound, Outbound, and Inventory Management Operations	
		Warehouse Quality Control Indicators and Case Studies	
4	Capacity Awareness	Vehicle management, exception handling, safety knowledge, etc.	45min
5	Large Item Awareness	Introduction of large item system (cold chain large item system/cold mirror microservice/one-order check)	45min
		Introduction of large item collection and delivery process (receipt/delivery/self-collection/exception handling)	
		Large item quality control indicators (timeliness/operation/temperature)	
6	Equipment Knowledge	Warehouse equipment knowledge	45min
7	Transit Awareness	Introduction of transit site and functional areas - platform area, refrigerated area, frozen area, etc.	45min

4 Implementation Process of Industry Class Teaching Reform and Practice

Student professional competence and practical skills are not the sole factors affecting students' occupational adaptability; occupational adaptability is also influenced by factors such as occupational demands and social environment. Therefore, applied undergraduate institutions should establish a more closely integrated "education-employment" school-enterprise linkage mechanism, with student employment as the core, synchronizing and coordinating daily teaching, practical internships, quality education, and student activities with employment efforts.

In 2020, the first batch of 15 students from Guangdong University of Science and Technology began the "3+1" SF Express Industry Class training program, marking the official start of the teaching reform and practice in logistics management. In the same year, the process began with hands-on logistics awareness training for freshmen, expanded to on-site experiential internships at the base, introduced SF Express enterprise cases in sophomore logistics mandatory courses, and invited industry professionals for lectures. In the junior year, an innovation class was established, allowing students to choose courses based on their future employment direction in international logistics management or cold chain logistics management. Over the four years of university, the proportion of base practice teaching hours gradually increased, as shown in Fig. 3.

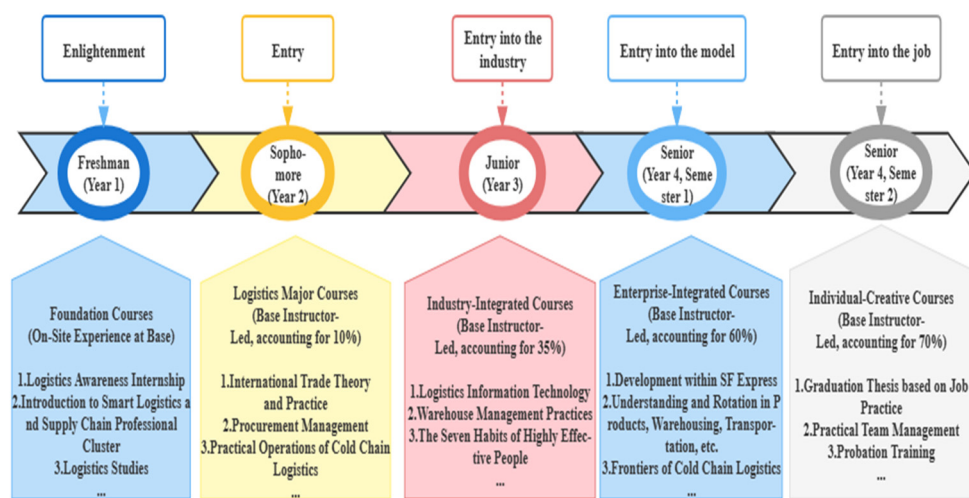


Figure 3. Teaching Reform and Practical Implementation Path around Enterprise Job Demands

5 Conclusion

Based on the "Person-Job Fit" the teaching reform and practical experience of the applied undergraduate logistics management industry class have achieved significant results. Taking Guangdong University of Technology as an example, over the past four years, the base has accepted internships from 104 senior industry class students, with a retention rate exceeding 85%. The model of the SF base has also attracted cooperation from companies such as JD and SHEIN, as well as collaboration with Guangdong University of Technology. Students who have undergone practical training at the base have an average salary 30% higher than regular graduates, and their promotion speed is on average 1 year ahead, as shown in Table 3.

Table 3. Summary of Person-Job Fit Industry Class Student Training at SF Base in the Past Four Years

Year	SF Students	SF Salary (Yuan)	Remaining at SF	Current Positions at SF	regular graduates Students	regular graduates Salary (Yuan)
2020	15	5000	11	Regional Managers	105	4356

2021	19	5500	14	Site Supervisors	76	4737
2022	38	6000	30	Supervisor B-role	54	5202
2023	32	6500	27	Frontline Position	72	5890
Total	104	Average: 6625	86	Promotion each year	307	Average: 5046

In conclusion, in future educational efforts, applied undergraduate programs should be oriented towards achieving Person-Job Fit. Further exploration of optimization paths for cultivating vocational competence in university students is essential to continuously enhance the quality of their employment.

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References

- [1] Hu, J. (2023). Strategies and Approaches to Enhancing College Students' Vocational Literacy from the Perspective of Person-Job Fit Theory. *Continuing Education Research*, 06, 85-90.
- [2] Fan, X. (2022). Research on Improving the Employability of University Students Based on the "Person-Job Fit" Theory. *International Public Relations*, 19, 101-103.
- [3] Zhu, X., & Xu, L. (2022). Research and Practice of Modern Logistics Management Professional School-Enterprise Collaborative Education Model Based on Industry-Education Integration. *Logistics Engineering and Management*, 44(11), 148-150.
- [4] Ma, J., & Meng, R. (2022). Exploration and Practice of the Talent Training Mode of "Industry-Education Integration and Collaborative Education" – Taking Logistics Management Major in Higher Vocational Colleges as an Example. *China Management Informatization*, 25(24), 220-222.
- [5] Zhao, X., Wu, S., et al. (2023). Research on the "Three-in-One Practice and Education" Talent Training Mode in Pharmaceutical Logistics. *China Continuing Medical Education*, 15(13), 182-185.
- [6] Zou, S., Xie, H., Xiao, C., et al. (2020). Construction and Practice of Practical Teaching System in Applied Undergraduate Colleges. *Journal of Shaoyang University (Natural Science Edition)*, 17(4), 97-102.
- [7] James A. Meurs, Graham H. Supply chain job and vocational fit: links to supervisor ability, benevolence and integrity[J]. *International Journal of Physical Distribution & Logistics Management*, 2024,(01), Vol. 54 No. 1, pp. 118-135.
- [8] Ikhsan Maksum, Nur Laili Fikriah, etc. Overqualification as a Blunt Weapon on Productivity Improvement: Person-Job Fit Theory Integration[J]. *Journal of Islamic Economics and Business Studies*, 2021,(1), Volume 6 No.1, pp.60-77.
- [9] Xu, W. (2023). On the Reform of Ideological and Political Teaching in Higher Vocational Courses Based on the "Person-Job Fit" Theory. *Journal of Liuzhou Vocational and Technical College*, 23(2), 93-97.